Capinero Creek LLC

Old Deer Creek Water Bank Project

Draft Initial Study / Mitigated Negative Declaration

October 2021

Prepared for:
Saucelito Irrigation District
20712 Avenue 120
Porterville, CA 93257

Prepared by:
Provost & Pritchard Consulting Group
130 N. Garden Street
Visalia, CA 93291

COPYRIGHT 2021 by PROVOST & PRITCHARD CONSULTING GROUP
ALL RIGHTS RESERVED

Provost & Pritchard Consulting Group expressly reserves its common law copyright and other applicable property rights to this document. This document is not to be reproduced, changed, or copied in any form or manner whatsoever, nor are they to be assigned to a third party without first obtaining the written permission and consent of Provost & Pritchard Consulting Group. In the event of unauthorized reuse of the information contained herein by a third party, the third party shall hold the firm of Provost & Pritchard Consulting Group harmless, and shall bear the cost of Provost & Pritchard Consulting Group's legal fees associated with defending and enforcing these rights.

Report Prepared for:

Saucelito Irrigation District

20712 Avenue 120
Porterville, CA 93257

Contact:
Nick Keller, Acting General Manager
(559) 784-1208

Report Prepared by:

Provost & Pritchard Consulting Group

Amy Wilson, Associate Planner, Project Manager
Briza Sholars, Senior Planner, QA/QC
Lizbeth Avitia, Assistant Planner
Jarred Olsen, Associate Planner
Wyatt Czeshinski, Assistant Planner
Dena Giacomini, Senior Planner, Biologist
Mallory Serrao, GIS
Jackie Lancaster, Administrative Support

Contact:
Amy M. Wilson, Associate Planner
(559) 636-1166

Table of Contents

Chapter 1 Introduction 1-1
1.1 Regulatory Information 1-1
1.2 Document Format 1-1
Chapter 2 Project Description 2-1
2.1 Project Background and Objectives 2-1
2.1.1 Project Title 2-1
2.1.2 Lead Agency Name and Address 2-1
2.1.3 Contact Person and Phone Number 2-1
2.1.4 Project Location 2-1
2.1.5 General Plan Designation 2-2
2.1.6 Zoning 2-2
2.2 Project Description 2-2
2.2.1 Project Background and Purpose 2-2
2.2.2 Project Location 2-2
2.2.3 Project Construction 2-3
2.2.4 Recharge Operations 2-5
2.2.5 Recovery Operations 2-5
2.2.6 Operation and Maintenance 2-5
2.2.7 Monitoring and Operational Constraint Plan (MOCP) 2-6
2.2.8 Ground Water Monitoring 2-7
2.2.9 Limitations and Commitments 2-13
2.2.10 Site and Surrounding Land Uses and Setting 2-13
2.2.11 Latitude and Longitude 2-13
2.2.12 Other Public Agencies Whose Approval May Be Required 2-14
2.2.13 Consultation with California Native American Tribes 2-14
Chapter 3 Impact Analysis 3-1
3.1 Environmental Factors Potentially Affected 3-1
3.2 Aesthetics 3-2
3.2.1 Environmental Setting and Baseline Conditions 3-2
3.2.2 Impact Assessment 3-2
3.3 Agriculture and Forestry 3-4
3.3.1 Environmental Setting and Baseline Conditions 3-4
3.3.2 Impact Assessment 3-5

3.4 Air Quality 3-8
3.4.1 Environmental Setting and Baseline Conditions 3-8
3.4.2 Impact Assessment 3-10
3.5 Biological Resources 3-13
3.5.1 Environmental Setting and Baseline Conditions 3-13
3.5.2 Impact Assessment 3-19
3.6 Cultural Resources 3-23
3.6.1 Environmental Setting and Baseline Conditions 3-23
3.6.2 Impact Assessment 3-24
3.7 Energy 3-26
3.7.1 Environmental Setting and Baseline Conditions 3-26
3.7.2 Impact Assessment 3-26
3.8 Geology and Soils 3-27
3.8.1 Environmental Setting and Baseline Conditions 3-27
3.8.2 Impact Assessment 3-29
3.9 Greenhouse Gas Emissions 3-33
3.9.1 Environmental Setting and Baseline Conditions 3-33
3.9.2 Impact Assessment 3-35
3.10 Hazards and Hazardous Materials 3-37
3.10.1 Environmental Setting and Baseline Conditions 3-37
3.10.2 Impact Assessment 3-38
3.11 Hydrology and Water Quality 3-43
3.11.1 Environmental Setting and Baseline Conditions 3-43
3.11.2 Impact Assessment 3-44
3.12 Land Use and Planning 3-47
3.12.1 Environmental Setting and Baseline Conditions 3-47
3.12.2 Impact Assessment 3-47
3.13 Mineral Resources 3-49
3.13.1 Environmental Setting and Baseline Conditions 3-49
3.13.2 Impact Assessment 3-49
3.14 Noise 3-50
3.14.1 Environmental Setting and Baseline Conditions 3-50
3.14.2 Impact Assessment 3-51
3.15 Population and Housing 3-52
3.15.1 Environmental Setting and Baseline Conditions 3-52

3.15.2 Impact Assessment ... 3-52
3.16 Public Services ... 3-54
3.16.1 Environmental Setting and Baseline Conditions ... 3-54
3.16.2 Impact Assessment ... 3-55
3.17 Recreation ... 3-56
3.17.1 Environmental Setting and Baseline Conditions ... 3-56
3.17.2 Impact Assessment ... 3-56
3.18 Transportation ... 3-58
3.18.1 Environmental Settings and Baseline Conditions ... 3-58
3.18.2 Impact Assessment ... 3-58
3.19 Tribal Cultural Resources ... 3-60
3.19.1 Environmental Setting and Baseline Conditions ... 3-60
3.19.2 Impact Assessment ... 3-61
3.20 Utilities and Service Systems ... 3-63
3.20.1 Environmental Setting and Baseline Conditions ... 3-63
3.20.2 Impact Assessment ... 3-64
3.21 Wildfire ... 3-65
3.21.1 Environmental Setting and Baseline Conditions ... 3-65
3.21.2 Impact Assessment ... 3-65
3.22 CEQA Mandatory Findings of Significance ... 3-67
3.22.1 Impact Assessment ... 3-67
3.23 Determination: (To be completed by the Lead Agency) ... 3-69
Chapter 4 Mitigation Monitoring and Reporting Program ... 4-1
CalEEMod Output Files ... A
Biological Evaluation ... B
Phase I Cultural Resources Survey ... C
Phase 1 Environmental Site Assessment ... D
Facility Report ... E

List of Figures

Figure 2-1. Regional Location Map 2-15
Figure 2-2. Topographic Quadrangle Map 2-16
Figure 2-3. Area of Potential Effect Map 2-17
Figure 2-4. Tulare County General Plan Land Use Designation Map 2-18
Figure 2-5. Tulare County Zone District Map 2-19
Figure 2-6. Phase I Project Facilities Map 2-20
Figure 2-7. Phase II Project Facilities Map 2-21
Figure 2-8. Phase III Project Facilities Map 2-22
Figure 2-9. Project Cross-Section 2-23
Figure 3-1. Farmland Designation Map 3-7
Figure 3-2. FEMA Flood Map 3-46

List of Tables

Table 2-1. General Analytes Suite 2-10
Table 2-2. Aquifer Zone Analytical Suites 2-11
Table 3-1. Aesthetics Impacts 3-2
Table 3-2. Agriculture and Forest Impacts 3-4
Table 3-3. Air Quality Impacts 3-8
Table 3-4. Summary of Ambient Air Quality Standards and Attainment Designation 3-9
Table 3-5. Unmitigated Short-Term Construction-Generated Emissions of Criteria Air Pollutants 3-12
Table 3-6. Biological Resources Impacts 3-13
Table 3-7. List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity 3-14
Table 3-8. List of Special Status Plants with Potential to Occur Onsite and/or in the Vicinity 3-17
Table 3-9. Cultural Resources Impacts 3-23
Table 3-10. Energy Impacts 3-26
Table 3-11. Geology and Soils Impacts 3-27
Table 3-12. Soils Report 3-28
Table 3-13. Greenhouse Gas Emissions Impacts 3-33
Table 3-14. Short-Term Construction-Generated GHG Emissions 3-35
Table 3-15. Hazards and Hazardous Materials Impacts 3-37
Table 3-16. Hydrology and Water Quality Impacts 3-43
Table 3-17. Land Use and Planning Impacts 3-47

Table 3-18. Noise Impacts 3-50
Table 3-19. Typical Construction Equipment Noise Levels 3-51
Table 3-20. Population and Housing Impacts 3-52
Table 3-21. Public Services Impacts 3-54
Table 3-22. Recreation Impacts 3-56
Table 3-23. Transportation Impacts 3-58
Table 3-24. Tribal Cultural Resources Impacts 3-60
Table 3-25. Utilities and Service Systems Impacts 3-63
Table 3-26. Wildfire Impacts 3-65
Table 3-27. Mandatory Findings of Significance Impacts 3-67
Table 4-1 Mitigation Monitoring and Reporting Program 4-2

Acronyms and Abbreviations

AB ..... Assembly Bill
APE ..... Area of Potential Effect
APN ..... Assessor's Parcel Number
AQP ..... Air Quality Plan
ASM ..... ASM Affiliates, Inc.
BMP ..... Best Management Practices
BPS ..... Best Performance Standards
CalEEMod ..... California Emissions Estimator Modeling (software)
CAP ..... Climate Action Plan
CARB ..... California Air Resources Board
Caltrans ..... California Department of Transportation
CCAA ..... California Clean Air Act
CCAP ..... Climate Change Action Plan
CDFW ..... California Fish and Wildlife
CEQA ..... California Environmental Quality Act
CHRIS ..... California Historical Resources Information System
CIMIS ..... California Irrigation Management Information System
CNDDB ..... California Natural Diversity Database
CO ..... Carbon Monoxide
County ..... Tulare County
CPHI ..... California Points of Historical Interest
CRHR ..... California Register of Historical Resources
CVP ..... Central Valley Project
dBA ..... A-weighted decibels
DOC ..... California Department of Conservations
DOGGR ..... Division of Oil, Gas and Geothermal Resources
DTSC ..... (California) Department of Toxic Substances Control
DWR ..... Department of Water Resources
EIR ..... Environmental Impact Report
ETGSA ..... Eastern Tule Groundwater Sustainability Agency
FEMA ..... Federal Emergency Management Agency
FKC ..... Friant-Kern Canal

FMMP ..... Farmland Mapping and Monitoring Program
FWA ..... Friant Water Authority
GAMAQI ..... Guidelines for Assessing and Mitigating Air Quality Impacts
GC ..... Government Code
GHG ..... Greenhouse Gas
GIS ..... Geographic Information System
GSA ..... Groundwater Sustainability Agency
GSP ..... Groundwater Sustainability Plan
IS ..... Initial Study
IS/MND ..... Initial Study/Mitigated Negative Declaration
km ..... kilometers
MLD ..... Most Likely Descendent
MMRP ..... Mitigation Monitoring and Reporting Program
MND ..... Mitigated Negative Declaration
MOCP ..... Monitoring and Operational Constraint Plan
MTBE ..... Methyl tert-butyl ether
MTCO2e ..... Metric tons of carbon dioxide equivalent
NAAQS ..... National Ambient Air Quality Standards
NAHC ..... Native American Heritage Commission
ND ..... Negative Declaration
NEPA ..... National Environmental Policy Act
NOx ..... Nitrogen oxides
NRCS ..... Natural Resources Conservation Service
NRHP ..... National Register of Historic Places
O_3 ..... Ozone
Pb ..... Lead
PM_{10} ..... particulate matter 10 microns in size
$PM_{2.5}$ ..... particulate matter 2.5 microns in size
ppb ..... parts per billion
ppm ..... parts per million
PRC ..... Public Resources Code
Project ..... Old Deer Creek Water Bank Project
Reclamation ..... United States Bureau of Reclamation
ROG ..... Reactive Organic Gas
SAR ..... Sodium absorption ratio

SB ..... Senate Bill
SGMA ..... Sustainasble Groundwater Management Act
SHPO ..... (CA) State Historic Preservation Officer
SID ..... Saucelito Irrigation District
SJVAB ..... San Joaquin Valley Air Basin
SJVAPCD ..... San Joaquin Valley Air Pollution Control District
SLIC ..... Spills-Leaks-Investigations-Cleanups
SMARA ..... Surface Mining and Reclamation Act
SO_2 ..... Sulfur Dioxide
SOx ..... sulfur oxide
SR ..... State Route
SSJVIC ..... Southern San Joaquin Valley Information Center
SWP ..... State Water Project
SWPPP ..... Storm Water Pollution Prevention Plan
SWRCB ..... State Water Resources Control Board
TAC ..... Toxic Air Contaminants
TDS ..... Total Dissolved Solids
Tons/Year ..... Tons per Year
TPY ..... tons per year
USDA ..... United States Department of Agriculture
USFWS ..... United States Fish and Wildlife Service
µg/m3 ..... micrograms per cubic meter

Chapter 1 Introduction

Provost & Pritchard Consulting Group (Provost & Pritchard) has prepared this Initial Study (IS) on behalf of Saucelito Irrigation District (SID) to address the potential environmental effects of the proposed Old Deer Creek Water Bank (Project) as proposed by Capinero Creek, LLC (Capinero). This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 *et seq*. and the State CEQA Guidelines (Code of Regulations, Title 14 Chapter 3, Section 15000, *et seq*. The SID is the CEQA lead agency for this proposed Project.

The site and the proposed Project are described in detail in the **Project Description**.

1.1 Regulatory Information

An Initial Study (IS) is a document prepared by a lead agency to determine whether a project may have a significant effect on the environment. CEQA Guidelines Section 15064 (a)(1) states that an environmental impact report (EIR) must be prepared if there is substantial evidence in light of the whole record that the proposed Project under review may have a significant effect on the environment and should be further analyzed to determine mitigation measures or project alternatives that might avoid or reduce project impacts to less than significant levels. A negative declaration (ND) may be prepared instead if the lead agency finds that there is *no* substantial evidence in light of the whole record that the project may have a significant effect on the environment. An ND is a written statement describing the reasons why a proposed Project, not otherwise exempt from CEQA, would not have a significant effect on the environment and, therefore, why it would not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, a ND or *mitigated* ND shall be prepared for a project subject to CEQA when either:

a. The IS shows there is no substantial evidence, in light of the whole record before the agency, that the proposed Project may have a significant effect on the environment, or

b. The IS identified potentially significant effects, but:

    1. Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed MND and IS is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur is prepared, and

    2. There is no substantial evidence, in light of the whole record before the agency, that the proposed Project *as revised* may have a significant effect on the environment.

1.2 Document Format

This IS/MND contains four chapters and five appendices, **Chapter 1 Introduction**, provides an overview of the proposed Project and the CEQA process. **Chapter 2 Project Description**, provides a detailed description of proposed Project components and objectives. **Chapter 3 Impact Analysis**, presents the CEQA checklist and environmental analysis for all impact areas, mandatory findings of significance, and feasible mitigation measures. If the proposed Project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why no impacts are expected. If the proposed Project could have a potentially significant impact on a resource, the issue area discussion provides a description of potential impacts, and appropriate mitigation measures and/or permit requirements that would reduce those impacts to a less than significant level. **Chapter 3** concludes with the Lead Agency's determination based upon this initial evaluation. **Chapter 4 Mitigation Monitoring and Reporting Program** (MMRP), provides the proposed mitigation measures, implementation timelines, and the entity/agency responsible for ensuring implementation.

The CalEEMod Output Files, Biological Evaluation Report, Phase I Cultural Resources Survey, Phase 1 Environmental Site Assessment, and the Facility Report are provided as technical **Appendix A, Appendix B, Appendix C, Appendix D,** and **Appendix E** respectively, at the end of this document.

Chapter 2 Project Description

2.1 Project Background and Objectives

2.1.1 Project Title

Old Deer Creek Water Bank Project

2.1.2 Lead Agency Name and Address

Saucelito Irrigation District
20712 Avenue 120
Porterville, CA 93257

2.1.3 Contact Person and Phone Number

Lead Agency Contact

Saucelito Irrigation District
Nick Keller, Acting General Manager
(559) 784-1208

Project Proponent

Capinero Creek LLC
2701 Truxtun Avenue, Suite 201
Bakersfield, CA 93309

CEQA Consultant

Provost & Pritchard Consulting Group
Amy Wilson, Environmental Project Manager
(559) 636-1166

2.1.4 Project Location

The Project is located in Tulare County, California, approximately 220 miles southeast of Sacramento and 45 miles northwest of Bakersfield (see **Figure 2-1** and **Figure 2-2**). The proposed site of the Old Deer Creek Water Bank Project is located approximately six miles southwest of the City of Porterville on Assessor's Parcel Number (APN) 302-020-013.

Additionally, the Project will lay pipeline extending south from the recharge basins crossing various APNs in one of the four following alignment options:

Alignment Option 1 – 302-410-011, 302-410-012, 302-430-008, 302-430-010, 302-430-011
Alignment Option 2 – 302-130-001
Alignment Option 3 – 302-410-011, 302-410-012, 302-430-008
Alignment Option 4 – 302-410-016, 302-410-010, 302-430-001

The proposed placement of the basin and all potential pipeline alignments are shown in **Figure 2-3.**

2.1.5 General Plan Designation

Rural Valley Lands Plan: Valley Agriculture (**Figure 2-4**)

2.1.6 Zoning

AE-20 Rural/Ag (**Figure 2-5**)

2.2 Project Description

2.2.1 Project Background and Purpose

Capinero is purchasing land in Saucelito Irrigation District (SID or District) for the purpose of developing up to 50 acres of recharge basins and associated facilities. The recharge facilities will be operated in compliance with the SID "*Policy Principles for Saucelito Irrigation District Groundwater Banking Program*" (adopted on June 14, 2018, Banking Policy). The facilities will be designed, constructed, operated, and monitored in accordance with a water banking agreement between Capinero and SID (Capinero – SID Banking Agreement) as required by the Banking Policy (Project). In addition, the Project will be operated in compliance with the Eastern Tule Groundwater Sustainability Agency (ETGSA) Groundwater Sustainability Plan (GSP), ETGSA Land Subsidence and Management Plan (Subsidence Plan), and other rules and regulations set for by the ETGSA, Tule Subbasin, and/or SGMA legislation. The Project will not include recovery wells and will be constructed in monitored phases to ensure that significant unacceptable water quality and water level impacts do not occur.

The Project will primarily bank water that is periodically available above current needs from the Friant Division of the Central Valley Project (Friant). The Project might also bank water from other systems, but separate approvals specific to those other systems will be required. Banked water will be transferred in-ground to recipients with wells in the ETGSA, the Lower Tule River Irrigation District GSA (LTRID GSA) or the Pixley Irrigation District GSA (Pixley ID GSA). As required by the Banking Policy, 10% to 30% of the banked water will be allocated to SID's storage account depending on the location of banked water recipient and the type of water that was banked. New wells are not part of this Project. Project objectives are as follows:

- Increase water supply: The Project will increase supplies available to SID, Capinero and other participants.
- Improve groundwater conditions: The Project will reduce aquifer overdraft in the SID, the ETGSA, the Tule Subbasin and in other areas that receive recovered water through exchange.
- Reduce costs to produce groundwater: The Project will cause groundwater levels to rise, thus reducing groundwater pumping costs.Increase diversification and availability of water supplies: The Project will increase the diversity of water supplies available to the District, its landowners and other participants.
- Facilitate compliance with the Sustainable Groundwater Management Act (SGMA): The Project will significantly advance the District's efforts to comply with SGMA.
- Subsidence reduction: The Project will help to reduce ground subsidence by accruing more water to the local aquifer system and by reducing groundwater pumping in the places of use.

2.2.2 Project Location

The Project is located in Tulare County, California, approximately 220 miles southeast of Sacramento and 45 miles northwest of Bakersfield (see **Figure 2-1** and **Figure 2-2**).

The Project recharge basins will be located immediately northwest of the Tea Pot Dome landfill which is under Central Valley Regional Water Quality Control Board Order R5-2014-0021 regarding releases of contaminants to groundwater (See Appendix A within **Appendix E**), with corrective action monitoring for Volatile Organic Compounds (VOCs). While VOCs have not been detected beneath the Project property (See Appendix B within **Appendix E**), there are concerns that recharge at this facility could exacerbate groundwater contamination in three ways:

- Recharge might raise groundwater levels into the vadose zone and remobilize contaminants that are currently immobilized above the water table;
- Recharge might raise groundwater levels up into the buried waste of the Landfill and mobilize new contaminants into groundwater; and
- Recharge could alter the directions of groundwater flow and cause contaminants to move in new directions.

These potential impacts will be avoided by constructing the Project in highly monitored phases. Monitoring Committee authorization will be required before each additional phase can be operated.

2.2.3 Project Construction

Construction equipment will likely include excavators, backhoes, graders, skid steers, loaders, and hauling trucks. Generally, construction will occur between the hours of 7am and 5pm, Monday through Friday, excluding holidays. Post-construction activities will include system testing, commissioning, and site clean-up. Construction will require temporary staging and storage of materials and equipment. Staging areas will be located onsite. This Project will be constructed in three phases, with each phase adding recharge acreage as follows:

Phase I Construction

Phase I will entail construction of a 10-acre recharge basin at the farthest southwest corner of the Project property (**Figure 2-6**). Water will be delivered to the property using an existing SID turnout and then conveyed to the recharge basin through a new pipeline. Phase I activities will include the following:

- Removal of approximately 10 acres of walnut trees on the southwest corner of the property;
- Construction of a 10-acre recharge basin (**Figure 2-6**);
- Up to a 12-inch diameter, 2,200-foot-long temporary pipeline will be constructed to supply water to the basin. The pipeline will tie into the existing SID A-0.01N-1.01 turnout; and
- Construction of nine monitoring wells to supplement the existing monitoring system, as described in **Section 2.2.8**.

Phase II Construction

Phase II will be constructed if the Monitoring Committee concludes that Phase I operations have not caused significant unacceptable impacts to groundwater levels or quality, as detailed in **Section 2.2.8**. The recharge capacity of this phase will exceed that of the existing SID turnout and thus Phase II will include construction of a larger diameter pipeline from District Lateral A-0.01N. Phase II activities will include the following:

- Removal of up to 20 acres of walnut trees due east of Phase I;

- Construction of up to 20 acres of recharge basins, supplementing Phase I to provide up to 30 acres of basins. The basins will be graded so that Phase I and the western Phase II basins fill first; and
- Construction of a pipeline to convey water to the Project, as described below.

Four pipeline alignment options have been analyzed to convey water to the Project. It is unknown at this time which alignment will be selected. The locations of these alignments are depicted on **Figure 2-3**. Under all scenarios, the pump station at Avenue 120 and Road 208 may need to be upsized.

- Alignment Option 1: Up to a 48-inch diameter pipeline will be constructed along the west side of Road 208, parallel to existing District Lateral A-0.01N on the east side of Road 208. The new pipeline will cross APNs: 302-410-011, 302-410-012, 302-430-008, 302-430-010, 302-430-011.
- Alignment Option 2 (preferred option): Existing District Lateral A-0.01N along the east side of Road 208 will be replaced by a 15-inch to 24-inch diameter pipeline.
- Alignment Option 3: Up to a 48-inch diameter pipeline will be constructed through APNs: 302-410-011-000, 302-410-012-000, and 302-430-008-000.
- Alignment Option 4 (least preferred option): This alignment is the farthest west from Road 208. Up to a 48-inch diameter pipeline will be constructed through the APNs: 302-410-011-000, 302-410-012-000, and 302-430-008-000.

Figure 2-7 depicts the anticipated locations of Phase II facilities. Construction of Phase II facilities is expected to be completed within 12 months of Monitoring Committee conclusion that Phase I operations did not cause significant unacceptable impacts to groundwater levels or quality.

Phase III Construction

Phase III will be constructed if the Monitoring Committee concludes that Phase II operations have not caused significant unacceptable impacts to groundwater levels or quality, as detailed in **Section 2.2.8**. Phase III activities will include the following.

- Removal of up to 20-acres of walnut trees due east of Phase II; and
- Construction of up to 20-acres of recharge basins, supplementing Phases I and II to provide up to 50 acres of basins. The basins will be graded so that Phase I and the Phase II basins fill first;

Figure 2-8 depicts the anticipated locations of Phase III facilities. Construction of Phase III facilities is expected to be completed within 12 months of Monitoring Committee conclusion that Phase II operations did not cause significant unacceptable impacts to groundwater levels or quality.

Optional Dry Well Installation

As detailed in future sections, there is a concern that Project recharge water could perch on fine grained layers and that this perched water might migrate beneath the Landfill (see hydrogeologic studies in Appendix C and Appendix D of **Appendix E**). If Project monitoring, detailed in **Section 2.2.8**, indicates that unacceptable mounding is occurring, Capinero may elect to install dry wells within the Project recharge basins to drain perched water down to the upper unconfined aquifer. Dry wells will likely consist of 18-inch diameter casing with perforations extending from above the perching layer to below the perching layer (likely screened from 15 to 40 and 55 to 80 feet below the land surface). These wells will be permitted and completed in accordance with Tulare County Environmental Health Division requirements.

2.2.4 Recharge Operations

It is anticipated that the Project will primarily bank Friant water. It is possible that the Project might bank water from other systems, but separate approvals specific to the other systems will be required. As required by the Banking Policy, 10% to 30% of the recharged water will be allocated to SID's storage account. As depicted on **Figure 2-6**, **Figure 2-7**, and **Figure 2-8**, all phases of the Project will convey and bank water from the FKC through SID's turnout from the FKC through the existing pump station and be pumped through the new (or improved) pipeline facility to the recharge basin site. In all cases the Capinero's ability to divert and convey water will be contingent on approval from SID to ensure that Capinero's operations do not impair District operations and comply with District policies, rules and regulations.

2.2.5 Recovery Operations

The Project will not include construction of recovery wells, banking partners will recover banked water through their existing facilities. There will also be no recovered water returned to the FKC. All banked water recovery will take place through in-ground transfers as described below:

Recovery within SID: Banked water may be recovered from wells in SID for use in SID in accordance with the Banking Policy. This mode of recovery will not be used for wells within 1 mile of the FKC until the management portion of the Subsidence Plan has been adopted. Thereafter, this potential operation will be performed in compliance with requirements of the Subsidence Plan.

Recovery within the ETGSA: Banked water may be recovered from wells in the ETGSA that are outside of SID in accordance with applicable rules (if any) of the surface water entity as well as within ETGSA rules and regulations. This mode of recovery will not be used for wells within 1 mile of the FKC until the management portion of the Subsidence Plan has been adopted. Thereafter, this potential operation will be performed in compliance with requirements of the Subsidence Plan.

Recovery to Pixley ID: Banked water may be recovered from wells in Pixley ID in accordance with applicable rules (if any) of the surface water entity as well as within both ETGSA and Pixley ID GSA rules and regulations.

Recovery within LTRID: Banked water may be recovered from wells in LTRID in accordance with applicable rules (if any) of the surface water entity as well as within both ETGSA and LTRID GSA rules and regulations. This mode of recovery will not be used for wells within 1 mile of the FKC until the management portion of the Subsidence Plan has been adopted. Thereafter, this potential operation will be performed in compliance with requirements of the Subsidence Plan.

Operational Exchanges: As detailed above, ETGSA districts, Pixley ID and LTRID may receive banked water through in-ground transfers. In accordance with applicable rules (if any) of the surface water entity and contingent on the receiving district's approval, this banked water may be exchanged for water in Millerton Reservoir, the FKC or in San Luis Reservoir. The exchanged water will then be delivered to the legal places of use contingent on receiving all required approvals.

2.2.6 Operation and Maintenance

The Project will be operated and maintained by Capinero in coordination with SID. The Capinero – SID Banking Agreement will detail the conditions under which SID facilities might be used and how the District will be reimbursed for the costs they incur in supporting the Project.

The Project recharge basins will be maintained using normal farming and irrigation district practices. The Project's operational goals are 1) to maintain a safe, reliable, and productive facility, 2) to prevent the long-term

establishment of undesirable invasive plants in the Project and/or their migration onto adjacent farms, and 3) to prevent berm erosion/destabilization and/or rodent infestation through standard farming and water industry practices. During operation: the basin water surface level will be maintained at or below two (2) feet of freeboard; twice daily, in-person inspections are performed between the hours of 7am and 5pm. A water operations manager or basin operator is on-call 24 hours a day, 7 days a week, to respond quickly if an inspection or any of the automatic monitors indicate a spill risk, pump issues, or imminent berm failures.

2.2.7 Monitoring and Operational Constraint Plan (MOCP)

The Project will be designed, operated, and monitored in a manner to ensure that the beneficial effects of the Project are maximized while preventing significant unacceptable impacts to the aquifer, groundwater levels, groundwater quality, the FKC, or adjacent landowners relative to conditions that would have occurred absent the Project. A Monitoring Committee will be formed to ensure that district interests, adjacent landowners and FKC interests are protected. The 5-member Monitoring Committee is anticipated to be composed as follows:

- 1 seat for a Capinero representative;
- 1 seat for an SID director (potentially the General Manger if desired by the SID Board);
- 1 seat for an adjacent landowner;
- 1 seat for a Friant Water Authority (FWA) representative; and
- 1 seat for a Tulare County representative.

The Monitoring Committee will oversee Capinero's implementation of this MOCP. Chart 1 depicts the process by which Capinero will evaluate data, respond to complaints, and perform operational adjustments or mitigation. The Monitoring Committee will be responsible for:

- Resolution of disputes in which Capinero and a 3rd party are unable to reach agreement on appropriate responses to complaints.
- Review of monitoring reports to:
    - Determine whether operations have caused significant unacceptable impacts to groundwater levels or quality; and
    - Determine whether Capinero can proceed with construction and operation of the next Phase.

Capinero will be responsible for collecting and evaluating data to:

- Estimate if unacceptable impacts to 3rd parties have occurred or may occur in the future as a result of Project operations when compared to conditions that would have occurred absent the Project;
- Adjust Project operations to avoid or minimize unacceptable impacts to 3rd parties; and
- Respond to reasonable complaints of unacceptable impacts as a result of Project operations.

As outlined in Chart 1 of the Facility Report (**Appendix E**), Capinero may make operational adjustments in response to data evaluations, complaints by 3rd parties or recommendations from the Monitoring Committee. Examples of potential operational adjustments may include, but are not limited to:

- Shifting the schedules and rates at which recharge is performed;
- Reimbursement for higher pumping costs;
- Well rehabilitation;
- Lowering a pump further down a well;
- Reimbursement for treatment costs;
- Installation of treatment systems;
- Providing and alternate water supply; and

- Installation of a new well.

All water level, water quality, and subsidence monitoring reports will be reported to the Monitoring Committee. The Project will comply with requirements of the Subsidence Plan, once adopted.

2.2.8 Ground Water Monitoring

2.2.8.1 Water Level Monitoring

Hydrogeologic studies performed for Capinero (see Appendix C and Appendix D of **Appendix E**) indicate that while the upper 40 to 50 feet of the subsurface consists of very permeable sands and gravels, they are underlain by a thin (maximum 10 feet in thickness), but generally continuous, layer of finer-grained material. This fine-grained layer is underlain by extensive sands and gravels, which constitute the upper unconfined aquifer with the water table located between about 100 and 110 feet below the land surface. The upper unconfined aquifer has a relatively thin saturated thickness of 10 to 20 feet and is underlain by approximately 40 feet of silts and clays which separate the upper aquifer from the underlying semi-confined aquifer (details of the semi-confining layer and the semi-confined aquifer come from the 2020 Second Semi-Annual and Annual Monitoring Report for Tea Pot Dome Landfill, attached in Appendix E of **Appendix E**). **Figure 2-9** provides a cross-section of this hydrogeologic framework from the Project property to the Landfill.

It is possible that recharged water could perch on top of the upper fine-grained layer. If sufficient perching occurs, it is possible that this water could migrate beneath the Landfill and cause unacceptable impacts. Therefore, the Project will include installation of piezometers screened immediately above the fine-grained layer. Furthermore, the project will include the installed of deeper monitoring wells screened across the upper unconfined aquifer water table and at the top of the semi-confined aquifer. These wells will be in addition to the three existing monitoring wells screened in the upper unconfined aquifer (MW-1, MW-2, MW-3) and the irrigation well screened in the semi-confined aquifer (IW-1).

Figure 2-6, **Figure 2-7**, and **Figure 2-8** depict the locations of existing and planned monitoring well and piezometer clusters that will be used to assess Project impacts on groundwater levels and quality. The final locations of new monitoring wells and piezometers may be guided by geophysical surveys to map the top and thickness of the fine-grained layers. Each monitoring well and piezometer will be equipped with a water level data logger. As depicted in **Figure 2-9**, this system will provide a west-to-east transect from the Project towards the Landfill so that the potential migration of perched water and the rise of water levels in the underlying aquifers can be observed real-time while recharge is occurring.

2.2.8.2 Baseline Water Quality Sampling

Prior to commencement of recharge all Project monitoring wells and operable irrigation and domestic wells that are immediately adjacent to the Project property will be initially sampled for the General Analytical Suite outlined in **Table 2-1** (contingent on approval from each well owner). If practical, baseline sampling will be timed to occur at the same time that Landfill monitoring wells are being sampled. For the purpose of this Project, immediately adjacent means all wells on parcels that are immediately adjacent to the Project property or the nearest well on the next parcel over if the nearest parcel does not have a well(s), going out to a maximum distance of ¼ mile.

2.2.8.3 Phase I Monitoring and Response

The Phase I recharge basin will be located at the southwestern corner of the Project property, approximately 3,500 feet from the Landfill (**Figure 2-6**). The following monitoring will be performed during Phase I recharge operations:

- Instantaneous and totalized volumes of water delivered into the recharge basin will be measured at least daily (make and type of flow meter subject to SID approval);
- Surface water levels in the recharge basin will be measured by continuously-logged pressure transducers and by hand at least daily;
- Groundwater levels will be continuously logged in each Project monitoring well and piezometer, with data downloaded and reviewed at least monthly; and
- On a monthly basis during recharge operations, Project monitoring wells will be sampled for the following analytes of primary concern at the Landfill:
    - Piezometers (if there is sufficient water): cis-1,2-dichloroethene (cis-1,2-DCE), tetrachloroethylene (PCE), 1,1-dichloroethane (1,1-DCA), bis(2-ethylexyl) phthalate, and methylene chloride (Unconfined Aquifer Suite, **Table 2-2**);
    - Upper unconfined aquifer wells: Unconfined Aquifer Suite; and
    - Semi-confined aquifer wells: chloroform, 1,1-DCA, cis-1,2-DCE, 1,2-dibromo-3-chloropropane, bromoform, bromodichloromethane, Dibromochloromethane, chlorobenzene, methylene chloride, PCE, and trichloroethene (Semi-Confined Aquifer Suite, **Table 2-2**).

Capinero will report Phase I data to the Monitoring Committee on a monthly basis. The following operational constraints will be followed by Capinero:

- If at any point during Phase I recharge, extrapolated groundwater levels in any of the three monitored zones show the potential to rise above 340 ft msl at the eastern side of the Project property, Phase I recharge will cease. This elevation is the "trigger" elevation specified in the 2020 Second Semi-Annual and Annual Monitoring Report for Tea Pot Dome Landfill (Appendix E of **Appendix E**). Recharge will not be re-started until Capinero has implemented measures to prevent this impact from occurring, potentially including installation of dry wells.
- If at any point during Phase I recharge, water levels in perimeter Project monitoring wells and third party wells, known to be influenced by the Project operations, rise to within 15 feet of the ground surface, operations will be constrained or shut down until water levels have fallen below 15 feet below the ground surface. This measure is intended to protect the root zones of adjacent farming operations.

2.2.8.4 Phase II Monitoring and Response

Operation of Phase II will only proceed following a Monitoring Committee finding that Phase I operations did not cause significant unacceptable impacts. **Figure 2-7** depicts the locations of the Phase II recharge basins, which will be operated together with the Phase I basin. The following monitoring will be performed during the Phase II recharge operations:

- Instantaneous and totalized volumes of water delivered into each recharge basin will be measured at least daily (make and types of flow meters subject to SID approval);
- Surface water levels in the recharge basin will be measured by continuously-logged pressure transducers and by hand at least daily;
- Groundwater levels will be continuously logged in each Project monitoring well and piezometer, with data downloaded and reviewed at least monthly; and

- On a monthly basis during recharge operations, Project monitoring wells will be sampled for the following analytes of primary concern at the Landfill:
    - Piezometers (if there is sufficient water): Unconfined Aquifer Suite (**Table 2-2**);
    - Upper unconfined aquifer wells: Unconfined Aquifer Suite; and
    - Semi-confined aquifer wells: Semi-Confined Aquifer Suite.

Capinero will report Phase II data to the Monitoring Committee on a monthly basis. The following operational constraints will be followed by Capinero:

- If at any point during Phase II recharge, extrapolated groundwater levels in any of the three monitored zones show the potential to rise above 340 ft msl at the eastern side of the Project property, Phase II recharge will cease. This elevation is the "trigger" elevation specified the 2020 Second Semi-Annual and Annual Monitoring Report for Tea Pot Dome Landfill (Appendix E of **Appendix E**). Recharge will not be re-started until Capinero has implemented measures to prevent this impact from occurring, potentially including installation of dry wells.
- If at any point during Phase II recharge, water levels in perimeter Project monitoring wells and third party wells, known to be influenced by the Project operations, rise to within 15 feet of the ground surface, operations will be constrained or shut down until water levels have fallen below 15 feet below the ground surface. This measure is intended to protect the root zones of adjacent farming operations.

2.2.8.5 Phase III Monitoring and Response

Operation of Phase III will only proceed following a Monitoring Committee finding that Phase II operations did not cause significant unacceptable impacts. **Figure 2-8** depicts the locations of the Phase III recharge basins, which will be operated together with the Phases I and II. The following monitoring will be performed during Phase III recharge operations:

- Instantaneous and totalized volumes of water delivered into each recharge basin will be measured at least daily (make and type of flow meters subject to SID approval);
- Surface water levels in the recharge basin will be measured by continuously-logged pressure transducers and by hand at least daily;
- Groundwater levels will be continuously logged in each Project monitoring well and piezometer, with data downloaded and reviewed at least monthly;
- On a monthly basis during recharge operations for the first year of Phase III, and on a quarterly basis for every year thereafter, Project monitoring wells will be sampled for the following analytes of primary concern at the Landfill:
    - Piezometers (if there is sufficient water): Unconfined Aquifer Suite;
    - Upper unconfined aquifer wells: Unconfined Aquifer Suite; and
    - Semi-confined aquifer wells: Semi-Confined Aquifer Suite.

Capinero will report Phase III data to the Monitoring Committee on a monthly basis during the first year of recharge operations, and on a quarterly basis for every year thereafter. The following operational constraints will be followed by Capinero:

- If at any point during Phase III recharge, extrapolated groundwater levels in any of the three monitored zones show the potential to rise above 340 ft msl at the eastern side of the Project property, Phase III recharge will cease. This elevation is the "trigger "elevation specified the 2020 Second Semi-Annual and Annual Monitoring Report for Tea Pot Dome Landfill (Appendix E of **Appendix E**). Recharge will not be re-started until Capinero has implemented measures to prevent this impact from occurring, potentially including installation of dry wells.

- If at any point during Phase III recharge, water levels in perimeter Project monitoring wells and third party wells, known to be influenced by the Project operations, rise to within 15 feet of the ground surface, operations will be constrained or shut down until water levels have fallen below 15 feet below the ground surface. This measure is intended to protect the root zones of adjacent farming operations.

2.2.8.6 Annual Monitoring

Project monitoring wells will be sampled on an annual basis (regardless of operating status) as follows:

- Piezometers (if water is present) and upper unconfined aquifer monitoring wells will be sampled for the Unconfined Aquifer Suite (**Table 2-2**) and the General Analytes Suite (**Table 2-1**).
- Semi-confined aquifer monitoring wells will be sampled for the Semi-Confined Aquifer Suite (**Table 2-2**) and the General Analytes Suite (**Table 2-1**).

Capinero will collaborate with the Landfill operator to incorporate their sampling data into Project reporting (and vice versa).

Table 2-1. General Analytes Suite

Parameter	Analytical Method
Aluminum	EPA 200.7
Antimony	EPA 200.7
Arsenic	EPA 200.8
Asbestos	EPA Method 100 (TEM)
Barium	EPA 200.7
Beryllium	EPA 200.8
Boron	EPA 200.7
Cadmium	EPA 200.7
Calcium	EPA 200.7
Carbonates + bicarbonates	EPA 310.1
Chloride	SM 4500
Chromium	EPA 200.7
Color	EPA 110.2
Copper	EPA 200.7
Cyanide	EPA 335.2
1,2-Dibromo-3-Chloropropane (DBCP)	EPA 504.1
Ethylene Dibromide (Dibromoethane, EDB)	EPA 504.1
Fecal coliform	SM 9221E or 9223B
Fluoride	EPA 340.1
Foaming agents (MBAS)	EPA 425.1
Gross alpha	SM 7110C EPA 900.0
Iron	EPA 200.7
Magnesium	EPA 200.7
Manganese	EPA 200.7
Mercury	EPA 245.1
Methyl tert-butyl ether (MTBE)	EPA 8260B
Nickel	EPA 200.7
Nitrate as NO_3	EPA 300
Nitrate + nitrite	EPA 335.3
Nitrite as N	SM 4500
Odor threshold	EPA 140.1
Perchlorate	EPA 314.0
Potassium	EPA 200.7
pH (Field)	EPA 150.1
Phosphorous	EPA 365.2

Parameter	Analytical Method
Selenium	EPA 200.8
Silver	EPA 200.7
Sodium	EPA 200.7
Sodium absorption ratio (SAR)	Calculated
Specific conductance (Field)	EPA 120.1
Sulfate	EPA 375.4
Temperature (Field)	EPA 170.1
Thallium	EPA 200.8
Thiobencarb	EPA 525/507 Full list
Total dissolved solids (TDS)	EPA 160.3
Turbidity (Field)	EPA 180.1
Uranium	EPA 908.0
Zinc	EPA 200.7

Table 2-2. Aquifer Zone Analytical Suites

Parameter	Analytical Method
Unconfined Zone Suite	
cis-1,2-Dichloroethene	EPA 8260B
Bis(2-ethylexyl) phthalate	EPA 8270D
Semi-Confined Zone Suite	
1,1-Dichloroethene	EPA 8260B
1,2-Dibromo-3-chloropropane	EPA 8260B
Chloroform	EPA 8260B
cis-1,2-Dichloroethene	EPA 8260B
Methylene Chloride	EPA 8260B
Tetrachloroethene	EPA 8260B
Trichloroethene	EPA 8260B

**Constituent list stems from 2019 Annual Reporting for Teapot Dome Landfill*

2.2.8.7 Water Accounting and Monitoring

Data Collection

The Project will include the following data collection to ensure accurate measurement of recharged, evaporated, banked, and recovered water:

- Instantaneous and totalizing flow meters on each conveyance delivering water into recharge basin (make/type of each meter subject to approval from SID);
- Pressure transducer water level measurement and Capinero staff water level measurement; and
- Use of data from the nearest California Irrigation Management Information System (CIMIS) meteorological station to estimate evaporative loss of applied water before it percolates into the ground.

Each flow meter will be equipped with a data logger to ensure a continuous record of operations. Telemetry systems will have text and email alerts for the on-call operator and two alternate operators. In addition, instantaneous flow, AF totalizer, and water surface level readings will be manually recorded on a daily (24-hour) basis during operating periods. Each meter will be calibrated annually or as requested by SID. To the degree there is a discrepancy between Capinero data and District records that cannot be reconciled, the record will be modified to reflect whichever records the parties deem most reliable.

Banked Water Accounting

The amount of water applied to the Project will be computed on daily increments, based on continuously-logged flow meters. The volume of applied water lost to evaporation prior recharge will be estimated using data from the nearest CIMIS Station. The remaining volume after subtraction of evaporative losses will be reported to SID as the recharged volume.

Water Level Monitoring

The Project basins will be equipped with an automatic water level monitoring device (pressure transducer) that is set to contact the on-call operator (and 2 back-up operators) if the water level in the basin rises to within 1 foot of the basin berm crest. Capinero will have procedures to ensure that the alerted on-call operator adjusts or shuts off recharge operations to prevent basin spill.

Groundwater levels will be measured in the Project piezometers and monitoring wells continuously during recharge periods and twice a year at other times. Groundwater levels will be measured in the nearest 3rd party wells (both irrigation and domestic, contingent on well owner approval) monthly during recharge periods and twice a year at other times. Recharge operations will be constrained or shut down as outlined in the the monitoring and response plans for each project phase, detailed above.

Subsidence Monitoring

Significant subsidence (sinking of the ground surface) has occurred along the FKC to the south due to dewatering of silty and clayey formations by groundwater recovery from wells within the region. While the Project will leave behind 10% to 30% of all banked water as a net gain to the aquifer and will not include installation or operation of Project recovery wells, the potential impact of banked water recovery from other wells needs to be monitored. The Project will comply with requirements of the ETGSA rules and regulations, including the Subsidence Plan, when fully adopted. In the interim, the Project will not allow recovery of banked water from wells that are within 1 mile of the FKC until the management portion of the Subsidence Plan has been adopted. Thereafter, this potential operation will be performed in compliance with requirements of the Subsidence Plan.

Reporting

During operating periods Capinero will submit monthly reports to SID which include the following information:

- The beginning volumes of water in the Capinero and SID banked water accounts;
- The sources of water sent to the Project turnout;
- Volumes of water discharged to recharge basins (daily basis);
- Percolation rates (daily basis);
- Losses to evaporation (daily basis);
- Net volumes of recharged water (daily basis);
- The volumes of recharged water allocated into the Capinero and SID accounts in accordance with the Banking Policy leave behind requirements;
- Volumes of Capinero's banked water transferred to others, including the places of use;
- The ending volumes of water in the Capinero and SID banked water accounts;
- Depth to water graphs for key wells approved by the District; and
- Collected analytical data during the reporting period.

During Phases I and II these reports will be submitted monthly. During Phase III, these reports will be submitted on a monthly basis for the first year of recharge, and on a quarterly basis for each year thereafter.

By January 15 of each year, regardless of whether there were any Project operations, Capinero will submit an annual report for the prior year running from October 1 through September 30. This report, submitted to SID and the Monitoring Committee, will include the annual totals for the information listed above and additionally will include the following information:

- A chronological summary of operations and response to Monitoring Committee issues, if any;
- Tabulations of all water level, water quality, water volumes and subsidence monitoring data;
- A map presenting the distributions of total dissolved solids in monitored wells;
- Activities performed to comply with the Subsidence Plan;
- Maps presenting the spring and fall elevations of water levels in wells, including interpreted directions of groundwater flow; and
- Maps presenting the spring and fall depths to water in wells.

2.2.9 Limitations and Commitments

- Water will be banked, returned, exchanged, or transferred in compliance with all federal, state, local, and tribal laws, and requirements imposed for protection of the environment and Indian Trust Assets, including the Central Valley Project Improvement Act;
- The Project will not be used to place untilled or new lands into agricultural production, or to convert undeveloped land to other uses. Specifically, no native or untilled land (fallow for three consecutive years or more) will be cultivated with the water managed through this Project;
- Transfers and/or exchanges will be limited to existing supply and will not increase overall consumptive use;
- Operations to bank, return, transfer and/or exchange the water will not result in new Delta exports above those already scheduled for normal CVP or State Water Project (SWP) operations;
- The Project will not interfere with the normal CVP or SWP operations;
- Transfers and/or exchanges cannot alter the flow regime of natural water bodies such as rivers, streams, creeks, ponds, pools, wetlands, etc., so as to not have a detrimental effect on fish or wildlife, or their habitats; and
- The Project will be operated in compliance with the SID Banking Policy; the pending ETGSA GSP; and all applicable district policies, rules and regulations.

2.2.10 Site and Surrounding Land Uses and Setting

The proposed basin site is currently a walnut orchard and three of the proposed pipeline alignments are within farmed agricultural properties (Options 1, 3, and 4). Alignment Option 2 is within an easement that SID has along the western boundary of the Landfill site, currently not used for any waste disposal. The Project site is surrounded by rural agriculture uses, rural residences and the Landfill. See **Figure 2-4** and **Figure 2-5** for the general plan designations and zoning, respectively.

2.2.11 Latitude and Longitude

The centroid of the Project area, including potential pipeline alignments, is:
36° 0' 58.3452", -119° 9' 9.468"

2.2.12 Other Public Agencies Whose Approval May Be Required

Approvals and permits that could be required:

- State Water Resources Control Board – Stormwater Pollution Prevention Plans (**SWPPP**)
- San Joaquin Valley Air Pollution Control District – Rules and Regulations (Regulation VIII, Rule 9510, Rule 4641)
- Tulare County Solid Waste

2.2.13 Consultation with California Native American Tribes

Public Resources Code Section 21080.3.1, *et seq. (codification of AB 52, 2013-14)*) requires that a lead agency, within 14 days of determining that it will undertake a project, must notify in writing any California Native American Tribe traditionally and culturally affiliated with the geographic area of the project if that Tribe has previously requested notification about projects in that geographic area. The notice must briefly describe the project and inquire whether the Tribe wishes to initiate request formal consultation. Tribes have 30 days from receipt of notification to request formal consultation. The lead agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding necessary mitigation or agree that no mitigation is needed, or one or both parties determine that negotiation occurred in good faith, but no agreement will be made.

SID has not received any written correspondence from a Tribe pursuant to Public Resources Code Section 21080.3.1 requesting notification of proposed Project.

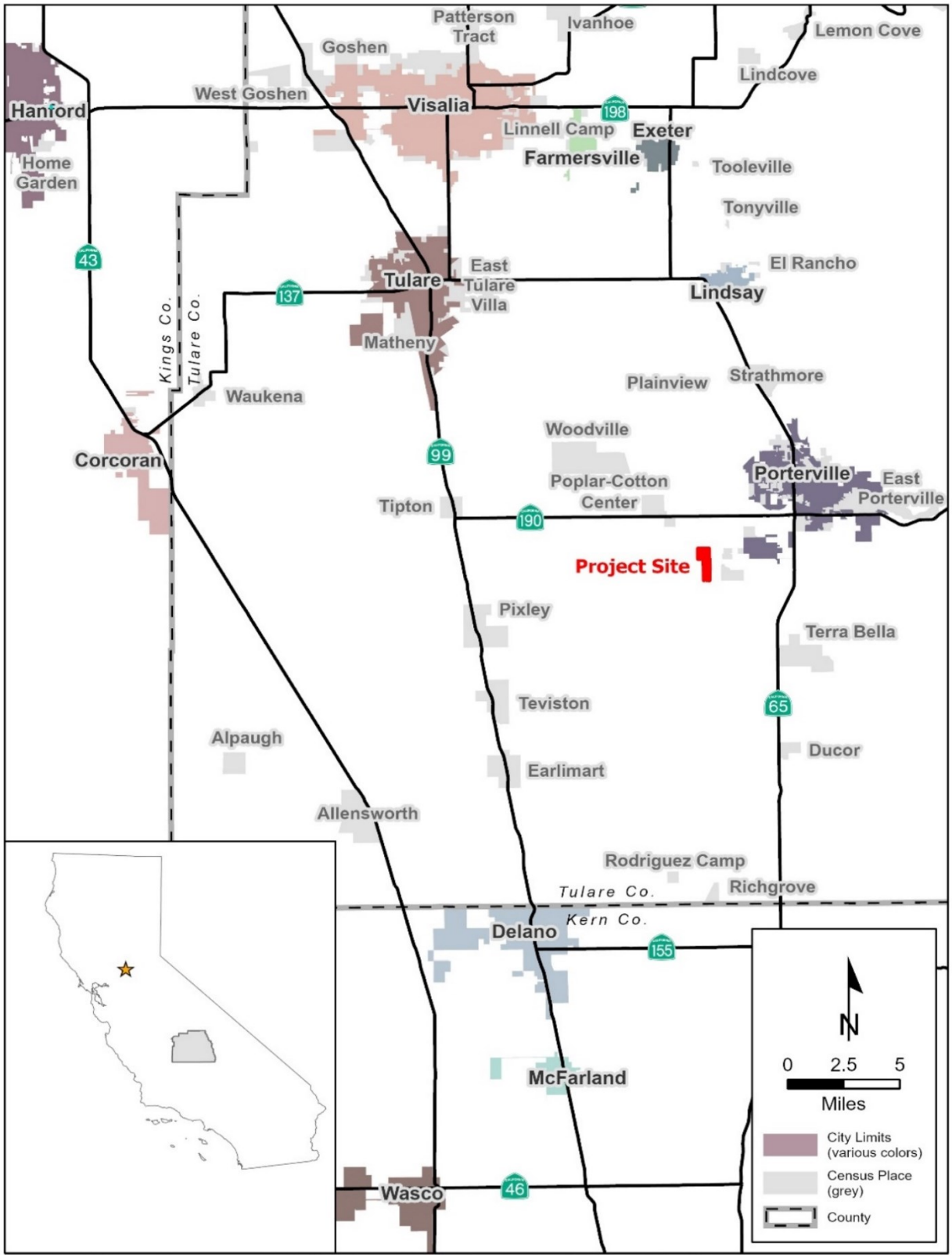
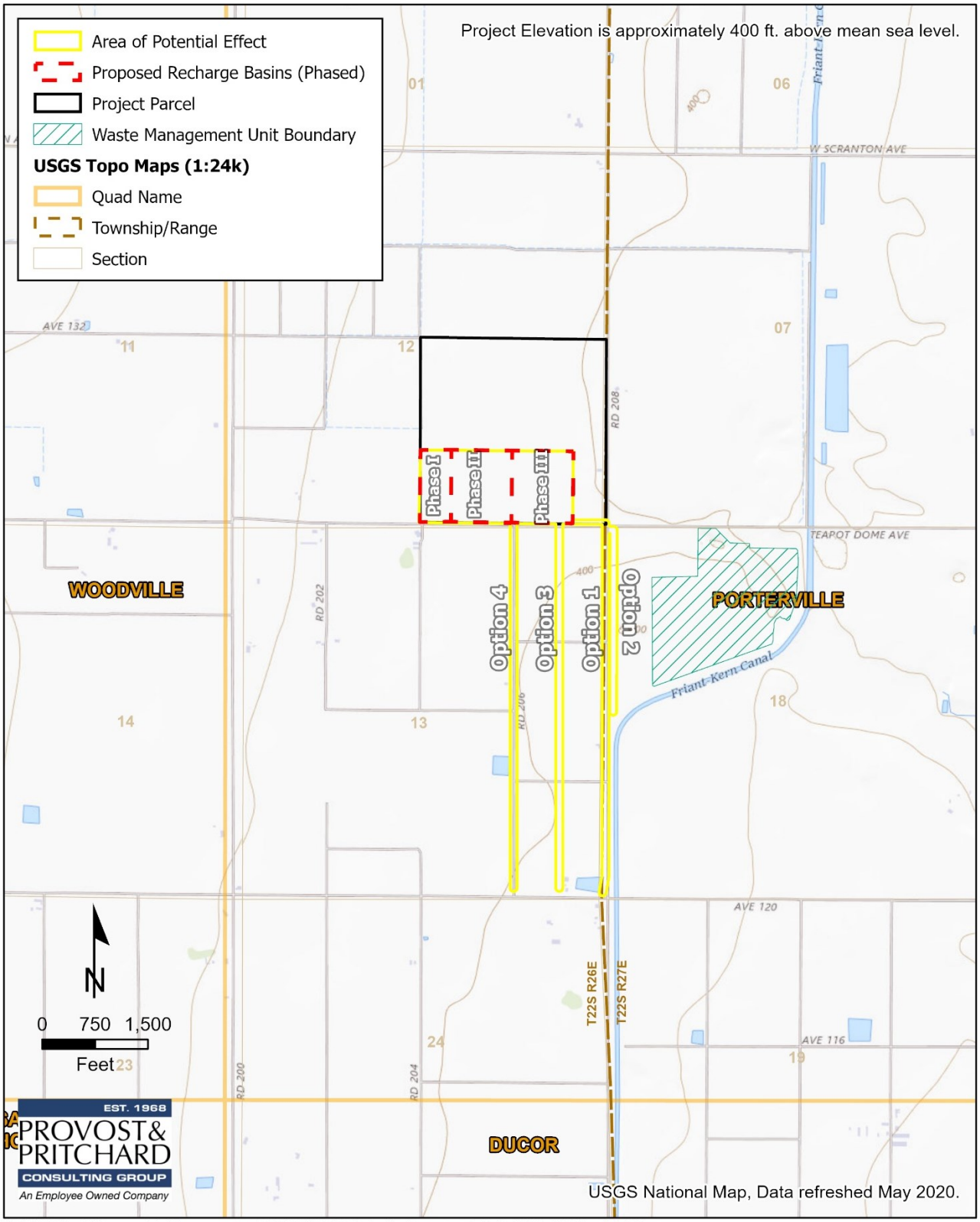
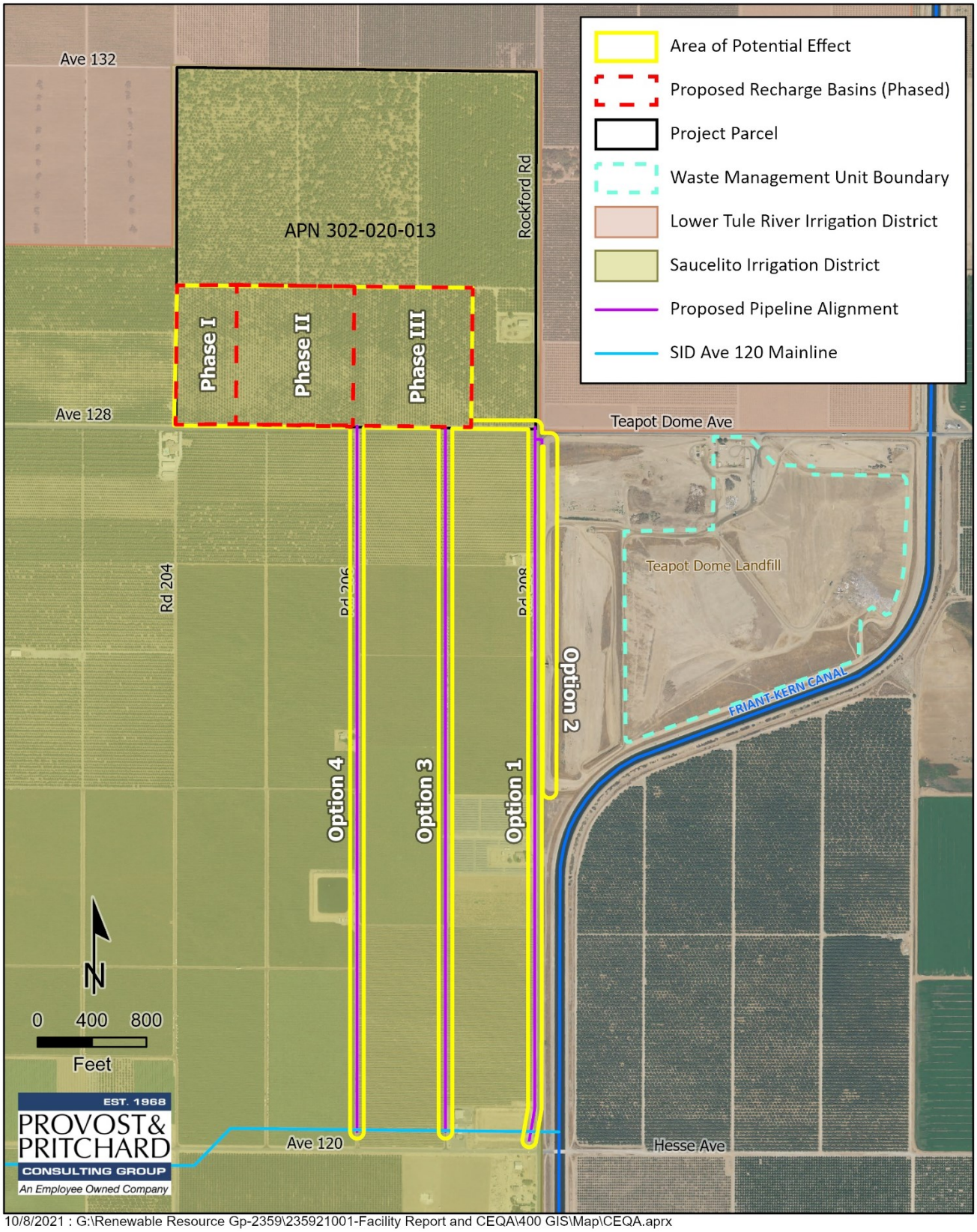


Figure 2-1. Regional Location Map



10/8/2021 : G:\Renewable Resource Gp-2359\235921001-Facility Report and CEQA\400 GIS\Map\CEQA.aprx

Figure 2-2. Topographic Quadrangle Map

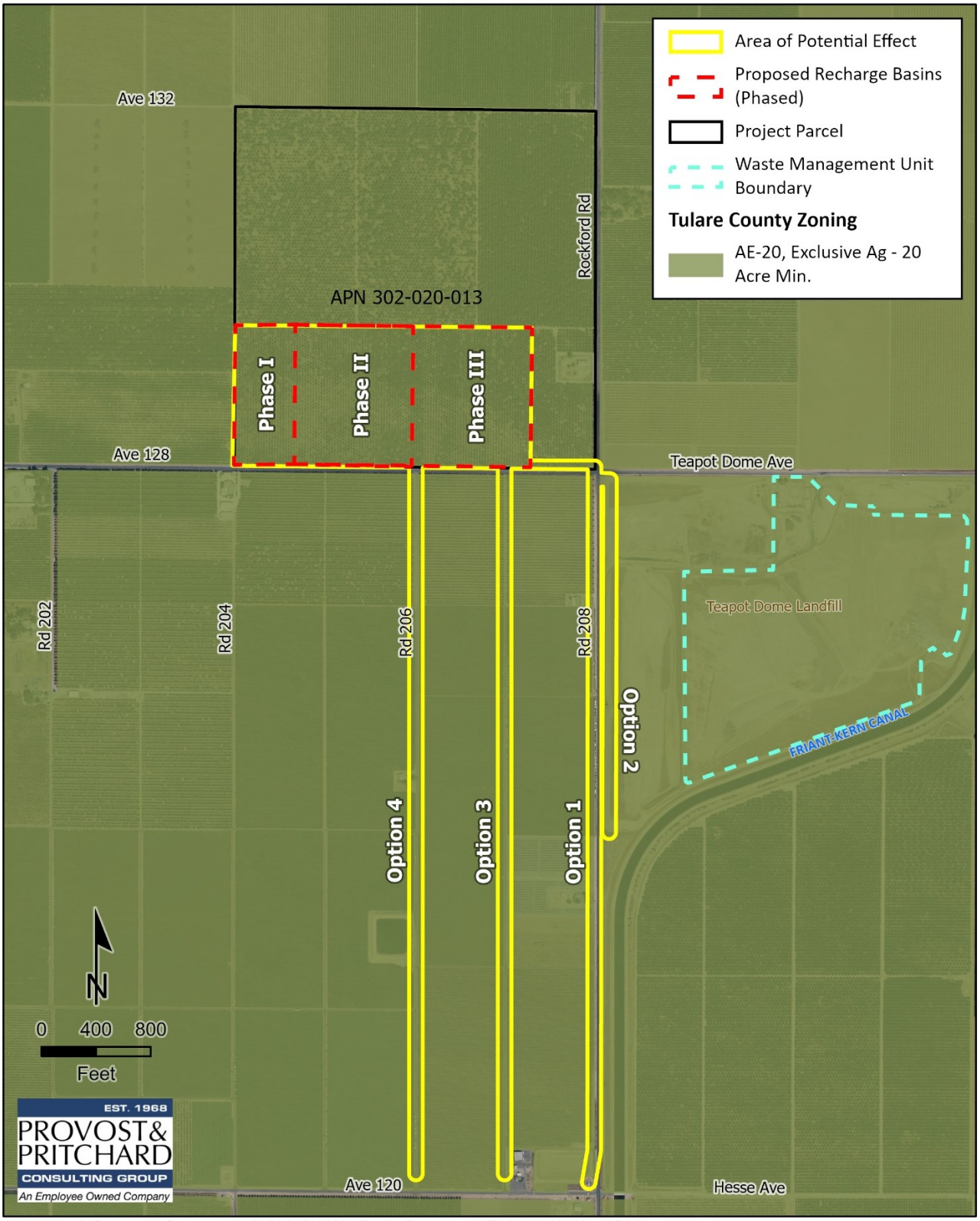


10/8/2021 : G:\Renewable Resource Gp-2359\235921001-Facility Report and CEQA\400 GIS\Map\CEQA.aprx

Figure 2-3. Area of Potential Effect Map

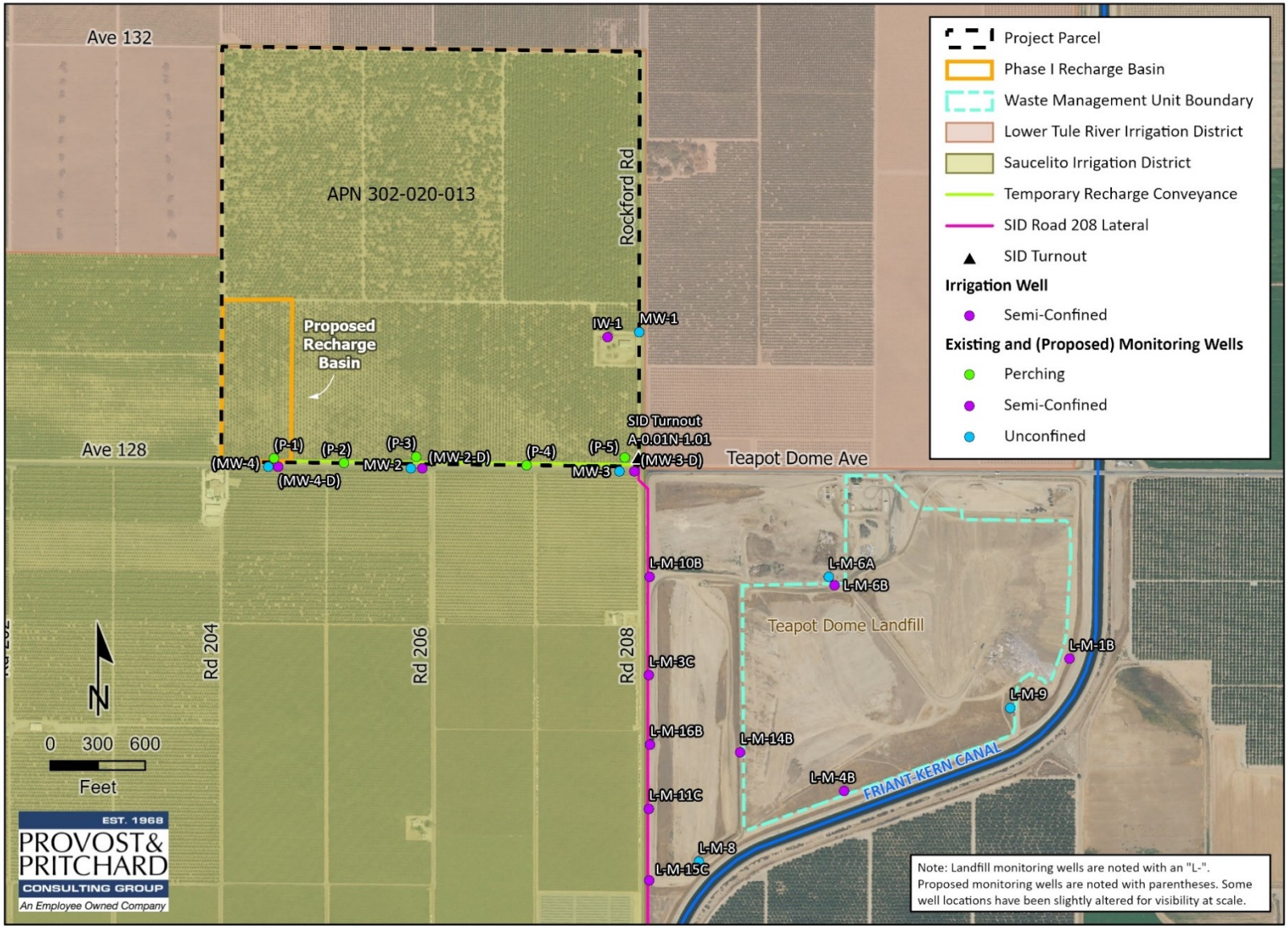
10/8/2021 : G:\Renewable Resource Gp-2359\235921001-Facility Report and CEQA\400 GIS\Map\CEQA.aprx

Figure 2-4. Tulare County General Plan Land Use Designation Map



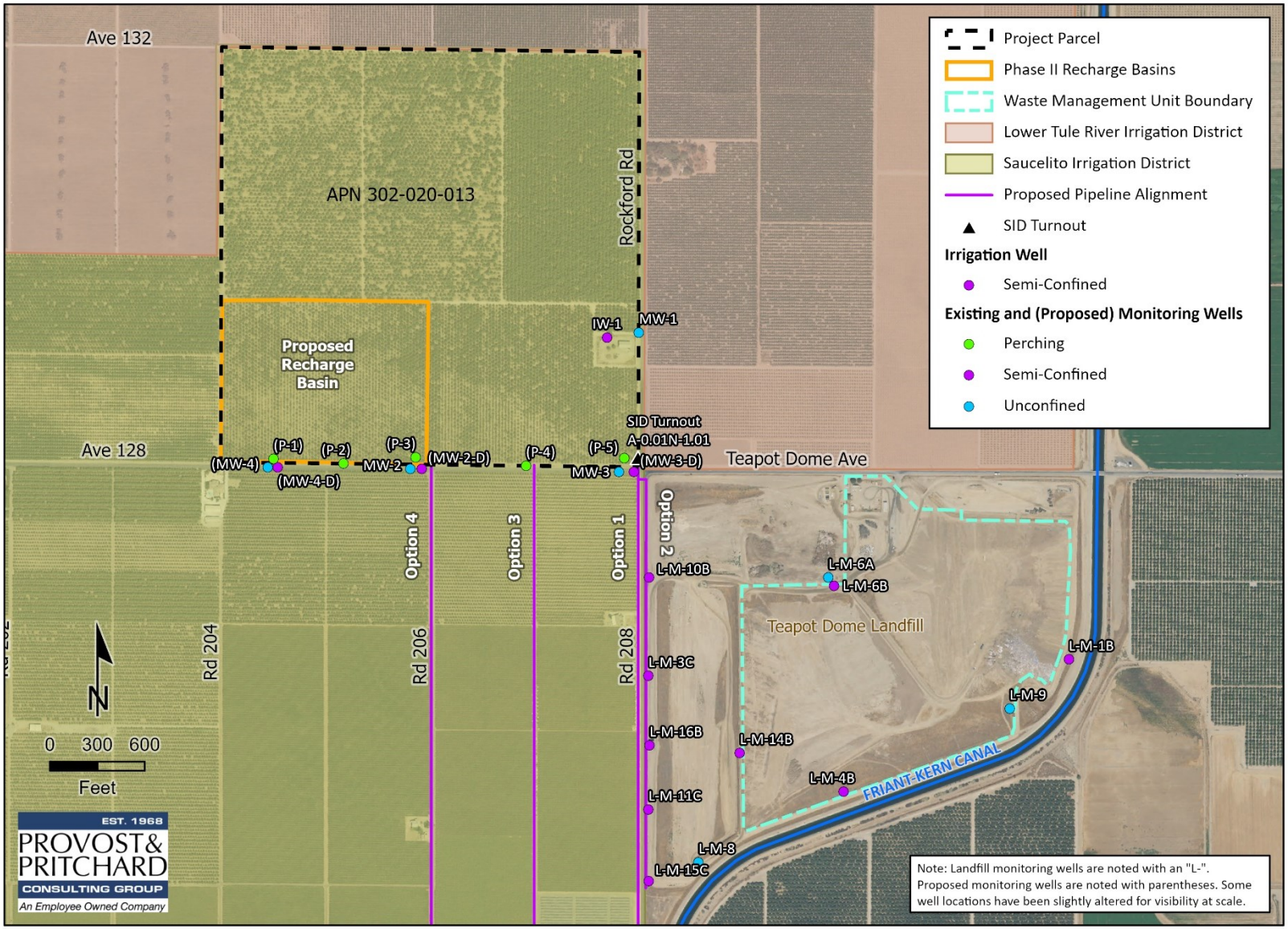
10/8/2021 : G:\Renewable Resource Gp-2359\235921001-Facility Report and CEQA\400 GIS\Map\CEQA.aprx

Figure 2-5. Tulare County Zone District Map



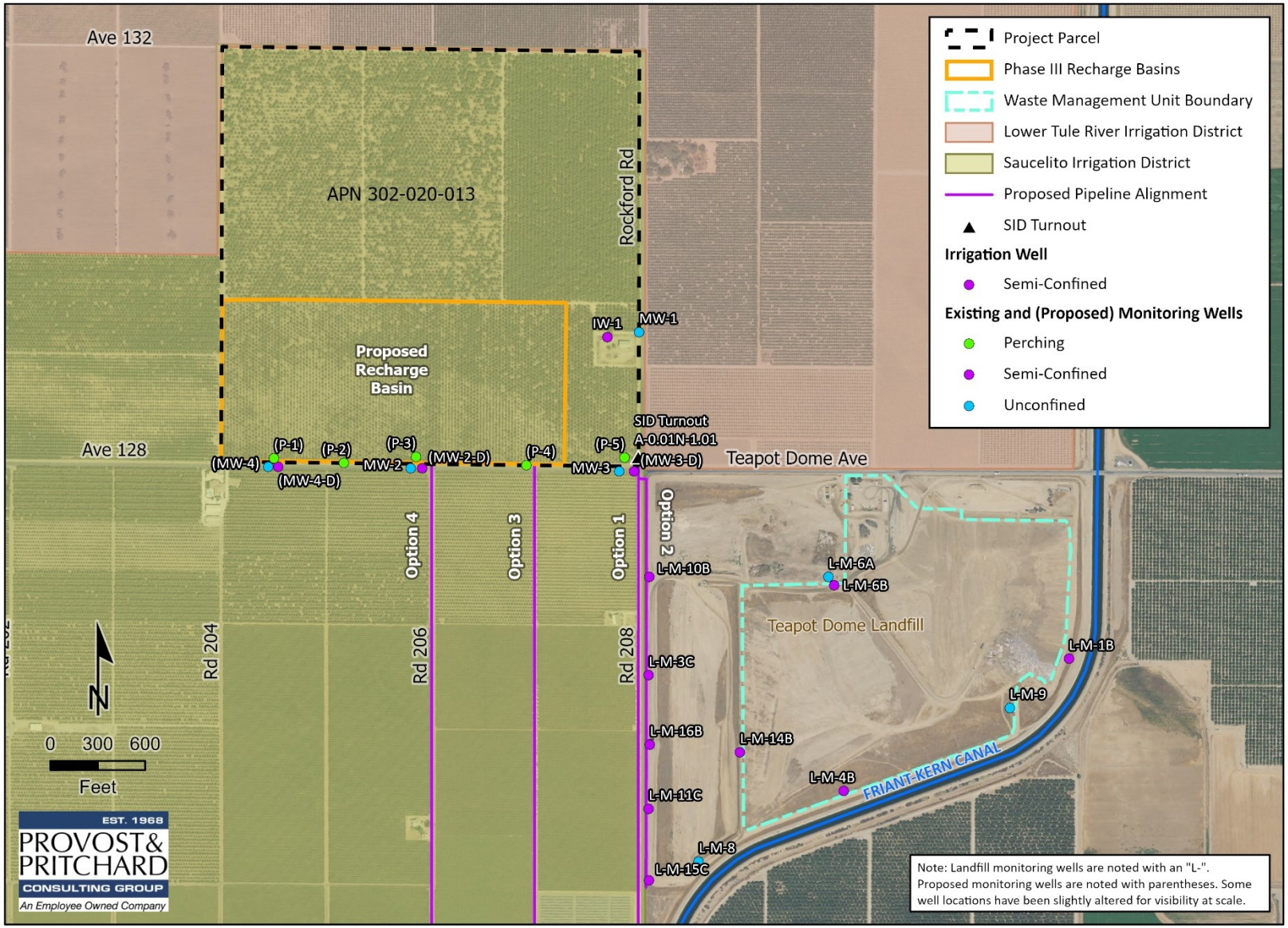
10/8/2021 : G:\Renewable Resource Gp-2359\235921001-Facility Report and CEQA\400 GIS\Map\CEQA.aprx

Figure 2-6. Phase I Project Facilities Map



10/8/2021 : G:\Renewable Resource Gp-2359\235921001-Facility Report and CEQA\400 GIS\Map\CEQA.aprx

Figure 2-7. Phase II Project Facilities Map



10/8/2021 : G:\Renewable Resource Gp-2359\235921001-Facility Report and CEQA\400 GIS\Map\CEQA.aprx

Figure 2-8. Phase III Project Facilities Map

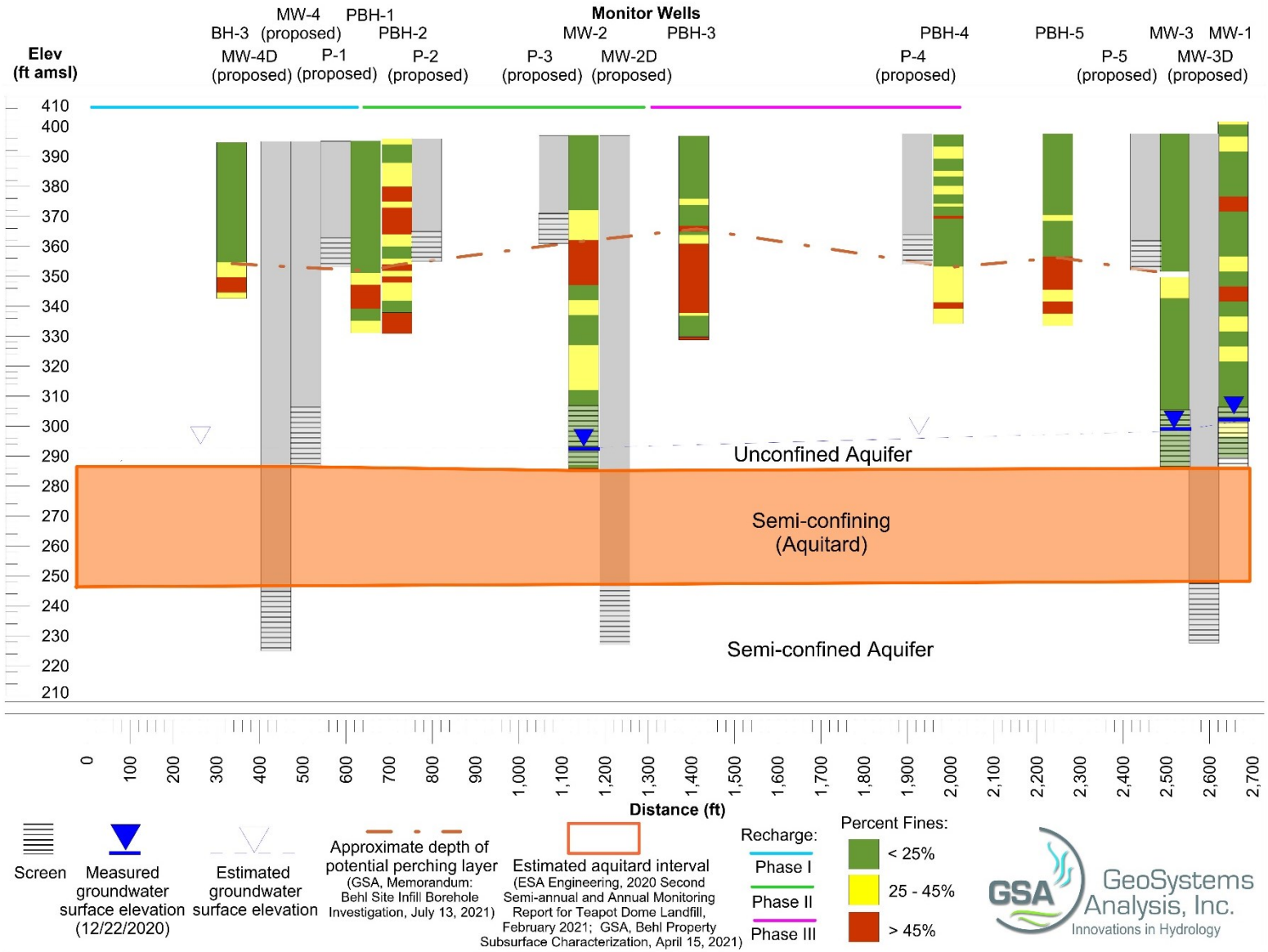


Figure 2-9. Project Cross-Section

Chapter 3 Impact Analysis

3.1 Environmental Factors Potentially Affected

As indicated by the discussions of existing and baseline conditions, and impact analyses that follow in this Chapter, environmental factors not checked below would have no impacts or less than significant impacts resulting from the project. Environmental factors that are. checked below would have potentially significant impacts resulting from the project. Mitigation measures are recommended for each of the potentially significant impacts that would reduce the impact to less than significant.

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

The analyses of environmental impacts here in **Chapter 4 Mitigation Monitoring and Reporting Program** are separated into the following categories:

Potentially Significant Impact. This category is applicable if there is substantial evidence that an effect may be significant, and no feasible mitigation measures can be identified to reduce impacts to a less than significant level. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

Less than Significant with Mitigation Incorporated. This category applies where the incorporation of mitigation measures would reduce an effect from a "Potentially Significant Impact" to a "Less than Significant Impact." The lead agency must describe the mitigation measure(s), and briefly explain how they would reduce the effect to a less than significant level (mitigation measures from earlier analyses may be cross-referenced).

Less than Significant Impact. This category is identified when the proposed Project would result in impacts below the threshold of significance, and no mitigation measures are required.

No Impact. This category applies when a project would not create an impact in the specific environmental issue area. "No Impact" answers do not require a detailed explanation if they are adequately supported by the information sources cited by the lead agency, which show that the impact does not apply to the specific project (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)

3.2 Aesthetics

Table 3-1. Aesthetics Impacts

Aesthetics Impacts				
Except as provided in Public Resources Code Section 21099, would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
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? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

3.2.1 Environmental Setting and Baseline Conditions

The proposed Project is located in the southeastern part of Tulare County in the Central San Joaquin Valley. Land in the vicinity consists of relatively flat irrigated farmland and retired farmland. Agricultural practices in the vicinity consist of orchard cultivation, vacant farmland, scattered rural residences and the Landfill. Scenic vistas are areas of natural beauty with features such as topography, watercourses, rock outcrops, and natural vegetation that contribute to the landscape's visual quality. The Project site is not in an area designated as a scenic vista and does not contain scenic resources. Tulare County State Route 190 (SR 190) has been officially identified by California Department of Transportation (Caltrans)[1] as a "designated State Scenic Highway;" however, its beginning point is approximately 4.5 miles northeast of the site and no portions of the Project area are visible from State Route 190. Rural roadways, the Friant-Kern Canal (FKC), local water distribution canals, water retention basins, and other infrastructure typical of rural agricultural areas in the San Joaquin Valley are also in the immediate vicinity. The proposed basin site is currently a walnut orchard. The proposed Project consists of constructing a recharge basin, pipeline and its associated facilities and is consistent with the existing agricultural aesthetics of the area.

3.2.2 Impact Assessment

a) Would the project have a substantial adverse effect on a scenic vista?

No Impact. Scenic features in the area include the FKC and the vast expanse of agricultural uses. The proposed Project includes construction of a water infrastructure facilities. There are no scenic vistas in the area and the proposed Project would align with the existing agricultural aesthetics of the surrounding area and there would be no impact.

[1] Caltrans. Scenic Highways. Website: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed 5/19/2021.

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. The Scenic Highway Program protects and enhances California's natural scenic beauty by allowing county and city governments to apply to the Caltrans to establish a scenic corridor protection program. SR 190 traverses southern Tulare County and is an Officially Designated State Scenic Highway from Route 65 near Porterville to Route 127 near Death Valley. Project activities at the site would occur approximately 4.5 miles northeast of the closest segment of SR 190 and no portions of the Project area are visible from State Route 190. There are no scenic resources located on or in the vicinity of the Project site. There would be no impact.

c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public view are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

No Impact. The Project site is surrounded by agricultural uses, rural residences, and a landfill. A water recharge basin and its associated facilities would be consistent with the agriculture uses in the area and would not degrade the existing visual character or quality of public views of the site and its surroundings. There would be no impact.

d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No Impact. The area surrounding the Project site is primarily agriculture and associated farming uses. No artificial lighting is proposed at the Project site. Therefore, the Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area or be inconsistent with existing conditions. There would be no impact.

3.3 Agriculture and Forestry

Table 3-2. Agriculture and Forest Impacts

Agriculture and Forest Impacts				
Would the project:	**Potentially Significant Impact**	**Less than Significant With Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
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?	☐	☐	☒	☐

3.3.1 Environmental Setting and Baseline Conditions

The purpose of the Project is to bank water that is periodically available above current needs. It would involve the construction of a recharge basin, a new pipeline, and monitoring wells. Land uses on surrounding properties include various types of agricultural orchards surrounding the basin. A majority of the proposed Project site is designated as Prime Farmland and Farmland of State Importance under the Important Farmland Mapping and Monitoring Program (FMMP)[2]. Pipeline alignment Option 1 and 2 have portions that are also Urban and Built-Up Land.

Farmland Mapping and Monitoring Program (FMMP): The FMMP produces maps and statistical data used for analyzing impacts to California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status; the best quality land is called Prime Farmland. The maps are updated every two years with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance.

The California DOC's 2012 FMMP is a non-regulatory program that produces "Important Farmland" maps and statistical data used for analyzing impacts on California's agricultural resources. The Important Farmland maps identify eight land use categories, five of which are agriculture related: prime farmland, farmland of

[2] California Department of Conservation. California Important Farmland Finder. Website: https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed 5/19/21.

statewide importance, unique farmland, farmland of local importance, and grazing land – rated according to soil quality and irrigation status. Each is summarized below[3]:

• PRIME FARMLAND (P): Farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply

needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

• FARMLAND OF STATEWIDE IMPORTANCE (S): Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture.

Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

• UNIQUE FARMLAND (U): Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated but may include non- irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

• FARMLAND OF LOCAL IMPORTANCE (L): Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

• GRAZING LAND (G): Land on which the existing vegetation is suited to the grazing of livestock. The minimum mapping unit for Grazing Land is 40 acres.

• URBAN AND BUILT-UP LAND (D): Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

• OTHER LAND (X): Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

•WATER (W): Perennial water bodies with an extent of at least 40 acres.

As demonstrated in **Figure 3-1**, the FMMP for Tulare County designates the site of the basin and potential pipeline options as Farmland of State Importance, Prime Farmland, Urban and Built-Up Land, and Semi-Ag.

3.3.2 Impact Assessment

a) 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?

No Impact. The proposed Project would involve the removal of a walnut orchard and construction of a recharge basin, pipeline and other water infrastructure on lands designated as Prime Farmland and Farmland of State

Importance, however the Project would not convert the land to non-agricultural use. The purpose of the Project is to support agricultural activity by improving water supply. Because the proposed Project site would continue to serve an agricultural purpose, implementation of the Project would not result in the conversion of farmland to nonagricultural use and there is no impact. No impact.

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The Project site is currently zoned for agricultural use, designated as AE-20by Tulare County. Chapter 3, Section 9.5 of the Tulare County Zoning Ordinance addresses the AE zone districts. Section 9.5 does not list basins as a permitted use. However, pursuant to Government Code Section 53091(e), location or construction of facilities for the production, generation, storage, treatment, or transmission of water by a special district are not subject to the zoning ordinance of the county in which the Project would be located. Although the Project is not required to comply with the Tulare County Zoning Ordinance, it is the Project's intent to enhance groundwater levels, thereby sustaining agriculture. The Project would facilitate greater security of groundwater storage for District growers, inherently promoting the agricultural zoning and Williamson Act intentions. The parcels at the basin site and three of the four pipeline options are under a Williamson Act contract: APN 302-020-013 (Proposed Basin), 302-410-011 (Pipeline Alignment Option 1&3), 302-410-012 (Pipeline Alignment Option 1&3), 302-430-001 (Pipeline Alignment Option 4), and 302-430-008 (Pipeline Alignment Option 1&3).

The principal objectives of the Williamson Act program include protection of agricultural resources, preservation of open space land, and promotion of efficient urban growth patterns. The implementation of a recharge basin would promote groundwater security inherently protecting agricultural resources and would not conflict with existing zoning for agricultural use or the Williamson Act contracts on any of the parcels. There would be no impacts.

c) 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))?

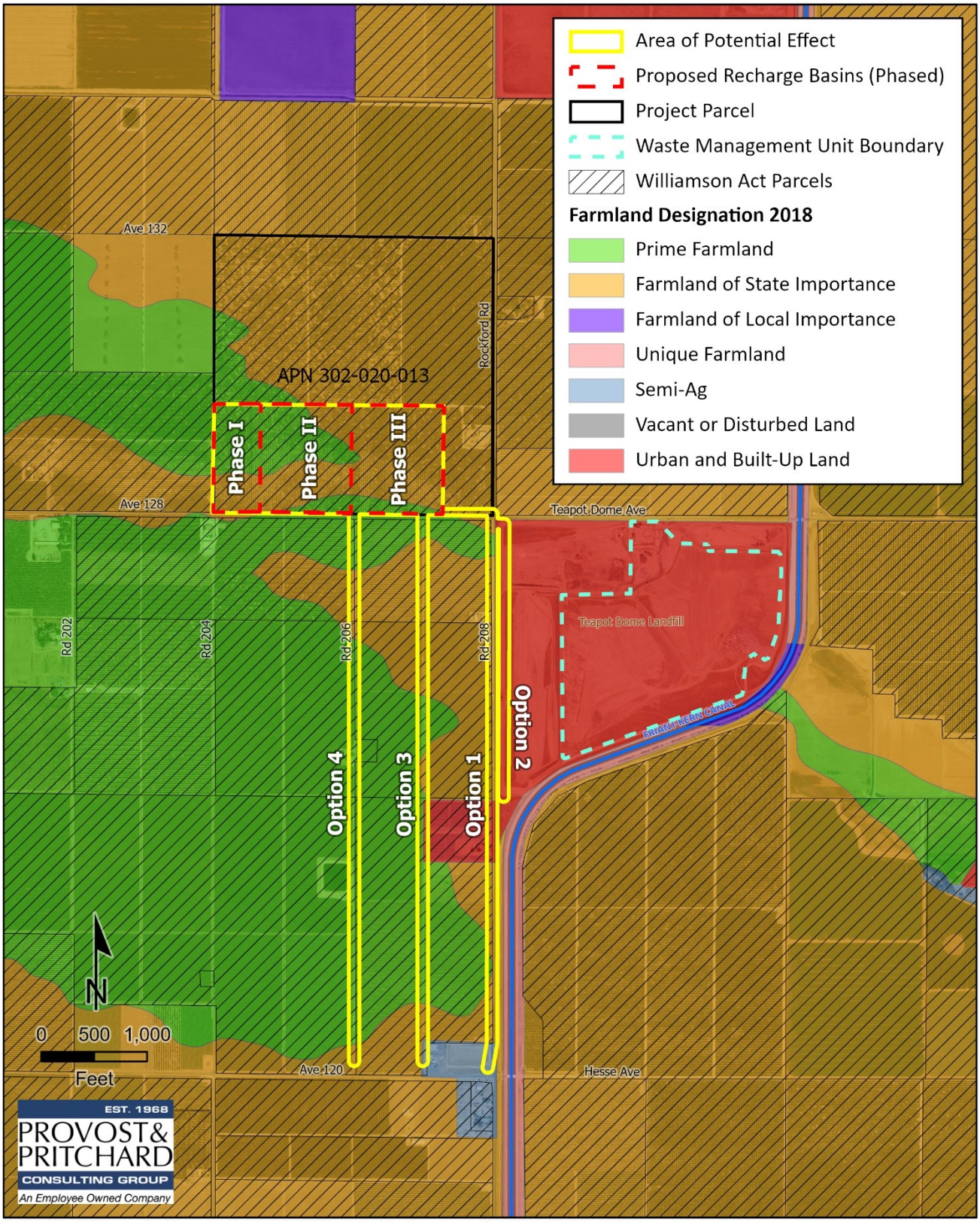
No Impact. The Project site is not zoned for forest or timberland production and there is no zone change proposed for the site. There is no impact.

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. No conversion of forestland, as defined under Public Resource Code or General Code, would occur because of the Project and there would be no impact.

e) 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?

Less than Significant Impact. The Project would not convert the land from its agricultural land use designation to any other land use pursuant to the FMMP. The intent of the recharge basins, turnouts, pipelines and other water infrastructure at the site to support ongoing agricultural endeavors by enhancing groundwater availability. As a result, the Project would result in continued farming on surrounding agricultural lands that might potentially be fallowed due to lack of water. Impacts would be less than significant.



10/8/2021 : G:\Renewable Resource Gp-2359\235921001-Facility Report and CEQA\400 GIS\Map\CEQA.aprx

Figure 3-1. Farmland Designation Map

3.4 Air Quality

Table 3-3. Air Quality Impacts

Air Quality Impacts				
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:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

3.4.1 Environmental Setting and Baseline Conditions

3.4.1.1 Regulatory Attainment Designations

Under the California Clean Air Act (CCAA), the California Air Resources Board (CARB) is required to designate areas of the State as attainment, nonattainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "nonattainment" designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An "unclassified" designation signifies that the data does not support either an attainment or nonattainment designation. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The EPA designates areas for ozone, CO, and NO_2 as "does not meet the primary standards," "cannot be classified," or "better than national standards." For SO_2, areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used. The EPA uses the same sub-categories for nonattainment status: serious, severe, and extreme. In 1991, EPA assigned new nonattainment designations to areas that had previously been classified as Group I, II, or III for PM_{10} based on the likelihood that they would violate national PM_{10} standards. All other areas are designated "unclassified."

The State and national attainment status designations pertaining to the SJVAB are summarized in **Appendix A**. The SJVAB is currently designated as a nonattainment area with respect to the State PM_{10} standard, ozone, and $PM_{2.5}$ standards. The SJVAB is designated nonattainment for the NAAQS 8-hour ozone and $PM_{2.5}$ standards. On September 25, 2008, the EPA re-designated the San Joaquin Valley to attainment status for the PM_{10} NAAQS and approved the PM_{10} Maintenance Plan.

Table 3-4. Summary of Ambient Air Quality Standards and Attainment Designation

Pollutant	Averaging Time	California Standards*		National Standards*	
		Concentration*	Attainment Status	Primary	Attainment Status
Ozone (O_3)	1-hour	0.09 ppm	Nonattainment/ Severe	–	No Federal Standard
	8-hour	0.070 ppm	Nonattainment	0.075 ppm	Nonattainment (Extreme)**
Particulate Matter (PM_{10})	AAM	20 µg/m³	Nonattainment	–	Attainment
	24-hour	50 µg/m³		150 µg/m³	
Fine Particulate Matter ($PM_{2.5}$)	AAM	12 µg/m³	Nonattainment	12 µg/m³	Nonattainment
	24-hour	No Standard		35 µg/m³	
Carbon Monoxide (CO)	1-hour	20 ppm	Attainment/ Unclassified	35 ppm	Attainment/ Unclassified
	8-hour	9 ppm		9 ppm	
	8-hour (Lake Tahoe)	6 ppm		–	
Nitrogen Dioxide (NO_2)	AAM	0.030 ppm	Attainment	53 ppb	Attainment/ Unclassified
	1-hour	0.18 ppm		100 ppb	
Sulfur Dioxide (SO_2)	AAM	–	Attainment	--	Attainment/ Unclassified
	24-hour	0.04 ppm		--	
	3-hour	–		0.5 ppm	
	1-hour	0.25 ppm		75 ppb	
Lead (Pb)	30-day Average	1.5 µg/m³	Attainment	–	No Designation/ Classification
	Calendar Quarter	–		--	
	Rolling 3-Month Average	–		0.15 µg/m³	
Sulfates (SO_4)	24-hour	25 µg/m³	Attainment	No Federal Standards	
Hydrogen Sulfide (H_2S)	1-hour	0.03 ppm (42 µg/m³)	Unclassified		
Vinyl Chloride (C_2H_3Cl)	24-hour	0.01 ppm (26 µg/m³)	Attainment		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/km-visibility of 10 miles or more due to particles when the relative humidity is less than 70%.	Unclassified		

** For more information on standards visit: https://ww3.arb.ca.gov/research/aaqs/aaqs2.pdf*
*** No Federal 1-hour standard. Reclassified extreme nonattainment for the Federal 8-hour standard [**Appendix A**].*
****Secondary Standard*
Source: CARB 2015; SJVAPCD 2015

3.4.2 Impact Assessment

An Air Quality and Greenhouse Gas Emissions Evaluation Report (**Appendix A**) was prepared using CalEEmod, Version 2016.3.2 for the proposed Project in March 2021. The sections below detail the methodology of the air quality and greenhouse gas emissions report and its conclusions.

3.4.2.1 Short-Term Construction-Generated Emissions

Short-term construction emissions associated with the Project were calculated using CalEEmod, Version 2016.3.2. The emissions modeling includes emissions generated by off-road equipment, haul trucks, and worker commute trips. Emissions were quantified based on anticipated construction schedules and construction equipment requirements provided by the Project applicant. All remaining assumptions were based on the default parameters contained in the model. While the Project would be constructed in three phases, the CalEEMod software was run as if the whole 50 acres of basin were constructed at one time over 18 months, which would be a worst-case scenario for air quality impacts. Localized air quality impacts associated with the Project would be minor and were qualitatively assessed. Modeling assumptions and output files are included in **Appendix A**.

3.4.2.2 Long-Term Operational Emissions

Long-term operational emissions associated with the Project are estimated to be minimal in nature. Maintenance would be provided on an as needed basis by existing staff, and the operational equipment, such as the use of stationary electric pumps, would be similar to the existing system which results in negligible emissions. Modeling assumptions and output files are included in **Appendix A**.

3.4.2.3 Thresholds of Significance

To assist local jurisdictions in the evaluation of air quality impacts, the SJVAPCD has published the *Guide for Assessing and Mitigating Air Quality Impacts*. This guidance document includes recommended thresholds of significance to be used for the evaluation of short-term construction, long-term operational, odor, toxic air contaminant, and cumulative air quality impacts. Accordingly, the SJVAPCD-recommended thresholds of significance are used to determine whether implementation of the proposed Project would result in a significant air quality impact. Projects that exceed these recommended thresholds would be considered to have a potentially significant impact to human health and welfare. The thresholds of significance are summarized, as follows:

Short-Term Emissions of Particulate Matter (PM_{10}): Construction impacts associated with the proposed Project would be considered significant if the feasible control measures for construction in compliance with Regulation VIII as listed in the SJVAPCD guidelines are not incorporated or implemented, or if project-generated emissions would exceed 15 tons per year (TPY).

Short-Term Emissions of Ozone Precursors (ROG and NO_X): Construction impacts associated with the proposed Project would be considered significant if the project generates emissions of Reactive Organic Gases (ROG) or NO_X that exceeds 10 TPY.

Long-Term Emissions of Particulate Matter (PM_{10}): Operational impacts associated with the proposed Project would be considered significant if the project generates emissions of PM_{10} that exceed 15 TPY.

Long-Term Emissions of Ozone Precursors (ROG and NO_X): Operational impacts associated with the proposed Project would be considered significant if the project generates emissions of ROG or NO_X that exceeds 10 TPY.

Conflict with or Obstruct Implementation of Applicable Air Quality Plan: Due to the region's nonattainment status for ozone, $PM_{2.5}$, and PM_{10}, if the project-generated emissions of either of the ozone precursor pollutants

(i.e., ROG and NO_x) or PM_{10} would exceed the SJVAPCD's significance thresholds, then the project would be considered to conflict with the attainment plans. In addition, if the project would result in a change in land use and corresponding increases in vehicle miles traveled, the project may result in an increase in vehicle miles traveled that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

Local Mobile-Source CO Concentrations: Local mobile source impacts associated with the proposed Project would be considered significant if the project contributes to CO concentrations at receptor locations in excess of the CAAQS (i.e. 9.0 ppm for 8 hours or 20 ppm for 1 hour).

Exposure to toxic air contaminants (TAC) would be considered significant if the probability of contracting cancer for the Maximally Exposed Individual (i.e., maximum individual risk) would exceed 10 in 1 million or would result in a Hazard Index greater than 1.

Odor impacts associated with the proposed Project would be considered significant if the project has the potential to frequently expose members of the public to objectionable odors.

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant. The CEQA Guidelines indicate that a significant impact would occur if the Project would conflict with or obstruct implementation of the applicable air quality plan. The GAMAQI does not provide specific guidance on analyzing conformity with the Air Quality Plan (AQP)[4]. Therefore, it is assumed the following criteria for determining Project consistency with the current AQPs:

1. Will the project result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQPs? This measure is determined by comparison to the regional and localized thresholds identified by the SJVAPCD for regional and local air pollutants.
2. Will the project comply with applicable control measures in the AQPs? The primary control measures applicable to development projects is Regulation VII-*Fugitive PM_{10} Prohibitions* and Rule 2201 *New and Modified Source Review*.

Regional air quality impacts and attainment of standards are the result of cumulative impacts of all emission sources within the air basin. Individual projects are generally not large enough to contribute measurably to an existing violation of air quality standards. Therefore, the cumulative impact of the Project is based on its cumulative contribution. Because of the region's non-attainment status for ozone, $PM_{2.5}$, and PM_{10}, if Project generated emission of either of the ozone precursor pollutants ROG, NO_x, PM_{10}, or $PM_{2.5}$ would exceed the SJVAPCD's significance thresholds, then the Project would be considered to contribute to violations of the applicable standards and conflict with the attainment plans. As demonstrated in **Table 3-5** for construction generated emissions. Project emissions of criteria pollutants would not exceed the SJVAPCD's significance threshold for oxides of nitrogen. Therefore, the Project would not contribute to air quality violations in conflict with attainment plans.

The AQP contains a number of control measures, including Regulation VII-Fugitive PM_{10} Prohibitions and Rule 2201-New and Modified Source Review (described above in **Section 3.4.1.1**) which are applicable to the Project. Regulation VII-Fugitive PM_{10} Prohibitions and Rule 2201 New and Modified Source Review are adopted rules and regulations that constitute enforceable requirements with which the project must comply. The Project would comply with all applicable SJVAPCD rules and regulations, and the Project has been analyzed and quantified and no significant impact was found. Therefore, the Project complies with the criterion and would not conflict with or obstruct implementation of the applicable air quality attainment plans. Impacts would be less than significant.

[4] Air Quality Plans can be found at http://valleyair.org/Air_Quality_Plans/air-quality-plans.htm.

b) 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?

Less than Significant Impact.

Short-Term Construction-Generated Emissions

Estimated construction-generated emissions are summarized in **Table 3-5**. Due to existing agricultural operations, orchards are typically removed once every 40 years[5]. Air quality impacts associated with the removal of the walnut orchard are considered part of baseline emissions, and therefore are not discussed. Removal of the walnut orchard would be required to comply with all SJVAPCD permits.

Table 3-5. Unmitigated Short-Term Construction-Generated Emissions of Criteria Air Pollutants

Source	Annual Emissions (Tons/Year) (1)					
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$	SO_x
2022	0.2248	3.3644	1.7971	.4238	.1962	0.0050
SJVAPCD Significance Thresholds:	10	10	100	15	15	27
Exceed SJVAPCD Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*

1. *Emissions were quantified using CalEEmod Output Files Version 2016.3.2. Refer to Appendix A for modeling results and assumptions. Totals may not sum due to rounding.*

Long-Term Operational Emissions

Existing conditions consist of water pumping for agricultural purposes and automobile trips during harvest. Standard walnut orchard practice of removal of the trees and roots, typically occurring once every 40 years, would cease. The Project is not anticipated to generate emissions beyond those currently experienced. PM_{10} and $PM_{2.5}$ emissions are anticipated to be significantly reduced due to the reduction in unpaved areas and heavy-duty diesel equipment usage commonly used in orchards. Impacts would be less than significant.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

No Impact. Existing conditions consist of agricultural operations that require the operation of heavy-duty diesel-powered equipment and vehicles. Project construction is anticipated to be approximate in emissions to one harvest season. As the Project proposes to remove the agricultural land use, exposure to substantial pollutant concentrations would be reduced. Impacts would be less than significant.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

No Impact. Project construction would utilize diesel and gasoline powered equipment, which are already used during harvest and cultivation phases of the existing walnut orchard. There would be no additional adverse impact.

[5] University of California, Davis. Production Practices and Sample Costs for Organic Walnuts. Website: https://coststudyfiles.ucdavis.edu/uploads/cs_public/a1/f6/a1f6212e-671c-45d9-a728-fa6ab5a038ac/94orgwalnuts.pdf. Accessed May 2021.

3.5 Biological Resources

Table 3-6. Biological Resources Impacts

Biological Resources Impacts				
Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
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 Game 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 Game 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?	☐	☐	☐	☒

3.5.1 Environmental Setting and Baseline Conditions

The Project site is located in the southwestern part of Tulare County, southwest of the City of Porterville. Tulare County is within the Central San Joaquin Valley and is home to a portion of the Sierra Nevada Mountain Range in the eastern part of the County. The Project basin site is on approximately 158 acres of land that has been used to produce walnuts and is currently an active walnut orchard. The basins would be constructed on approximately 50 acres located on the southwestern portion of the parcel (**Figure 2-3**). As discussed in **Chapter 2**, Project construction would be completed in three phases.

A reconnaissance-level field survey of the Project site and surrounding areas was conducted on April 21, 2021, by Provost & Pritchard's biologist, Mary Beth Bourne. For the purposes of the Biological survey, APN 302-020-013 was surveyed in its entirety, along with the three pipeline alignments. Land surrounding the site includes large agricultural fields and the Landfill to the southeast of the Project site.

Like most of California, the San Joaquin Valley experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. Summer temperatures often reach above 90 degrees Fahrenheit, and the humidity is generally low. Winter temperatures are often below 60 degrees Fahrenheit during the day and rarely exceed 70 degrees. On average, the Central Valley receives approximately 12 inches of precipitation in the form of rainfall yearly, most of which occurs between October and April.

A California Natural Diversity Database (CNDDB) search was conducted on April 21, 2021, to determine endangered and special species sightings within the proposed Project's vicinity. There were no recorded sightings on either Project site. The Pallid Bat, San Joaquin Kit Fox, and Western Mastiff Bat were the three listed species with any probability of being in the Project vicinity. However, the Project site below show, the site is heavily disturbed areas that experience agricultural harvesting activities.

Table 3-7. List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity

Species	*Status*	*Habitat*	*Occurrence on Project Site*
American badger *(Taxidea taxus)*	CSC	Grasslands, savannas, and mountain meadows near timberline are preferred. Most abundant in drier open spaces of shrub and grassland. Burrows in soil.	**Unlikely.** Suitable burrows were absent during the biological survey. The disturbed habitats and agricultural field onsite are unsuitable for this species. While individuals are known to live 1.1 miles east of the APE, agricultural practices within the APE would likely discourage habitation of this elusive mammal.
blunt-nosed leopard lizard *(Gambelia sila)*	FE, CE, CFP	Inhabits semi-arid grasslands, alkali flats, low foothills, canyon floors, large washes, and arroyos, usually on sandy, gravelly, or loamy substrate, sometimes on hardpan. Often found where there are abundant rodent burrows in dense vegetation or tall grass. Cannot survive on lands under cultivation. Known to bask on kangaroo rat mounds and often seeks shelter at the base of shrubs, in small mammal burrows, or in rock piles. Adults may excavate shallow burrows but rely on deeper pre-existing rodent burrows for hibernation and reproduction.	**Absent.** Suitable habitat is absent from the APE and surrounding lands.
California condor *(Gymnogyps californianus)*	FE, CE, CFP	Typically nests in cavities in canyon or cliff faces but has also been recorded nesting in giant sequoias in Tulare County. Requires vast expanse of open savannah, grassland, and/or foothill chaparral in mountain ranges of moderate altitude. Forages up to 100 miles from roost/nest site.	**Absent.** Suitable habitat is absent from the APE and surrounding lands.
Crotch bumble bee (*Bombus crotchii*)	CCE	Occurs throughout coastal California, as well as east to the Sierra-Cascade crest, and south in to Mexico. Food plant genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia*, and *Eriogonum*.	**Absent.** Suitable habitat is absent from the APE and surrounding lands.

Species	Status	Habitat	Occurrence on Project Site
northern California legless lizard *(Anniella pulchra)*	CSC	Found primarily underground, burrowing in loose, sandy soil. Forages in loose soil and leaf litter during the day. Occasionally observed on the surface at dusk and night.	**Unlikely.** The disturbed habitats of the APE and surrounding lands are unsuitable for this species.
pallid bat *(Antrozous pallidus)*	CSC	Found in grasslands, chaparral, and woodlands, where it feeds on ground- and vegetation-dwelling arthropods, and occasionally takes insects in flight. Prefers to roost in rock crevices, but may also use tree cavities, caves, bridges, and other man-made structures.	**Possible.** Although roosting habitat is lacking, this species may forage within the APE and other nearby agricultural fields in the immediate area
San Joaquin kit fox *(Vulpes macrotis mutica)*	FE, CT	Underground dens with multiple entrances in alkali sink, valley grassland, and woodland in valleys and adjacent foothills.	**Possible.** The APE is located directly adjacent to two known populations of this species: along Road 208 and within the landfill. The APE is primarily agricultural lands and are often disturbed; however, a kit fox could potentially pass through the APE and use the area for hunting prey.
Swainson's hawk *(Buteo swainsoni)*	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	**Unlikely.** Swainson's hawks are generally uncommon in Tulare County. Suitable nest trees are absent from the APE, although suitable foraging habitat is present.
Tipton kangaroo rat *(Dipodomys nitratoides nitratoides)*	FE, CE	Burrows in soil. Often found in grassland and shrubland.	**Unlikely.** No Tipton kangaroo rat individuals or sign were observed during the field survey. While appropriately sized burrows were identified during the survey, the tracks surrounding the burrow entrances were not consistent with the tracks of this species. The disturbed habitats of the APE are generally unsuitable for this species.
Townsend's big-eared bat *(Corynorhinus townsendii)*	CSC	Occurs in a variety of habitats, but prefers cool, dark roost sites, and are often found in caves and mines. They roost in the open, hanging from walls and ceilings. Western populations typically forage on moths in areas of dense foliage.	**Absent.** Suitable habitat is absent from the APE and surrounding lands.
tricolored blackbird *(Agelaius tricolor)*	CT, CSC	Nests colonially near fresh water in dense cattails or tules, or in thickets of riparian shrubs. Forages in grassland and cropland. Large colonies are often found on dairy farm forage fields.	**Absent.** Habitats required by this species are absent from the APE and surrounding lands. Foraging opportunities in the fallow fields of the APE are less than marginal.
Valley elderberry longhorn beetle *(Desmocerus californicus dimorphus)*	FT	Lives in mature elderberry shrubs of the Central Valley and foothills. Adults are active March to June.	**Absent.** Suitable habitat is absent from the APE and surrounding lands.

Species	Status	Habitat	Occurrence on Project Site
vernal pool fairy shrimp *(Branchinecta lynchi)*	FT	Occupies vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** Suitable soils and vernal pool habitat are absent from the Project area.
western mastiff bat *(Eumops perotis californicus)*	CSC	Found in open, arid to semi-arid habitats, including dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas, where it feeds on insects in flight. Roosts most commonly in crevices in cliff faces but may also use high buildings and tunnels.	**Possible.** Although roosting habitat is lacking, this species may forage within the APE and other nearby agricultural fields in the immediate area
western spadefoot *(Spea hammondii)*	CSC	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Vernal pools or temporary wetlands, lasting a minimum of three weeks, which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	**Absent.** The highly disturbed habitats of the Project area and surrounding lands are unsuitable for this species. Wetland or vernal pool habitat suitable for breeding is absent from the APE.

Table 3-8. List of Special Status Plants with Potential to Occur Onsite and/or in the Vicinity

Species	Status	Habitat	Occurrence on Project Site
alkali-sink goldfields (*Lasthenia chrysantha*)	CNPS 1B	Found in vernal pool and wet saline flat habitats. Occurrences documented in the San Joaquin and Sacramento Valleys at elevations below 656 feet. Blooms February - April.	**Absent.** Suitable soils and vernal pool habitat are absent from the APE.
brittlescale *(Atriplex depressa)*	CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in alkaline or clay soils, typically in meadows or annual grassland in at elevations below 1050 feet. Sometimes associated with vernal pools. Blooms June–October.	**Absent.** Suitable soils and vernal pool habitat are absent from the APE.
calico monkeyflower *(Diplacus pictus / Mimulus pictus / Eunanus pictus)*	CNPS 1B	Found in the Sierra Nevada foothills and the Tehachapi mountains in bare, sunny, shrubby areas, and around granite outcrops within foothill woodland communities at elevations between 450 feet and 4100 feet. Blooms March – May.	**Absent.** The disturbed habitats of the APE are unsuitable for this species.
California alkali grass *(Puccinellia simplex)*	CNPS 1B	Found in the San Joaquin Valley and other parts of California in saline flats and mineral springs within valley grassland and wetland-riparian communities at elevations below 3000 feet. Blooms March–May.	**Absent.** Suitable soils and wetland-riparian habitat are absent from the APE.
California jewelflower *(Caulanthus californicus)*	FE, CE, CNPS 1B	Found in the San Joaquin Valley and Western Transverse Ranges in sandy soils. Occurs on flats and slopes, generally in non-alkaline grassland at elevations between 230 feet and 6100 feet. Blooms February–April.	**Absent.** The disturbed habitats of the APE are unsuitable for this species.
chaparral ragwort *(Senecio aphanactis)*	CNPS 2B	Found in chaparral, cismontane woodland, and coastal scrub, typically within drying alkaline flats at elevations between 65–2800 feet. Blooms February–May.	**Absent.** The disturbed habitats of the APE are unsuitable for this species.
Earlimart orache *(Atriplex cordulata var. erecticaulis)*	CNPS 1B	Found in the San Joaquin Valley in saline or alkaline soils, typically within valley and foothill grassland at elevations below 375 feet. Blooms August–September.	**Absent.** The disturbed habitats of the APE are unsuitable for this species.
Keck's checkerbloom *(Sidalcea keckii)*	FE, CNPS 1B	Occurs in cismontane woodland, valley and foothill grassland, typically on grassy slopes in clay soils at elevations between 275 feet – 1650 feet. Blooms April – May.	**Absent.** The disturbed habitats of the APE are unsuitable for this species.
lesser saltscale *(Atriplex minuscula)*	CNPS 1B	Found in the San Joaquin Valley in sandy, alkaline soils in alkali scrub, valley and foothill grassland, and alkali sink communities at elevations below 750 feet. Blooms April–October.	**Absent.** Suitable soils and suitable habitat are absent from the APE.

Species	Status	Habitat	Occurrence on Project Site
Lost Hills crownscale ***(Atriplex coronata var. vallicola)***	CNPS 1B	Found in the San Joaquin Valley in dried ponds and alkaline soils in alkali scrub, valley and foothill grassland, and vernal pools at elevations below 2900 feet. Blooms April–September.	**Absent.** The disturbed habitats of the APE are unsuitable for this species.
Madera leptosiphon ***(Leptosiphon serrulatus)***	CNPS 1B	Found in openings in foothill woodland, often yellow-pine forest, and chaparral at elevations between 1000 feet and 4300 feet. Blooms April – May.	**Absent.** Suitable habitats are absent from the APE.
recurved larkspur ***(Delphinium recurvatum)***	CNPS 1B	Occurs in poorly drained, fine, alkaline soils in grassland and alakli scrub communities at elevations between 100 feet and 2600 feet. Blooms March–June.	**Absent.** Suitable soils and suitable habitat are absent from the APE.
San Joaquin adobe sunburst ***(Pseudobahia peirsonii)***	FT, CE, CNPS 1B	Found in the San Joaquin Valley and the Sierra Nevada Foothills in bare dark clay soils in valley and foothill grassland and cismontane woodland communities at elevations between 325 feet and 2950 feet. Blooms March–May.	**Absent.** Suitable soils and suitable habitat are absent from the APE.
San Joaquin woollythreads ***(Monolopia congdonii)***	FE, CNPS 1B	Occurs in the San Joaquin Valley in sandy soils on alkaline or loamy plains in valley and foothill grassland and alkali scrub communities at elevations between 180 feet and 2750 feet. Blooms February–May.	**Absent.** The disturbed habitats of the APE are unsuitable for this species.
shining navarretia ***(Navarretia nigelliformis ssp. radians)***	CNPS 1B	Found in cismontane woodland and valley and foothill grassland communities, sometimes in vernal pools. Occurs at elevations between 200 feet and 3200 feet. Blooms May – July.	**Absent.** Suitable soils and vernal pool habitat are absent from the APE.
spiny-sepaled button-celery ***(Eryngium spinosepalum)***	CNPS 1B	Found in the Sierra Nevada Foothills and the San Joaquin Valley. Occurs in vernal pools, swales, and roadside ditches. Often associated with clay soils in vernal pools within grassland communities. Occurs at elevations between 50 feet and 4160 feet. Blooms April–July.	**Absent.** Suitable soils and vernal pool habitat are absent from the APE.
Springville clarkia (*Clarkia springvillensis*)	FT, CE, CNPS 1B	Endemic to the woodlands and grasslands of the southern portion of the Sierra Nevada range, occurring primarily in the Tule River watershed. Found at elevations between 690-7400 feet. Blooms in May.	**Absent.** The APE is outside of this species known range. Suitable habitats are absent from the APE.
striped adobe-lily ***(Fritillaria striata)***	CT, CNPS 1B	Found in the Sierra Nevada foothills in adobe soil within valley grassland and foothill woodland communities at elevations below 3300 feet. Blooms February – April.	**Absent.** Suitable soils and habitats are absent from the APE.

Species	Status	Habitat	Occurrence on Project Site
subtle orache *(Atriplex subtilis)*	CNPS 1B	Found in the San Joaquin Valley in saline depressions in alkaline soils within valley and foothill grassland communities at elevations below 330 feet. Blooms June–October.	**Absent.** The APE is outside of this species known range. Suitable habitats are absent from the APE.
vernal pool smallscale *(Atriplex persistens)*	CNPS 1B	Occurs in the San Joaquin Valley and Sacramento Valley in alkaline vernal pools at elevations below 375 feet. Blooms June–September.	**Absent.** Suitable soils and vernal pool habitat are absent from the APE.

EXPLANATION OF OCCURRENCE DESIGNATIONS AND STATUS CODES

Present:	Species observed on the site at time of field surveys or during recent past
Likely:	Species not observed on the site, but it may reasonably be expected to occur there on a regular basis
Possible:	Species not observed on the site, but it could occur there from time to time
Unlikely:	Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient
Absent:	Species not observed on the site, and precluded from occurring there due to absence of suitable habitat

STATUS CODES

FE	Federally Endangered
FT	Federally Threatened
FPE	Federally Endangered (Proposed)
FPT	Federally Threatened (Proposed)
FC	Federal Candidate
CE	California Endangered
CT	California Threatened
CCT	California Threatened (Candidate)
CFP	California Fully Protected
CSC	California Species of Special Concern
CWL	California Watch List
CCE	California Endangered (Candidate)
CR	California Rare

CNPS LISTING

1A	Plants Presumed Extinct in California
1B	Plants Rare, Threatened, or Endangered in California and elsewhere
2	Plants Rare, Threatened, or Endangered in California, but more common elsewhere

3.5.2 Impact Assessment

a) 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 Game or U.S. Fish and Wildlife Service?

Less than Significant with Mitigation Incorporated. According to the California Department of Fish and Wildlife (CDFW) CNDDB's website there have not been any sightings of the pallid bat, San Joaquin kit fox, and western mastiff bat on the Project site. Due to the highly disturbed nature of the site and the agricultural production activities that have already taken place, it is highly unlikely that there would be any pallid bat, San Joaquin kit fox, and western mastiff bat found on the Project site.

Project-Related Mortality and/or Disturbance of Nesting Raptors, Migratory Birds, and Special Status Birds.

The Project site contains suitable nesting and/or foraging habitat for a variety of avian species. Ground nesting birds such as the killdeer could nest on the bare ground or compacted dirt roads onsite. Black phoebe (*Sayornis nigricans*) and cliff swallow (*Petrochelidon pyrrhonota*) could nest on, within, or adjacent to structures. Birds nesting within the Project area during construction have the potential to be injured or killed by Project-related activities. In addition to the direct "take" of nesting birds, nesting birds within the Project site or adjacent areas could be disturbed by Project-related activities resulting in nest abandonment. Projects that adversely affect the nesting success of raptors and migratory birds or result in the mortality of individual birds is considered a violation of State and federal laws and are considered a potentially significant impact under CEQA.

Nesting bird season is generally accepted as February 1 through August 31; however, raptor nesting season is generally accepted as March 1 through September 15. For simplicity, these timeframes have been combined. Implementation of the following measures would reduce potential impacts to migratory birds to a less than significant level under CEQA and would ensure compliance with State and federal laws protecting these avian species.

3.5.2.1 Mitigation Measures

The following measures will be implemented prior to the start of construction:

BIO-1 (Avoidance): The Project's construction activities shall occur, if feasible, between September 16 and January 31 (outside of nesting bird season) in an effort to avoid impacts to nesting birds.

BIO-2 (Pre-construction Nesting Bird Surveys): If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist shall conduct pre-construction surveys for nesting birds within 10 days prior to the start of construction. The survey shall include the proposed work area and surrounding lands within 50 feet. All raptor nests will be considered "active" upon the nest-building stage.

BIO-3 (Establish Buffers): On discovery of any active nests near work areas, the biologist shall determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Construction buffers shall be identified with flagging, fencing, or other easily visible means, and shall be maintained until the biologist has determined that the nestlings have fledged and are no longer dependent on the nest.

Project-Related Impacts to San Joaquin Kit Fox

San Joaquin kit fox have been documented in the Project vicinity. Although frequent disturbance may deter this species from denning onsite, this species could potentially forage or pass through the Project area during dispersal movements. If a kit fox were present onsite during ground-disturbance, it could be injured or killed by construction activities. Projects that result in the mortality of special status species are considered a violation of State and federal laws and are considered a potentially significant impact under CEQA.

Implementation of the following measures will reduce potential impacts to the San Joaquin kit fox to a less than significant level under CEQA and will ensure compliance with State and federal laws protecting this species.

3.5.2.2 Mitigation Measures

The following measures derived from the *USFWS 2011 Standardized Recommendations for Protection of the San Joaquin Kit Fox* Prior to or During Ground Disturbance will be implemented:

BIO-4 (Pre-construction San Joaquin Kit Fox Survey): Within 30 days prior to the start of construction, a pre-construction survey for San Joaquin kit fox shall be conducted on and within 200 feet of proposed work areas. If an active kit fox den is detected within or adjacent to the Project area, construction will be delayed, and CDFW and USFWS shall be consulted to determine the best course of action.

BIO-5 (Minimization): The Project shall observe all minimization and protective measures from the Construction and On-Going Operational Requirements of the USFWS 2011 Standardized Recommendations, including, but not limited to: construction speed limits, covering of pipes, installation of escape structures, restriction of herbicide and rodenticide use, proper disposal of food items and trash, prohibition of pets and firearms, and completion of an employee education program.

BIO-6 (Mortality Reporting): The Sacramento Field Office of USFWS and the Fresno Field Office of CDFW will be notified in writing within three working days in the case of the accidental death or injury to a San Joaquin kit fox during construction. Notification must include the date, time, and location of the incident and any other pertinent information.

Implementation of the above measures will reduce potential impacts to San Joaquin kit fox to a less than significant level and will ensure compliance with State and federal laws protecting this species.

Project-Related Impacts to Special Status Bats

Although suitable roosting habitat for pallid and western mastiff bats is not readily available within the APE, the surrounding agricultural fields provide suitable foraging habitat for multiple species of bat. If a special status bat were foraging onsite, it could be injured or killed by construction activities. Projects that adversely affect the reproductive success of special status species or result in the mortality of special status species are considered a violation of State and federal laws and are considered a potentially significant impact under CEQA. Implementation of the following measure would reduce potential impacts to foraging special status bats, including pallid and western red bats, to a less-than-significant-level under CEQA and would ensure compliance with State and federal laws protecting this species.

3.5.2.3 Mitigation Measures.

The following measures would be implemented during or prior to the start of construction:

> **BIO-7 (Operational Hours):** Construction activities shall be limited to daylight hours to reduce potential impacts to special status bats that could be foraging onsite.
> **BIO-8 (Pre-Construction Bat Survey):** Prior to removal or trimming of any trees, a pre-construction survey for bats will be conducted at dusk no more than 7 days before scheduled vegetation removal by a qualified biologist. A focused study in accordance with CDFW guidelines will be conducted should bats be detected in the trees marked for removal. If no bats are detected, no further actions are required.

b) 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?

No Impact. The Project would not 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 Services. A sensitive natural community that would be substantially adversely affected by this Project was not identified. Therefore, there would be no impact.

c) 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?

No Impact. The Project would not have a substantial adverse effect on State or federally protected wetlands through direct removal, filling, hydrological interruption, or other means. The irrigation ditch that establishes the border between the Project site and the property to the west is classified as a wetland by the National Wetlands Inventory[6]. The Project would not alter the irrigation ditch and as a result there would be no substantial adverse effect on this designated wetland. Therefore, there would be no impact.

d) 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?

No Impact. The Project area does not contain features that would be likely to function as wildlife movement corridors. Furthermore, the Project is located in a region often disturbed by human activities related to agricultural production which would discourage dispersal and migration. Therefore, the Project would have no impact on wildlife movement corridors, and no additional mitigation measures are necessary.

[6] U.S. Fish and Wildlife Service. Wetlands Mapper. Website: https://www.fws.gov/wetlands/data/mapper.html. Accessed 5/17/21.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. The Project would not conflict with any local policies or ordinances protecting biological resources. Therefore, there would be no impact.

f) 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?

No Impact. The 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. Therefore, there would be no impact.

3.6 Cultural Resources

Table 3-9. Cultural Resources Impacts

Cultural Resources Impacts				
Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

3.6.1 Environmental Setting and Baseline Conditions

The Project site is located in the southwestern part of Tulare County, southwest of the City of Porterville. Tulare County is within the Central San Joaquin Valley and is part of a culturally and historically rich part of the San Joaquin Valley. The Project basin would be constructed on the southwestern portion of a 158 acre parcel, currently used for walnut production. For the purposes of the cultural resources survey the full 158 acre parcel (APN 302-020-013) and the three pipeline alignments were surveyed. Land surrounding the site includes large agricultural fields and the Landfill to the southeast of the Project site. Historical and recent land-use has thus changed the vegetation that was once present within and near the Project study area. Prior to development, oak groves and valley grasslands would have dominated. However, it is likely that Riparian Woodlands were once found along local drainages, including along Deer Creek and White River.

An intensive Phase I Cultural Resources Survey of the Project study area was conducted on April 15, 2021, by ASM Affiliates (ASM) staff. The entire Project study area was examined with the field crew walking parallel transects space at approximately 15-m intervals, in order to identify surface artifacts, archaeological indicators (e.g., shellfish or animal bone), and/or archaeological deposits (e.g., organically enriched midden soil); tabulation and recording of surface diagnostic artifacts; site sketch mapping; preliminary evaluation of site integrity; and site recording, following the California Office of Historic Preservation Instructions for Recording Historic Resources, using DPR 523 forms. Special attention was paid to rodent burrow back dirt piles in the hope of identifying subsurface soil conditions that might be indicative of the presence of archaeological features or remains. (**Appendix C**)

No cultural or archaeological resources of any kind were identified during the Phase I Cultural Resources Survey.

Records Search

On March 1, 2021, ASM received a records search from the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information System (CHRIS), located at California State University, Bakersfield. The records search encompassed the Project APEs as well as a 0.5-mile radius surrounding the various locations. SSJVIC staff examined site record files, maps, and other materials to identify previously recorded resources and prior surveys within the delineated area. Additional sources included the

State Office of Historic Preservation (SHPO) Historic Properties Directory, Archaeological Determinations of Eligibility, and the California Inventory of Historic Resources. (**Appendix C**)

Native American Outreach

In March of 2021, ASM contacted the Native American Heritage Commission (NAHC) in Sacramento and provided the NAHC a brief description of the Project and a map showing its location and requested that the NAHC perform a search of the Sacred Lands File to determine if any Native American resources have been recorded in the immediate study area. The results were negative. (**Appendix C**)

3.6.2 Impact Assessment

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5? And;

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less than Significant Impact with Mitigation Incorporated. A records search from the California Historical Resources Information System (CHRIS) at the Southern San Joaquin Valley Information Center (SSJVIC) was received March 1, 2021. According to the IC records, three previous studies have been completed that are adjacent to or intersect some portion of the Project APE. An additional two previous studies had been conducted within 0.5 mi. of the APE. No cultural resources have been recorded within the study area, but two have been documented within the 0.5-mi. search radius; both are irrigation canals. (See **Appendix C**)

To identify any historic properties, the SSJVIC examined the current inventories of the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), California Historical Landmarks (CHL), California Points of Historical Interest (CPHI), California Inventory of Historic Resources (CIHR), California State Historic Landmarks, and other pertinent historical data available at the SSJVIC. There are no recorded cultural resources within the Project area or radius that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks. Therefore, Mitigation Measure **CUL-1** as outlined below has been incorporated into the Project.

Although it is unlikely that archeological resources would be encountered during construction or operation of the Proposed Project, **CUL-1** as outline below is to be considered.

3.6.2.1 Mitigation Measure

The following measures would be implemented during or prior to the start of construction:

> **CUL-1 (*Archaeological Resources*):** In the event that archaeological resources are encountered at any time during construction, development or any ground-moving activities within the entire Project area, all work in the vicinity of the find shall halt until a qualified archaeologist can assess the discovery. The District shall implement all recommendations of the archaeologist necessary to avoid or reduce to a less than significant level potential impacts to cultural resource. Appropriate actions could include a Data Recovery Plan or preservation in place.

c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Less than Significant Impact with Mitigation Incorporated. No formal cemeteries or other places of human internment are known to exist on the Project site; however, in accordance with Health and Safety Code Section

7050.5 and Public Resource Code Section 5097.98, if human remains are uncovered, Mitigation Measure **CUL-2** as outlined below would be implemented.

3.6.2.2 Mitigation Measure

The following measures would be implemented during or prior to the start of construction:

> **CUL-2 (*Human Remains*):** If human remains are uncovered, or in any other case when human remains are discovered during construction, the Tulare County Coroner is to be notified to arrange proper treatment and disposition. If the remains are identified—on the basis of archaeological context, age, cultural associations, or biological traits—as those of a Native American origin, California Health and Safety Code 7050.5 and Public Resource Code 5097.98 require that the coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent (MLD) who will determine the manner in which the remains are treated.

3.7 Energy

Table 3-10. Energy Impacts

Energy Impacts				
Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Result in 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?	☐	☐	☒	☐

3.7.1 Environmental Setting and Baseline Conditions

The Project property consists of an approximately 158-acre walnut orchard, irrigated with groundwater currently delivered by an existing electric water extraction well. Gasoline and diesel are currently used for on-site harvest activities. The Project basin would be constructed on 50 acres in the southwestern portion of the property.

3.7.2 Impact Assessment

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less than Significant Impact. Construction of the Project would be required to comply with California Code of Regulations Title 13, Motor Vehicles, Section 2449(d)(2)-Idling, which limits idling times of construction vehicles to no more than five minutes, thereby precluding unnecessary and wasteful consumption of fuel because of unproductive idling of construction equipment. Project operations would require the utilization of electricity to pump water into the recharge basin from the SID pipeline along Avenue 120. Due to the reduction in total dynamic head experienced from pumping water from a much shallower source, energy usage would be less than existing conditions. Impacts would be less than significant.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less than Significant Impact. The existing site utilizes a well to irrigate an approximately 158-acre walnut orchard, which extracts groundwater from a deep aquifer. The Project would pump similar quantities of water from the SID pipeline to recharge the proposed basin. Energy consumed would be less than existing due to the reduction in total dynamic head expected, and thus the Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Impacts would be less than significant.

3.8 Geology and Soils

Table 3-11. Geology and Soils Impacts

Geology and Soils Impacts				
Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
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 direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☐	☒	☐

3.8.1 Environmental Setting and Baseline Conditions

Using the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey of Tulare County, Western Part, California a report of the onsite soils was generated and is provided in **Appendix D.**

Table 3-12. Soils Report

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
112	Dumps	1.7	0.8%
114	Exeter Loam, 0-2 percent slopes	135.8	67.1%
116	Flamen Loam, 0-2 percent slopes	38.1	18.8%
130	Nord Fine Sandy Loam, 0-2 percent slopes	7.0	3.5%
138	Tujunga Loamy Sand, 0-2 percent slopes	19.8	9.8%
Total Area of Interest		**202.4**	**100.0%**

3.8.1.1 Geology and Soils

The proposed Project is located in southwestern Tulare County, in the southern section of California's Great Valley Geomorphic Province, or Central Valley. The Sacramento Valley makes up the northern third and the San Joaquin Valley makes up the southern two-thirds of the geomorphic province. Both valleys are watered by large rivers flowing west from the Sierra Nevada Range, with smaller tributaries flowing east from the Coast Ranges. Most of the surface of the Great Valley is covered by Quaternary (present day to 1.6 million years ago) alluvium. From the time the Valley first began to form, sediments derived from erosion of igneous and metamorphic rocks and consolidated marine sediments in the surrounding mountains have been transported into the Valley by streams.

3.8.1.2 Faults and Seismicity

The Project site is not known to be located on an active fault and is not located within a Alquist-Priolo Earthquake Fault Zone. The San Andreas Fault is the longest and most significant fault zone in California and is approximately 40 miles west of the Tulare County Boundary. The San Andreas Fault is the dominant active tectonic feature of the Coast Ranges and represents the boundary of the North American and Pacific plates. A smaller fault zone, the Poso Creek Fault, is approximately 23 miles southwest of the Project site.

3.8.1.3 Liquefaction

Liquefaction occurs when loose, water-saturated sediments lose strength and fail during strong ground shaking. In general, liquefiable areas are generally confined to the Valley floor covered by Quaternary-age alluvial deposits, Holocene soil deposits, current river channels, and active wash deposits and their historic floodplains, marshes, and dry lakes. According to the California Geologic Survey[7], the Project site has not been identified as an area that is at risk of seismic-related ground failure including liquefaction.

3.8.1.4 Soil Subsidence

Subsidence occurs when a large land area settles due to over-saturation or extensive withdrawal of ground water, oil, or natural gas. These areas are typically composed of open-textured soils that become saturated, high in silt or clay content. The Project site consists primarily of Exeter loam and Flamen Loam with a low to moderate risk of subsidence. The San Joaquin Valley has become an area that has increasingly experienced subsidence due to excessive groundwater pumping activities, lowering the water table. It is understood that the Project site is in the vicinity of known subsidence and is located near the FKC, which is critical infrastructure. Therefore, this potential impact needs to be monitored to be in compliance with the ETSGA and Sustainable Groundwater Management Act (SGMA) rules and regulations and the MOCP.

[7] California Geologic Survey. Earthquake Zones of Required Investigation. Website: https://maps.conservation.ca.gov/cgs/EQZApp/app/. Accessed 5/17/21.

3.8.1.5 Dam and Levee Failure

The closest dam inundation area is Lake Success and is approximately 11-miles northeast of the Project site. The Department of Water Resources (DWR) Dam Breach Inundation Map[8] indicated that there are no dams or levees near the Project site with a high risk of breaching.

3.8.2 Impact Assessment

a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

a-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.

Less than Significant Impact. The nearest major fault is the Whitewolf Fault, located approximately 56-miles southeast of the Project site. A smaller fault zone, the Poso Fault, is approximately 23-miles southwest of the Project site. An unnamed fault is approximately four miles southeast of the Project. The proposed Project does not include habitable residential, agricultural, commercial, or industrial structures. Operation of the proposed Project would require infrequent, routine maintenance by Capinero employees at the basin site. Any impact would be less than significant.

a-ii) Strong seismic ground shaking?

No Impact. According to the Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan[9], the Project site is located in an area of relatively low seismic activity. The proposed Project does not include any activities or components which could feasibly cause strong seismic ground shaking, either directly or indirectly. Therefore, there would be no impact.

a-iii) Seismic-related ground failure, including liquefaction?

No Impact. Liquefaction occurs when loose, water-saturated sediments lose strength and fail during strong ground shaking. In general, liquefiable areas are generally confined to the Valley floor covered by Quaternary-age alluvial deposits, Holocene soil deposits, current river channels, and active wash deposits and their historic floodplains, marshes, and dry lakes. According to the California Geologic Survey, the Project site has not been identified as an area that is at risk of seismic-related ground failure including liquefaction. Therefore, there would be no impact.

a-iv) Landslides?

No Impact. The Project would not be located in an area that experiences landslides. A lack of topographic reliefs near the Project site would eliminate the potential for a landslide. Therefore, there would be no impact.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact. The Project would construct an approximately 50-acre water recharge and banking facility on rural land southeast of the City of Porterville. While the Project would result in large amount of topsoil being moved during construction activities, developers whose projects disturb one (1) or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres are required to obtain coverage under the Statewide General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ). Construction activity subject to this permit includes clearing, grading and disturbances to the

[8] Department of Water Resources. Dam Breach Inundation Map Web Publisher. Website: https://fmds.water.ca.gov/webgis/?appid=dam_prototype_v2. Accessed 5/17/21.

[9] Tulare County. Environmental Planning Resources. Website: https://tularecounty.ca.gov/rma/index.cfm/planning-building/environmental-planning/environmental-planning-resources/. Accessed 5/17/21.

ground such as stockpiling, or excavation, and construction of linear underground or overhead facilities associated with trail construction, but does not include regular maintenance activities performed to restore the original lines, grade, or capacity of the overhead or underground facilities. The Construction General Permit requires the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Through the completion of a SWPPP, any possible impacts from construction related activities involving soil erosion and loss of topsoil would be reduced. Therefore, impacts would be less than significant.

c) 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?

Less than Significant Impact. Soil Subsidence is an increasing problem within the San Joaquin Valley. The excessive pumping of groundwater for agricultural development has lowered the water table and resulted in a large area of soil subsidence in the Central Valley according to the United States Geological Survey[10]. While the Project site is not known to have significant subsidence, the potential for subsidence would have to be monitored closely and the Project would be required to follow the applicable GSA and SGMA guidelines governing soil subsidence. The Project would not directly cause a reduction of groundwater supplies but would enable nearby landowners to have access to more water than in the past and as a result could indirectly increase their groundwater consumption.

The Project would cause a net gain in groundwater storage in the vicinity in the amount of 10% to 30% of recharged water at the Project site. This is based on the Capinero - SID Banking Agreement specifying a leave-behind percentage on the recharged water based on where it is intended to be recovered and used. This is in place to promote more water coming into and staying in the Project vicinity. Compliance by the Project and surrounding property owners with the standards and rules of the ETGSA, SGMA, and the MOCP would reduce potential impacts to be less than significant.

The proposed Project will comply with the Project's Monitoring and Operational Constraints Plan. The MOCP includes the following subsidence monitoring and reporting procedures and is outlined in **Chapter 2**:

Reporting

During operating periods Capinero will submit monthly reports to SID which include the following information:

- The beginning volumes of water in the Capinero and SID banked water accounts;
- The sources of water sent to the Project turnout;
- Volumes of water discharged to recharge basins (daily basis);
- Percolation rates (daily basis);
- Losses to evaporation (daily basis);
- Net volumes of recharged water (daily basis);
- The volumes of recharged water allocated into the Capinero and SID accounts in accordance with the Banking Policy leave behind requirements;
- Volumes of Capinero's banked water transferred to others, including the places of use;
- The ending volumes of water in the Capinero and SID banked water accounts;
- Depth to water graphs for key wells approved by the District; and
- Collected analytical data during the reporting period.

[10] USGS. Areas of Land Subsidence in California. Website: https://ca.water.usgs.gov/land_subsidence/california-subsidence-areas.html. Accessed 5/18/21.

During Phases I and II these reports will be submitted monthly. During Phase III, these reports will be submitted on a monthly basis for the first year of recharge, and on a quarterly basis for each year thereafter. By January 15 of each year, regardless of whether there were any Project operations, Capinero will submit an annual report for the prior year running from October 1 through September 30. This report, submitted to SID and the Monitoring Committee, will include the annual totals for the information listed above and additionally will include the following information:

- A chronological summary of operations and response to Monitoring Committee issues, if any;
- Tabulations of all water level, water quality, water volumes and subsidence monitoring data;
- A map presenting the distributions of total dissolved solids in monitored wells;
- Activities performed to comply with the Subsidence Plan;
- Maps presenting the spring and fall elevations of water levels in wells, including interpreted directions of groundwater flow; and
- Maps presenting the spring and fall depths to water in wells.

Benchmarks would be constructed and monitored using procedures approved by the California Board for Professional Engineers and Land Surveyors and using appropriate guidelines promulgated by the National Geodetic Survey and the California Spatial Reference Center. Annual subsidence monitoring reports would be submitted to the Monitoring Committee, GSA, the FWA and Reclamation.

The above Project features will reduce potential impacts to subsidence to a less than significant level and will ensure compliance with the Monitoring and Operational Constraint Plan.

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

No Impact. The Project site is comprised of the Exeter Loam, the Flamen Loam, the Nord fine sandy loam, and the Tujunga loamy sand. The Project site would not contain any facilities that could be affected by expansive soils, nor would substantial grading change the topography such that the Project would create a substantial risk to life or property. The Project would be completed in accordance with the California Building Code standards. Therefore, there would be no impact.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The Project would not result in the installation or need for septic tanks or alternative wastewater disposal systems. Therefore, there would be no impact.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

Less than Significant Impact. Paleontological resources are fossilized remains of flora and fauna and associate deposits. Most fossils are found in sedimentary rock. Sedimentary rock is formed by dirt (sand, silt, or clay) and debris that settles to the bottom of an ocean or lake and compresses for such a long time that it becomes hard as a rock. CEQA requires that a determination be made as to whether a project would directly or indirectly destroy a unique paleontological resource or site or unique geological feature (CEQA Appendix G(v)(c)). If an impact is significant, CEQA requires feasible measures to minimize the impact (CCR Title 14(3) Section 15126.4(a)(1)). PRC Section 5097.5 (see above) also applies to paleontological resources.

There are no known paleontological resources or unique geological features that have been identified at the Project site. The Project site is comprised of the Exeter Loam, the Flamen Loam, the Nord fine sandy loam, and the Tujunga loamy sand. The Project site would not contain any facilities that could be affected by expansive soils, nor would substantial grading change the topography such that the Project would create a

substantial risk to disturb paleontological resources. The likelihood of discovering paleontological resources or unique geological feature is very slim. The impacts would be less than significant.

3.9 Greenhouse Gas Emissions

Table 3-13. Greenhouse Gas Emissions Impacts

Greenhouse Gas Emissions Impacts				
Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

3.9.1 Environmental Setting and Baseline Conditions

Commonly identified GHG emissions and sources include the following:

Carbon dioxide (CO_2) is an odorless, colorless natural greenhouse gas. CO_2 is emitted from natural and anthropogenic sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic out gassing. Anthropogenic sources include the burning of coal, oil, natural gas, and wood.

Methane (CH_4) is a flammable greenhouse gas. A natural source of methane is the anaerobic decay of organic matter. Geological deposits, known as natural gas fields, also contain methane, which is extracted for fuel. Other sources are from landfills, fermentation of manure, and ruminants such as cattle.

Nitrous oxide (N_2O), also known as laughing gas, is a colorless greenhouse gas. Nitrous oxide is produced by microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load.

Water vapor is the most abundant, and variable greenhouse gas. It is not considered a pollutant; in the atmosphere, it maintains a climate necessary for life.

Ozone (O_3) is known as a photochemical pollutant and is a greenhouse gas; however, unlike other greenhouse gases, ozone in the troposphere is relatively short-lived and, therefore, is not global in nature. Ozone is not emitted directly into the atmosphere but is formed by a complex series of chemical reactions between volatile organic compounds, nitrogen oxides, and sunlight.

Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

Chlorofluorocarbons (CFCs) are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. CFCs destroy stratospheric ozone; therefore, their production was stopped as required by the Montreal Protocol in 1987.

Hydrofluorocarbons (HFCs) are synthetic chemicals that are used as a substitute for CFCs. Of all the greenhouse gases, HFCs are one of three groups (the other two are perfluorocarbons and sulfur

hexafluoride) with the highest global warming potential. HFCs are human-made for applications such as air conditioners and refrigerants.

Perfluorocarbons (PFCs) have stable molecular structures and do not break down through the chemical processes in the lower atmosphere; therefore, PFCs have long atmospheric lifetimes, between 10,000 and 50,000 years. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

Sulfur hexafluoride (SF_6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It has the highest global warming potential of any gas evaluated. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

There are uncertainties as to exactly what the climate changes will be in various local areas of the earth, and what the effects of clouds will be in determining the rate at which the mean temperature will increase. There are also uncertainties associated with the magnitude and timing of other consequences of a warmer planet: sea level rise, spread of certain diseases out of their usual geographic range, the effect on agricultural production, water supply, sustainability of ecosystems, increased strength and frequency of storms, extreme heat events, air pollution episodes, and the consequence of these effects on the economy.

Emissions of GHGs contributing to global climate change are largely attributable to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. About three-quarters of human emissions of CO_2 to the global atmosphere during the past 20 years are due to fossil fuel burning. Atmospheric concentrations of CO_2, CH_4, and N_2O have increased 31 percent, 151 percent, and 17 percent respectively since the year 1750 (CEC 2008). GHG emissions are typically expressed in carbon dioxide-equivalents (CO_2e), based on the GHG's Global Warming Potential (GWP). The GWP is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. For example, one ton of CH_4 has the same contribution to the greenhouse effect as approximately 21 tons of CO_2. Therefore, CH_4 is a much more potent GHG than CO_2.

An Air Quality and Greenhouse Gas Emissions Evaluation Report was prepared in March 2021, and is contained in **Appendix A**. The essential conclusions of this Report are as follows:

3.9.1.1 Short-Term Construction-Generated Emissions

Total GHG emissions generated during construction are presented in **Table 3-19** below:

Table 3-19. Construction Greenhouse Gas Emissions

Year	Annual Emissions ($MTCO_2e$)
2022	448.3934
Amortized over 30 years	**14.9464**

Greenhouse gas emissions associated with the removal of the walnut orchard are considered part of baseline emissions, and therefore are not discussed. Removal of the walnut orchard would be required to comply with all SJVAPCD permits.

3.9.1.2 Long-Term Operational Emissions

Project operations, consisting of electricity consumption for water extraction, and fuel consumption for operations and maintenance purposes, are not anticipated to be higher than what is currently experienced from harvesting the existing orchard.

3.9.1.3 Effects of Climate Change

The sections below detail the methodology of the report and its conclusions.

3.9.2 Impact Assessment

3.9.2.1 Thresholds of Significance

CEQA Guidelines Amendments became effective March 18, 2010. Included in the Amendments are revisions to the Appendix G Initial Study Checklist. In accordance with these Amendments, a project would be considered to have a significant impact to climate change if it would:

a. *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or,*

b. *Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.*

In accordance with SJVAPCD's *CEQA Greenhouse Gas Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects*[11], proposed projects complying with Best Performance Standards (BPS) would be determined to have a less-than-significant impact. Projects not complying with BPS would be considered less than significant if operational GHG emissions would be reduced or mitigated by a minimum of 29 percent, in comparison to business-as-usual (year 2004) conditions. In addition, project-generated emissions complying with an approved plan or mitigation program would also be determined to have a less-than-significant impact.

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant Impact.

Short-Term Construction-Generated Emissions

Estimated construction-generated emissions are summarized in **Table 3-14**. Construction-related emissions would be under the thresholds for land-use development projects, utilizing the threshold of significance established by the Bay Area Air Quality Management District. Impacts would be less than significant.

Table 3-14. Short-Term Construction-Generated GHG Emissions

Year	Emissions (MT CO_2e)(1)
Total Emissions	*448.3934*
*AB 32 Consistency Threshold for Land-Use Development Projects**	*1,100*
Exceed Threshold?	*No*

1. *Emissions were quantified using the CalEEmod, Version 2016.3.2. Refer to* ***Appendix A*** *for modeling results and assumptions. Totals may not sum due to rounding.*

* As published in the Bay Area Air Quality Management District's CEQA Air Quality Guidelines. Available online at http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en Accessed March 2021.

Long-Term Operational Emissions

Long term operational emissions are not anticipated to exceed those of an annual harvest of walnuts at the existing orchard. There would be no additional adverse impact.

[11] Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA. http://www.valleyair.org/Programs/CCAP/12-17-09/3%20CCAP%20-%20FINAL%20LU%20Guidance%20-%20Dec%2017%202009.pdf Accessed March 2021.]

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than Significant Impact. The California Air Resources Board prepared in 2017 the *California's 2017 Climate Change Scoping Plan*, which sets forth how the State intends to reduce greenhouse gas emissions to meet the SB 32 goal of 40 percent below the greenhouse gas emissions level of 1990 by 2030. The agricultural sector is anticipated to achieve a 4 to 8 percent reduction as its portion of greenhouse gas emissions. The Project supports State and local plans and policies by reducing greenhouse gases through cessation of agricultural operations at the Project site, which would result in fewer fuels consumed. Impacts to applicable plans, policies, and regulations would be less than significant.

3.10 Hazards and Hazardous Materials

Table 3-15. Hazards and Hazardous Materials Impacts

Hazards and Hazardous Materials Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which 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?	☐	☐	☐	☒

3.10.1 Environmental Setting and Baseline Conditions

3.10.1.1 Hazardous Materials

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites. Government Code (GC) Section 65962.5 requires the California Environmental Protection Agency (CalEPA) to develop at least annually an updated Cortese List. The Department of Toxic Substances Control (DTSC) is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List. DTSC's EnviroStor database provides DTSC's component of Cortese List data (DTSC, 2010). In addition to the EnviroStor database, the State Water Resources Control Board (SWRCB) Geotracker database provides information on regulated hazardous waste facilities in

California, including underground storage tank (UST) cases and non-UST cleanup programs, including Spills-Leaks-Investigations-Cleanups (SLIC) sites, Department of Defense (DOD) sites, and Land Disposal program. A search of the DTSC EnviroStor database[12] and the SWRCB Geotracker[13] performed on May 14, 2021, determined that there are no known active hazardous waste generators or hazardous material spill sites within two miles of the Project site or immediate surrounding vicinity.

3.10.1.2 Airports

The Porterville Municipal Airport is approximately 2.5 miles east of the Project site. The Project would not result in the construction of any structure that would be at risk of excessive noise levels from the Porterville Municipal Airport.

3.10.1.3 Response Plan

The Tulare County Office of Emergency Services coordinates the development and maintenance of the Tulare County Operational Area Master Emergency Services Plan.

3.10.1.4 Sensitive Receptors

There are several rural single-family homes located in the vicinity of the Project site. The Porterville Dog Park and Sports Complex is located approximately 1.5 miles to the northeast of the Project site. There are no other sensitive receptors such as schools, hospitals, nursing homes, or urban areas located within two miles of the Project site.

3.10.2 Impact Assessment

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less than Significant Impact. Construction activities as a part of the Project may involve the use of hazardous materials used for construction equipment. These may include materials such as fuels, paints, solvents, as well as other potentially hazardous materials. Storage, transport, and use of these materials would comply with all local, State, and federal standards and regulations. While unlikely, there is a risk that a leak of a hazardous material could occur during construction. Standard construction Best Management Practices (BMPs) included in the Storm Water Pollution Prevention Plan (SWPPP) would reduce potential releases of fuels and other hazardous materials by controlling runoff leaving the Project site. Therefore, impacts would be less than significant.

b) 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?

Less than Significant Impact with Mitigation Incorporated. The Project site is located on the same intersection, diagonally northwest, of the Landfill. The Landfill has created a contaminated plume in the soil beneath it. The Project would result in the construction of a recharge basin and water banking facility, as well as monitoring wells and pipeline connecting to SID's existing infrastructure. A Phase 1 Environmental Site Assessment (**Appendix E**) was completed by CBRE Group in 2020 which included soil sampling reports in 2015 and 2019. These reports confirmed that the contaminated plume was stable and not increasing. In addition, all Project construction would occur outside of the limits of waste as set by Tulare County, Teapot Dome Site Plan Map. The limits of waste can be seen on **Figure 2-3**, **Figure 2-7** and **Figure 2-8**. However, due to the Project site's close proximity to the Landfill and its contaminated plume, measures would be taken to ensure that the water quality of the recharge facility does not become contaminated. In order to ensure that the plume does not grow

[12] Department of Toxic Substances Control. Envirostor Database. Website: https://www.envirostor.dtsc.ca.gov/public/. Accessed 5/14/21.
[13] State water Resources Control Board. Geotracker. Website: https://geotracker.waterboards.ca.gov/. Accessed 5/14/21.

and infiltrate the groundwater recharge facility constructed during this Project mitigation measure **HAZ-1** will be incorporated.

Additionally, the proposed Project will comply with the Project's Monitoring and Operational Constraints Plan. The MOCP includes the following water quality monitoring and reporting procedures and is outlined in **Chapter 2**:

3.10.2.1 Baseline Water Quality Sampling

Prior to commencement of recharge all Project monitoring wells and operable irrigation and domestic wells that are immediately adjacent to the Project property will be initially sampled for the General Analytical Suite outlined in **Table 2-1** (contingent on approval from each well owner). If practical, baseline sampling will be timed to occur at the same time that Landfill monitoring wells are being sampled. For the purpose of this Project, immediately adjacent means all wells on parcels that are immediately adjacent to the Project property or the nearest well on the next parcel over if the nearest parcel does not have a well(s), going out to a maximum distance of ¼ mile.

3.10.2.2 Phase I Monitoring and Response

The Phase 1 recharge basin will be located at the southwestern corner of the Project property, approximately 3,500 feet from the Landfill (**Figure 2-6**). The following monitoring will be performed during Phase 1 recharge operations:

- Instantaneous and totalized volumes of water delivered into the recharge basin will be measured at least daily (make and type of flow meter subject to SID approval);
- Surface water levels in the recharge basin will be measured by continuously-logged pressure transducers and by hand at least daily;
- Groundwater levels will be continuously logged in each Project monitoring well and piezometer, with data downloaded and reviewed at least monthly; and
- On a monthly basis during recharge operations, Project monitoring wells will be sampled for the following analytes of primary concern at the Landfill:
    - Piezometers (if there is sufficient water): cis-1,2-dichloroethene (cis-1,2-DCE), tetrachloroethylene (PCE), 1,1-dichloroethane (1,1-DCA), bis(2-ethylexyl) phthalate, and methylene chloride (Unconfined Aquifer Suite, **Table 2-2**);
    - Upper unconfined aquifer wells: Unconfined Aquifer Suite; and
    - Semi-confined aquifer wells: chloroform, 1,1-DCA, cis-1,2-DCE, 1,2-dibromo-3-chloropropane, bromoform, bromodichloromethane, Dibromochloromethane, chlorobenzene, methylene chloride, PCE, and trichloroethene (Semi-Confined Aquifer Suite, **Table 2-2**).

Capinero will report Phase I data to the Monitoring Committee on a monthly basis. The following operational constraints will be followed by Capinero:

- If at any point during Phase I recharge, extrapolated groundwater levels in any of the three monitored zones show the potential to rise above 340 ft msl at the eastern side of the Project property, Phase I recharge will cease. This elevation is the "trigger" elevation specified in the 2020 Second Semi-Annual and Annual Monitoring Report for Tea Pot Dome Landfill (Appendix E of **Appendix E**). Recharge will not be re-started until Capinero has implemented measures to prevent this impact from occurring, potentially including installation of dry wells.
- If at any point during Phase I recharge, water levels in perimeter Project monitoring wells and third party wells, known to be influenced by the Project operations, rise to within 15 feet of the ground surface, operations will be constrained or shut down until water levels have fallen below 15 feet below the ground surface. This measure is intended to protect the root zones of adjacent farming operations.

3.10.2.3 Phase II Monitoring and Response

Operation of Phase II will only proceed following a Monitoring Committee finding that Phase I operations did not cause significant unacceptable impacts. **Figure 2-7** depicts the locations of the Phase II recharge basins, which will be operated together with the Phase I basin. The following monitoring will be performed during the Phase II recharge operations:

- Instantaneous and totalized volumes of water delivered into each recharge basin will be measured at least daily (make and types of flow meters subject to SID approval);
- Surface water levels in the recharge basin will be measured by continuously-logged pressure transducers and by hand at least daily;
- Groundwater levels will be continuously logged in each Project monitoring well and piezometer, with data downloaded and reviewed at least monthly; and
- On a monthly basis during recharge operations, Project monitoring wells will be sampled for the following analytes of primary concern at the Landfill:
    - Piezometers (if there is sufficient water): Unconfined Aquifer Suite (**Table 2-2**);
    - Upper unconfined aquifer wells: Unconfined Aquifer Suite; and
    - Semi-confined aquifer wells: Semi-Confined Aquifer Suite.

Capinero will report Phase II data to the Monitoring Committee on a monthly basis. The following operational constraints will be followed by Capinero:

- If at any point during Phase II recharge, extrapolated groundwater levels in any of the three monitored zones show the potential to rise above 340 ft msl at the eastern side of the Project property, Phase II recharge will cease. This elevation is the "trigger" elevation specified the 2020 Second Semi-Annual and Annual Monitoring Report for Tea Pot Dome Landfill (**Appendix E**). Recharge will not be re-started until Capinero has implemented measures to prevent this impact from occurring, potentially including installation of dry wells.
- If at any point during Phase II recharge, water levels in perimeter Project monitoring wells and third party wells, known to be influenced by the Project operations, rise to within 15 feet of the ground surface, operations will be constrained or shut down until water levels have fallen below 15 feet below the ground surface. This measure is intended to protect the root zones of adjacent farming operations.

3.10.2.4 Phase III Monitoring and Response

Operation of Phase III will only proceed following a Monitoring Committee finding that Phase II operations did not cause significant unacceptable impacts. **Figure 2-8** depicts the locations of the Phase III recharge basins, which will be operated together with the Phases I and II. The following monitoring will be performed during Phase III recharge operations:

- Instantaneous and totalized volumes of water delivered into each recharge basin will be measured at least daily (make and type of flow meters subject to SID approval);
- Surface water levels in the recharge basin will be measured by continuously-logged pressure transducers and by hand at least daily;
- Groundwater levels will be continuously logged in each Project monitoring well and piezometer, with data downloaded and reviewed at least monthly; and
- On a monthly basis during recharge operations for the first year of Phase III, and on a quarterly basis for each year thereafter, Project monitoring wells will be sampled for the following analytes of primary concern at the Landfill:
    - Piezometers (if there is sufficient water): Unconfined Aquifer Suite (**Table 2-2**);
    - Upper unconfined aquifer wells: Unconfined Aquifer Suite; and
    - Semi-confined aquifer wells: Semi-Confined Aquifer Suite.

Capinero will report Phase III data to the Monitoring Committee on a quarterly basis. The following operational constraints will be followed by Capinero:

- If at any point during Phase III recharge, extrapolated groundwater levels in any of the three monitored zones show the potential to rise above 340 ft msl at the eastern side of the Project property, Phase III recharge will cease. This elevation is the "trigger "elevation specified the 2020 Second Semi-Annual and Annual Monitoring Report for Tea Pot Dome Landfill (Appendix E of **Appendix E**). Recharge will not be re-started until Capinero has implemented measures to prevent this impact from occurring, potentially including installation of dry wells.
- If at any point during Phase III recharge, water levels in perimeter Project monitoring wells and third party wells, known to be influenced by the Project operations, rise to within 15 feet of the ground surface, operations will be constrained or shut down until water levels have fallen below 15 feet below the ground surface. This measure is intended to protect the root zones of adjacent farming operations.

3.10.2.5 Annual Monitoring

Project monitoring wells will be sampled on an annual basis (regardless of operating status) as follows:

- Piezometers (if water is present) and upper unconfined aquifer monitoring wells will be sampled for the Unconfined Aquifer Suite (**Table 2-2**) and the General Analytes Suite (**Table 2-1**).
- Semi-confined aquifer monitoring wells will be sampled for the Semi-Confined Aquifer Suite (**Table 2-2**) and the General Analytes Suite (**Table 2-1**).

Capinero will collaborate with the Landfill operator to incorporate their sampling data into Project reporting (and vice versa).

3.10.2.6 Mitigation Measures

Implementation of the ***Mitigation Measure* HAZ-1** below will reduce potential impacts to subsidence to a less than significant level and will ensure compliance with the Monitoring and Operational Constraint Plan.

> **HAZ-1:** Project operations shall not commence until a Monitoring Committee has been created. Capinero may be required to cease operation of the Project banking facility by the Monitoring Committee if it is determined that water being banked at the Project site is contributing to or causing water quality issues in the surrounding area.

Compliance with the detailed MOCP will ensure that the Project will not 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) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. The Project site is not located within one-quarter mile of an existing or proposed school. Due to the Project's location, there would be no potential to emit emissions or materials within one-quarter mile of a school. Therefore, there would be no impact.

d) Would the project be located on a site which 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?

Less than Significant Impact. According to the Envirostor and Geotracker databases, the Project site does not have a hazardous material site located within two miles of it. The Project site is located on the same intersection,

diagonally northwest, of the Landfill; however, all Project construction would occur outside of the limits of waste that have been set by Tulare County, Teapot Dome Site Plan Map. The limits of waste can be seen on **Figure 2-3**, **Figure 2-7** and **Figure 2-8**. Pursuant to Government code Section 65962.5 there are no hazardous material sites in the vicinity of the Project. Therefore, impacts would be less than significant.

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?

No Impact. The Project site is located approximately 2.5 miles west of the Porterville Municipal Airport. The Project would construct a water banking facility in a rural area of Tulare County. The Project would not expose people either working or residing in the area to excessive noise levels due to the Project's distance from the airport. Therefore, there would be no impact.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact. The Project does not provide any physical barriers or disturb any roadways in such a way that would impede emergency or hazards response; all work conducted near public rights-of-way would be required to meet County Fire Department and Sheriff Department standards which would ensure any impacts would be less than significant. Therefore, the proposed Project would not interfere with implementation of an emergency response plan or evacuation plan. Impacts would be less than significant.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

No Impact. As discussed in further detail in **Section 3.21**, the Project would not expose people or structures either directly or indirectly to a significant loss, injury or death involving wildland fires. The Project site is in an agriculturally developed area of Tulare County that is not considered wildland. In addition, the Project would not conflict with any local, State, or federal standard or regulation governing wildfire. Therefore, there would be no impact.

3.11 Hydrology and Water Quality

Table 3-16. Hydrology and Water Quality Impacts

Hydrology and Water Quality Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 which 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?	☐	☐	☐	☒

3.11.1 Environmental Setting and Baseline Conditions

The Project is located in a rural area of Tulare County, inside the San Joaquin Valley – Tule Groundwater Basin. The basin is part of the Tulare Lake Hydrologic Region which stretches from north of Fresno to south of Bakersfield near the Grapevine. The San Joaquin Valley Basin is divided into seven subbasins. The Tule Basin, where the Project site is located, is approximately 467,000 acres large within Tulare County. The Tule Subbasin is bordered by the Kaweah Subbasin to the north, the Kern Subbasin to the south, the Tulare Lake Subbasin to the west, and the Sierra Nevada Mountains to the east. The groundwater gradient of the region flows from east to west and primarily contains alluvial sediments. The Tule River is located to the north and Deer Creek is located to the southwest.

3.11.2 Impact Assessment

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less than Significant with Mitigation Incorporated. The SWRCB requires that a SWPPP be prepared for projects that disturb one (1) or more acres of soil. A SWPPP involves site planning and scheduling, limiting disturbed soil areas, and determining best management practices to minimize the risk of pollution and sediments being discharged from construction sites. Implementation of the SWPPP would minimize the potential for the proposed Project to substantially alter the existing drainage pattern in a manner that would result in substantial erosion or siltation onsite or offsite. Use of chemicals or surfactants would not be generated through the maintenance or operation of the proposed Project and as such, there would be no discharge directly associated with Project implementation that could impact water quality standards. Implementation of construction Best Management Practices (BMP) and a SWPPP would reduce potential impacts that may be caused as a result of the Project. Additionally, there would be no discharge from the Project to any surface source. However, by design, there would be percolation discharge to groundwater via the proposed recharge basin. In order to monitor any potential impacts from percolation through the water recharge facility the Project will comply with the water quality monitoring that is laid out in the MOCP, as described in **Chapter 2** and **Chapter 3**. Additionally, incorporation of mitigation measure **HAZ-1** will ensure that the Project does not violate any water quality standards, waste discharge requirements, or otherwise substantially degrade surface or ground water quality. Therefore, impacts would be less than significant with mitigation incorporated.

b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less than Significant Impact. The recharge basin that would be constructed would recover groundwater in ways to best minimize the depletion of groundwater resources. Monitoring wells would also be used as a part of the Project. These wells would not only monitor water quality, but also groundwater availability. Completion of the Project would cause a net gain in groundwater storage in the vicinity in the amount of 10% to 30% of recharged water at the Project site. This is based on the Banking Agreement between SID and Capinero specifying a leave-behind percentage on the recharged water based on where it is intended to be recovered and used. This is in place to promote more water coming into and staying in the Project vicinity. The ETGSA holds jurisdiction over the proposed Project area and is responsible for implementing a Groundwater Sustainability Plan (GSP), and any water brought to the Project site would be accounted for under the GSP. Subsequently, any recovery of recharged water by District landowners in the original SID service area would also be accounted for in the GSP, with such accounting being based on the assumption that no more than 90% of the recharged water is available to be recovered by District landowners. No additional groundwater would be required compared to baseline conditions; therefore, the impacts would be less than significant. Monitoring of the existing wells and facilities operated as part of the Project would be available to confirm no negative effect of operations.

The proposed Project includes implementation of an MOCP which includes procedures to monitor impacts to neighboring wells, and if necessary, to adjust or constrain operations. This would further reduce the potential for impacts related to groundwater supplies or groundwater recharge. Please see the detailed MOCP provisions outlined in **Chapter 2.** Therefore, impacts would be less than significant.

c) 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 which would:

c-i) result in substantial erosion or siltation on- or off-site;

Less than Significant Impact. In order to minimize the possibility of substantial soil erosion or siltation, the Project would use construction BMP's and complete a SWPPP. SWPPP's include mandated soil erosion

control measures, which are developed to prevent significant impacts related to erosion caused by runoff during construction. Therefore, impacts would be less than significant.

c-ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

Less than Significant Impact. Any water that falls in the groundwater basin would be captured and contribute to the recharge. The Project would not result in a substantial increase in the rate or amount of surface runoff that would result in flooding on- or off-site. The Project would utilize construction BMP's and complete a SWPPP in order to reduce any potential impacts to the surface runoff changes associated with this Project. Therefore, impacts would be less than significant.

c-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

No Impact. The Project would result in a water recharge and banking facility. The Project would not result in the creation or contribution of runoff water that would exceed the capacity of an existing or planned stormwater drainage system. Stormwater would be collected on site in the recharge basin, or percolate through the ground on-site. In addition, The Project would be required to use construction BMP's and complete a SWPPP. As a result, the Project would not have an impact on flood flow. Therefore, there would be no impacts.

c-iv) impede or redirect flood flows?

No Impact. The Project would construct approximately 50 acres of basins in a rural area of Tulare County. Construction of the Project basins would be done in three phases. The Project would be required to use construction BMP's and complete a SWPPP. Additionally, the Project site is not within a flood zone. As a result, the Project would have no impact on flood flows. There would be no impact.

d) Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundations?

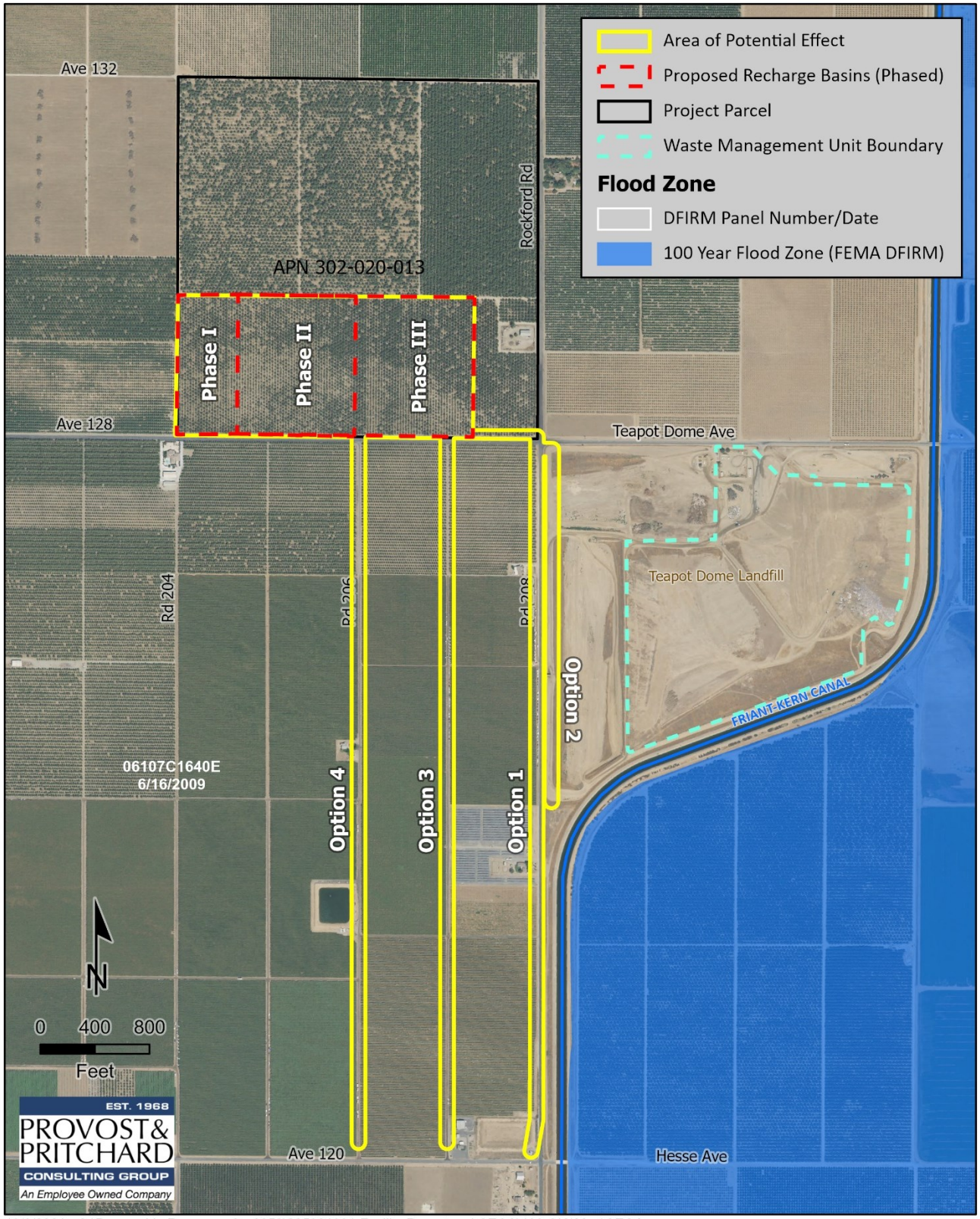
No Impact. The Project is located inland and as a result would not be at risk of tsunamis, nor is it located near a body of water that would put it at risk of a seiche. According to the FEMA National Flood Hazard Layer[14] the Project site is located in Flood Zone X, an area of minimal flood hazard. The Project would not be at risk of pollutants due to Project inundations. Therefore, there would be no impact.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact. The Project would not conflict with implementation of a water quality control plan or sustainable groundwater management plan. The Project site is located in the San Joaquin Valley – Tule Groundwater Basin. In addition, the Project site is located within the boundaries of the ETGSA[15]. The ETGSA implements a Groundwater Sustainability Plan (GSP). The Project would not be in conflict with the ETGSA or its GSP. Therefore, there would be no impact.

[14] FEMA. National Flood Hazard Layer. Website: https://www.fema.gov/flood-maps/national-flood-hazard-layer. Accessed 5/14/21.

[15] California Department of Water Resources. GSA MAP Viewer. Website: https://sgma.water.ca.gov/webgis/index.jsp?appid=gasmaster&rz=true. Accessed 5/14/21.



10/8/2021 : G:\Renewable Resource Gp-2359\235921001-Facility Report and CEQA\400 GIS\Map\CEQA.aprx

Figure 3-2. FEMA Flood Map

3.12 Land Use and Planning

Table 3-17. Land Use and Planning Impacts

Land Use and Planning Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 an environmental effect?	☐	☐	☐	☒

3.12.1 Environmental Setting and Baseline Conditions

Per the Tulare County Zoning map[16] the Project site and surrounding parcels are zoned AE-20 Exclusive Agricultural. As such the site and the surrounding parcels/properties are strictly designed for Agricultural uses. Since the proposed Project consists of the construction of a recharge basin, a new pipeline, and monitoring wells, and because of the surrounding uses it would not divide any current or (possible) future established communities.

General Plan Land Use and Zoning Designations

According to the Land Use Element of the Tulare County General Plan[17], a water banking facility is an allowable land use in areas designated as agriculture.

On-site Land Use Designations

The proposed Project site is zoned Exclusive Agriculture by Tulare County, see **Figure 2-5.**

Surrounding Land Use Designations

The Tulare County General Plan designates the areas surrounding the proposed Project site locations for agricultural use, see **Figure 2-4** and **Figure 2-5**.

3.12.2 Impact Assessment

a) Would the project physically divide an established community?

No Impact. The proposed Project is located within a rural agricultural area in Tulare County and would not physically divide an established community. The proposed Project would construct a recharge basin and associated water delivery facilities and would not physically divide an established community. There would be no impact.

[16] Tulare County. Tulare County Public Parcel Zoning Lookup. Website: https://tularecounty.maps.arcgis.com/apps/webappviewer/index.html?id=e7d7da648dab43e1a9eb0233889b7c32. Accessed 5/19/21.

[17] Tulare County. General Plan 2030. Website: http://generalplan.co.tulare.ca.us/. Accessed 5/19/21.

b) Would the project cause a significant environmental conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The Project site is located on land designated for agricultural use. Construction of the proposed Project would not develop new sources of water that would support any new housing or new permanent population growth that would exceed official regional or local population projections in the District service area. The main purpose of the Project is to improve the District's groundwater supply reliability in order to meet irrigation demands during dry hydrological years; therefore, no impacts to land use are anticipated. The Project involves the construction of a recharge basin and associated delivery facilities and is consistent with the zoned agricultural use. Therefore, the proposed Project would not conflict with any applicable plans policies or regulations. There would be no impact.

3.13 Mineral Resources

Table 3-16. Mineral Resources Impacts

Mineral Resources Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

3.13.1 Environmental Setting and Baseline Conditions

The bulk of Tulare County's mineral extraction activities focus on aggregate (sand, gravel, and crushed stone), which is primarily used in building materials. Historically, the Kaweah River, Lewis Creek, and the Tule River have provided the main sources of high-quality sand and gravel in Tulare County. The highest quality deposits are located at the Kaweah and Tule Rivers. According to the Tulare County General Plan Background Report, all of the known potential mineral resource locations are mapped within the foothills and/or along major watercourses. Similarly, the only active oil and gas fields are located in the foothills along Deer Creek.[18]

The Project site is not delineated on a local land use plan as a locally important mineral resource recovery site.

3.13.2 Impact Assessment

a) 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?

No Impact. There are no known sand and gravel aggregates or oil resources on or near the site, therefore the Project would not result in a loss of or the availability of a known mineral resource. There would be no impact.

b) 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?

No Impact. The California Geological Survey Division of Mines and Geology has not classified the Proposed Project site as a Mineral Resource Zone under the Surface Mining and Reclamation Act (SMARA). California's Division of Oil, Gas and Geothermal Resources has no records of active oil or gas wells on the Project site. There are three plugged and dry oil wells near the Project site. The first is on the adjacent property on the northwest corner of Avenue 128 and Road 200, the second is located on the property to the north across Avenue 136, and the third is located approximately 800 feet to the east of the Project site. The well to the east has been operated by Chevron USA Inc., the well to the north by Alvin O. Preszler, and the well to the east by Porterville Oil Syndicate.[19] No known mineral resources are within the Project area. Therefore, construction of the proposed basin and water delivery facilities would not result in the loss of availability of a known mineral resource since no known mineral resources have been identified in this area. There would be no impact.

[18] Tulare County. General Plan 2030, Appendix B – Background Report. Website: http://generalplan.co.tulare.ca.us/. Accessed 5/19/21.
[19] California Department of Conservation. Well Finder. Website: https://maps.conservation.ca.gov/doggr/wellfinder/#openModal/-119.10540/36.02864/15. Accessed 5/19/21.

3.14 Noise

Table 3-18. Noise Impacts

Noise Impacts				
Would the project result in:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive ground borne vibration or ground borne noise levels?	☐	☐	☐	☒
c) For a project located within the vicinity of a private airstrip or 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?	☐	☐	☐	☒

3.14.1 Environmental Setting and Baseline Conditions

A temporary increase to ambient noise levels would occur during Project construction. Noise would derive from the use of various construction equipment, such as excavators, backhoes, graders, skid steers, loaders, and hauling trucks, and worker-related increase in traffic within the vicinity of the Project site. Generally, construction would occur between the hours of 7am and 5pm, Monday through Friday, excluding holidays. Sensitive receptors include any residences, educational institutions and public parks located within 250 feet of the Project site. There are two residences adjacent to the Project site. The first is approximately 150 feet southwest of the Project site across Avenue 128, the second is approximately 100 feet east across Road 208. Option 4 of the pipeline alignment would include the construction and laying of pipe in front of a residence along Road 206. Maximum noise levels generated by farm-related tractors typically range from 77 to 85 dB at a distance of 50 feet from the tractor, depending on the horsepower of the tractor and the operating conditions. Due to the seasonal nature of the agricultural industry, there are often extended periods of time when little to no noise is generated at the Project site, followed by short-term periods of intensive mechanical equipment usage and corresponding noise generation. The Tulare County General Plan identifies the normally acceptable noise range for agricultural land uses between 50 and 75 dB.[20]

[20] (Tulare County 2030 General Plan Update, 2010) Accessed 5/19/21.

Table 3-19. Typical Construction Equipment Noise Levels

Typical Construction Equipment Noise Levels	
Equipment	**Typical Noise Levels (dBa Lmax) 50 feet from Source**
Backhoe	80
Compactor	82
Dozer	85
Grader	85
Truck	88
Air Compressor	81
Concrete Pump	82
Concrete Vibrator	76
Crane, Mobile	83
Generator	81
Impact Wrench	85
Jack Hammer	88
Paver	89
Pneumatic Tool	85
Pump	76
Roller	74
Saw	76

3.14.2 Impact Assessment

a) 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 the local general plan or noise ordinance, or applicable standards of other agencies?

Less than Significant Impact. Project operation would not generate significant noise; however, Project construction would generate temporary noise, mostly from trucks. Other construction equipment could include scrapers, backhoes, and excavators. Noise from construction activities would not exceed Tulare County Noise Element standards of 60 dBA. The Project is located within agricultural lands, accustomed to noise generated by farm equipment and industrial machinery. As construction noise would be temporary, with approximately 18 months of active construction time, spread out over three phases. Maintenance would take place as needed, impacts due to noise would be less than significant.

b) Would the project result in generation of excessive ground borne vibration or ground borne noise levels?

No Impact. The Project would not generate ground borne vibration or noise greater than existing conditions as it is in an area of agricultural operations. Construction would be phased and would include approximately 18 months of active construction time, spread out over the three phases. Activities would include orchard removal, installation of monitoring wells, excavation and grading. Project operations would not create ground borne vibration or noise. There would be no impact.

c) For a project located within the vicinity of a private airstrip or 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?

No Impact. The Project site is located approximately 2.5 miles west of the Porterville Municipal Airport. The Project would construct a water banking facility in a rural area of Tulare County. The Project would not expose people either working or residing in the area to excessive noise levels due to the Project's distance from the airport. Therefore, there would be no impact.

3.15 Population and Housing

Table 3-20. Population and Housing Impacts

Population and Housing Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

3.15.1 Environmental Setting and Baseline Conditions

The immediate area surrounding the Project site is in agricultural production. A variety of water-related facilities and structures are located within the Project vicinity including drainage ditches, wells, pipelines, and associated appurtenances. Properties within the immediate vicinity of the Project site and located within Tulare County boundaries are designated and zoned Exclusive Agricultural.

According to 2019 Census data, Tulare County's population was 466,195 with an estimated percent change from 2010 to 2019 of 5.4%. Porterville's population was 59,599 with a 2.6% change. As of 2014 to 2018, there was an average of 136,106 households in Tulare County with an average of 3.34 persons per house. The City of Porterville was listed at 16,933 households and 3.45 persons per household[21]

There are two homes within 150 feet of the Project site. One home is east of the Project across Road 208. The other home is South of the Project across Avenue 128.

3.15.2 Impact Assessment

a) 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)?

No Impact. The proposed Project would not involve the construction of any homes, business, or other uses that would result in direct or indirect population growth. The proposed Project consists of the construction of an approximately 50-acre recharge basin and banking facility. Construction would be completed in three phases. There would be no impact.

[21] US Census Bureau. Quickfacts, Porterville city, California; Tulare County, California.Website: https://www.census.gov/quickfacts/fact/table/portervillecitycalifornia,tularecountycalifornia/PST045219. Accessed 5/19/21.

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The Project is a water recharge and banking facility and would not displace people or housing. Existing rural residential homes adjacent to the site would not be relocated. Therefore, there would be no impact.

3.16 Public Services

Table 3-21. Public Services Impacts

Public Services Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

3.16.1 Environmental Setting and Baseline Conditions

Fire protection is provided to the Project site by Tulare County. The nearest County fire station is the Tulare County West Olive Fire Station 19 at 22315 Ave 152 in Porterville, approximately three miles northeast of the Project site.

Police Protection is provided to the Project site by Tulare County. The nearest Tulare County Sheriff's Office is located at 379 N 3rd St in Porterville, approximately six miles northeast of the Project site.

School Services are provided by the Porterville Unified School District. The site is within the service boundaries of Monache High.

The Porterville Parks & Leisure Services District provides services to the City of Porterville. The closest Park to the Project site is Porterville Sports Complex and OHV Park which is located at 2701 W. Scranton Ave, 3.1 miles northeast of the site.

Solid Waste services are provided by the City of Porterville Public Works Department, located at 291 North Main Street which is 8.7 miles northeast of the site. Additionally, Tulare County has two active landfills and six transfer stations. One of their transfer stations Teapot Dome Landfill located at 21063 Ave 128 is approximately 600 feet southeast of the Project basins.

3.16.2 Impact Assessment

a) 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 other performance objectives for any of the public services:

No Impact. The Project would not require new or altered governmental facilities in order to maintain acceptable service ratios, response times, or other performance objectives for public services for either site location. The Project involves the construction and operation of a water recharge and banking facility and a new pipeline that would connect the facility to the existing SID pipeline along Avenue 120. There would be no impacts.

3.17 Recreation

Table 3-22. Recreation Impacts

Recreation Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

3.17.1 Environmental Setting and Baseline Conditions

Tulare County has several regional parks, as well as State and national parks, national forest, wilderness areas, and ecological reserves. There are 13 park and recreation facilities that are owned and operated by Tulare County. The Tulare County Resource Management Agency, Parks and Recreation Branch maintains and develops regional parks and landscaped areas. Colonel Allensworth State Historic Park is the only State Park in Tulare County. Mountain Home State Forest, a State Forest managed by the California Department of Forestry and Fire Protection, is situated just east of Porterville and contains numerous Giant Sequoias. Lake Kaweah and Lake Success are federal recreation areas within Tulare County, operated by the U.S. Army Corps of Engineers. The majority of the recreational opportunities within Tulare County are found within Sequoia National Forest, Giant Sequoia National Monument, and in Sequoia and Kings Canyon National Parks.

Federal lands, such as wilderness, national forests, monuments, and parks occupy 52.2 percent of land area within Tulare County. Agricultural uses encompass 43 percent of the County's land. The remainder comprises miscellaneous uses, such as County parks, urban uses in cities, unincorporated communities, and hamlets, and infrastructure rights-of-way. The Tulare County General Plan sets forth guidelines in order to maintain an overall standard of five or more acres of public County parkland per 1,000 population in unincorporated areas, regional parks at one-acre per 1,000 population, neighborhood parks at three to six acres per 1,000 population, and community parks at one to two acres per 1,000 population.[22]

As noted in **Section 3.16**, the Tulare County park closest to the Project site is the Porterville Sports Complex and OHV Park, located 1.57-miles east of the basin site.

3.17.2 Impact Assessment

a) 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?

No Impact. The closest park to the Project is the Porterville Sports Complex and OHV Park which is 1.57 miles away from the Project site. The proposed Project involves the construction of a water recharge and banking

[22] (Tulare County 2030 General Plan Update, 2010) Accessed May 2021.

facility and would not increase the use of existing neighborhood and regional parks or other recreational facilities, such that physical deterioration of a facility would occur or be accelerated. There would be no impact.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact. The Project does not include new public recreational facilities or require the construction or expansion of recreational facilities. There would be no impact.

3.18 Transportation

Table 3-23. Transportation Impacts

Transportation Impacts				
Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
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 CEQA 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?	☐	☐	☐	☒

3.18.1 Environmental Settings and Baseline Conditions

The Project site is mainly surrounded by agricultural operations. Access to the Project site is from Road 208 East of the Project and Avenue 128 (Teapot Dome Ave) South of the Project. The Porterville Municipal Airport is located approximately 2.5 miles east of the Project site. No federal plans, policies, regulations, or laws related to transportation or circulation apply to the Project.

3.18.2 Impact Assessment

a) Would the project conflict with a plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? And;

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b)?

Less than Significant Impacts. Construction traffic associated with the proposed Project would be temporary, with a total of approximately 18-months of active construction time, broken into three phases. Operational traffic would consist of as-needed maintenance trips. There would not be a permanent adverse effect to existing roadways in the area.

There are no transit, pedestrian, or bicycle facilities in the vicinity of the site. The proposed Project would not conflict with any plan, ordinance, or policy regarding circulation. Impacts would be less than significant.

c) 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)?

No Impact. The proposed Project would not change roadway configurations or introduce an incompatible use into the area. Construction equipment would be utilized to make the necessary infrastructure improvements. There would be no impact.

d) Would the project result in inadequate emergency access?

No Impact. Implementing the Project would not require any road closures. Pipeline alignment Option 1 and Option 2 are both along Road 208. During construction; all work conducted near public rights-of-way would be required to meet County Fire Department and Sheriff Department standards which would ensure any impacts would be less than significant. Therefore, the Project would not impair or interfere with emergency access to local roads and would not result in traffic delays that could substantially increase emergency response times or impede emergency vehicle access. There would be no impact.

3.19 Tribal Cultural Resources

Table 3-24. Tribal Cultural Resources Impacts

Tribal Cultural Resources Impacts				
Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
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 the 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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

3.19.1 Environmental Setting and Baseline Conditions

Penutian-speaking Yokuts tribal groups occupied the southern San Joaquin Valley region and much of the nearby Sierra Nevada. For a variety of historical reasons, existing research information emphasizes the central Yokuts tribes who occupied both the valley and particularly the foothills of the Sierra. The northernmost tribes suffered from the influx of Euro-Americans during the Gold Rush and their populations were in substantial decline by the time ethnographic studies began in the early twentieth century. In contrast, the southernmost tribes were partially removed by the Spanish to missions and eventually absorbed into multi-tribal communities on the Sebastian Indian Reservation (on Tejon Ranch), and later the Tule River Reservation and Santa Rosa Rancheria to the north. The result is an unfortunate scarcity of ethnographic detail on southern Valley tribes, especially in relation to the rich information collected from the central foothills tribes where native speakers of the Yokuts dialects are still found. Regardless, the general details of indigenous life-ways were similar across the broad expanse of Yokuts territory, particularly in terms of environmentally influenced subsistence and adaptation and with regard to religion and belief, which were similar everywhere.

A Phase I Cultural Resources Survey was conducted for the Project, located southwest of Porterville, Tulare County, California. A records search of available site files and maps for the Project area and a one-mile buffer around it was conducted at the SSJVIC and a search of the NAHC Sacred Lands File was completed. No Native American sacred sites or cultural resources had been identified within or immediately adjacent to the Project study area, and no archaeological sites had been previously recorded within the study area. (See 3.19)

The survey fieldwork was conducted on April 15, 2021, with a crew of four archaeologists walking parallel transects spaced at approximately 15-m intervals across the study area. No cultural or tribal resources of any kind were identified during the inventory of the 172-acre study area. (See **Appendix C**)

3.19.2 Impact Assessment

a) 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-i) Listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources Code section 5020.1(k), or

a-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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less than Significant Impacts with Mitigation Incorporated. The lead agency has not received any formal requests for notification from any State tribes, pursuant to AB52. However, on April 15, 2021, ASM archaeologists completed the Phase I Cultural Resources Survey fieldwork of the Project APE. The proposed Project consists of the creation of a water bank with two pipeline connections. The Project study area was defined as all areas of potential ground-surface disturbance, comprising the proposed water banking basin and three north-south pipeline routes branching to the south of the parcel, one of which is an alternative route. The area surveyed for the current study totaled approximately 172 acres, which included the entirety of APN 302-020-013 and all of the proposed pipeline alignments.

In addition to the record search of the Sacred Lands File received March 11, 2021, the NAHC provided a list of ten local Native American Tribes who may have knowledge of cultural resources in the vicinity or general interest in the Project. The following ten Tribes were contacted in writing via U.S. Mail with a letter dated March 17, 2021, informing them of the proposed Project and follow-up emails were sent two weeks later to tribal organizations provided on the NAHC contact list. No responses have been received to date.

1. *Big Sandy Rancheria of Western Mono Indians, Elizabeth D Kipp, Chairperson*
2. *Dunlap Band of Mono Indians, Benjamin Charley Jr., Tribal Chair*
3. *Dunlap Band of Mono Indians, Dick Charley, Tribal Secretary*
4. *Kern Valley Indian Community, Julie Turner, Secretary*
5. *Kern Valley Indian Community, Robert Robinson, Chairperson*
6. *Kern Valley Indian Community, Brandy Kendricks*
7. *Santa Rosa Rancheria Tachi Yokut Tribe, Leo Sisco, Chairperson*
8. *Tubatulabals of Kern Valley, Robert L. Gomez Jr., Tribal Chairperson*
9. *Tule River Indian Tribe, Neil Pevron, Chairperson*
10. *Wuksache Indian Tribe, Eshom Valley Band, Kenneth Woodrow, Chairperson*

A copy of Tribal correspondence has been made a part of Confidential Appendix A omitted from **Appendix C**.

A Caltrans geoarchaeological study that included the Project area classified this area as having Moderate sensitivity for subsurface sites (**Appendix C**). No archaeological or other cultural resources were identified as a result of the Phase I Cultural Resources Survey. No Native American areas of concern were identified as a result of consultation with the Native American Heritage Commission and local Native American groups.

Analysis of soil characteristics for the proposed site suggest there is a low probability of buried archaeological deposits within the APE. Therefore, it is unlikely that the proposed Project would have an effect on important archaeological, historical, or other cultural resources. In the unlikely event that buried archaeological deposits are encountered within the Project area, the finds must be evaluated by a qualified archaeologist.

Therefore, it is concluded, barring evidence to the contrary, that there is little or no chance the proposed Project would cause a substantial adverse change to the significance of a tribal cultural resource as defined. Nonetheless, Mitigation Measures **CUL-1** and **CUL-2**, described above in **Section 3.6**, are recommended in the event cultural materials or human remains are unearthed during excavation or construction.

Mitigation Measure

Refer to **CUL-1** and **CUL-2** in **Section 3.6**

3.20 Utilities and Service Systems

Table 3-25. Utilities and Service Systems Impacts

Utilities and Service Systems Impacts				
Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
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 or relocation 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 which 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?	☐	☐	☐	☒

3.20.1 Environmental Setting and Baseline Conditions

The proposed Project does not include permanent restroom facilities or other wastewater sources. No additional wastewater treatment services would be required as a result of Project implementation. Solid waste disposal during construction would be provided by the Tulare County Solid Waste Department, which operates two landfills and six transfer stations within the county. Combined, these landfills receive approximately 300,000 tons of solid waste per day. Teapot Dome Landfill is the closest landfill located approximately 600 feet southeast of the basin site, with pipeline alignment Option 2 being located on the landfill property within a 40' easement that SID has with Tulare County.

3.20.1.1 Water Supply

The Project would primarily bank water that is periodically available above current needs from the Friant Division of the Central Valley Project (Friant). The Project might also bank water from other systems, but separate approvals specific to the other systems would be required. As required by the Banking Policy, 10% to 30% of the recharged water would be allocated to SID's storage account depending on the location of recovery. Recovered water would be delivered to lawful recipients within the allowed Places of Use of the banked water.

3.20.1.2 Wastewater Collection and Treatment

The Porterville Wastewater Treatment Plant is the closest wastewater facility, located approximately 4.5 miles northeast of the Project site. However, no wastewater would be generated during Project construction or operation.

3.20.1.3 Landfills

Tulare County Solid Waste Department operates two landfills and six transfer stations within the county. Combined, these landfills receive approximately 300,000 tons of solid waste per day. Teapot Dome Landfill located at 21063 Ave 128 is approximately 600 feet southeast of the basin site.

3.20.2 Impact Assessment

a) 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 or relocation of which could cause significant environmental effects?

No Impact. The proposed Project would not require relocation or expansion of existing facilities for wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications. There would be no impact.

b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

No Impact. The purpose of the water banking Project is to ensure water availability for agricultural water users during normal, dry, and multiple dry years. The proposed pipeline would be used to divert waters from an existing SID pipeline into the basin for groundwater recharge when water is available above current needs. The proposed Project would not use water but would instead act as a water conveyance and storage system. Existing entitlements are sufficient to divert water for groundwater banking. There would be no impact.

c) Would the project result in a determination by the wastewater treatment provider which 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?

Less than Significant Impact. No wastewater would be generated as part of the Project. There would be no change to nearby wastewater facilities or operations. The Project would be designed, operated and monitored in a manner to ensure that the beneficial effects of the Project are maximized while preventing significant unacceptable impacts to the aquifer, groundwater levels, groundwater quality, water quality in adjacent landowners relative to conditions that would have occurred absent the Project. As described in **Chapter 2**, a monitoring committee would be formed to ensure that District interests, adjacent landowners and FKC interests are protected. Any impacts would be less than significant.

d) 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?

No Impact. The proposed Project would not generate excessive solid waste or impair the solid waste reduction goals. Therefore, there is no impact.

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact. This proposed Project conforms to all applicable statutes and regulations related to solid waste disposal. The proposed Project would comply with the adopted policies related to solid waste, and would comply with all applicable federal, State, and local statutes and regulations pertaining to disposal of solid waste, including recycling. Therefore, the proposed Project would have no impact on solid waste regulations.

3.21 Wildfire

Table 3-26. Wildfire Impacts

Wildfire Impacts				
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
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 concentrations from a wildfire or the uncontrollable spread of 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?	☐	☐	☐	☒

3.21.1 Environmental Setting and Baseline Conditions

The Project area is located approximately 20-miles west of the nearest very high fire hazard severity zone and the closest State responsibility area is approximately seven miles northeast of the site. The Project would not result in population growth and it does not involve the construction of structures, habitable or otherwise.

3.21.2 Impact Assessment

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 concentrations 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?

a–d) No Impacts. The Project is not located in a State responsibility area[23] or lands classified as very high severity zones[24]. The closest State responsibility area to the site is approximately seven miles northeast and is classified

[23] ArcGIS. California State Responsibility Areas. Website: https://www.arcgis.com/apps/mapviewer/index.html?layers=5ac1dae3cb2544629a845d9a19e83991. Accessed 5/20/21.
[24] ArcGIS. Is Your Home In a Fire Hazard Severity Zone? Website: https://www.arcgis.com/home/item.html?id=5e96315793d445419b6c96f89ce5d153. Accessed 5/20/21.

as moderate severity. Further analysis of the Project's potential impacts regarding wildfire are not warranted. There would be no impacts.

3.22 CEQA Mandatory Findings of Significance

Table 3-27. Mandatory Findings of Significance Impacts

Mandatory Findings of Significance Impacts				
Does the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) 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) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

3.22.1 Impact Assessment

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?

Less than Significant Impact with Mitigation Incorporated. The analysis conducted in this IS/MND results in a determination that the Project, with incorporation of mitigation measures, will have a less than significant effect on the environment. The potential for impacts to biological, cultural, geology and soils, hazards and hazardous materials, hydrology and tribal cultural resources from the construction and operation of the proposed Project will be less than significant with the incorporation of the mitigation measures discussed in **Chapter 4 Mitigation Monitoring and Reporting Program**. Accordingly, the proposed Project will involve no potential for significant impacts through the degradation of the quality of the environment, the reduction in the habitat or population of fish or wildlife, including endangered plants or animals, the elimination of a plant or animal community or example of a major period 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 considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less than Significant Impact with Mitigation Incorporated. CEQA Guidelines Section 15064(i) States that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. The proposed Project would include the construction of a 50-acre basin for water recharge and banking, monitoring wells and a pipeline to connect the basin to existing SID pipeline along Avenue 120. Basin construction would occur in three phases. No additional roads would be constructed as a result of the Project, nor would any additional public services be required. The proposed Project is not expected to result in direct or indirect population growth. Therefore, implementation of the Project would not result in significant cumulative impacts and all potential impacts would be reduced to less than significant through the implementation of mitigation measures and basic regulatory requirements incorporated into future Project design.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less than Significant Impact with Mitigation Incorporated. The proposed Project in and of itself would not create a significant hazard to the public or the environment. Construction-related air quality/dust exposure impacts could occur temporarily as a result of Project construction. Implementation of basic regulatory requirements identified in this IS/MND would ensure that any impacts related to air quality/dust exposure would be less than significant.

Due to the Project site's close proximity to the Landfill and its contaminated plume, measures would be taken to ensure that the water quality of the recharge facility does not become contaminated. In order to ensure that the plume does not grow and infiltrate the groundwater recharge facility constructed during this Project mitigation measure **HAZ-1** will be incorporated. Additionally, the proposed Project will comply with the Project's MOCP. The MOCP includes water quality monitoring and reporting procedures and is outlined in **Chapter 2.**

Therefore, implementation of the Project would not result in substantial adverse effects on human beings either directly or indirectly and all potential impacts would be reduced to less than significant through the implementation of mitigation measures, the MOCP and basic regulatory requirements required for this Project.

3.23 Determination: (To be completed by the Lead Agency)

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 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL 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.

Nicholas Keller
Signature

10/27/2021
Date

Nicholas Keller / Acting General Manager
Printed Name/Position

Chapter 4 Mitigation Monitoring and Reporting Program

This Mitigation Monitoring and Reporting Program (MMRP) has been formulated based upon the findings of the Initial Study/Mitigated Negative Declaration (IS/MND) for the Old Deer Creek Water Bank Project (Project) in the County of Tulare. The MMRP lists mitigation measures recommended in the IS/MND for the Project and identifies monitoring and reporting requirements.

Table 4-1 presents the mitigation measures identified for the proposed Project. Each mitigation measure is numbered with a symbol indicating the topical section to which it pertains, a hyphen, and the impact number. For example, AIR-2 would be the second mitigation measure identified in the Air Quality analysis of the IS/MND.

The first column of **Table 4-1** identifies the mitigation measure. The second column, entitled "When Monitoring is to Occur," identifies the time the mitigation measure should be initiated. The third column, "Frequency of Monitoring," identifies the frequency of the monitoring of the mitigation measure. The fourth column, "Agency Responsible for Monitoring," names the party ultimately responsible for ensuring that the mitigation measure is implemented. The last columns will be used by SID to ensure that individual mitigation measures have been complied with and monitored.

Table 4-1 Mitigation Monitoring and Reporting Program

Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
Biological Resources					
BIO-1 (Avoidance):					
The Project's construction activities shall occur, if feasible, between September 16 and January 31 (outside of nesting bird season) in an effort to avoid impacts to nesting birds.	Prior to the start of construction	Once, prior to construction	SID with the assistance of a qualified biologist		
BIO-2 (Pre-construction Surveys Nesting Birds):					
If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist shall conduct pre-construction surveys for nesting birds within 10 days prior to the start of construction. The survey shall include the proposed work area and surrounding lands within 50 feet. All raptor nests will be considered "active" upon the nest-building stage.	If construction activities and/or vegetation removal must occur between February 1 and August 31, then within 10 days prior to the start of work	February 1-September 15	SID with the assistance of a qualified biologist		
BIO-3 (Establish Buffers):					
On discovery of any active nests near work areas, the biologist shall determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Construction buffers shall be identified with flagging, fencing, or other easily visible means, and shall be maintained until the biologist has determined that the nestlings have fledged and are no longer dependent on the nest.	Prior to the start of construction .	February 1-September 15	SID with the assistance of a qualified biologist		
BIO-4 (Pre-construction Survey San Joaquin Kit Fox):					
Within 30 days prior to the start of construction, a pre-construction survey for San Joaquin kit fox shall be conducted on and within 200 feet of proposed work areas. If an active kit fox den is detected within or adjacent to the Project area, construction will be delayed, and CDFW and USFWS shall be consulted to determine the best course of action.	Within 30 days prior to the start of construction, a pre-construction survey for San Joaquin kit fox shall be conducted on and within 200 feet of proposed work areas	Daily during construction or ground disturbing activities.	SID with the assistance of a qualified biologist		
BIO-5 (Minimization):					
The Project shall observe all minimization and protective measures from the Construction and On-Going Operational Requirements of the USFWS 2011 Standardized Recommendations, including, but not limited to: construction speed limits, covering of pipes, installation of escape structures, restriction of herbicide and	During construction	Continuously	SID with the assistance of a qualified biologist		

Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
rodenticide use, proper disposal of food items and trash, prohibition of pets and firearms, and completion of an employee education program.					
BIO-6 (Mortality Reporting):					
The Sacramento Field Office of USFWS and the Fresno Field Office of CDFW will be notified in writing within three working days in the case of the accidental death or injury to a San Joaquin kit fox during construction. Notification must include the date, time, and location of the incident and any other pertinent information.	In the event of mortality	Upon occurrence	SID with the assistance of a qualified biologist		
BIO-7 (Operational Hours):					
Construction activities shall be limited to daylight hours to reduce potential impacts to special status bats that could be foraging onsite.	During Construction Activities	During Construction Activities	SID with the assistance of a qualified biologist		
BIO-8 (Pre-Construction Bat Survey):					
Prior to removal or trimming of any trees, a pre-construction survey for bats will be conducted at dusk no more than 7 days before scheduled vegetation removal by a qualified biologist. A focused study in accordance with CDFW guidelines will be conducted should bats be detected in the trees marked for removal. If no bats are detected, no further actions are required.	Prior to removal or trimming of any trees	No more than 7 days before scheduled vegetation removal	SID with the assistance of a qualified biologist		
Cultural Resources					
CUL-1 (Archaeological Resources):					
In the event that archaeological resources are encountered at any time during construction, development or any ground-moving activities within the entire project area, all work in the vicinity of the find shall halt until a qualified archaeologist can assess the discovery. The District shall implement all recommendations of the archaeologist necessary to avoid or reduce to a less than significant level potential impacts to cultural resource. Appropriate actions could include a Data Recovery Plan or preservation in place.	During ground disturbing activities and in the event potential archaeological artifacts or resources are uncovered	Daily during ground disturbing activities	SID with assistance of a qualified cultural subconsultant		
CUL-2 (Human Remains):					
If human remains are uncovered, or in any other case when human remains are discovered during construction, the Tulare County Coroner is to be notified to arrange proper treatment and disposition. If the remains are identified—on the basis of archaeological context, age, cultural associations, or biological traits—as those of a Native American origin, California Health and Safety Code 7050.5 and Public Resource Code 5097.98 require that the coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent (MLD) who will determine the manner in which the remains are treated.	During ground disturbing activities and in the event human remains are uncovered	Daily during ground disturbing activities	SID with assistance of a qualified cultural subconsultant		
Hazards					

Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
HAZ-1:					
Project operations shall not commence until a Monitoring Committee has been created. Capinero may be required to cease operation of the Project banking facility by the Monitoring Committee if it is determined that water being banked at the Project site is contributing to or causing water quality issues in the surrounding area.	Prior to operations commencing, and over the life of project operations.	Ongoing	SID		

Appendix A

CalEEMod Output Files

Orchard to Recharge Project

Tulare County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	160.00	Acre	160.00	6,969,600.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	51
Climate Zone	3			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**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 - Construction will take approximately 6 months to complete

Off-road Equipment - Construction equipment anticipated to be used.

Grading - Site will be balanced. Import/export will be phased.

Demolition - Orchard removal handled off-model.

Trips and VMT - Hauling will occur on-site.

Land Use Change - 160 acres removed

Construction Off-road Equipment Mitigation - Project will require a Dust Control Plan

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	310.00	129.00
tblConstructionPhase	PhaseEndDate	5/31/2024	6/30/2022
tblConstructionPhase	PhaseStartDate	3/25/2023	1/1/2022
tblGrading	AcresOfGrading	322.50	775.00
tblGrading	MaterialExported	0.00	159,000.00
tblGrading	MaterialImported	0.00	159,000.00
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	0.10
tblTripsAndVMT	WorkerTripNumber	20.00	3.00

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					
2022	0.2448	3.3644	1.7972	4.9700e-003	0.8208	0.1016	0.9224	0.2616	0.0936	0.3551	0.0000	445.3235	445.3235	0.1228	0.0000	448.3938
Maximum	**0.2448**	**3.3644**	**1.7972**	**4.9700e-003**	**0.8208**	**0.1016**	**0.9224**	**0.2616**	**0.0936**	**0.3551**	**0.0000**	**445.3235**	**445.3235**	**0.1228**	**0.0000**	**448.3938**

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					
2022	0.2448	3.3644	1.7971	4.9700e-003	0.3222	0.1016	0.4238	0.1026	0.0936	0.1962	0.0000	445.3231	445.3231	0.1228	0.0000	448.3934
Maximum	**0.2448**	**3.3644**	**1.7971**	**4.9700e-003**	**0.3222**	**0.1016**	**0.4238**	**0.1026**	**0.0936**	**0.1962**	**0.0000**	**445.3231**	**445.3231**	**0.1228**	**0.0000**	**448.3934**

	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**	**60.74**	**0.00**	**54.05**	**60.78**	**0.00**	**44.76**	**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	**1-1-2022**	**3-31-2022**	1.7888	1.7888
2	**4-1-2022**	**6-30-2022**	1.8256	1.8256
		Highest	1.8256	1.8256

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	0.5960	1.0000e-005	1.4700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8600e-003	2.8600e-003	1.0000e-005	0.0000	3.0500e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.5960**	**1.0000e-005**	**1.4700e-003**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**2.8600e-003**	**2.8600e-003**	**1.0000e-005**	**0.0000**	**3.0500e-003**

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	0.5960	1.0000e-005	1.4700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8600e-003	2.8600e-003	1.0000e-005	0.0000	3.0500e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.5960**	**1.0000e-005**	**1.4700e-003**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**2.8600e-003**	**2.8600e-003**	**1.0000e-005**	**0.0000**	**3.0500e-003**

	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**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	-992.0000
Total	**-992.0000**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2022	6/30/2022	5	129	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 775

Acres of Paving: 160

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Dumpers/Tenders	1	8.00	16	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Excavators	1	8.00	158	0.38
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41

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
Grading	8	3.00	0.00	19,875.00	16.80	6.60	0.10	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 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					
Fugitive Dust					0.8174	0.0000	0.8174	0.2606	0.0000	0.2606	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2255	2.4208	1.6794	3.7200e-003		0.1010	0.1010		0.0930	0.0930	0.0000	326.0564	326.0564	0.1047	0.0000	328.6735
Total	**0.2255**	**2.4208**	**1.6794**	**3.7200e-003**	**0.8174**	**0.1010**	**0.9184**	**0.2606**	**0.0930**	**0.3536**	**0.0000**	**326.0564**	**326.0564**	**0.1047**	**0.0000**	**328.6735**

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	0.0182	0.9430	0.1104	1.2300e-003	1.0600e-003	5.6000e-004	1.6200e-003	3.1000e-004	5.4000e-004	8.5000e-004	0.0000	117.3632	117.3632	0.0181	0.0000	117.8152
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	1.0800e-003	7.1000e-004	7.3200e-003	2.0000e-005	2.4000e-003	1.0000e-005	2.4100e-003	6.4000e-004	1.0000e-005	6.5000e-004	0.0000	1.9040	1.9040	5.0000e-005	0.0000	1.9052
Total	**0.0193**	**0.9437**	**0.1178**	**1.2500e-003**	**3.4600e-003**	**5.7000e-004**	**4.0300e-003**	**9.5000e-004**	**5.5000e-004**	**1.5000e-003**	**0.0000**	**119.2671**	**119.2671**	**0.0181**	**0.0000**	**119.7204**

3.2 Grading - 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					
Fugitive Dust					0.3188	0.0000	0.3188	0.1016	0.0000	0.1016	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2255	2.4208	1.6794	3.7200e-003		0.1010	0.1010		0.0930	0.0930	0.0000	326.0560	326.0560	0.1047	0.0000	328.6731
Total	**0.2255**	**2.4208**	**1.6794**	**3.7200e-003**	**0.3188**	**0.1010**	**0.4198**	**0.1016**	**0.0930**	**0.1947**	**0.0000**	**326.0560**	**326.0560**	**0.1047**	**0.0000**	**328.6731**

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	0.0182	0.9430	0.1104	1.2300e-003	1.0600e-003	5.6000e-004	1.6200e-003	3.1000e-004	5.4000e-004	8.5000e-004	0.0000	117.3632	117.3632	0.0181	0.0000	117.8152
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	1.0800e-003	7.1000e-004	7.3200e-003	2.0000e-005	2.4000e-003	1.0000e-005	2.4100e-003	6.4000e-004	1.0000e-005	6.5000e-004	0.0000	1.9040	1.9040	5.0000e-005	0.0000	1.9052
Total	**0.0193**	**0.9437**	**0.1178**	**1.2500e-003**	**3.4600e-003**	**5.7000e-004**	**4.0300e-003**	**9.5000e-004**	**5.5000e-004**	**1.5000e-003**	**0.0000**	**119.2671**	**119.2671**	**0.0181**	**0.0000**	**119.7204**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Other Non-Asphalt Surfaces	14.70	6.60	6.60	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
Other Non-Asphalt Surfaces	0.533627	0.031932	0.174885	0.126979	0.018773	0.004811	0.020615	0.079394	0.001826	0.001217	0.004186	0.001092	0.000663

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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					
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
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
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
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.5960	1.0000e-005	1.4700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8600e-003	2.8600e-003	1.0000e-005	0.0000	3.0500e-003
Unmitigated	0.5960	1.0000e-005	1.4700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8600e-003	2.8600e-003	1.0000e-005	0.0000	3.0500e-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	0.1454					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4505					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4000e-004	1.0000e-005	1.4700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8600e-003	2.8600e-003	1.0000e-005	0.0000	3.0500e-003
Total	**0.5960**	**1.0000e-005**	**1.4700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**2.8600e-003**	**2.8600e-003**	**1.0000e-005**	**0.0000**	**3.0500e-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	0.1454					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4505					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4000e-004	1.0000e-005	1.4700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8600e-003	2.8600e-003	1.0000e-005	0.0000	3.0500e-003
Total	**0.5960**	**1.0000e-005**	**1.4700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**2.8600e-003**	**2.8600e-003**	**1.0000e-005**	**0.0000**	**3.0500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-992.0000	0.0000	0.0000	-992.0000

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Cropland	160 / 0	-992.0000	0.0000	0.0000	-992.0000
Total		**-992.0000**	**0.0000**	**0.0000**	**-992.0000**

Appendix B

Biological Evaluation

Biological Evaluation

RENEWABLE RESOURCE GROUP

OLD DEER CREEK WATER BANK PROJECT

MAY 13, 2021

Mary Beth Bourne, Biologist and
Dena Giacomini, Biologist
PROVOST & PRITCHARD CONSULTING GROUP | 286 CROMWELL, FRESNO CA 93711

EST 1968
PROVOST & PRITCHARD
CONSULTING GROUP
An Employee Owned Company

Table of Contents

I. Introduction....2
Project Description....2
Report Objectives....2
Study Methodology....3
II. Existing Conditions....7
Regional Setting....7
Project Site....7
Ruderal/Agricultural....7
Soils....8
Natural Communities of Special Concern....9
Designated Critical Habitat of the APE....9
Wildlife Movement Corridors....9
Special Status Plants and Animals....9
III. Impacts and Mitigation....18
Significance Criteria....18
Relevant Goals, Policies, and Laws....19
Threatened and Endangered Species....19
Designated Critical Habitat....20
Migratory Birds....20
Birds of Prey....20
Nesting Birds....20
Wetlands and other "Jurisdictional Waters"....20
Potentially Significant Project-Related Impacts and Mitigation....22
Project-Related Mortality and/or Disturbance of Nesting Raptors, Migratory Birds, and Special Status Birds.....22
Project-Related Impacts to San Joaquin Kit Fox....23
Project-Related Impacts to Special Status Bats....23
Less Than Significant Project-Related Impacts....24
Project-Related Impacts to Special Status Animal Species Absent From, or Unlikely to Occur on, the Project Site....24
Project-Related Impacts to Special Status Plant Species....24
Project-Related Impacts to Riparian Habitat and Natural Communities of Special Concern....24
Project-Related Impacts to Regulated Waters, Wetlands, and Water Quality.....24
Project-Related Impacts to Wildlife Movement Corridors and Native Wildlife Nursery Sites.....25
Project-Related Impacts to Critical Habitat....25

Local Policies or Habitat Conservation Plans. 25
IV. References 26

List of Figures

Figure 1. Regional Location 4
Figure 2. Topographic Quadrangle Map 5
Figure 3. Area of Potential Effect 6

List of Figures

Table 1. List of Special Status Animal with Potential to Occur Onsite and/or in the Vicinity. 10
Table 2. List of Special Status Plants with Potential to Occur Onsite and/or in the Vicinity. 14

List of Appendices

Appendix A: Study Area Photos
Appendix B: CNDDB Quad Search
Appendix C: NRCS Soils Report

I. Introduction

The following technical report, prepared by Provost & Pritchard Consulting Group, in compliance with the California Environmental Quality Act (CEQA), includes a description of the biological resources present or with potential to occur within the Old Deer Creek Water Bank Project (Project) and surrounding areas, and evaluates potential Project-related impacts to those resources.

Project Description

The Project proposes for the Renewable Resource Group (RRG) to develop approximately 158 acres of recharge basins and associated facilities. The recharge and banked water recovery facilities would be operated in compliance with the Saucelito Irrigation District's (SID) Policy Principles for Saucelito Irrigation District Groundwater Banking Program (adopted on June 14, 2018, Banking Policy). The facilities would be designed, constructed, operated, and monitored in accordance with a water banking agreement between RRG and SID (RRG – SID Banking Agreement) as required by the Project. In addition, the Project would operate in compliance with the East Tule Groundwater Sustainability Agency (East Tule GSA) Groundwater Sustainability Plan (GSP). The Project would increase water supply, improve groundwater conditions, increase water supply availability, provide additional compliance with the Sustainable Groundwater Management Act (SGMA), and assist with the reduction of groundwater subsidence.

The Project's Area of Potential Effect (APE) includes 158 acres located outside of the City of Porterville, California. The basins are proposed to be along Rockford Road between Avenue 132 and Avenue 128. Three conveyance systems are proposed between Road 206 and Rockford Road near the Friant-Kern Canal. The Project is approximately 5.9 miles southwest of the City of Porterville, 11.6 miles east of Tipton, and 5.7 miles north of Terra Bella (see **Figure 2**).

Report Objectives

Construction activities such as that proposed by the Project could potentially damage biological resources or modify habitats that are crucial for sensitive plant and wildlife species. In cases such as these, development may be regulated by State or federal agencies, subject to provisions of CEQA, and/or addressed by local regulatory agencies.

This report addresses issues related to the following:

1. The presence of sensitive biological resources onsite, or with the potential to occur onsite.
2. The federal, State, and local regulations regarding these resources.
3. Mitigation measures that may be required to reduce the magnitude of anticipated impacts and/or comply with permit requirements of state and federal resource agencies.

Therefore, the objectives of this report are:

1. Summarize all site-specific information related to existing biological resources.
2. Make reasonable inferences about the biological resources that could occur onsite based on habitat suitability and the proximity of the site to a species' known range.
3. Summarize all State and federal natural resource protection laws that may be relevant to the APE.

4. Identify and discuss Project impacts to biological resources likely to occur onsite within the context of CEQA or State or federal laws.
5. Identify and publish a set of avoidance and mitigation measures that would reduce impacts to a less-than-significant level (as identified by CEQA) and are generally consistent with recommendations of the resource agencies for affected biological resources.

Study Methodology

A reconnaissance-level field survey of the APE (see **Figure 3**) and surrounding areas was conducted on April 21, 2021, by Provost & Pritchard's biologist, Mary Beth Bourne. The survey consisted of walking and driving the APE while identifying and noting land uses, biological habitats and communities, and plant and animal species encountered. Furthermore, the APE was assessed for suitable habitats of various wildlife species.

The biologist conducted an analysis of potential Project-related impacts to biological resources based on the resources known to exist or with potential to exist within the APE. Sources of information used in preparation of this analysis included: the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB); the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Vascular Plants of California; CalFlora's online database of California native plants; the Jepson Herbarium online database (Jepson eFlora); United States Fish and Wildlife Service (USFWS) Environmental Conservation Online System (ECOS); the NatureServe Explorer online database; the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Plants Database; CDFW California Wildlife Habitat Relationships (CWHR) database; the California Herps online database; and various manuals, reports, and references related to plants and animals of the San Joaquin Valley region.

The field investigation did not include a wetland delineation or focused surveys for special status species. The field survey conducted included the appropriate level of detail to assess the significance of potential impacts to sensitive biological resources resulting from the Project. Furthermore, the field survey was sufficient to generally describe those features of the Project that could be subject to the jurisdiction of federal and/or State agencies, such as the United States Army Corps of Engineers (USACE), CDFW, Regional Water Quality Control Board (RWQCB) and State Water Resources Control Board (SWRCB) and used to support CEQA documents.

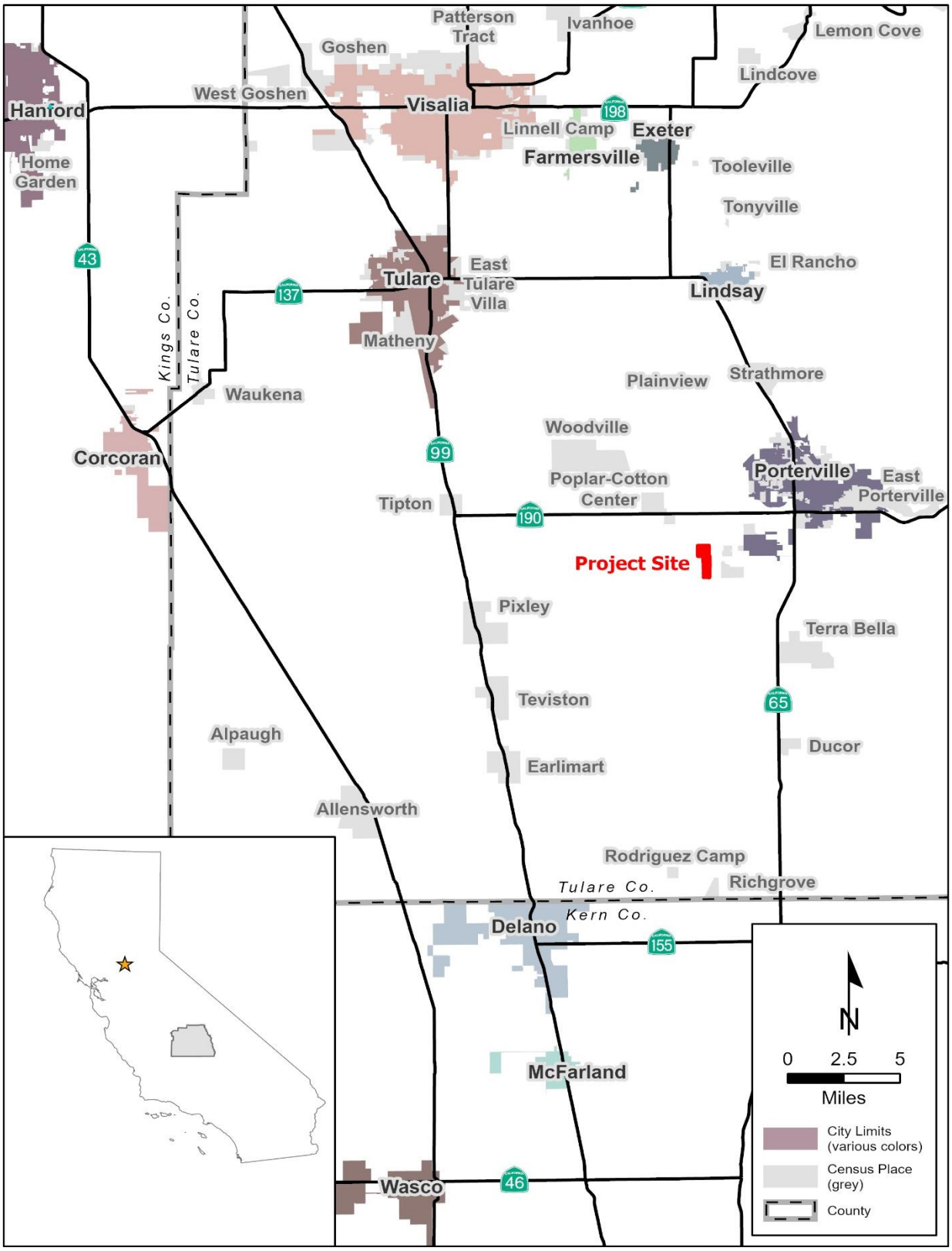


Figure 1. Regional Location

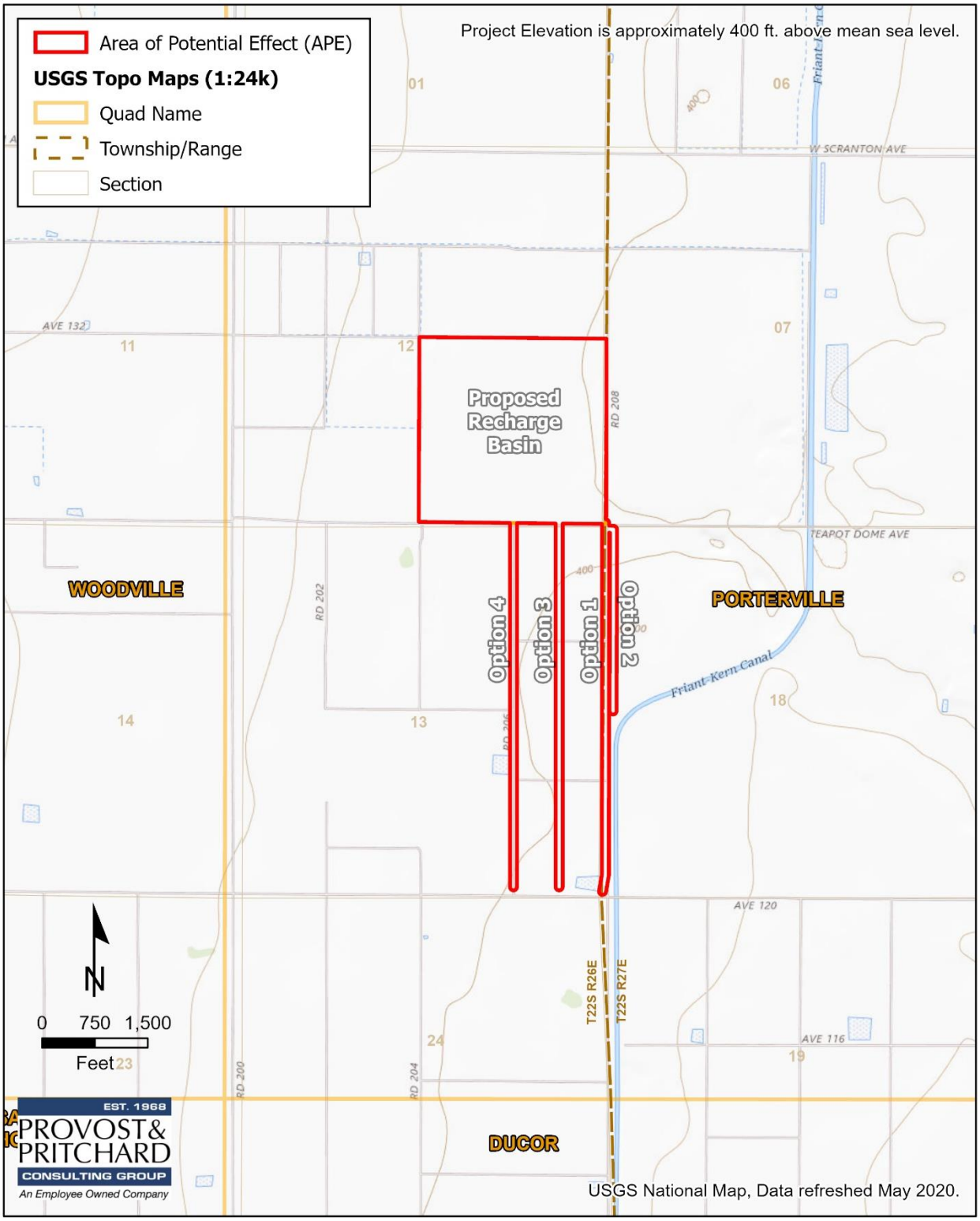


Figure 2. Topographic Quadrangle Map

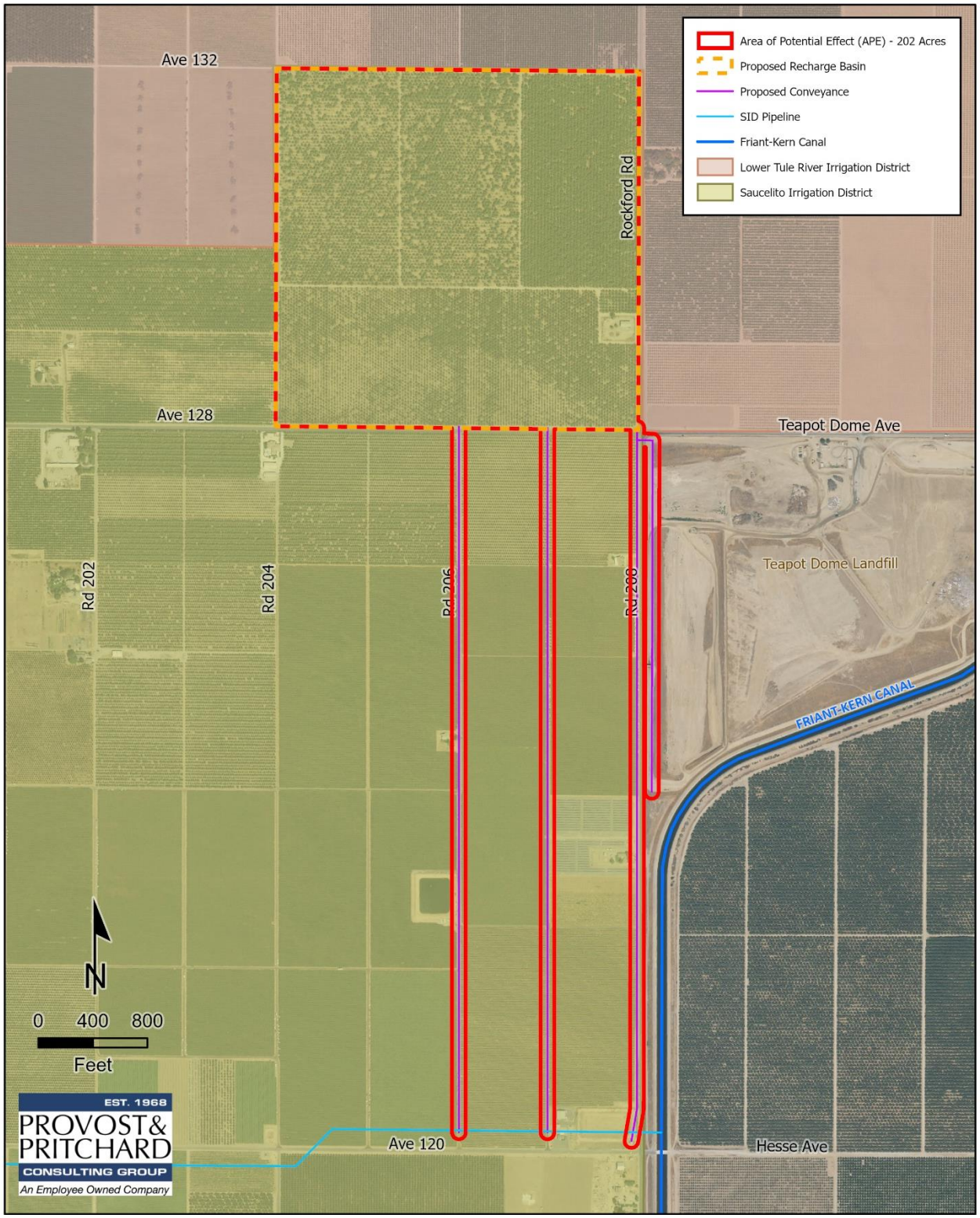


Figure 3. Area of Potential Effect

II. Existing Conditions

Regional Setting

The Project site is located southwest of the City of Porterville in Tulare County (see **Figure 1** and **Figure 2**). This area is within the San Joaquin Valley and lies near the foothills of the Sierra Mountain Range. The area surrounding the APE is made up largely of agricultural fields and the nearby Teapot Dome Landfill and the Friant-Kern Canal.

Like most of California, Tulare County experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. Summer temperatures range between 70- and 80-degrees Fahrenheit (F) on the coastal plains, but often exceeds 90 degrees F in the upper reaches of the county. Winter minimum temperatures are near 40 degrees F on the coast but in the lower 30s and upper 20s in the northern parts of Ventura County. Drier parts of the county get less than five inches of rain annually, and the higher and wetter parts get more than 60 inches annually.

The entire Project site lies within the Old Deer Creek Channel sub-watershed; Hydrologic Unit Code (HUC): 180300050904. The principal drainage is Deer Creek, which is located approximately 3.2 miles south of the APE. The Friant-Kern Canal is located approximately 0.77 mile from the proposed basin area and approximately 225 feet from the proposed conveyance systems.

Photographs of the Project areas and vicinity are available in Appendix A at the end of this document.

Project Site

Ruderal/Agricultural

As illustrated in Figure 3, the APE includes approximately 158 acres of land. The site is surrounded by large agricultural fields. The Teapot Dome Landfill and the Friant-Kern Canal are located to the east. There was a young walnut (*Juglans*) orchard to the north of Avenue 128. A few rodent burrows were present along the right-of-way, as well as several bird species, including California scrub jay (*Aphelocoma californica*), Brewer's blackbird (*Euphagus cyanocephalus*), and mourning dove (*Zenaida macroura*). American robin (*Turdus migratorius*) were observed foraging in the orchard and was the most frequent species seen through the survey area. Outside of the agricultural fields and orchards, this area was dominated by the weedy plant species, including foxtail brome (*Bromus madritensis*), cheeseweed (*Malva parviflora*), and big heron bill (*Erodium reichardii*). There was a temporarily ponded area created by a leaking agricultural pipe north of the intersection of Rockford Road and Avenue 128; however, no herps or invertebrates were observed. Soil in this area was composed of bare, compacted dirt and trash debris.

The area to the west of Rockford Road contained structures for housing agricultural equipment. This area was fenced and contained larger walnut trees and burn pile remnants. Bird species observed were house sparrow (*Passer domesticus*) and American robin. The robins were observed in nest building stage within one of the walnut trees found inside the fenced area. The dominate plant species was jimson weed (*Datura stramonium*). There was a large wild rose (*Rosa acicularis*) bush against one of the structures.

East of Rockford Road was an orange citrus orchard. At the time of the survey the orchard trees were being trimmed using large equipment. Bird species observed in this area included American crow (*Corvus*

brachyrhynchos), red-tailed hawk (*Buteo jamaicensis*), song sparrow (*Melospiza melodia*), and northern mockingbird (*Mimus polyglottos*). Wild oat (*Avena fatua*) was the dominate plant in this area. Vegetative debris was actively being burned along Avenue 204 north of Avenue 128.

The area along Avenue 206 contained almond orchards which gives way to grape vineyards nearing the center of the APE. The vineyard rows looked to be recently disced. There was a fenced residential lot containing several domestic fogs and ornamental vegetation including small orange (*Citrus*) and mulberry (*Morus*) trees. Bird species included killdeer (*Charadrius vociferus*) and house sparrow. A Western fence lizard (*Sceloporus occidentalis*) was observed on top of concrete pipes near an existing drainage basin.

Avenue 207 alignment is located on the south side of Sausalito Irrigation District Office. This area consists of compacted dirt and asphalt parking area. There are some ornamental trees consisting of crepe myrtles (*Lagerstroemia*), and various shrubs as landscaping. Agricultural crews were present in the adjacent vineyard at the time of the survey. Bird species observed included house finch (*Haemorhous mexicanus*) and turkey vulture (*Cathartes aura*).

The area along Avenue 208 alignment consisted of a larger, busier asphalt road. Several bird species were observed including American crow and house sparrow. The sparrows were seen flying overhead and mobbing the crow. There were also cliff swallows nesting under the bridge east of Avenue 208 and Hesse Avenue. The dominant plant species in this area were cocklebur (*Xanthium strumarium*), dove weed (*Croton setigerus*), white lupin (*Lupinus albus*), and small olive (*Olea europaea*) trees in the from of a residential lot. The southeast portion of Avenue was an overgrown grassy field which is ideal foraging habitat for raptors and San Joaquin kit fox (*Vulpes macrotis*); however, burrows observed were too small for this species.

The Teapot Dome Landfill was surrounded by low barbed wire fencing. The area consists of bare, compact dirt. The right-of-way between Avenue 208 and the dump consisted of weedy, overgrown plant species including foxtail brome, wild oats, and big-heron bill. Several ground squirrel (*Marmotini*) burrows were observed.

Soils

Soil mapping units found within the Major Land Resource Area of California (MLRA) 19 map represents four (4) soil types identified within the APE: Exeter loam, 0 to 2 percent slopes; Flamen loam, 0 to 2 percent slopes; Nord fine sandy loam, 0 to 2 percent slopes; and Tujunga loamy sand, 0 to 2 percent slopes.

None of the minor soil mapping units were identified as hydric. Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions such that under sufficiently wet conditions, hydrophytic vegetation can be supported.

Exeter soil series consists of moderately, well drained soils that formed in alluvium and derived from granitic rock sources. These soils have medium runoff, and a low to moderately low capacity of the most limiting layer to transmit water. These soils are classified as *farmland of statewide importance* with nonsaline to very slightly saline content.

Flamen soil series consists of moderately, well drained soils that were also formed in alluvium and derived from granitic rock sources. These soils have low runoff, and a moderately low to moderately high capacity to transmit water. These soils are classified as *prime farmland* if irrigated and protected from flooding during the growing season.

Nord soil series consists of well drained soils that were formed in alluvium and derived from mixed sources. These soils have negligible runoff, and a moderately high to high capacity to transmit water. These soils are also classified as *prime farmland* if irrigated and protected from flooding during the growing season.

Tujunga soil series consists of somewhat excessively drained soils formed in alluvium and derived from granite sources. These soils have negligible runoff, and a high to very high capacity to transmit water. These soils are classified as *farmland of statewide importance.*

The complete NRCS Web Soil Survey report is available in Appendix C at the end of this document.

Natural Communities of Special Concern

Natural communities of special concern are those that are of limited distribution, distinguished by significant biological diversity, or home to special status species. CDFW is responsible for the classification and mapping of all-natural communities in California. Just like the special status plant and animal species, these natural communities of special concern can be found within the CNDDB.

According to CNDDB, there are no recorded observations of natural communities of special concern with potential to occur within the Project area or vicinity. Additionally, no natural communities of special concern were observed during the biological survey.

Designated Critical Habitat of the APE

The USFWS often designates areas of "Critical Habitat" when it lists species as threatened or endangered. Critical Habitat is a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. According to CNDDB and IPaC, designated critical habitat is absent from the Project area and vicinity.

Wildlife Movement Corridors

Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. Movement corridors in California are typically associated with valleys, ridgelines, and rivers and creeks supporting riparian vegetation.

The APE does not contain features that would be likely to function as wildlife movement corridors. Furthermore, the Project is located in a region often disturbed by human activities related to agricultural production which would discourage dispersal and migration.

Special Status Plants and Animals

California contains several "rare" plant and animal species. In this context, rare is defined as species known to have low populations or limited distributions. As the human population grows, resulting in urban expansion which encroaches on the already limited suitable habitat, these sensitive species become increasingly more vulnerable to extirpation. State and federal regulations have provided the CDFW and the USFWS with a mechanism for conserving and protecting the diversity of plant and animal species native to California. Numerous native plants and animals have been formally designated as "threatened" or "endangered" under State and federal endangered species legislation. Other formal designations include "candidate" for listing or "species

of special concern" by CDFW. The CNPS has its list of native plants considered rare, threatened, or endangered. Collectively these plants and animals are referred to as "special status species."

A thorough search of the CNDDB for published accounts of special status plant and animal species was conducted for *Porterville* 7.5-minute quadrangle that contains the Project site in its entirety, and for the eight surrounding quadrangles: *Woodville, Sausalito School, Ducor, Fountain Springs, Success Dam, Frazier Valley, Lindsay,* and *Cairns Corner*. These species, and their potential to occur within the Project area are listed in **Table 1 and Table 2** on the following pages. Raw data obtained from CNDDB is available in Appendix B at the end of this document. All relevant sources of information, as discussed in the **Study Methodology** section of this report (above), were used to determine if any special status species are known to be within the Project APE. **Figure 2** shows the Project's 7.5-minute quadrangle, according to United States Geological Survey Topographic Maps.

Table 1. List of Special Status Animal with Potential to Occur Onsite and/or in the Vicinity.

Species	Status	Habitat	Occurrence on Project Site
American badger *(Taxidea taxus)*	CSC	Grasslands, savannas, and mountain meadows near timberline are preferred. Most abundant in drier open spaces of shrub and grassland. Burrows in soil.	**Unlikely.** Suitable burrows were absent during the biological survey. The disturbed habitats and agricultural field onsite are unsuitable for this species. While individuals are known to live 1.1 miles east of the APE, agricultural practices within the APE would likely discourage habitation of this elusive mammal.
blunt-nosed leopard lizard *(Gambelia sila)*	FE, CE, CFP	Inhabits semi-arid grasslands, alkali flats, low foothills, canyon floors, large washes, and arroyos, usually on sandy, gravelly, or loamy substrate, sometimes on hardpan. Often found where there are abundant rodent burrows in dense vegetation or tall grass. Cannot survive on lands under cultivation. Known to bask on kangaroo rat mounds and often seeks shelter at the base of shrubs, in small mammal burrows, or in rock piles. Adults may excavate shallow burrows but rely on deeper pre-existing rodent burrows for hibernation and reproduction.	**Absent.** Suitable habitat is absent from the APE and surrounding lands.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
California condor *(Gymnogyps californianus)*	FE, CE, CFP	Typically nests in cavities in canyon or cliff faces but has also been recorded nesting in giant sequoias in Tulare County. Requires vast expanse of open savannah, grassland, and/or foothill chaparral in mountain ranges of moderate altitude. Forages up to 100 miles from roost/nest site.	**Absent.** Suitable habitat is absent from the APE and surrounding lands.
Crotch bumble bee (*Bombus crotchii*)	CCE	Occurs throughout coastal California, as well as east to the Sierra-Cascade crest, and south in to Mexico. Food plant genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia*, and *Eriogonum*.	**Absent.** Suitable habitat is absent from the APE and surrounding lands.
northern California legless lizard *(Anniella pulchra)*	CSC	Found primarily underground, burrowing in loose, sandy soil. Forages in loose soil and leaf litter during the day. Occasionally observed on the surface at dusk and night.	**Unlikely.** The disturbed habitats of the APE and surrounding lands are unsuitable for this species.
pallid bat *(Antrozous pallidus)*	CSC	Found in grasslands, chaparral, and woodlands, where it feeds on ground- and vegetation-dwelling arthropods, and occasionally takes insects in flight. Prefers to roost in rock crevices, but may also use tree cavities, caves, bridges, and other man-made structures.	**Possible.** Although roosting habitat is lacking, this species may forage within the APE and other nearby agricultural fields in the immediate area
San Joaquin kit fox *(Vulpes macrotis mutica)*	FE, CT	Underground dens with multiple entrances in alkali sink, valley grassland, and woodland in valleys and adjacent foothills.	**Possible.** The APE is located directly adjacent to two known populations of this species: along Road 208 and within the landfill. The APE is primarily agricultural lands and are often disturbed; however, a kit fox could potentially pass through the APE and use the area for hunting prey.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
Swainson's hawk *(Buteo swainsoni)*	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	**Unlikely.** Swainson's hawks are generally uncommon in Tulare County. Suitable nest trees are absent from the APE, although suitable foraging habitat is present.
Tipton kangaroo rat *(Dipodomys nitratoides nitratoides)*	FE, CE	Burrows in soil. Often found in grassland and shrubland.	**Unlikely.** No Tipton kangaroo rat individuals or sign were observed during the field survey. While appropriately sized burrows were identified during the survey, the tracks surrounding the burrow entrances were not consistent with the tracks of this species. The disturbed habitats of the APE are generally unsuitable for this species.
Townsend's big-eared bat *(Corynorhinus townsendii)*	CSC	Occurs in a variety of habitats, but prefers cool, dark roost sites, and are often found in caves and mines. They roost in the open, hanging from walls and ceilings. Western populations typically forage on moths in areas of dense foliage.	**Absent.** Suitable habitat is absent from the APE and surrounding lands.
tricolored blackbird *(Agelaius tricolor)*	CT, CSC	Nests colonially near fresh water in dense cattails or tules, or in thickets of riparian shrubs. Forages in grassland and cropland. Large colonies are often found on dairy farm forage fields.	**Absent.** Habitats required by this species are absent from the APE and surrounding lands. Foraging opportunities in the fallow fields of the APE are less than marginal.
Valley elderberry longhorn beetle *(Desmocerus californicus dimorphus)*	FT	Lives in mature elderberry shrubs of the Central Valley and foothills. Adults are active March to June.	**Absent.** Suitable habitat is absent from the APE and surrounding lands.
vernal pool fairy shrimp *(Branchinecta lynchi)*	FT	Occupies vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** Suitable soils and vernal pool habitat are absent from the Project area.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
western mastiff bat *(Eumops perotis californicus)*	CSC	Found in open, arid to semi-arid habitats, including dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas, where it feeds on insects in flight. Roosts most commonly in crevices in cliff faces but may also use high buildings and tunnels.	**Possible.** Although roosting habitat is lacking, this species may forage within the APE and other nearby agricultural fields in the immediate area
western spadefoot *(Spea hammondii)*	CSC	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Vernal pools or temporary wetlands, lasting a minimum of three weeks, which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	**Absent.** The highly disturbed habitats of the Project area and surrounding lands are unsuitable for this species. Wetland or vernal pool habitat suitable for breeding is absent from the APE.

Table 2. List of Special Status Plants with Potential to Occur Onsite and/or in the Vicinity.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
alkali-sink goldfields (*Lasthenia chrysantha*)	CNPS 1B	Found in vernal pool and wet saline flat habitats. Occurrences documented in the San Joaquin and Sacramento Valleys at elevations below 656 feet. Blooms February - April.	**Absent.** Suitable soils and vernal pool habitat are absent from the APE.
brittlescale *(Atriplex depressa)*	CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in alkaline or clay soils, typically in meadows or annual grassland in at elevations below 1050 feet. Sometimes associated with vernal pools. Blooms June–October.	**Absent.** Suitable soils and vernal pool habitat are absent from the APE.
calico monkeyflower *(Diplacus pictus / Mimulus pictus / Eunanus pictus)*	CNPS 1B	Found in the Sierra Nevada foothills and the Tehachapi mountains in bare, sunny, shrubby areas, and around granite outcrops within foothill woodland communities at elevations between 450 feet and 4100 feet. Blooms March – May.	**Absent.** The disturbed habitats of the APE are unsuitable for this species.
California alkali grass *(Puccinellia simplex)*	CNPS 1B	Found in the San Joaquin Valley and other parts of California in saline flats and mineral springs within valley grassland and wetland-riparian communities at elevations below 3000 feet. Blooms March–May.	**Absent.** Suitable soils and wetland-riparian habitat are absent from the APE.
California jewelflower *(Caulanthus californicus)*	FE, CE, CNPS 1B	Found in the San Joaquin Valley and Western Transverse Ranges in sandy soils. Occurs on flats and slopes, generally in non-alkaline grassland at elevations between 230 feet and 6100 feet. Blooms February–April.	**Absent.** The disturbed habitats of the APE are unsuitable for this species.
chaparral ragwort *(Senecio aphanactis)*	CNPS 2B	Found in chaparral, cismontane woodland, and coastal scrub, typically within drying alkaline flats at elevations between 65–2800 feet. Blooms February–May.	**Absent.** The disturbed habitats of the APE are unsuitable for this species.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
Earlimart orache *(Atriplex cordulata var. erecticaulis)*	CNPS 1B	Found in the San Joaquin Valley in saline or alkaline soils, typically within valley and foothill grassland at elevations below 375 feet. Blooms August–September.	**Absent.** The disturbed habitats of the APE are unsuitable for this species.
Keck's checkerbloom *(Sidalcea keckii)*	FE, CNPS 1B	Occurs in cismontane woodland, valley and foothill grassland, typically on grassy slopes in clay soils at elevations between 275 feet – 1650 feet. Blooms April – May.	**Absent.** The disturbed habitats of the APE are unsuitable for this species.
lesser saltscale *(Atriplex minuscula)*	CNPS 1B	Found in the San Joaquin Valley in sandy, alkaline soils in alkali scrub, valley and foothill grassland, and alkali sink communities at elevations below 750 feet. Blooms April–October.	**Absent.** Suitable soils and suitable habitat are absent from the APE.
Lost Hills crownscale *(Atriplex coronata var. vallicola)*	CNPS 1B	Found in the San Joaquin Valley in dried ponds and alkaline soils in alkali scrub, valley and foothill grassland, and vernal pools at elevations below 2900 feet. Blooms April–September.	**Absent.** The disturbed habitats of the APE are unsuitable for this species.
Madera leptosiphon *(Leptosiphon serrulatus)*	CNPS 1B	Found in openings in foothill woodland, often yellow-pine forest, and chaparral at elevations between 1000 feet and 4300 feet. Blooms April – May.	**Absent.** Suitable habitats are absent from the APE.
recurved larkspur *(Delphinium recurvatum)*	CNPS 1B	Occurs in poorly drained, fine, alkaline soils in grassland and alakli scrub communities at elevations between 100 feet and 2600 feet. Blooms March–June.	**Absent.** Suitable soils and suitable habitat are absent from the APE.
San Joaquin adobe sunburst *(Pseudobahia peirsonii)*	FT, CE, CNPS 1B	Found in the San Joaquin Valley and the Sierra Nevada Foothills in bare dark clay soils in valley and foothill grassland and cismontane woodland communities at elevations between 325 feet and 2950 feet. Blooms March–May.	**Absent.** Suitable soils and suitable habitat are absent from the APE.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
San Joaquin woollythreads *(Monolopia congdonii)*	FE, CNPS 1B	Occurs in the San Joaquin Valley in sandy soils on alkaline or loamy plains in valley and foothill grassland and alkali scrub communities at elevations between 180 feet and 2750 feet. Blooms February–May.	**Absent.** The disturbed habitats of the APE are unsuitable for this species.
shining navarretia *(Navarretia nigelliformis ssp. radians)*	CNPS 1B	Found in cismontane woodland and valley and foothill grassland communities, sometimes in vernal pools. Occurs at elevations between 200 feet and 3200 feet. Blooms May – July.	**Absent.** Suitable soils and vernal pool habitat are absent from the APE.
spiny-sepaled button-celery *(Eryngium spinosepalum)*	CNPS 1B	Found in the Sierra Nevada Foothills and the San Joaquin Valley. Occurs in vernal pools, swales, and roadside ditches. Often associated with clay soils in vernal pools within grassland communities. Occurs at elevations between 50 feet and 4160 feet. Blooms April–July.	**Absent.** Suitable soils and vernal pool habitat are absent from the APE.
Springville clarkia (*Clarkia springvillensis*)	FT, CE, CNPS 1B	Endemic to the woodlands and grasslands of the southern portion of the Sierra Nevada range, occurring primarily in the Tule River watershed. Found at elevations between 690-7400 feet. Blooms in May.	**Absent.** The APE is outside of this species known range. Suitable habitats are absent from the APE.
striped adobe-lily *(Fritillaria striata)*	CT, CNPS 1B	Found in the Sierra Nevada foothills in adobe soil within valley grassland and foothill woodland communities at elevations below 3300 feet. Blooms February – April.	**Absent.** Suitable soils and habitats are absent from the APE.
subtle orache *(Atriplex subtilis)*	CNPS 1B	Found in the San Joaquin Valley in saline depressions in alkaline soils within valley and foothill grassland communities at elevations below 330 feet. Blooms June–October.	**Absent.** The APE is outside of this species known range. Suitable habitats are absent from the APE.

Species	Status	Habitat	Occurrence on Project Site
vernal pool smallscale *(Atriplex persistens)*	CNPS 1B	Occurs in the San Joaquin Valley and Sacramento Valley in alkaline vernal pools at elevations below 375 feet. Blooms June–September.	**Absent.** Suitable soils and vernal pool habitat are absent from the APE.

EXPLANATION OF OCCURRENCE DESIGNATIONS

Present: Species observed on the site at time of field surveys or during recent past
Likely: Species not observed on the site, but it may reasonably be expected to occur there on a regular basis
Possible: Species not observed on the site, but it could occur there from time to time
Unlikely: Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient
Absent: Species not observed on the site, and precluded from occurring there due to absence of suitable habitat

STATUS CODES

FE Federally Endangered
FT Federally Threatened
CCT California Threatened (Candidate)
CSC California Species of Special Concern
CR California Rare
CE California Endangered
CT California Threatened
CFP California Fully Protected
CWL California Watch List

CNPS RARE PLANT RANKS

1B Plants Rare, Threatened, or Endangered in California and elsewhere
2B Plants Rare, Threatened, or Endangered in California but more common elsewhere

III. Impacts and Mitigation

Significance Criteria

CEQA

General plans, area plans, and specific projects are subject to the provisions of CEQA. The purpose of CEQA is to assess the impacts of proposed projects on the environment prior to project implementation. Impacts to biological resources are just one type of environmental impact assessed under CEQA and vary from project to project in terms of scope and magnitude. Projects requiring removal of vegetation may result in the mortality or displacement of animals associated with this vegetation. Animals adapted to humans, roads, buildings, and pets may replace those species formerly occurring on a site. Plants and animals that are State and/or federally listed as threatened or endangered may be destroyed or displaced. Sensitive habitats such as wetlands and riparian woodlands may be altered or destroyed. Such impacts may be considered either "significant" or "less than significant" under CEQA. According to CEQA, Statute and Guidelines (AEP 2012), "significant 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 interest. Specific project impacts to biological resources may be considered "significant" if they would:

- 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 CDFW or USFWS;
- 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 CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- 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.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Furthermore, CEQA Guidelines Section 15065(a) states that a project may trigger the requirement to make a "mandatory finding of significance" if the project has 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, 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."

Relevant Goals, Policies, and Laws

General Plan

The Tulare County General Plan 2030 Agriculture and Environmental Resources Management Elements contain the following goals and policies related to the Project:

3. Agriculture

AG-1.7 Preservation of Agricultural Lands The County shall promote the preservation of its agricultural economic base and open space resources through the implementation of resource management programs such as the Williamson Act, Rural Valley Lands Plan, Foothill Growth Management Plan or similar types of strategies and the identification of growth boundaries for all urban areas located in the County.

AG-1.17 Agricultural Water Resources The County shall seek to protect and enhance surface water and groundwater resources critical to agriculture.

4. Land Use

C. Environment Component

Principle 1: Protection Protect the supply and quality of urban, agricultural, and environmental water serving the County.

Principle 3: Recharge Identify and encourage the development of locations where water recharge systems can be developed to replenish water supplies.

7. Scenic Landscapes

SL-1.3 Watercourses. The County shall protect visual access to, and the character of, Tulare County's scenic rivers, lakes, and irrigation canals by:

1. Locating and designing new development to minimize visual impacts and obstruction of views of scenic watercourses from public lands and right-of-ways, and
2. Maintaining the rural and natural character of landscape viewed from trails and watercourses used for public recreation.

Threatened and Endangered Species

Permits may be required from the USFWS and/or CDFW if activities associated with a project have the potential to result in the "take" of a species listed as threatened or endangered under the federal and/or state Endangered Species Acts. Take is defined by the State of California as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill" (California Fish and Game Code, Section 86). Take is more broadly defined by the federal Endangered Species Act to include "harm" (16 USC, Section 1532(19), 50 CFR, Section 17.3). CDFW and USFWS are responsible agencies under CEQA and National Environmental Policy Act (NEPA).

Both agencies review CEQA and NEPA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

Designated Critical Habitat

When species are listed as threatened or endangered, the USFWS often designates areas of "Critical Habitat" as defined by section 3(5)(A) of the federal Endangered Species Act (ESA). Critical Habitat is a term defined in the ESA as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical Habitat is a tool that supports the continued conservation of imperiled species by guiding cooperation with the federal government. Designations only affect federal agency actions or federally funded or permitted activities. Critical Habitat does not prevent activities that occur within the designated area. Only activities that involve a federal permit, license, or funding and are likely to destroy or adversely modify Critical Habitat will be affected.

Migratory Birds

The Federal Migratory Bird Treaty Act (MBTA: 16 USC 703-712) prohibits killing, possessing, or trading in any bird species covered in one of four international conventions to which the U.S. is a party, except in accordance with regulations prescribed by the Secretary of the Interior. The name of the act is misleading, as it actually covers almost all bird's native to the U.S., even those that are non-migratory. The MBTA encompasses whole birds, parts of birds, and bird nests and eggs. Additionally, California Fish and Game Code makes it unlawful to take or possess any non-game bird covered by the MBTA (Section 3513), as well as any other native non-game bird (Section 3800).

Birds of Prey

Birds of prey are protected in California under provisions of Fish and Game Code (Section 3503.5), which states that it is unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks and eagles) or Strigiformes (owls), as well as their nests and eggs. The bald eagle and golden eagle are afforded additional protection under the federal Bald and Golden Eagle Protection Act (16 USC 668), which makes it unlawful to kill birds or their eggs.

Nesting Birds

In California, protection is afforded to the nests and eggs of all birds. California Fish and Game Code (Section 3503) states that it is "unlawful to take, possess, or needlessly destroy the nest or eggs of any bird except as otherwise provided by this code or any regulation adopted pursuant thereto.". Breeding-season disturbance that causes nest abandonment and/or loss of reproductive effort is considered a form of "take" by the CDFW.

Wetlands and other "Jurisdictional Waters"

Natural drainage channels and adjacent wetlands may be considered "waters of the United States." or "jurisdictional waters" subject to the jurisdiction of the USACE. The extent of jurisdiction has been defined in the Code of Federal Regulations but has also been subject to interpretation of the federal courts. As of April 2020, jurisdictional waters generally include:

- The territorial seas, and waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide;

- Traditional Navigable Waters: Perennial and Intermittent tributaries that contain surface water flow to such waters;
- Lake and ponds, and impoundments of jurisdictional waters; and
- Wetlands adjacent to jurisdictional waterways.

On June 22, 2020 the United States Environmental Protection Agency (USEPA) and the USACE (together, "the agencies") published the Navigable Waters Protection Rule defining the scope of waters subject to federal regulation under the Clean Water Act (CWA or the Act). In this final rule, the agencies interpret the term "waters of the United States" to encompass: The territorial seas and traditional navigable waters; perennial and intermittent tributaries that contribute surface water flow to such waters; certain lakes, ponds, and impoundments of jurisdictional waters; and wetlands adjacent to other jurisdictional waters.

The USACE regulates the filling or grading of Waters of the United States. under the authority of Section 404 of the Clean Water Act. The extent of jurisdiction within drainage channels is defined by "ordinary high-water marks" on opposing channel banks. All activities that involve the discharge of dredge or fill material into Waters of the United States are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that results in no net loss of wetland functions or values. No permit can be issued until the RWQCB issues a Section 401 Water Quality Certification (or waiver of such certification) verifying that the proposed activity will meet State water quality standards.

Under the Porter-Cologne Water Quality Control Act of 1969, the SWRCB has regulatory authority to protect the water quality of all surface water and groundwater in the State of California ("Waters of the State"). Nine RWQCBs oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into Waters of the State through the issuance of various permits and orders. Discharges into Waters of the State that are also Waters of the United States require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining certain federal permits, such as a Section 404 Clean Water Act permit. Discharges into all Waters of the State, even those that are not also Waters of the United States., require Waste Discharge Requirements (WDRs), or waivers of WDRs, from the RWQCB. The RWQCB also administers the Construction Storm Water Program and the federal National Pollution Discharge Elimination System (NPDES) program. Projects that disturb one acre or more of soil must obtain a Construction General Permit under the Construction Storm Water Program. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Projects that discharge wastewater, storm water, or other pollutants into a Water of the United States. may require a NPDES permit.

CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code. Activities that may substantially modify such waters through the diversion or obstruction of their natural flow, change or use of any material from their bed or bank, or the deposition of debris require a notification of a Lake or Streambed Alteration. If CDFW determines that the activity may adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared. Such an agreement typically stipulates that certain measures will be implemented to protect the habitat values of the lake or drainage in question.

Potentially Significant Project-Related Impacts and Mitigation

Species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations by CDFW or USFWS that have the potential to be impacted by the Project are identified below with corresponding mitigation measures. The San Joaquin Kit Fox has to potential to occur within the APE or vicinity. These species are discussed below with the corresponding mitigation measures.

Project-Related Mortality and/or Disturbance of Nesting Raptors, Migratory Birds, and Special Status Birds.

The Project site contains suitable nesting and/or foraging habitat for a variety of avian species. Ground nesting birds such as the killdeer could nest on the bare ground or compacted dirt roads onsite. Black phoebe (*Sayornis nigricans*) and cliff swallow (*Petrochelidon pyrrhonota*) could nest on, within, or adjacent to structures. Birds nesting within the Project area during construction have the potential to be injured or killed by Project-related activities. In addition to the direct "take" of nesting birds, nesting birds within the Project site or adjacent areas could be disturbed by Project-related activities resulting in nest abandonment. Projects that adversely affect the nesting success of raptors and migratory birds or result in the mortality of individual birds is considered a violation of State and federal laws and are considered a potentially significant impact under CEQA.

Nesting bird season is generally accepted as February 1 through August 31; however, raptor nesting season is generally accepted as March 1 through September 15. For simplicity, these timeframes have been combined.

Implementation of the following measures will reduce potential impacts to migratory birds to a less than significant level under CEQA and will ensure compliance with State and federal laws protecting these avian species.

Mitigation. The following measures will be implemented prior to the start of construction:

> ***Mitigation Measure BIO-1 (Avoidance):*** The Project's construction activities shall occur, if feasible, between September 16 and January 31 (outside of nesting bird season) in an effort to avoid impacts to nesting birds.
>
> ***Mitigation Measure BIO-2 (Pre-construction Surveys):*** If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist shall conduct pre-construction surveys for nesting birds within 10 days prior to the start of construction. The survey shall include the proposed work area and surrounding lands within 50 feet. All raptor nests will be considered "active" upon the nest-building stage.
>
> ***Mitigation Measure BIO-3 (Establish Buffers):*** On discovery of any active nests near work areas, the biologist shall determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Construction buffers shall be identified with flagging, fencing, or other easily visible means, and shall be maintained until the biologist has determined that the nestlings have fledged and are no longer dependent on the nest.

Project-Related Impacts to San Joaquin Kit Fox

San Joaquin kit fox have been documented in the Project vicinity. Although frequent disturbance may deter this species from denning onsite, this species could potentially forage or pass through the Project area during dispersal movements. If a kit fox were present onsite during ground-disturbance, it could be injured or killed by construction activities. Projects that result in the mortality of special status species are considered a violation of State and federal laws and are considered a potentially significant impact under CEQA.

Implementation of the following measures will reduce potential impacts to the San Joaquin kit fox to a less than significant level under CEQA and will ensure compliance with State and federal laws protecting this species.

Mitigation. The following measures derived from the *USFWS 2011 Standardized Recommendations for Protection of the San Joaquin Kit Fox* Prior to or During Ground Disturbance will be implemented:

> ***Mitigation Measure BIO-4 (Pre-construction Survey):*** Within 30 days prior to the start of construction, a pre-construction survey for San Joaquin kit fox shall be conducted on and within 200 feet of proposed work areas. If an active kit fox den is detected within or adjacent to the Project area, construction will be delayed, and CDFW and USFWS shall be consulted to determine the best course of action.
>
> ***Mitigation Measure BIO-5 (Minimization):*** The Project shall observe all minimization and protective measures from the Construction and On-Going Operational Requirements of the USFWS 2011 Standardized Recommendations, including, but not limited to: construction speed limits, covering of pipes, installation of escape structures, restriction of herbicide and rodenticide use, proper disposal of food items and trash, prohibition of pets and firearms, and completion of an employee education program.
>
> ***Mitigation Measure BIO-6 (Mortality Reporting):*** The Sacramento Field Office of USFWS and the Fresno Field Office of CDFW will be notified in writing within three working days in the case of the accidental death or injury to a San Joaquin kit fox during construction. Notification must include the date, time, and location of the incident and any other pertinent information.

Implementation of the above measures will reduce potential impacts to San Joaquin kit fox to a less than significant level and will ensure compliance with State and federal laws protecting this species.

Project-Related Impacts to Special Status Bats

Although suitable roosting habitat for pallid and western mastiff bats is not readily available within the APE, the surrounding agricultural fields provide suitable foraging habitat for multiple species of bat. If a special status bat were foraging onsite, it could be injured or killed by construction activities. Projects that adversely affect the reproductive success of special status species or result in the mortality of special status species are considered a violation of State and federal laws and are considered a potentially significant impact under CEQA.

Implementation of the following measure would reduce potential impacts to foraging special status bats, including pallid and western red bats, to a less-than-significant-level under CEQA and would ensure compliance with State and federal laws protecting this species.

Mitigation. The following measures would be implemented during or prior to the start of construction:

> ***Mitigation Measure BIO-7 (Operational Hours):*** Construction activities shall be limited to daylight hours to reduce potential impacts to special status bats that could be foraging onsite.

Mitigation measure BIO-8 (Pre-Construction Survey): Prior to removal or trimming of any trees, a pre-construction survey for bats will be conducted at dusk no more than 7 days before scheduled vegetation removal by a qualified biologist. A focused study in accordance with CDFW guidelines will be conducted should bats be detected in the trees marked for removal. If no bats are detected, no further actions are required.

Less Than Significant Project-Related Impacts

Project-Related Impacts to Special Status Animal Species Absent From, or Unlikely to Occur on, the Project Site

Of the 15 regionally occurring special status species, 12 are considered absent from or unlikely to occur within the Project area due to past or ongoing disturbance and/or the absence of suitable habitat. As explained in Table 1, the following species were deemed absent from the Project site: American badger, blunt-nosed leopard lizard, California condor, crotch bumble bee, northern California legless lizard, Swainson's hawk, Tipton kangaroo rat, tricolored blackbird, Valley elderberry, vernal pool fairy shrimp, and western spadefoot. Since it is highly unlikely that these species would occur onsite, implementation of the Project should have no impact on these 12 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

Project-Related Impacts to Special Status Plant Species

All 20 of the special status plant species which have been documented in the Project vicinity are considered absent from or unlikely to occur within the Project area due to past or ongoing disturbance and/or the absence of suitable habitat. The following species were deemed absent from the Project site: alkali-sink goldfields, brittlescale, calico monkeyflower, California alkali grass, California jewelflower, chaparral ragwort, Earlimart orache, Keck's checkerbloom, lesser saltscale, Lost Hill's crownscale, Madera leptosiphon, recurved larkspur, San Joaquin adobe sunburst, San Joaquin woollythreads, shining navarretia, spiny-sepaled button-celery, Springville clarkia, striped adobe-lily, subtle orache, and vernal pool smallscale. As explained in Table 2, all of the aforementioned plant species are absent from the Project area or unlikely to occur onsite, predominantly due to past and ongoing disturbance and/or the absence of suitable habitat. Therefore, the implementation of the Project will have no effect on individual plants or regional populations of these special status plant species. Mitigation measures are not warranted.

Project-Related Impacts to Riparian Habitat and Natural Communities of Special Concern

There are no CNDDB-designated "natural communities of special concern" recorded within the Project area or surrounding lands. Mitigation is not warranted.

Project-Related Impacts to Regulated Waters, Wetlands, and Water Quality.

Potential Waters of the United States riparian habitat, typical wetlands, vernal pools, lakes, or streams, and other sensitive natural communities were not observed onsite at the time of the biological survey. The nearest water source is the Friant-Kern Canal located to the east of the APE. Undoubtedly, some native wildlife species use the Project area in the absence of preferred habitat. However, because of the aforementioned disturbance and the presence of invasive species, the Project area represents relatively low-quality habitat for native plants and animals. Friant-Kern Canal is an artificial water features and is typically not regulated by USACE or RWQCB as a jurisdictional water.

Since construction will involve ground disturbance over an area greater than one acre, the Project proponent will be required to obtain a Construction General Permit under the Construction Storm Water Program administered by the RWQCB. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) to ensure construction activities do not adversely affect water quality.

Project-Related Impacts to Wildlife Movement Corridors and Native Wildlife Nursery Sites.

The Project area does not contain features that would be likely to function as wildlife movement corridors. Furthermore, the Project is located in a region often disturbed by human activities related to agricultural production which would discourage dispersal and migration. Therefore, the Project will have no impact on wildlife movement corridors, and no additional mitigation measures are necessary.

Project-Related Impacts to Critical Habitat.

Designated critical habitat is absent from the Project area and surrounding lands. Therefore, there will be no impact to critical habitat, and mitigation is not warranted.

Local Policies or Habitat Conservation Plans.

The Project appears to be consistent with the goals and policies of the Fresno County General Plan. There are no known habitat conservation plans (HCPs) or a natural Community Conservation Plan (NCCP) in the Project vicinity. Mitigation is not warranted.

IV. References

Baldwin, B., Goldman, D. H., Keil, D., Patterson, R., Rosatti, T., & Wilken, D. (2012). *The Jepson Manual; Vascular Plants of California, second edition.* Berkeley: University of California Press.

Calflora. (2019). Retrieved from Calflora: Information on California Plants for Education, Research and Conservation: http://www.calflora.org/ (Accessed April 2021).

California Department of Fish and Wildlife. (2012). *Staff Report on Burrowing Owl Mitigation.* (Accessed April 2021).

California Department of Fish and Wildlife. (2021, April). *California Natural Diversity Database*. (Accessed April 2021).

California Native Plant Society. (2019). Retrieved from Inventory of Rare and Endangered Vascular Plants of California: http://www.rareplants.cnps.org/ (Accessed April 2021).

DWR. (2021, April). Retrieved from Groundwater Basin Boundary Assessment Tool (BBAT): http://gis.water.ca.gov/app/bbat/ (Accessed April 2021).

eBird, Cornell Lab of Ornithology. (2019). Retrieved from eBird: An online database of bird distribution and abundance: https://ebird.org/ (Accessed April 2021).

EPA. (2021, April). Retrieved from Waters GeoViewer: https://www.epa.gov/waterdata/waters-geoviewer (Accessed April 2021).

Jepson Flora Project (eds.). (2019). Retrieved from Jepson eFlora: http://ucjeps.berkeley.edu/eflora/ (Accessed April 2021).

Nafis, G. (2019). Retrieved from CaliforniaHerps: A Guide to the Amphibians and Reptiles of California: http://www.californiaherps.com/ (Accessed April 2021).

National Wetlands Inventory (NWI) map. (2021). Retrieved from http://fws.gov/wetlands/Data/Mapper.html (Accessed April 2021).

NatureServe Explorer. (2021, April). *An Online Encyclopedia of Life*. Retrieved from http://explorer.natureserve.org/ (Accessed April 2021).

Shuford, W., & Gardali, T. (2008). *California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. .* Camarillo and Sacramento, CA: Western Field Ornithologists and California Department of Fish and Game.(Accessed April, 2021).

Smith, D., Ralls, K., Cypher, B., Clark Jr., H., Kelly, P., Williams, D., & Maldonado, J. (2006). Relative Abundance of Endangered San Joaquin Kit Foxes (Vulpes macrotis mutica) Based on Scat-detection Dog Surveys. *The Southwestern Naturalist 51 (2)*, 210-219.

Swainson's Hawk Technical Advisory Committee. (2000, May). Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley. CA: CDFW(Accessed April, 2021).

SWRCB. (2019, April 2). State Wetland Definition and Procedures for Discharge of Dredged or Fill Material to Waters of the State.(Accessed April, 2021)

The California Burrowing Owl Consortium. (1993). *Burrowing Owl Survey Protocol and Mitigation Guidelines (*Accessed April, 2021*).*

Tulare County. (2012, August). Tulare County General Plan: 2030 Update. Tulare County, CA.

United States Army Corps of Engineers. (1987). *Corps of Engineers Wetlands Delineation Manual.* Department of the Army. (Accessed April, 2021).

United States Department of Agriculture, Natural Recources Conservation Service. (2019). *The Plants Database*. Retrieved from http://plants.sc.egov.usda.gov/java/(Accessed April, 2021).

United States Department of Agriculture, Natural Resources Conservation Service. (2019). *Custom Soil Resources Report, California*. Retrieved from http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx (Accessed April, 2021).

United States Fish and Wildlife Service. (1998). *Recovery Plan for Upland Species of the San Joaquin Valley, California* (Accessed April, 2021).

United States Fish and Wildlife Service. (2017). *Recovery Plan for the Giant Garter Snake (Thamnophis gigas).* Sacramento: U.S. Fish and Wlidlife Service, Pacific Southwest Region (Accessed April, 2021).

United States Fish and Wildlife Service. (2019). *Environmental Conservation Online System (ECOS).* Retrieved from https://ecos.fws.gov/ecp/ (Accessed April, 2021).

United States Fish and Wildlife Service. (2019). *Information on Planning and Consultation (IPaC).* Retrieved from https://ecos.fws.gov/ipac/ (Accessed April, 2021).

Wilkerson, R., & Siegel, R. (2010). Assessing changes in the distribution and abundance of burrowing owls in California, 1993-2007. *Bird Populations*, 10:1-36. (Accessed April, 2021).

Appendix A: Study Area Photos

RENEWABLE RESOURCE GROUP

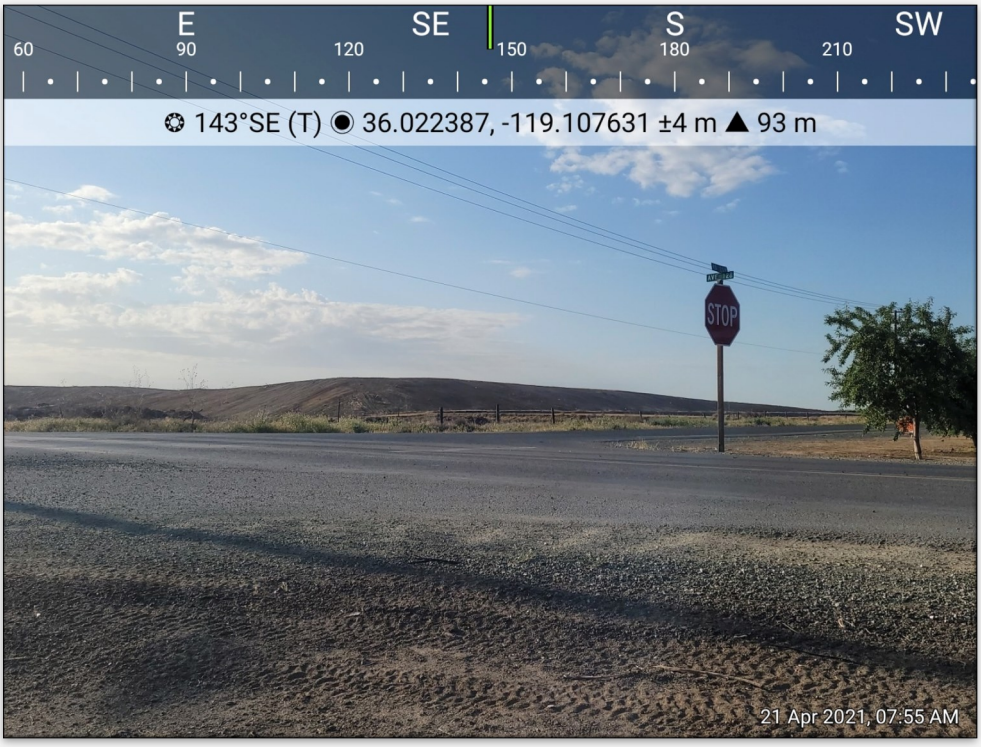
OLD DEER CREEK WATER BANK PROJECT

Photograph 1

Overview the Avenue 128 right of way and the adjacent orchards.

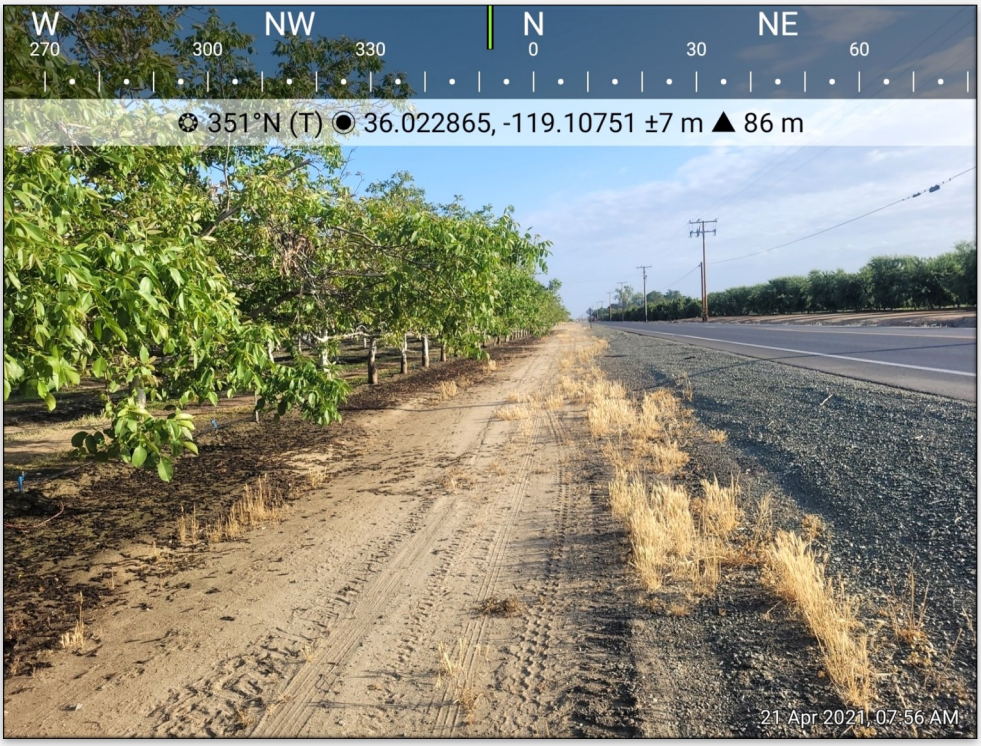
Photograph 2

Overview of a small burrow located on the Avenue 128 right of way.



Photograph 3

The intersection of Avenue 128 and Road 208. The Mid Valley Disposal Site is visible in the background.



Photograph 4

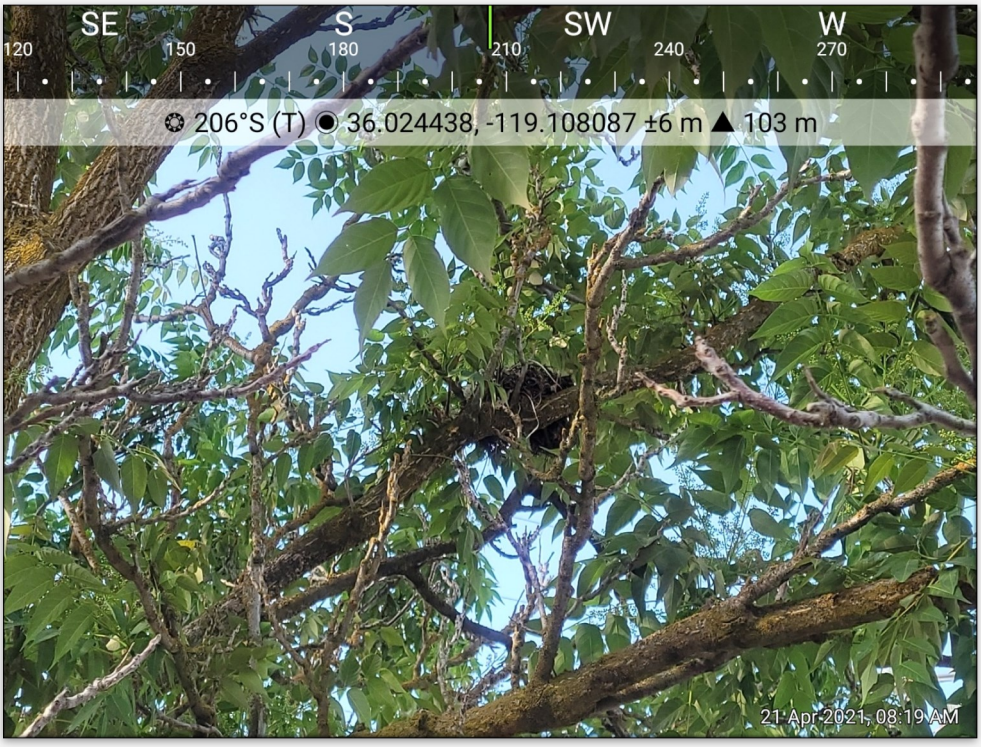
Overview of the Road 208 right of way and the adjacent orchards.

Photograph 5

Overview of a small area of standing water created by a leaking pipe.

Photograph 6

Overview of a burn pile within the fenced lot west of Road 208.



Photograph 7

Overview of a partially built robin nest within the fenced lot west of Road 208.

Photograph 8

Overview of a dirt path in-between orchards inside the APE north of Avenue 128.

Photograph 9

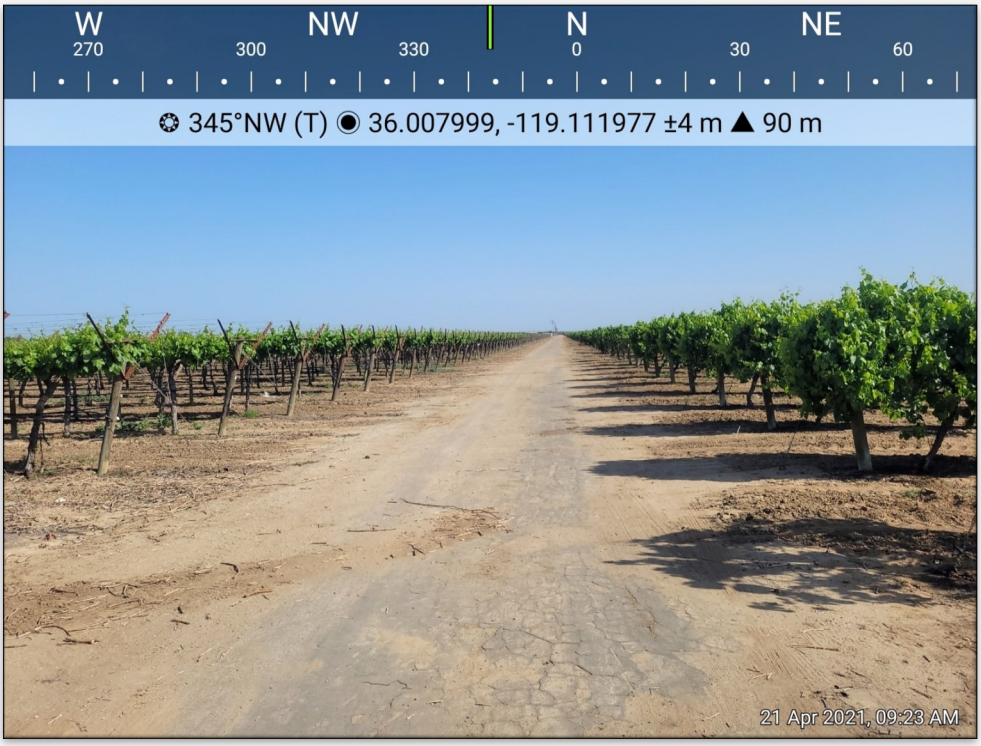
Overview a an actively burning pile and well pumping site north of Avenue 128.

Photograph 10

Overview of a fallow grape vineyard.

Photograph 11

Overview of the detention basin west of Road 206.



Photograph 12

Overview of grapevine yards located in-between Road 206 and Road 208.

Photograph 13

Overview of the residential lot located west of Road 208. Domestic dogs are visible in the front yard of the lot.

Photograph 14

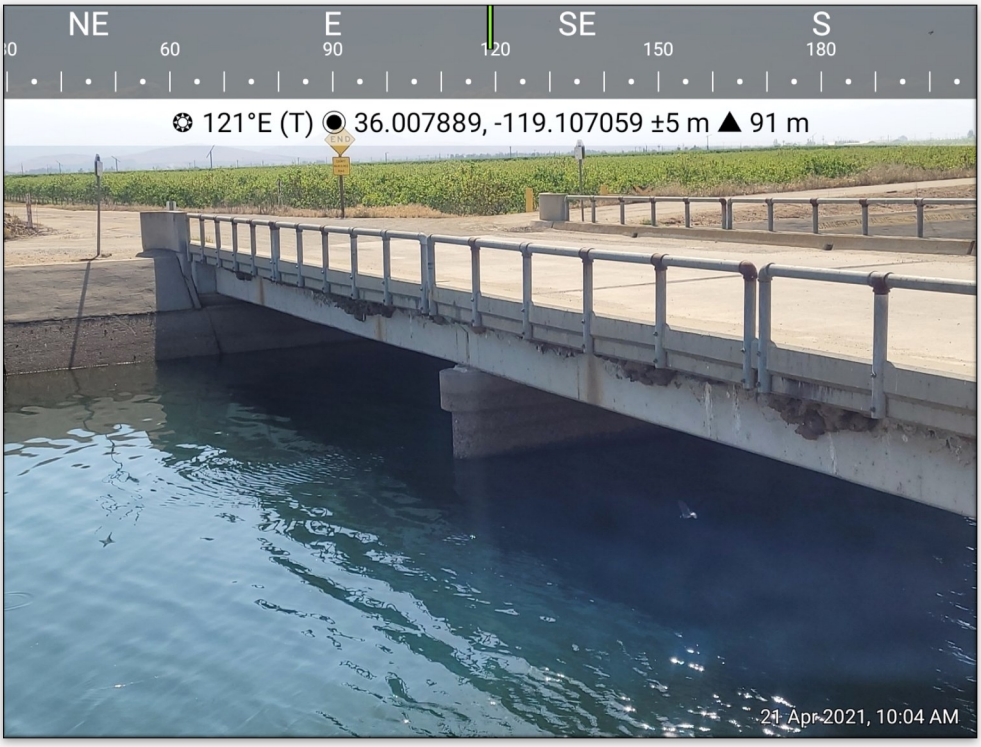
Overview of the solar farm located west of Road 208.

Photograph 15

Overview of the Saucelito Irrigation District office building.

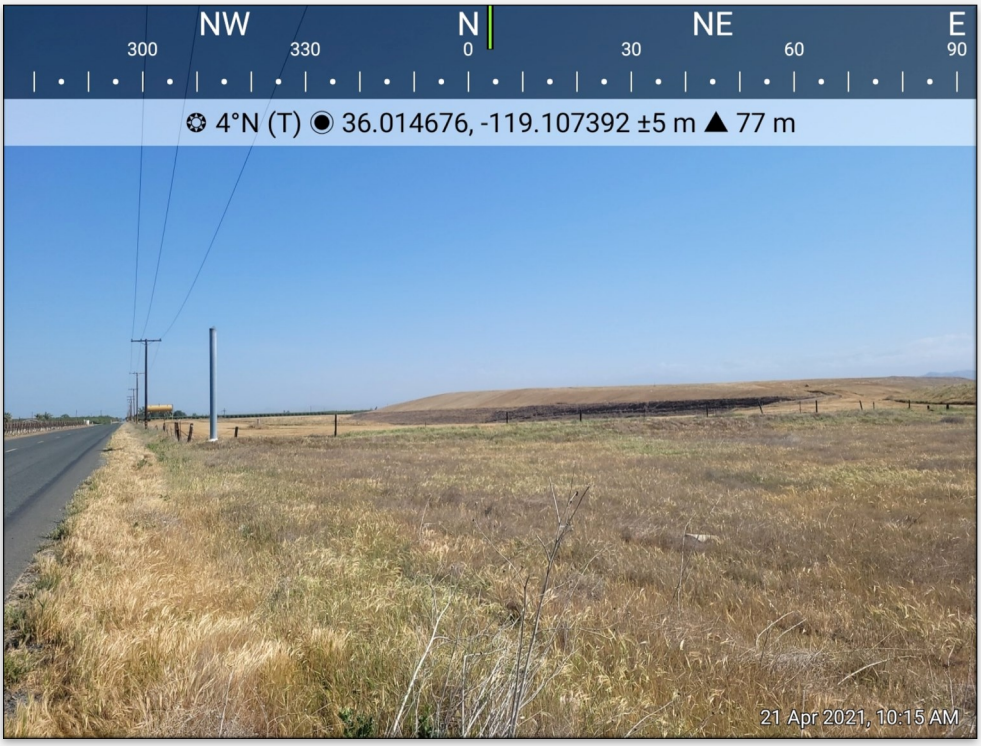
Photograph 16

Overview of the right of way located east of Road 208.



Photograph 17

Overview a bridge located on Avenue 120. Numerous active swallow nests are visible.



Photograph 18

Overview of the right of way located east of Road 208. The Mid Valley Disposal Site is visible in the background.

Photograph 19

Overview of the alignment located within the Mid Valley Disposal Site.

Photograph 20

Overview of the Mid Valley Disposal Site adjacent to the APE.

Appendix B: CNDDB Quad Search

RENEWABLE RESOURCE GROUP

OLD DEER CREEK WATER BANK PROJECT

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Porterville (3611911) OR Woodville (3611912) OR Sausalito School (3511982) OR Ducor (3511981) OR Fountain Springs (3511888) OR Success Dam (3611818) OR Frazier Valley (3611828) OR Lindsay (3611921) OR Cairns Corner (3611922))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
alkali-sink goldfields *Lasthenia chrysantha*	PDAST5L030	None	None	G2	S2	1B.1
American badger *Taxidea taxus*	AMAJF04010	None	None	G5	S3	SSC
blunt-nosed leopard lizard *Gambelia sila*	ARACF07010	Endangered	Endangered	G1	S1	FP
brittlescale *Atriplex depressa*	PDCHE042L0	None	None	G2	S2	1B.2
calico monkeyflower *Diplacus pictus*	PDSCR1B240	None	None	G2	S2	1B.2
California alkali grass *Puccinellia simplex*	PMPOA53110	None	None	G3	S2	1B.2
California condor *Gymnogyps californianus*	ABNKA03010	Endangered	Endangered	G1	S1	FP
California jewelflower *Caulanthus californicus*	PDBRA31010	Endangered	Endangered	G1	S1	1B.1
chaparral ragwort *Senecio aphanactis*	PDAST8H060	None	None	G3	S2	2B.2
Crotch bumble bee *Bombus crotchii*	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
Earlimart orache *Atriplex cordulata var. erecticaulis*	PDCHE042V0	None	None	G3T1	S1	1B.2
hoary bat *Lasiurus cinereus*	AMACC05030	None	None	G3G4	S4	
Hopping's blister beetle *Lytta hoppingi*	IICOL4C010	None	None	G1G2	S1S2	
Keck's checkerbloom *Sidalcea keckii*	PDMAL110D0	Endangered	None	G2	S2	1B.1
lesser saltscale *Atriplex minuscula*	PDCHE042M0	None	None	G2	S2	1B.1
Lost Hills crownscale *Atriplex coronata var. vallicola*	PDCHE04371	None	None	G4T3	S3	1B.2
Madera leptosiphon *Leptosiphon serrulatus*	PDPLM09130	None	None	G3	S3	1B.2
molestan blister beetle *Lytta molesta*	IICOL4C030	None	None	G2	S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Morrison's blister beetle *Lytta morrisoni*	IICOL4C040	None	None	G1G2	S1S2	
Northern California legless lizard *Anniella pulchra*	ARACC01020	None	None	G3	S3	SSC
Northern Claypan Vernal Pool *Northern Claypan Vernal Pool*	CTT44120CA	None	None	G1	S1.1	
pallid bat *Antrozous pallidus*	AMACC10010	None	None	G4	S3	SSC
recurved larkspur *Delphinium recurvatum*	PDRAN0B1J0	None	None	G2?	S2?	1B.2
San Joaquin adobe sunburst *Pseudobahia peirsonii*	PDAST7P030	Threatened	Endangered	G1	S1	1B.1
San Joaquin kit fox *Vulpes macrotis mutica*	AMAJA03041	Endangered	Threatened	G4T2	S2	
San Joaquin pocket mouse *Perognathus inornatus*	AMAFD01060	None	None	G2G3	S2S3	
San Joaquin woollythreads *Monolopia congdonii*	PDASTA8010	Endangered	None	G2	S2	1B.2
shining navarretia *Navarretia nigelliformis ssp. radians*	PDPLM0C0J2	None	None	G4T2	S2	1B.2
spiny-sepaled button-celery *Eryngium spinosepalum*	PDAPI0Z0Y0	None	None	G2	S2	1B.2
Springville clarkia *Clarkia springvillensis*	PDONA05120	Threatened	Endangered	G2	S2	1B.2
striped adobe-lily *Fritillaria striata*	PMLIL0V0K0	None	Threatened	G1	S1	1B.1
subtle orache *Atriplex subtilis*	PDCHE042T0	None	None	G1	S1	1B.2
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S3	
Sycamore Alluvial Woodland *Sycamore Alluvial Woodland*	CTT62100CA	None	None	G1	S1.1	
Tipton kangaroo rat *Dipodomys nitratoides nitratoides*	AMAFD03152	Endangered	Endangered	G3T1T2	S1S2	
Townsend's big-eared bat *Corynorhinus townsendii*	AMACC08010	None	None	G4	S2	SSC
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	IICOL48011	Threatened	None	G3T2	S3	
vernal pool fairy shrimp *Branchinecta lynchi*	ICBRA03030	Threatened	None	G3	S3	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
vernal pool smallscale *Atriplex persistens*	PDCHE042P0	None	None	G2	S2	1B.2
western mastiff bat *Eumops perotis californicus*	AMACD02011	None	None	G4G5T4	S3S4	SSC
western spadefoot *Spea hammondii*	AAABF02020	None	None	G2G3	S3	SSC

Record Count: 42

Appendix C: NRCS Soils Report

RENEWABLE RESOURCE GROUP

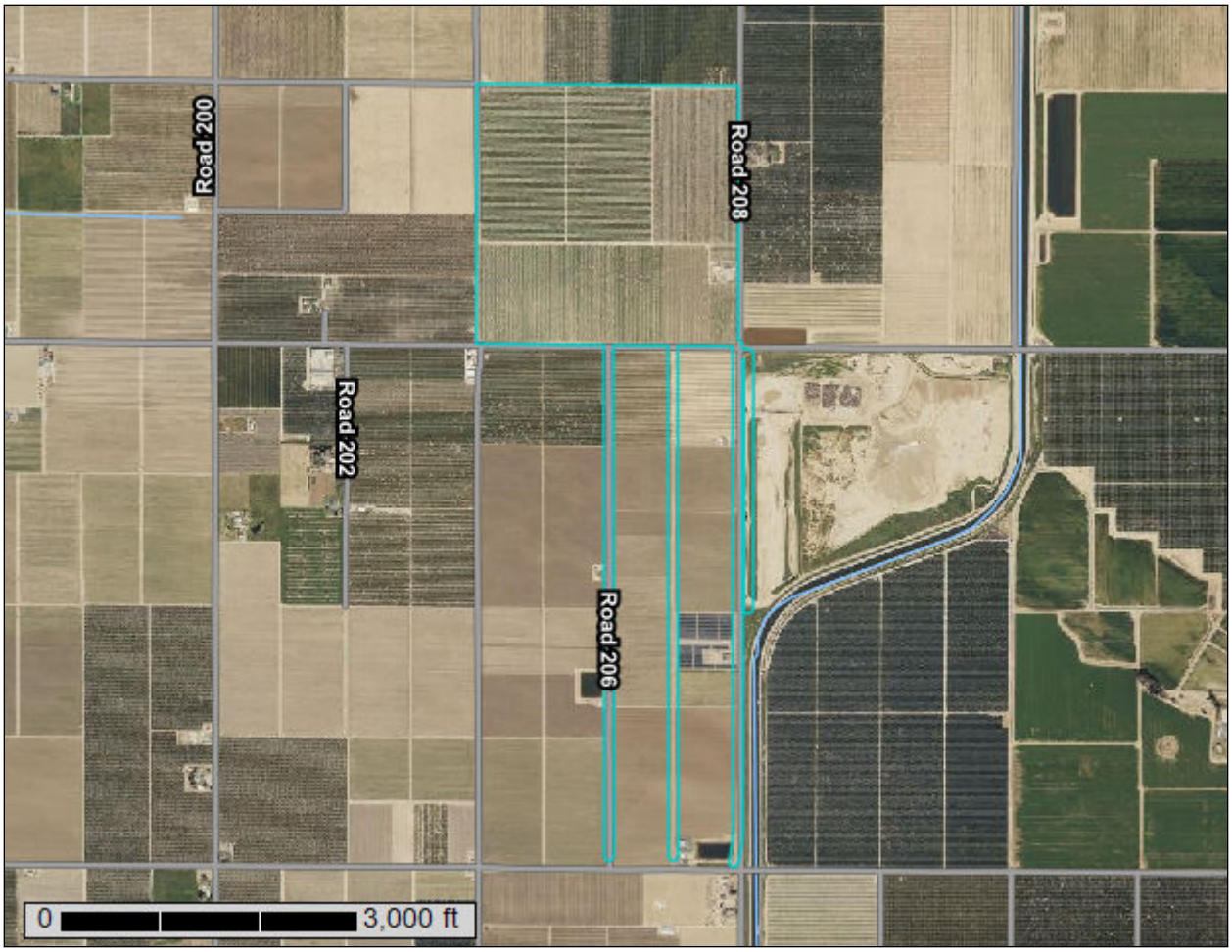
OLD DEER CREEK WATER BANK PROJECT

United States Department of Agriculture

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Tulare County, Western Part, California



April 20, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface.....2
How Soil Surveys Are Made.....5
Soil Map.....8
Soil Map.....9
Legend.....10
Map Unit Legend.....11
Map Unit Descriptions.....11
Tulare County, Western Part, California.....13
112—Dumps.....13
114—Exeter loam, 0 to 2 percent slopes.....13
116—Flamen loam, 0 to 2 percent slopes.....14
130—Nord fine sandy loam, 0 to 2 percent slopes.....16
138—Tujunga loamy sand, 0 to 2 percent slopes.....18
References.....20

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

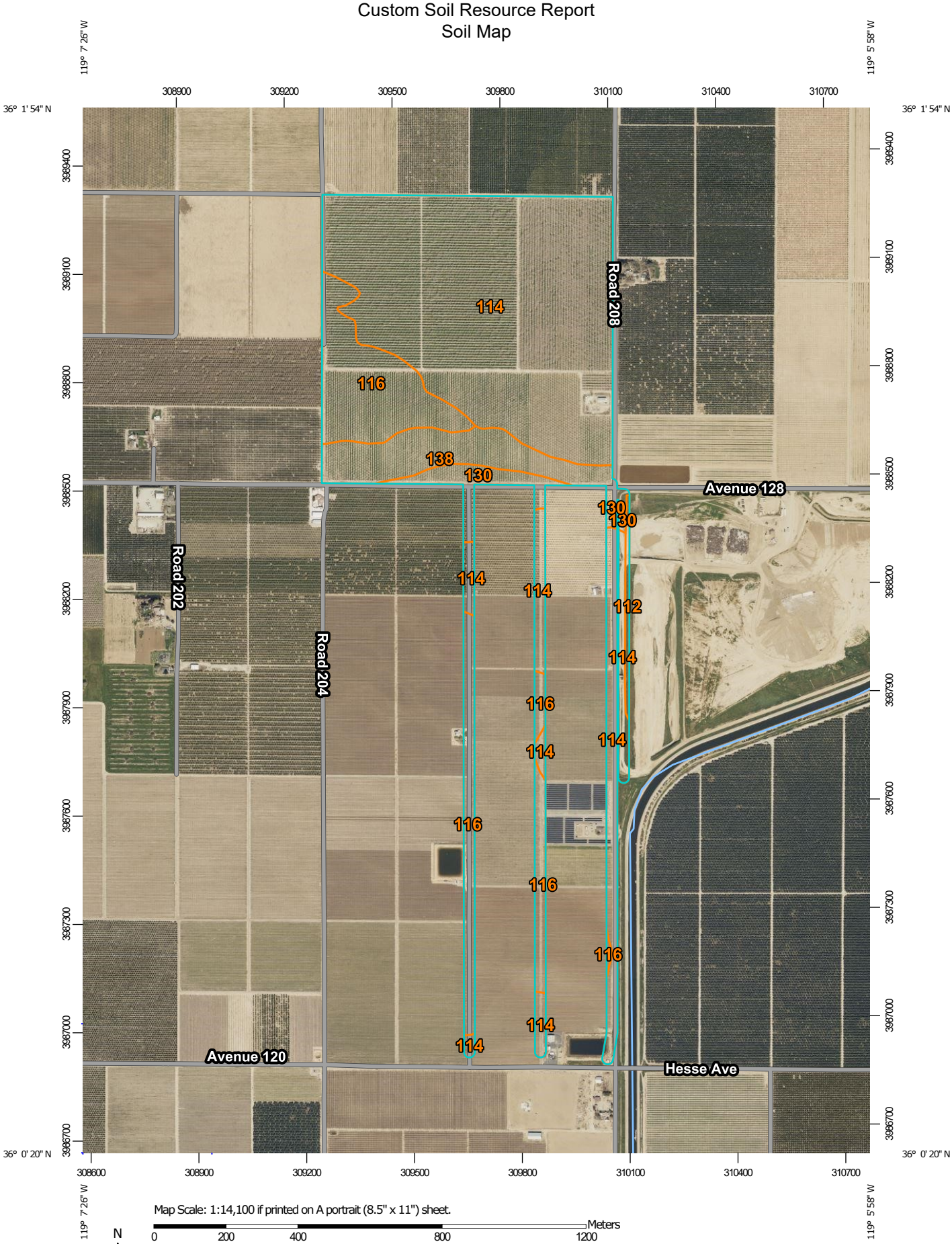
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Tulare County, Western Part, California
Survey Area Data: Version 14, May 29, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 17, 2019—Mar 24, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
112	Dumps	1.7	0.8%
114	Exeter loam, 0 to 2 percent slopes	135.8	67.1%
116	Flamen loam, 0 to 2 percent slopes	38.1	18.8%
130	Nord fine sandy loam, 0 to 2 percent slopes	7.0	3.5%
138	Tujunga loamy sand, 0 to 2 percent slopes	19.8	9.8%
Totals for Area of Interest		**202.4**	**100.0%**

Map Unit Descriptions

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, 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.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Tulare County, Western Part, California

112—Dumps

Map Unit Composition

Dumps: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dumps

Setting

Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

114—Exeter loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hp4j
Elevation: 250 to 570 feet
Mean annual precipitation: 8 to 12 inches
Mean annual air temperature: 63 to 64 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Exeter, 0-2% slopes, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Exeter, 0-2% Slopes

Setting

Landform: Fan remnants
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granitic rock sources

Typical profile

Ap - 0 to 9 inches: loam
Bt1 - 9 to 26 inches: sandy clay loam
Bt2 - 26 to 28 inches: clay loam
Btqm - 28 to 46 inches: indurated
2Bt - 46 to 72 inches: stratified very gravelly loamy coarse sand to gravelly loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 20 to 40 inches to duripan
Drainage class: Moderately well drained
Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.01 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Very rare
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Low (about 4.4 inches)

Interpretive groups
Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Hanford
Percent of map unit: 4 percent
Landform: Flood plains, alluvial fans
Hydric soil rating: No

Colpien
Percent of map unit: 3 percent
Landform: Fan remnants
Hydric soil rating: No

San joaquin
Percent of map unit: 3 percent
Landform: Fan remnants
Hydric soil rating: No

Calgro
Percent of map unit: 2 percent
Landform: Fan remnants
Hydric soil rating: No

Quonal
Percent of map unit: 2 percent
Landform: Fan remnants
Hydric soil rating: No

Unnamed, ponded
Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

116—Flamen loam, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: hp4l
Elevation: 260 to 550 feet

Mean annual precipitation: 8 to 12 inches
Mean annual air temperature: 63 to 64 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Flamen and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Flamen

Setting

Landform: Fan remnants
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granitic rock sources

Typical profile

Ap1 - 0 to 17 inches: loam
Ap2 - 17 to 28 inches: loam
Btk - 28 to 43 inches: loam
2Btkqm - 43 to 72 inches: cemented

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 40 to 60 inches to duripan
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Very rare
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 12.0
Available water capacity: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Exeter

Percent of map unit: 3 percent
Landform: Fan remnants
Hydric soil rating: No

San joaquin

Percent of map unit: 3 percent

Landform: Fan remnants
Hydric soil rating: No

Calgro
Percent of map unit: 2 percent
Landform: Fan remnants
Hydric soil rating: No

Centerville
Percent of map unit: 2 percent
Landform: Fan remnants
Hydric soil rating: No

Hanford
Percent of map unit: 2 percent
Landform: Flood plains, alluvial fans
Hydric soil rating: No

Colpien
Percent of map unit: 2 percent
Landform: Fan remnants
Hydric soil rating: No

Unnamed, ponded
Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

130—Nord fine sandy loam, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: hp51
Elevation: 190 to 520 feet
Mean annual precipitation: 8 to 12 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 250 to 275 days
Farmland classification: Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition
Nord and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nord

Setting
Landform: Flood plains, alluvial fans
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear, convex

Parent material: Alluvium derived from mixed

Typical profile

Ap - 0 to 11 inches: fine sandy loam
C1 - 11 to 38 inches: stratified sandy loam to loam
C2 - 38 to 50 inches: stratified loamy coarse sand to coarse sandy loam
2Btb - 50 to 72 inches: stratified sandy loam to silt loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches; More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Very rare
Frequency of ponding: None
Calcium carbonate, maximum content: 4 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water capacity: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Hanford

Percent of map unit: 3 percent
Landform: Flood plains, alluvial fans
Hydric soil rating: No

Grangeville, saline-sodic

Percent of map unit: 3 percent
Landform: Flood plains, alluvial fans
Hydric soil rating: Yes

Tujunga

Percent of map unit: 3 percent
Landform: Flood plains
Hydric soil rating: No

Akers

Percent of map unit: 2 percent
Landform: Fan remnants
Hydric soil rating: No

Tagus

Percent of map unit: 2 percent
Landform: Fan remnants
Hydric soil rating: No

Colpien

Percent of map unit: 2 percent
Landform: Fan remnants

Hydric soil rating: No

138—Tujunga loamy sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hp59
Elevation: 210 to 520 feet
Mean annual precipitation: 10 to 12 inches
Mean annual air temperature: 63 to 64 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Tujunga and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tujunga

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

Ap - 0 to 14 inches: loamy sand
C - 14 to 70 inches: stratified coarse sand to loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water capacity: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Grangeville

Percent of map unit: 5 percent
Landform: Flood plains, alluvial fans
Hydric soil rating: Yes

Yettem

Percent of map unit: 4 percent
Landform: Flood plains, alluvial fans
Hydric soil rating: No

Akers, saline-sodic

Percent of map unit: 3 percent
Landform: Fan remnants
Hydric soil rating: No

Akers

Percent of map unit: 3 percent
Landform: Fan remnants
Hydric soil rating: No

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Appendix C

Phase I Cultural Resources Survey

Draft

PHASE I CULTURAL RESOURCES SURVEY, BEHL PROJECT, TULARE COUNTY, CALIFORNIA

Prepared for:

Ms. Amy Wilson
Provost & Pritchard Consulting Group
130 N. Garden Street
Visalia, California 93291-6362

Prepared by:

David S. Whitley, Ph.D., RPA
Principal Investigator

and

Sherri Andrews, M.A., J.D., RPA
Director

ASM Affiliates
20424 W. Valley Blvd., Suite A
Tehachapi, California 93561

May 2021
PN 36510.01

TABLE OF CONTENTS

Chapter **Page**

MANAGEMENT SUMMARY ..... **iii**

1. INTRODUCTION AND REGULATORY CONTEXT **1**

2. ENVIRONMENTAL AND CULTURAL BACKGROUND **5**

2.1 ENVIRONMENTAL BACKGROUND 5
2.2 GEOARCHAEOLOGICAL CONTEXT 5
2.3 ETHNOGRAPHIC CONTEXT 9
2.4 PRE-CONTACT ARCHAEOLOGICAL BACKGROUND 10
2.5 HISTORIC CONTEXT 13

3. ARCHIVAL RECORDS SEARCH **17**

4. METHODS AND RESULTS **19**

4.1 SURVEY RESULTS 19

5. SUMMARY AND RECOMMENDATIONS **25**

5.1 RECOMMENDATIONS 25

REFERENCES **27**

CONFIDENTIAL APPENDICES **33**

LIST OF FIGURES

Page

Figure 1. Location of the Behl Project study area, Tulare County, California. 5
Figure 2a. Overview of proposed basin area, looking west 7
Figure 2b. Overview of east corridor, looking south 7
Figure 2c. Overview of middle corridor, looking north..... 8
Figure 2d. Overview of west corridor, looking south 8

LIST OF TABLES

Page

Table 1. Survey reports within the study area..... 17
Table 2. Survey reports within 0.5 mile of the study area. 17
Table 3. Resources within 0.5 mile of the study area. 18

MANAGEMENT SUMMARY

A Phase I cultural resources survey was conducted for the Behl Project, southwest of Porterville, Tulare County, California. This study was conducted by ASM Affiliates, Inc. (ASM) with David S. Whitley, Ph.D., RPA, serving as principal investigator. Background studies and fieldwork for the survey were completed in March and April 2021. The study was undertaken to provide compliance with the California Environmental Quality Act (CEQA).

The proposed Project consists of the creation of a water bank with two pipeline connections. The Project study area was defined as all areas of potential ground-surface disturbance, comprising the proposed water banking basin and three north-south pipeline routes branching to the south of the parcel, one of which is an alternative route. The area surveyed for the current study totaled approximately 172 acres (ac).

A records search of available site files and maps was conducted on March 1, 2021, by staff at the Southern San Joaquin Valley Archaeological Information Center (SSJVIC), California State University, Bakersfield. The SSJVIC search indicated that while three previous projects had been conducted adjacent to or encompassing a very small portion of the Project, the majority of the Project had not been previously surveyed and no cultural resources had been previously documented within it. Two other previous archaeological surveys had been completed within 0.5 mile of the study area; two cultural resources, both irrigation canals, have been documented within the search radius.

A search of the Native American Heritage Commission (NAHC) Sacred Lands File was completed on March 11, 2021. Based on the NAHC records, no sacred sites or traditional cultural places had been identified within or adjacent to the Project study area. Outreach letters were sent on March 17, 2021 with follow-up emails sent subsequently to tribal organizations on the contact list provided by the NAHC. No concerns regarding the Project have been received to date from any of the contacted tribes.

The Phase I survey fieldwork was conducted on April 15, 2021, by a crew of four archaeologists walking transects spaced approximately 15 meters (m) apart.

No cultural resources of any kind were identified within the Project study area during the Phase I survey. Based on these findings, the proposed Project does not have the potential to result in adverse impacts to historical resources as defined by CEQA, and no additional archaeological work is recommended.

1. INTRODUCTION AND REGULATORY CONTEXT

ASM was retained by Provost & Pritchard Consulting Group to conduct a Phase I cultural resources survey for the Behl Project, southwest of Porterville, Tulare County, California. The purpose of this investigation was to assist with CEQA compliance. The investigation was undertaken, specifically, to ensure that no significant adverse effects or impacts to historical resources as defined by CEQA may occur as a result of the construction of this Project.

This current study included:

- A background records search and literature review to determine whether the study area had previously been systematically surveyed and/or if any known cultural resources were previously documented within it;
- A search of the Sacred Lands File held by the NAHC to determine if any traditional cultural places or cultural landscapes have been identified within the area with outreach letters sent and follow-up calls made to the NAHC tribal contact list;
- An on-foot, intensive inventory of the Project study area to identify and record previously undiscovered cultural resources and to examine known sites; and
- A preliminary assessment of any such resources found within the subject property.

This study was conducted by ASM's Tehachapi office with David S. Whitley, Ph.D., RPA, serving as principal investigator. Fieldwork was led by ASM Associate Archaeologist Robert Azpitarte, B.A.

This manuscript constitutes a report on the Phase I survey. Subsequent chapters provide background to the investigation including historic context studies, the findings of the archival records searches, a summary of the field survey techniques employed, the results of the fieldwork, and management recommendations.

1.1 PROJECT LOCATION

The Project lies about 4 miles (mi) southwest of Porterville within the San Joaquin Valley. The main Project area, the proposed basin, encompasses much of the southeast quarter of Section 12 and portions of the east half of Section 13, Township 22 South, Range 26 East, and Township 22 South, Range 27 East, as well as a small strip along the west edge of the northwest quarter of Section 18, Township 22 South, Range 27 East, Mount Diablo Base and Meridian, as illustrated on the USGS Porterville, California 7.5-minute topographic quadrangle (Figure 1). The Project lies just west of the Friant-Kern Canal. Its elevation is roughly 390 to 395 feet (ft.) above mean sea level (amsl) across the Project study area.

The proposed basin location is bounded on the east by Rockford Road and is surrounded by additional agricultural orchards and fields, private residential properties, irrigation structures, and the Mid Valley Disposal Site along the eastern boundary. The southern terminus of the three potential pipeline corridors is Hesse Avenue.

1.2 PROJECT DESCRIPTION

Renewable Resources Group, LLC (RRG) is in the process of purchasing approximately 158 acres (ac) of land and is proposing to develop a water bank with two pipeline connections. The land is within the Saucelito Irrigation District (SID), and must comply with the district's Policy Principles for SID Groundwater Banking Program (Banking Policy). The Banking Policy requires preparation of a Facility Report to describe the proposed Project and form the basis for a CEQA Project Description. The project involves 158-ac of permanent recharge basins, and conveyance from local district supply sources. Recovery to other landowners will only be via exchange or in-ground transfer. No recovery from wells is planned. Three additional potential pipeline corridors are approximately 1-mi in length and were surveyed with a 100 feet (ft) wide corridor, resulting in a total study area of 172-ac (see Figure 1).

1.3 REGULATORY CONTEXT

1.3.1 California Environmental Quality Act

CEQA is applicable to discretionary actions by state or local lead agencies. Under CEQA, lead agencies must analyze impacts to cultural resources. Significant impacts under CEQA occur when "historically significant" or "unique" cultural resources are adversely impacted, which occurs when such resources could be altered or destroyed through project implementation. Historically significant cultural resources are defined by eligibility for or by listing in the California Register of Historical Resources (CRHR). In practice, the federal NRHP criteria for significance applied under Section 106 are generally (although not entirely) consistent with CRHR criteria (see PRC § 5024.1, Title 14 CCR, Sections § 4852 and § 15064.5(a)(3)).

Significant cultural resources are those archaeological resources and historical properties that:

(A) Are associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(B) Are associated with the lives of persons important in our past;

(C) Embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values; or

(D) Have yielded, or may be likely to yield, information important in prehistory or history.

Unique resources under CEQA, in slight contrast, are those that represent:

> an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:
>
> (1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
>
> (2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.

(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person (PRC § 21083.2(g)).

Preservation in place is the preferred approach under CEQA to mitigating adverse impacts to significant or unique cultural resources.

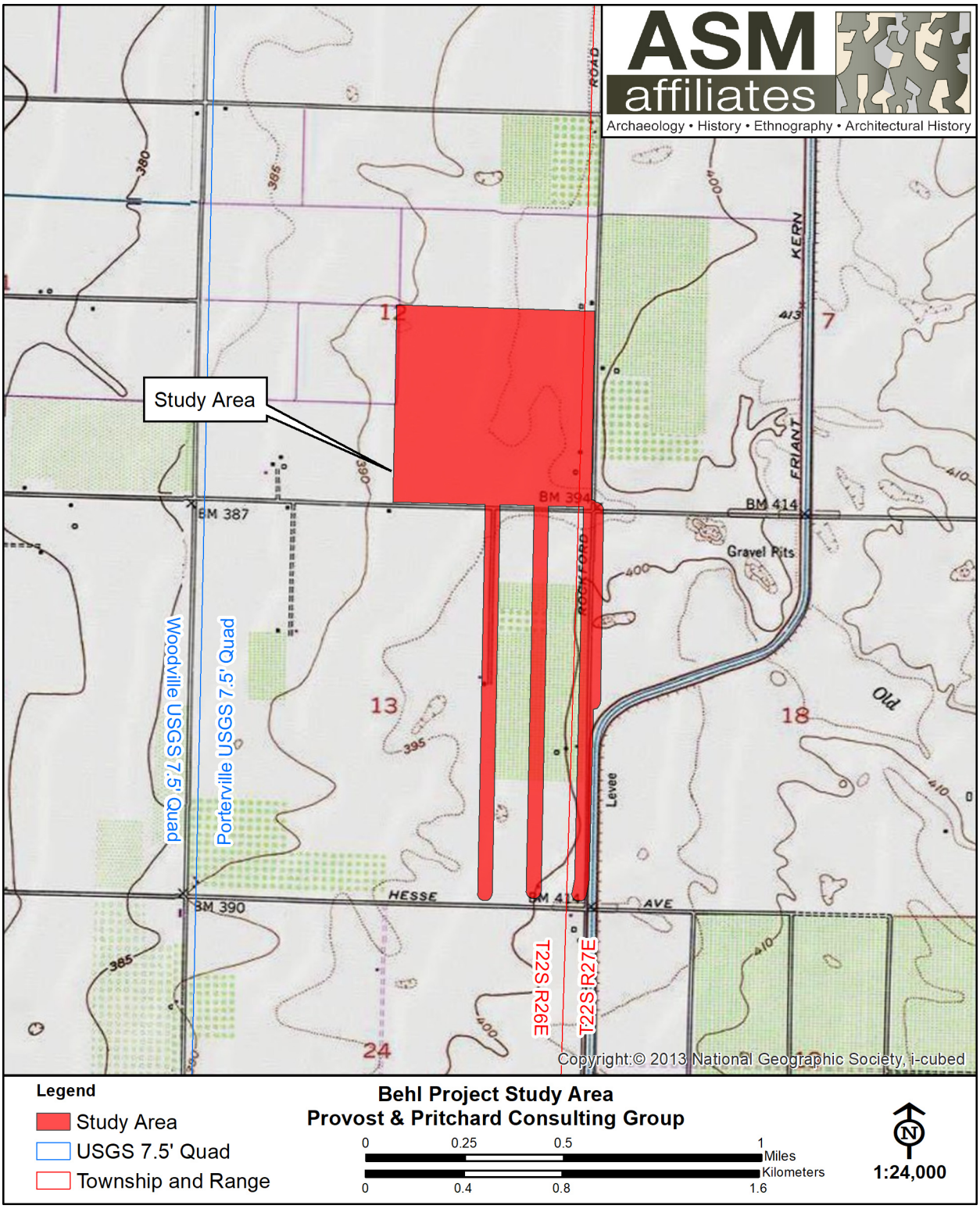


Figure 1. Location of the Behl Project study area, Tulare County, California.

2. ENVIRONMENTAL AND CULTURAL BACKGROUND

2.1 ENVIRONMENTAL BACKGROUND

At the time of the Phase I survey, the study area consisted of established orchards (Figures 2a-2d). Although this location currently may be characterized as a dry open valley bottom, historically it may have included swampy lands, lying roughly 19 mi. east of the historical Tule Lake shoreline, and dry valley grassland with possible oak groves. Prior to changes resulting from the agricultural development of the area, Deer Creek, located approximately 3 mi. south of the study area, was an effective divide between mesic environments to the north and more xeric environments to the south (Preston 1981:80). Lying to the north of Deer Creek, the Project study area would have been on the wetter side of the Deer Creek alluvial fan. Deer Creek and White River, another drainage approximately 1.9-mi south, may have been occasionally inundated by floodwaters during heavy spring snowmelt, but in most years these drainages would have been perennial in their upper reaches and intermittent lower on their courses (Preston 1981:17).

Historical and recent land-use has thus changed the vegetation that was once present within and near the Project study area. Prior to development, oak groves and valley grasslands would have dominated (Preston 1981:70). However, it is likely that Riparian Woodlands were once found along local drainages, including along Deer Creek and White River (see Schoenherr 1992).

2.2 GEOARCHAEOLOGICAL CONTEXT

The project is located on the San Joaquin Valley flats, a deep basin that has been filled primarily with sediment originating in the Sierra Nevada to the east. More accurately, the project is located on the Deer Creek alluvial fan, which itself is broad and, in the immediate project area, gentle in slope. Preston (1981:17) describes the geomorphological and hydrological setting as follows:

> "The lower distributaries and sloughs are barely deep enough to contain ordinary spring run-off, and localized flooding occurs annually. White River and Deer Creek are smaller still. Like the Tule [River], both are downcutting in their upper reaches, and both are barely perennial even in the foothills. White River and Deer Creek ordinarily disappear underground within ten to twelve miles of their entry into the basin, even during springtime, but occasional floods have carried their waters to Tulare Lake. The fans deposited by these streams are steeper than the Tule River fan."

The implications are, first, that the project area historically and prehistorically was a dynamic geomorphological environment, at least periodically, due to seasonal flooding. No records are known that allow us to estimate the impact this flooding may have had on the landscape but, due to changing climatic conditions prehistorically, this is likely to have varied over time, with greater dynamism occurring during wetter periods. The existing topography in the general region, however, provides some indication of how the landscape has been changed by seasonal flooding

events. The 1892 "Thompson Map of Tulare County" shows the "Old Channel" of Deer Creek heading north from the current stream channel, creating what appears to have been an oxbow, to the east of the project area. The "Old Channel" is still shown on current USGS topographical quadrangles, and it apparently has not carried water for over a century. At some point in the past the stream straightened its course and eliminated this earlier, meandering course, suggesting that relatively recent hydrological events have been of sufficient magnitude to move the channel southwards to its current location. The course of the river, in other words, has been historically unstable, indicating that the current land-surface is youthful in age.

Second, this occasional flooding has sporadically inundated the area, depositing alluvial soils. Storie et al. (1942) characterize the Deer Creek region, in fact, as an outwash plain and describe the deposited soils as recent (and pedologically-undeveloped) sandy loam or fine sandy loam with permeable subsoils.

Third, while occasional flooding along Deer Creek has blanketed the area with alluvium, surface water was only present sporadically—during floods. As noted by Storie et al (1942:3), normal surface flows along Deer Creek effectively ended at Terra Bella, east of the study area.

Fourth, due to the limitations the lack of surface water had on prehistoric and historic human settlement, it is unlikely that the project area experienced more than sporadic human use prior to the Euro-American period. Earlier use most likely consisted of occasional hunting and gathering but not inhabitation. This supposition is supported by the distribution of known ethnographic villages, the closest of which was the Koyete Yokuts hamlet of *Chetetik Nowsuh* (Latta 1977:196). This is located on Deer Creek miles northeast of the project, near where the creek exits the foothills. Other ethnographic villages likewise are located primarily on streams near the foothills, or along the shores of Tulare Lake.

A Caltrans geoarchaeological study that included the Project area classified this location as having Moderate sensitivity for subsurface sites (Meyer et al. 2010). This study involved first determining the location and ages of late Pleistocene (>25,000 years old) landforms in the southern San Joaquin Valley. These were identified by combining a synthesis of 2,400 published paleontological, soils and archaeological chronometric dates with geoarchaeological field testing. The ages of surface landforms were then mapped to provide an assessment for the potential for buried archaeological deposits. These ages were derived primarily from the Soil Survey Geographic Database (SSURGO) and the State Soils Geographic (STATSGO) database. A series of maps were created from this information that ranked locations in 7 ordinal classes for sensitivity for buried soils, from Very Low to Very High. Given the Project area's moderate sensitivity for buried deposits according to this analysis, its distance from known centers of prehistoric occupation, and the previously disturbed nature of the location, overall it is unlikely that the Project APE would contain subsurface archaeological deposits.

Based on these factors and conditions, the Project study area is considered to have a low to moderate archaeological sensitivity, with limited potential for subsurface archaeological remains.

Figure 2a. Overview of proposed basin area, looking west.

Figure 2b. Overview of east corridor, looking south.

Figure 2c. Overview of middle corridor, looking north.

Figure 2d. Overview of west corridor, looking south.

2.3 ETHNOGRAPHIC CONTEXT

Penutian-speaking Yokuts tribal groups occupied the southern San Joaquin Valley region and much of the nearby Sierra Nevada. Ethnographic information about the Yokuts was collected primarily by Powers (1971, 1976 [originally 1877]), Kroeber (1925), Gayton (1930, 1948), Driver (1937), Latta (1977) and Harrington (n.d.). For a variety of historical reasons, existing research information emphasizes the central Yokuts tribes who occupied both the valley and particularly the foothills of the Sierra. The northernmost tribes suffered from the influx of Euro-Americans during the Gold Rush and their populations were in substantial decline by the time ethnographic studies began in the early twentieth century. In contrast, the southernmost tribes were partially removed by the Spanish to missions and eventually absorbed into multi-tribal communities on the Sebastian Indian Reservation (on Tejon Ranch), and later the Tule River Reservation and Santa Rosa Rancheria to the north. The result is an unfortunate scarcity of ethnographic detail on southern Valley tribes, especially in relation to the rich information collected from the central foothills tribes where native speakers of the Yokuts dialects are still found. Regardless, the general details of indigenous life-ways were similar across the broad expanse of Yokuts territory, particularly in terms of environmentally influenced subsistence and adaptation and with regard to religion and belief, which were similar everywhere.

This scarcity of specific detail is particularly apparent in terms of southern valley tribal group distribution. Kroeber (1925) places the western extent of the Deer Creek area in Wowol territory, with the closest listed village at Porterville, and the eastern portion of Deer Creek and White River at the foothills, near the Project area, in Koyeti territory. Latta (1977:195-196) also places the Project area with the Koyete (Koyeti in Kroeber [1925]). As noted above, he identifies the closest Koyete village as *Chetetik Nowsuh*, near Terra Bella, northeast of the Project area.

Regardless of tribal affiliation, historical village distribution was similar across the region. Winter villages were typically located along lakeshores and major stream courses (as these existed circa AD 1800), with dispersal phase family camps located at elevated spots on the valley floor and near gathering areas in the foothills.

Most Yokuts groups, regardless of specific tribal affiliation, were organized as a recognized and distinct tribelet; a circumstance that almost certainly pertained to the tribal groups noted above. Tribelets were land-owning groups organized around a central village and linked by shared territory and descent from a common ancestor. The population of most tribelets ranged from about 150 to 500 peoples (Kroeber 1925).

Each tribelet was headed by a chief who was assisted by a variety of assistants, the most important of whom was the *winatum*, a herald or messenger and assistant chief. A shaman also served as religious officer. While shamans did not have any direct political authority, as Gayton (1930) has illustrated, they maintained substantial influence within their tribelet.

Shamanism is a religious system common to most Native American tribes. It involves a direct and personal relationship between the individual and the supernatural world enacted by entering a trance or hallucinatory state (usually based on the ingestion of psychotropic plants, such as jimsonweed or more typically native tobacco). Shamans were considered individuals with an

unusual degree of supernatural power, serving as healers or curers, diviners, and controllers of natural phenomena (such as rain or thunder). Shamans also produced the rock art of this region, depicting the visions they experienced in vision quests believed to represent their spirit helpers and events in the supernatural realm (Whitley 1992, 2000).

The centrality of shamanism to the religious and spiritual life of the Yokuts was demonstrated by the role of shamans in the yearly ceremonial round. The ritual round, performed the same each year, started in the spring with the jimsonweed ceremony, followed by rattlesnake dance and (where appropriate) first salmon ceremony. After returning from seed camps, fall rituals began in the late summer with the mourning ceremony, followed by first seed and acorn rites and then bear dance (Gayton 1930:379). In each case, shamans served as ceremonial officials responsible for specific dances involving a display of their supernatural powers (Kroeber 1925).

Subsistence practices varied from tribelet to tribelet based on the environment of residence. Throughout Native California, and Yokuts territory in general, the acorn was a primary dietary component, along with a variety of gathered seeds. Valley tribes augmented this resource with lacustrine and riverine foods, especially fish and wildfowl. As with many Native California tribes, the settlement and subsistence rounds included the winter aggregation into a few large villages, where stored resources (like acorns) served as staples, followed by dispersal into smaller camps, often occupied by extended families, where seasonally available resources would be gathered and consumed.

Although population estimates vary and population size was greatly affected by the introduction of Euro-American diseases and social disruption, the Yokuts were one of the largest, most successful groups in Native California. Cook (1978) estimates that the Yokuts region contained 27 percent of the aboriginal population in the state at the time of contact; other estimates are even higher. Many Yokuts continue to live in Tulare, Fresno and Kings counties to this day.

2.4 PRE-CONTACT ARCHAEOLOGICAL BACKGROUND

The San Joaquin Valley region has received minimal archaeological attention compared to other areas of the state. In part, this is because the majority of California archaeological work has concentrated in the Sacramento Delta, Santa Barbara Channel and central Mojave Desert areas (see Moratto 1984). Although knowledge of the region's prehistory is limited, enough is known to determine that the archaeological record is broadly similar to south-central California as a whole (see Gifford and Schenk 1926; Hewes 1941; Wedel 1941; Fenenga 1952; Elsasser 1962; Fredrickson and Grossman 1977; Schiffman and Garfinkel 1981). Based on these sources, the general prehistory of the region can be outlined as follows.

Initial occupation of the region occurred at least as early as the *Paleoindian Period*, or prior to about 10,000 YBP (years before present). Evidence of early use of the region is indicated by characteristic fluted and stemmed points found around the margin of Tulare Lake, in the foothills of the Sierra, and in the Mojave Desert proper. (In each case, these are locations many miles distant from the study area.)

Both fluted and stemmed points are particularly common around the Tulare Lake margins, suggesting a terminal Pleistocene/early Holocene lakeshore adaptation similar to that found throughout the far west at the same time; little else is known about these earliest peoples. Over 250 fluted points have been recovered from the Witt Site (CA-KIN-32), located along the western shoreline of ancient Tulare Lake west of the Project APE, demonstrating the importance of this early occupation in the San Joaquin Valley specifically (see Fenenga 1993). Additional finds consist of a Clovis-like projectile point discovered in a flash-flood cut-bank near White Oak Lodge in 1953 on Tejon Ranch (Glennan 1987a, 1987b). More recently, a similar fluted point was found near Bakersfield (Zimmerman et al. 1989), and a number are known from the Edwards Air Force Base and Boron area of the western Mojave Desert. Although human occupation of the state is well-established during the Late Pleistocene, relatively little can be inferred about the nature and distribution of this occupation with a few exceptions. First, little evidence exists to support the idea that people at that time were big-game hunters, similar to those found on the Great Plains. Second, the western Mojave Desert evidence suggests small, very mobile populations that left a minimal archaeological signature. The evidence from the ancient Tulare Lake shore, in contrast, suggests a much more substantial population and settlements which, instead of relying on big game hunting, were tied to the lacustrine lake edge. Variability in subsistence and settlement patterns is thus apparent in California, in contrast to the Great Plains.

Substantial evidence for human occupation of California first occurs during the middle Holocene, roughly 7500 to 4000 YBP. This period is known as the *Early Horizon*, or alternatively as the Early Millingstone along the Santa Barbara Channel. In the south, populations concentrated along the coast with minimal visible use of inland areas. Adaptation emphasized hard seeds and nuts with tool-kits dominated by mullers and grindstones (manos and metates). Additionally, little evidence for Early Horizon occupation exists in most inland portions of the state, partly due to a severe cold and dry paleoclimatic period occurring at this time. Regardless of specifics, Early Horizon population density was low with a subsistence adaptation more likely tied to plant food gathering than hunting.

Environmental conditions improved dramatically after about 4000 YBP during the *Middle Horizon* (or Intermediate Period). This period known climatically as the Holocene Maximum (circa 3800 YBP) and was characterized by significantly warmer and wetter conditions than previously experienced. Archaeologically, it was marked by large population increase and radiation into new environments along coastal and interior south-central California and the Mojave Desert (Whitley 2000). In the Delta region to the north, this same period of favorable environmental conditions was characterized by the appearance of the Windmiller culture which exhibited a high degree of ritual elaboration (especially in burial practices) and perhaps even rudimentary mound-building tradition (Meighan, personal communication, 1985). Along with ritual elaboration, Middle Horizon times experienced increasing subsistence specialization, perhaps correlating with the appearance of acorn processing technology. Penutian speaking peoples (including the Yokuts) are also posited to have entered the state roughly at the beginning of this period and, perhaps to have brought this technology with them (cf. Moratto 1984). Likewise it appears the so-called "Shoshonean Wedge" in southern California or the Takic speaking groups that include the Gabrielino/Fernandeño, Tataviam, and Kitanemuk, may have moved into the region at this time, rather than at about 1500 BP as first suggested by Kroeber (1925).

Evidence for Middle Horizon occupation of interior south-central California is substantial. For example, in northern Los Angeles County along the upper Santa Clara River, to the south of the San Joaquin Valley, the Agua Dulce village complex indicates occupation extending back to the Intermediate Period, when the population of the village may have been 50 or more people (King et al. n.d.). Similarly, inhabitation of the Hathaway Ranch region near Lake Piru, and the Newhall Ranch near Valencia, appears to date to the Intermediate Period (W&S Consultants 1994). To the west, little or no evidence exists for pre-Middle Horizon occupation in the upper Sisquoc and Cuyama River drainages; populations first appear there at roughly 3500 YBP (Horne 1981). The Carrizo Plain, the valley immediately west of the San Joaquin, experienced a major population expansion during the Middle Horizon (W&S Consultants 2004; Whitley et al. 2007), and recently collected data indicates the Tehachapi Mountains region was first significantly occupied during the Middle Horizon (W&S Consultants 2006). A parallel can be drawn to the inland Ventura County region where a similar pattern has been identified (Whitley and Beaudry 1991), as well as the western Mojave Desert (Sutton 1988a, 1988b), the southern Sierra Nevada (W&S Consultants 1999), and the Coso Range region (Whitley et al. 1988). In all of these areas a major expansion in settlement, the establishment of large site complexes and an increase in the range of environments exploited appear to have occurred sometime roughly around 4,000 years ago. Although most efforts to explain this expansion have focused on local circumstances and events, it is increasingly apparent this was a major southern California-wide occurrence and any explanation must be sought at a larger level of analysis (Whitley 2000). Additionally, evidence from the Carrizo Plain suggests the origins of the tribelet level of political organization developed during this period (W&S Consultants 2004; Whitley et al. 2007). Whether this same demographic process holds for the southern San Joaquin Valley, including the study area, is yet to be determined.

The beginning of the *Late Horizon* is set variously at 1500 and 800 YBP, with a consensus for the shorter chronology. Increasing evidence suggests the importance of the Middle-Late Horizons transition (AD 800 to 1200) in the understanding of south-central California. This corresponds to the so-called Medieval Climatic Anomaly, a period of climatic instability that included major droughts and resulted in demographic disturbances across much of the west (Jones et al. 1999). It is also believed to have resulted in major population decline and abandonments across south-central California, involving as much as 90 percent of the interior populations in some regions including the Carrizo Plain (Whitley et al. 2007). It is not clear whether site abandonment was accompanied by a true reduction in population or an agglomeration of the same numbers of peoples into fewer but larger villages. What is clear is that Middle Period villages and settlements were widely dispersed across the landscape; many at locations that lack contemporary evidence of fresh water sources. Late Horizon sites, in contrast, are typically located where fresh water was available during the historical period, if not currently.

One extensively studied site that shows evidence of intensive occupation during the Middle-Late Horizons transition (~1500 to 500 YBP) is the Redtfeldt Mound (CA-KIN-66/H), located near the Santa Rosa Rancheria, northwest of the study area. There, Siefkin (1999) reported on human burials and a host of artifacts and ecofacts excavated from a modest-sized mound. He found that both Middle Horizon and Middle-Late Horizons transition occupations were more intensive than Late Horizon occupations, which were sporadic and less intensive (Siefkin 1999:110-111).

The subsequent Late Horizon can be best understood as a period of recovery from a major demographic collapse. One result is the development of regional archaeological cultures as the precursors to ethnographic Native California, suggesting that ethnographic life-ways recorded by anthropologists extend roughly 800 years into the past.

The position of San Joaquin Valley prehistory relative to patterns seen in surrounding areas is still somewhat unknown. The presence of large lake systems in the valley bottoms can be expected to have mediated some of the desiccation seen elsewhere. But, as the reconstruction of Soda Lake in the nearby Carrizo Plain demonstrates (see Whitley et al. 2007) environmental perturbations had serious impacts on lake systems too. Identifying certain of the prehistoric demographic trends for the southern San Joaquin Valley and determining how these trends (if present) correlate with those seen elsewhere, is a current important research objective.

2.5 HISTORIC CONTEXT

Spanish explorers first visited the southern end of the San Joaquin Valley in 1772, but its lengthy distance from the missions and presidios along the Pacific Coast delayed permanent settlement for many years, including during the Mexican period of control over the Californian region. In the 1840s, Mexican rancho owners along the Pacific Coast allowed their cattle to wander and graze in the San Joaquin Valley (JRP Historical Consulting 2009). The Mexican government granted the first ranchos in the southern part of the San Joaquin Valley in the early 1840s, but these did not result in permanent settlement. It was not until the annexation of California in 1848 that the exploitation of the southern San Joaquin Valley began (Pacific Legacy 2006).

The discovery of gold in northern California in 1848 resulted in a dramatic increase of population, consisting in good part of fortune seekers and gold miners, who began to scour other parts of the state. After 1851, when gold was discovered in the Sierra Nevada Mountains in eastern Kern County, the population of the area grew rapidly. Some new immigrants began ranching in the San Joaquin Valley to supply the miners and mining towns. Ranchers grazed cattle and sheep, and farmers dry-farmed or used limited irrigation to grow grain crops, leading to the creation of small agricultural communities throughout the valley (JRP Historical Consulting 2009).

After the American annexation of California, the southern San Joaquin Valley became significant as a center of food production for this new influx of people in California. The expansive unfenced and principally public foothill spaces were well suited for grazing both sheep and cattle (Boyd 1997). As the Sierra Nevada gold rush presented extensive financial opportunities, ranchers introduced new breeds of livestock, consisting of cattle, sheep, and pigs (Boyd 1997).

With the increase of ranching in the southern San Joaquin came the dramatic change in the landscape, as non-native grasses more beneficial for grazing and pasture replaced native flora (Preston 1981). After the passing of the Arkansas Act in 1850, efforts were made to reclaim small tracts of land in order to create more usable spaces for ranching. Eventually, as farming supplanted ranching as a more profitable enterprise, large tracts of land began to be reclaimed for agricultural use, aided in part by the extension of the railroad in the 1870s (Pacific Legacy 2006).

Following the passage of state-wide 'No-Fence' laws in 1874, ranching practices began to decline, while farming expanded in the San Joaquin Valley in both large land holdings and smaller, subdivided properties. As the farming population grew, so did the demand for irrigation. Settlers began reclamation of swampland in 1866, and built small dams across the Kern River to divert water into the fields. By 1880, 86 different groups were taking water from the Kern River. Ten years later, 15 major canals provided water to thousands of acres in Kern County.

During the period of reclaiming unproductive land in the southern San Joaquin Valley, grants were given to individuals who had both the resources and the finances to undertake the operation alone. One small agricultural settlement, founded by Colonel Thomas Baker in 1861 after procuring one such grant, took advantage of reclaimed swampland along the Kern River. This settlement became the City of Bakersfield in 1869, and quickly became the center of activity in the southern San Joaquin Valley, and in the newly formed Kern County. Located on the main stage road through the San Joaquin Valley, the town became a primary market and transportation hub for stock and crops, as well as a popular stopping point for travelers on the Los Angeles and Stockton Road. The Southern Pacific Railroad reached the Bakersfield area in 1873, connecting it with important market towns elsewhere in the state, dramatically impacting both agriculture and oil production (Pacific Legacy 2006).

Three competing partnerships developed during this period which had a great impact on control of water, land reclamation and ultimately agricultural development in the San Joaquin Valley: Livermore and Chester, Haggin and Carr, and Miller and Lux, perhaps the most famous of the enterprises. Livermore and Chester were responsible, among other things, for developing the large Hollister plow (3 ft. wide by 2 ft. deep), pulled by a 40-mule team, which was used for ditch digging. Haggin and Carr were largely responsible for reclaiming the beds of the Buena Vista and Kern lakes, and for creating the Calloway Canal, which drained through the Rosedale area in Bakersfield to Goose Lake (Morgan 1914). Miller and Lux ultimately became one of the biggest private property holders in the country, controlling the rights to over 22,000 square miles, and their impacts were widespread. They recognized early-on that control of water would have important economic implications, and they played a major role in the water development of the state. They controlled, for example, over 100 miles of the San Joaquin River with the San Joaquin and Kings River Canal and Irrigation System (http://en.wikipedia.org/wiki/Henry_Miller(rancher). They were also embroiled for many years in litigation against Haggin and Carr over control of the water rights to the Kern River.

Numerous private irrigation systems were initially developed by individuals. The earliest such improvement in the general project area was the "Saucelito Ditch," which is shown on the 1892 "Thompson Map of Tulare County" running south of and parallel to Deer Creek. The Wright Act of 1887, however, allowed the creation of public irrigation districts, greatly facilitating the funding and construction of water conveyance systems. With increasing demand, the Central Valley Project (CVP) was developed to supply water to Fresno, Tulare and Kern counties. Friant Dam, which created Millerton Lake, was completed in 1942 and supplies water for the Friant-Kern and Madera Canals. The Friant-Kern Canal was constructed between 1945 and 1951 and is approximately 152-mi in length.

The SID was formed in 1941 with an original 8,980-ac. It has been subsequently expanded and is now 19,737-ac in size. The district's distribution system was completed in 1962 and the SID currently has a contract for water delivery from the U.S. Bureau of Reclamation (SID 2013).

The town of Porterville, which is located east of the study area, was founded in 1854. It initially served as a stop for the Butterfield Overland Mail stage route which ran from Los Angeles to Stockton. Originally called the Tule River Station, it became known as Porterville in 1864, a name based on the middle name of Royal Porter Putnam who owned the area at the stage stop. It first saw development in the late 19th century with the extension of the Southern Pacific Railway branch line from Fresno in 1888. In 1902 the town was incorporated, the Chamber of Commerce was formed in 1907 and a Charter was adopted from a City Manager-Council form of government in 1926. A USGS Porterville (1929, 1:31,680) topographic quadrangle indicates the town had developed to over half of its modern day size (excluding East Porterville) shortly after the adoption of the Charter. The town has continued to grow due to industry and agriculture in the surrounding area.

3. ARCHIVAL RECORDS SEARCH

An archival records search was conducted at the California State University, Bakersfield, Southern San Joaquin Valley Information Center (SSJVIC), by SSJVIC staff members to determine: (i) if prehistoric or historical archaeological sites had previously been recorded within the study area; (ii) if the study area had been systematically surveyed by archaeologists prior to the initiation of this field study; and/or (iii) whether the general project area was known to contain archaeological sites and to thereby potentially be archaeologically sensitive. Additionally, a search of the NAHC's Sacred Lands File was conducted in order to ascertain whether traditional cultural places or cultural landscapes had been identified within the study area. The results of this archival records search are summarized here and are available in Confidential Appendix A.

The SSJVIC search results indicate that three previous studies have been completed that are adjacent to or intersect some portion of the Project study area (Table 1) and two others have been conducted within the 0.5-mi. search radius (Table 2). Report TU-01442 meets the study area at its northwest corner but the prior study did not involve this parcel. Similarly, TU-01629 was a linear project that ran along the north edge of the Behl study area but did not involve the parcel. Finally, TU-01547 was a pole replacement survey project that included one pole that falls within the westernmost survey corridor that extends to the south of the main Behl study area.

No cultural resources have been recorded within the study area, but two have been documented within the 0.5-mi. search radius (Table 3); both are irrigation canals.

Table 1. Survey reports within the study area

Report No.	Year	Author(s)/Affiliation	Title
TU-01442	2007	C.L. Pruitt / Three Girls and a Shovel, LLC	A Cultural Resources Assessment for the Tule River Intertie Project Near Porterville, Tulare County, California
TU-01547	2011	R.S. Orfila / RSO Consulting, Cultural and Historical Resource Management	Archaeological Survey for the Southern California Edison Company: Replacement of Twenty-Nine Deteriorated Power Poles on the Blanca 12kV, Callison 12kV, Cloer 12kV, Cotton 12kV, Deer 12kV, Lanza 12kV, Osner 12kV, Radnor 12kV, Schenley 12kV, and Slade 12kV Circuits in Tulare County in California
TU-01629	2011	C.L. Pruitt / Three Girls and a Shovel, LLC	A Cultural Resources Assessment for the Pixley Irrigation District Distribution System Expansion Project, Tulare County, California

Table 2. Survey reports within 0.5 mile of the study area

Report No	Year	Author(s)/Affiliation	Title
TU-01566	2009	M.A. Chotkowski / Bureau of Reclamation	Section 106 Compliance for the Replacement of Five Block Structures along the Friant-Kern Canal, Fresno and Tulare Counties, California (Project No. 10-SCAO-037)
TU-01568	2009	R.S. Orfila / RSO Consulting, Cultural and Historical Resource Management	A Cultural Resources Assessment of 35 Acres for the Tulare River Intertie Canal, Tulare County, California

Table 3. Resources within 0.5 mile of the study area

Primary # (P-54-)	Type	Description
004614	Structure	Friant-Kern Canal
005026	Site	Casa Blanca Canal

A search of the Sacred Lands File held by the NAHC was completed on March 11, 2021. Based on the NAHC records, no sacred sites or traditional cultural places had been identified within or adjacent to the study area (Confidential Appendix A). Outreach letters were sent on March 17, 2021, and follow-up emails were sent two weeks later to tribal organizations provided on the NAHC contact list. No responses have been received to date.

4. METHODS AND RESULTS

An intensive Phase I survey of the Behl Project study area was conducted on April 15, 2021. The field effort was led by ASM Associate Archaeologist Robert Azpitarte, B.A., who was assisted by Stacy Escamilla, B.A., Maria Silva, B.A., and Maggie Lemus, B.A. The entire Project study area was examined with the field crew walking parallel transects space at approximately 15-m intervals, in order to identify surface artifacts, archaeological indicators (e.g., shellfish or animal bone), and/or archaeological deposits (e.g., organically enriched midden soil); tabulation and recording of surface diagnostic artifacts; site sketch mapping; preliminary evaluation of site integrity; and site recording, following the California Office of Historic Preservation Instructions for Recording Historic Resources, using DPR 523 forms. Special attention was paid to rodent burrow back dirt piles in the hope of identifying subsurface soil conditions that might be indicative of the presence of archaeological features or remains.

4.1 SURVEY RESULTS

The proposed water banking basin portion of the study area is entirely within an existing orchard. The easternmost potential pipeline corridor runs along Rockford Road and includes an easement extending into the existing Mid Valley Disposal Site, while the remaining proposed corridors follow existing graded dirt roads between grape orchards. Surface visibility was excellent for the Phase I survey.

No cultural resources of any kind were identified during the intensive pedestrian survey.

5. SUMMARY AND RECOMMENDATIONS

A Phase I cultural resources survey was conducted for the Behl Project, located southwest of Porterville, Tulare County, California. A records search of available site files and maps for the Project area and a 1-mi. buffer around it was conducted at the SSJVIC and a search of the NAHC Sacred Lands File was completed. No Native American sacred sites or cultural resources had been identified within or immediately adjacent to the Project study area, and no archaeological sites had been previously recorded within the study area.

The survey fieldwork was conducted on April 15, 2021, with a crew of four archaeologists walking parallel transects spaced at approximately 15-m intervals across the study area. No cultural resources of any kind were identified during the inventory of the 172-acre study area.

5.1 RECOMMENDATIONS

No archaeological or cultural resources of any kind were identified during the Phase I survey of the 172-acre Behl Project study area. The proposed project therefore does not have the potential to result in adverse impacts or effects to significant or unique historical resources as defined by CEQA, and no further archaeological work is recommended for the Project.

In the unlikely event that previously unknown cultural resources are identified during the development or use of the study area, it is recommended that a qualified archaeologist be notified to evaluate the discovery and implement appropriate evaluation and/or protection measures.

REFERENCES

Boyd, W.H.
1997 *Lower Kern River Country 1850-1950: Wilderness to Empire*. Lemoore: Kings River Press.

Cook, S.F.
1978 Historical Demography. In *California*, edited by R. F. Heizer, pp. 91-98. Handbook of North American Indians, Vol. 8, W.C. Sturtevant, general editor. Smithsonian Institute, Washington, D.C.

Driver, H.E.
1937 Cultural Element Distributions: VI, Southern Sierra Nevada. *University of California Anthropological Records* 1(2):53-154. Berkeley.

Elsasser, A.
1962 *Indians of Sequoia and Kings Canyon National Parks*. Three Rivers: Sequoia Natural History Association.

Fenenga, F.
1952 The Archaeology of the Slick Rock Village, Tulare County, California. *American Antiquity* 17:339-347.

Fenenga, G.
1993 Test Excavations at the Witt Site (CA-KIN-32). In *Finding the Evidence: The Quest for Tulare Lake's Archaeological Past*, edited by W.J. Wallace and F.A. Riddell, pp. 25-38. Contributions to Tulare Lake Archaeology II. Redondo Beach, Tulare Lake Archaeological Research Group.

Fredrickson, D.A., and J. Grossman
1977 A San Dieguito component at Buena Vista Lake, California. *Journal of California and Great Basin Anthropology* 4:173-190.

Gayton, A.H.
1930 Yokuts-Mono Chiefs and Shamans. *University of California Publications in American Archaeology and Ethnology* 24:361-420. Berkeley.
1948 Yokuts and Western Mono Ethnography. *University of California Anthropological Records* 10:1–290. Berkeley.

Gifford, E.W., and W.E. Schenck
1926 Archaeology of the Southern San Joaquin Valley. *University of California Publications in American Archaeology and Ethnology* 23(1):1-122.

Glennan, W.S.
1987a Concave-Based Lanceolate Fluted Projectile Points from California. Prehistory of the Antelope Valley, California: An Overview, edited by R.W. Robinson. *Antelope Valley Archaeological Society, Occasional Papers No. 1*: 21-24.
1987b Evidence for Paleoeastern Culture Type in the Southwestern Great Basin. Prehistory of the Antelope Valley, California: An Overview, edited by R.W. Robinson. *Antelope Valley Archaeological Society, Occasional Papers No. 1*:11-20.

Harrington, J.P.
n.d. Yokuts ethnographic notes. National Anthropological Archives, Washington, D.C.

Hewes, G.
1941 Archaeological reconnaissance of the central San Joaquin Valley. *American Antiquity* 7:123-133.

Horne, S.P.
1981 *The Inland Chumash: Ethnography, Ethnohistory and Archaeology*. Ph.D. dissertation, UCSB. University Microfilms, Ann Arbor.

Jones, T.L., G.M. Brown, L.M. Raab, J.L. McVickar, W.G. Spaulding. D.J. Kennett, A. York, and P.L. Walker
1999 Demographic Crisis in Western North America during the Medieval Climatic Anomaly. *Current Anthropology* 40:137-170.

JRP Historical Consulting
2009 *North Kern Water Storage District, Lateral Canal 8-1: Inventory and Evaluations, Kern County, California*. Prepared for North Kern Water Storage District.

King, C., C. Smith, and T. King
n.d. *Archaeological Report Related to the Interpretation of Archaeological Resources Present at the Vasquez Rocks County Park*. Report on file, SCCIC.

Kroeber, A.L.
1925 Handbook of the Indians of California. *Bureau of American Ethnology, Bulletin 78*. Washington, D.C.

Latta, F.F.
1977 *Handbook of the Yokuts Indians*. Bear State Books, Santa Cruz.

Meyer, J, D.C. Young, and J.S. Rosenthal
2010 *Volume I: A Geoarchaeological Overview and Assessment of Caltrans Districts 6 and 9.* Submitted to California Department of Transportation.

Moratto, M.
1984 *California Archaeology*. New York: Academic Press.

Morgan, W.A.
1914 *History of Kern County, California with Biographical Sketches*. Los Angeles: Historic Record Company.

National Register of Historic Places
1997 *How to Complete the National Register Registration Form*. National Register Bulletin 15, National Park Service, revised 1997.

Pacific Legacy, Inc.
2006 *Southern San Joaquin Valley Oil Fields Comprehensive Study*. Manuscript on file, BLM Bakersfield office.

Powers, S.
1971 The Yokuts Dance for the Dead. In *The California Indians: A Source Book* (second edition), edited by R. F. Heizer and M. A. Whipple, pp. 513-519. University of California Press, Berkeley (original 1877).
1976 *Tribes of California*. Berkeley, University of California Press (original 1877).

Preston, W.L.
1981 *Vanishing Landscapes: Land and Life in the Tulare Lake Basin*. Berkeley, University of California Press.

Rosenthal, J.S., G.G. White, and M.Q. Sutton
2007 The Central Valley: A view from the catbird's seat. In *California Prehistory: Colonization, Culture, and Complexity*, edited by T.L. Jones and K.A. Klar, pp. 147-163. AltaMira Press.

Schiffman, R.A., and A.P. Garfinkel
1981 *Prehistory of Kern County: An Overview*. Bakersfield College Publications in Archaeology No. 1.

Schoenherr, A.A.
1992 *A Natural History of California*. Berkeley: University of California Press.

SID
2013 Fiver Year Water Management Plan, Saucelito Irrigation District. Report on file, SID.

Siefkin, Nelson
1999 Archaeology of the Redfeldt Mound (CA-KIN-66), Tulare Basin, California. Master's thesis, Department of Sociology and Anthropology, California State University, Bakersfield.

Sutton, M.Q.
1988a An Introduction to the Archaeology of the Western Mojave Desert, California. *Archives of California Prehistory, No. 14*. Salinas: Coyote Press.
1988b On the Late Prehistory of the Western Mojave Desert. *Pacific Coast Archaeological Society Quarterly* 24(1):22-29.

W&S Consultants
1994 *Phase II Test Excavations and Determinations of Significance at CA-LAN-2133, -2233, -2234, -2235, -2236, -2240, -2241 and -2242, Los Angeles County, California*. Manuscript on file, SCCIC.
1999 *Class III Inventory/Limited Archaeological Testing Program for the Ducor Telephone Project, Kennedy Meadows, Tulare County, California*. Manuscript on file, SCCIC.
2004 *Class II Inventory of the Carrizo Plain National Monument, San Luis Obispo County, California*. Report on file, BLM Bakersfield office.
2006 *Phase II Test Excavations and Determinations of Significance for the Tejon Mountain Village Project, Kern County, California*. Report on file, Tejon Ranch Company.

Wedel, W.
1941 Archaeological Investigations at Buena Vista Lake, Kern County, California. *Bureau of American Ethnology Bulletin* 130.

Whitley, D.S.
1992 Shamanism and Rock Art in Far Western North America. *Cambridge Archaeological Journal* 2(1):89-113.
2000 *The Art of the Shaman: Rock Art of California*. Salt Lake City: University of Utah Press.

Whitley, D.S., and M.P. Beaudry
1991 Chiefs on the Coast: The Development of Complex Society in the Tiquisate Region in Ethnographic Perspective. *The Development of Complex Civilizations in Southeastern Mesoamerica*, W. Fowler, ed., pp. 101-120. Orlando: CRC Press.

Whitley, D.S., G. Gumerman IV, J. Simon, and E. Rose
1988 The Late Prehistoric Period in the Coso Range and Environs. *Pacific Coast Archaeological Society Quarterly* 24(1):2-10.

Whitley, D.S., J.M. Simon, and J.H.N. Loubser
2007 The Carrizo Collapse: Art and Politics in the Past. In *Collected Papers in Honor of the Achievements of Archaeologist Jay von Werlhof*, edited by R.L. Kaldenberg, pp. 199-208. Maturango Museum Press No. 20, Ridgecrest, California.

CONFIDENTIAL APPENDICES

Appendix D

Phase 1 Environmental Site Assessment

PHASE I ENVIRONMENTAL SITE ASSESSMENT

Behl Property
158.58 Acre Tract of Agricultural Land
Northwest of the Avenue 128 and Rockford Road Intersection
Porterville, California 93257
CBRE Project Number: PC00864273

Report Date: September 10, 2020

Prepared For:
Renewable Resources Group
113 South La Brea Avenue
Los Angeles, CA 90036

www.cbre.com/Assessment

CBRE

70 West Red Oak Lane
White Plains, New York 10604
914-694-9600 Tel
914-694-1335 Fax

September 10, 2020
Nadine Stroud
Renewable Resources Group
113 South La Brea Avenue
Los Angeles, CA 90036
nstroud@renewablegroup.com

Re: Phase I Environmental Site Assessment
Behl Property
158.58 Acre Tract of Agricultural Land
Northwest of the Avenue 128 and Rockford Road Intersection
Porterville, California 93257
CBRE Project No.: PC00864273

Dear Ms. Stroud:

CBRE, Inc., a Delaware Corporation (CBRE), is pleased to submit this Phase I Environmental Site Assessment (ESA) on the above-referenced property on behalf of Renewable Resources Group and any additional party referenced in Section 2.0.

We have performed a Phase I ESA of the 158.38-acre tract of agricultural land located to the northwest of the Avenue 128 and Rockford Road intersection in the City of Porterville, California in conformance with the scope and limitations of 40 C.F.R. Part 312 and ASTM E 1527-13. Any exceptions to, or deletions from this practice, are described in Sections 2.4 and 11.0 of this report. We certify that the Phase I ESA was performed by a qualified Environmental Professional as defined in 40 C.F.R. § 312.10(b).

We appreciate the opportunity to assist Renewable Resources Group and want you to know your business and trust in CBRE is appreciated.

Please contact Paul Hitchings at 214-893-2804 or by email at paul.hitchings@cbre.com should you have any questions or comments.

Sincerely,

CBRE, Inc. – Assessment and Consulting Services

Brian Kim
Sr. Environmental Site Assessor

Paul Hitchings, EP
Project Management Director

Findings, Opinions and Conclusions Summary Table

A detailed discussion of the findings below is discussed in the Executive Summary section of this report.

Report Section		NFA	REC	CREC	HREC	OEC	Discussion
2.4	DATA GAPS	✔					No significant data gaps were identified in association with this assessment
3.0	SUBJECT PROPERTY AND AREA DESCRIPTION					✔	BER: On-site equipment yard housing various debris including three empty 55-gallon drums and a previously used AST. No evidence of stains, spills, leaks or distress vegetation was noted. Based on the above, no further investigation is recommended; however, should further confirmation that impacts are not present be required a limited subsurface investigation would be necessary.
4.0	HISTORICAL USE		✔			✔	REC: Up-gradient Teapot Dome Landfill with known CVOC impacts affecting groundwater on and off of the facility. A subsurface investigation is recommended to determine if impacts to groundwater are present on the Subject Property. BER: Same as above; BER: Potential for on-site soils throughout the Subject Property to harbor residual agricultural chemicals due to long-term farming activities.
5.0	REGULATORY RECORDS		✔			✔	REC: Same as above. BER: PFAS impacts from a COP WWTP are migrating under the Teapot Dome Landfill and toward the Subject Property.
6.0	QUESTIONNAIRES AND INTERVIEWS	✔					
7.0	SITE RECONNAISSANCE					✔	BERs: Same as those listed above in relation to on-site chemical storage and long-term agricultural use of the Subject Property. BER: Possible abandoned on-site septic system associated with prior residential usage. No further action is recommended; however, if a septic system is discovered in the future it should be removed/abandoned in accordance with regulatory requirements.
8.0	NON-ASTM SCOPE CONSIDERATIONS	✔					

Report Section		NFA	REC	CREC	HREC	OEC	Discussion
9.0	VAPOR ENCROACHMENT CONDITIONS (VECS)	✔					

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY 1
2.0 INTRODUCTION 6
3.0 SUBJECT PROPERTY AND AREA DESCRIPTION 11
4.0 HISTORICAL USE 17
5.0 REGULATORY RECORDS 23
6.0 QUESTIONNAIRES AND INTERVIEWS 30
7.0 SITE RECONNAISSANCE 32
8.0 NON-ASTM SCOPE CONSIDERATIONS 40
9.0 VAPOR ENCROACHMENT CONDITIONS (VECs) 42
10.0 ENVIRONMENTAL PROFESSIONAL STATEMENT AND SIGNATURE 43
11.0 LIMITING CONDITIONS 44

TABLE OF APPENDICES

SUBJECT PROPERTY PLAN / LOCATION MAP
PHOTOGRAPHS
HISTORICAL MAPS AND/OR AERIAL PHOTOGRAPHS
CITY DIRECTORY ABSTRACT
REGULATORY DATABASE REPORT
SUPPLEMENTARY DOCUMENTATION
USER AND PRE-SURVEY QUESTIONNAIRES
QUALIFICATIONS

1.0 EXECUTIVE SUMMARY

CBRE has performed this Phase I Environmental Site Assessment (ESA) in conformance with the scope and limitations of ASTM Phase I Environmental Site Assessment Practice E1527-13 of the 158.38-acre tract of agricultural land located to the northwest of Avenue 128 and Rockford Road (Road 208) intersection in the City of Porterville, California (Subject Property). The ASTM Standard was designed to meet the requirements of the United States Environmental Protection Agency's (USEPA's) All Appropriate Inquiries (AAI) into the previous ownership and uses of the property consistent with good commercial and customary practice as defined at 42 U.S.C. §9601(35)(B). The purpose of this Phase I ESA was to assess existing site conditions and render an opinion regarding the presence of recognized environmental conditions in connection with the Subject Property in accordance with USEPA AAI requirements. Any exceptions to, or deletions from, this practice are described in Section 11.0 of this report.

The Subject Property is situated in a rural area approximately five miles southwest of the urban part of Porterville and generally characterized by large tracts of agricultural land, with an unlined municipal landfill (Teapot Dome Landfill; a Class III solid waste management unit under California Code of Regulations, Title 27) located immediately to the southeast across the intersection of Avenue 128 and Rockford Road. The Friant-Kern Canal, which is a regional water conveyance structure, is beyond the landfill to the east and southeast. Additionally, the City of Porterville operates a wastewater treatment plant (WWTP) that discharges effluent into infiltration ponds in an area to the southeast beyond the landfill on the opposite side of the canal approximately 3/4 of a mile to a mile from the site.

The Subject Property consists of a 158.58-acre walnut tree orchard with an equipment yard containing a one-story metal warehouse/shed that was likely constructed on-site in the early-1980s on the east-central area of the site. Additional on-site improvements observed by CBRE included an irrigation water supply well used to service the on-site orchard, and appurtenances related to distribution of the irrigation water to the individual walnut trees. Other irrigation water conveyances, possibly owned an operated by others were located along the right-of-way of Rockford Road along the eastern property boundary.

Historically, the Subject Property appears to have been a mix of undeveloped, vacant and agricultural land with a single-family residential farmstead and an irrigation pond located on the eastern side (along Rockford Road) and an irrigation mole ditch traversing the western, central and northern portions of the Subject Property from at least 1928 (earliest available topographic map) until the 1950s when the prior irrigation pond and mole ditch were depicted as no longer in use. The apparent single-family residential farmstead appears to have remained on-site through at least the 1960s. By at least 1984, this area had been redeveloped with the current on-site metal warehouse/shed. With the exception of some apparent rotational landfarming and replanting, the Subject Property appears to have remained in this same configuration through the present.

Of note, the Subject Property was not identified on any regulatory databases reviewed by CBRE during the completion of this Phase I ESA; however, the southeast adjoining Teapot Dome Disposal Site/Landfill was identified on numerous regulatory databases including the Solid Waste Facility/Landfill, Superfund Enterprise Management System (SEMS), Financial Insurance, and

California Environmental Reporting System (CERS) regulatory databases. This facility and its associated regulatory database base listings are further discussed in Section 4.0 and Section 5.0 of this report.

RECOGNIZED ENVIRONMENTAL CONDITIONS

The term Recognized Environmental Conditions (RECs) as defined by ASTM Standard E 1527-13 is "...the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to 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 assessment has revealed evidence of the following REC in connection with the Subject Property:

- The Subject Property is located to the northwest and immediately down-gradient to side-gradient of the Teapot Dome Landfill, which is separated from the Subject Property by the 128 Avenue and Rockford Road intersection. Based on regulatory database information as well as consulting reports, the Teapot Dome Landfill is the apparent source of chlorinated solvent releases that have resulted in impact to soil and groundwater. Site assessments conducted at the Teapot Dome Landfill identified two distinct water-bearing zones that have been impacted due to landfill-related activities; the unconfined groundwater zone and the upper semi-confined groundwater zone. The two water-bearing zones are separated by an approximate 15 to 20 foot aquitard.

Based on review of reports prepared by the landfill's consultants, the chlorinated solvent impact (chlorinated volatile organic compounds; CVOCs) affects the uppermost water bearing zone and at least one lower part of the Central Valley aquifer system, with detected constituents at distances greater than a mile to the west and southwest of the landfill. In landfill monitor wells, detections of metals at concentrations potentially above natural occurrence and detections of cyanide are present across the landfill area in the upper and next-deepest groundwater zones. Limited detections of other compounds also occur in the landfill monitor wells.

The findings of prior assessments completed for the Teapot Dome Landfill using wells screened in the the unconfined groundwater zone and the upper semi-confined groundwater zone show impact to both zones by CVOCs. Thus, CBRE considers impacted groundwater in the unconfined groundwater zone and the upper semi-confined groundwater zone, as documented by landfill assessment activities, to represent a REC to the Subject property.

Please see Recommendations below for for further details regarding additional assessment.

CONTROLLED RECOGNIZED ENVIRONMENTAL CONDITIONS

A Controlled Recognized Environmental Condition (CREC) as defined by ASTM Standard E 1527-13 refers to a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls.

This assessment has revealed no evidence of CRECs in connection with the Subject Property.

HISTORICAL RECOGNIZED ENVIRONMENTAL CONDITIONS

A historical recognized environmental condition (HREC) as defined by ASTM refers to a REC resulting from a past release of any hazardous substances, or petroleum products that has occurred in connection with the Subject 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 Subject Property to any required controls (for example, Subject Property use restrictions, activity and use limitations, institutional controls, or engineering controls).

This assessment has revealed no evidence of HRECs in connection with the Subject Property.

BUSINESS ENVIRONMENTAL RISKS

ASTM E 1527-13 outlines a non-exhaustive list of "non-scope considerations" that includes but is not limited to asbestos-containing building materials, indoor air quality, lead-based paint, lead in drinking water, mold, and radon. The ASTM Standard was designed to address Business Environmental Risks (BERs) that are risks that are not required to meet the AAI requirements but may have a material environmental or environmentally-driven impact associated with the current or planned land use. Non-scope items considered in this Phase I ESA are discussed in Section 8.0.

This assessment has identified the following BERs in connection with the Subject Property:

- The City of Porterville operates a WWTP that discharges effluent into infiltration pond approximately 3/4 of a mile to a mile to the southeast of the Subject Property, beyond the Teapot Dome Landfill and also beyond the Friant-Kern Canal. Municipal wastewater is a known source of contaminants in the Per- and Polyfluoroalkyl Substances (PFAS) category of emerging contaminants. PFAS are derived from many man-made sources and are a typical contaminant in municipal wastewater. Most modern WWTPs are able to remove other common contaminants, but the potential for discharge of PFAS into the subsurface upgradient of the Subject Property is a BER. The designation of potential PFAS impact as BER rather than a REC is based on PFAS not having federal designation as a hazardous substance that is defined by ASTM in relation to the All Appropriate Inquiries for Phase I ESAs. Potential exists however for future federal regulation, and current California regulatory authorities recognize adverse human health

potential for PFAS in groundwater. CBRE therefore regards the potential PFAS impact to the local aquifer system as an appreciable adverse environmental condition, with a BER designation.

- Tulare County performed sampling of PFAS in the Teapot Dome Landfill monitor well network and found PFAS impact above applicable benchmarks in landfill groundwater. The benchmarks include groundwater Reporting Limits from the federal Department of Defense Quality Systems Manual as adopted by the California State Water Resources Control Board (DOD/CA SWRCB). The detected constituents also exceeded the California Division of Drinking Water (CA DDW) Notification Levels (NLs), Response Levels (RLs), and the PFAS aggregate constituent level (70 ng/L); however, the landfill monitoring well network does not monitor drinking water.
- Based on the publicly available information published in relation to the landfill groundwater monitoring, CBRE analyzed groundwater from the on-site irrigation well for PFAS in addition to the Priority Pollutants and Title-22 metals. The Subject Property irrigation well results confirmed the presence of PFAS constituents; however, none of the detected constituents exceeded the regulatory reporting levels from the DOD/CA SWRCB. Furthermore, the Subject Property is not used for residential purposes, is not identified as a potentially responsible party for the contamination, and groundwater at the Subject Property is not currently used as a source of drinking water. Thus, the irrigation well water quality does not exceed California standards or federal guidelines.

In a letter dated September 6, 2006, the California Regional Water Quality Control Board, Central Valley Region (RWQCB) approved a corrective action program (CAP) that identified monitored natural attenuation (MNA) as the primary corrective action measure based on the low levels and decreasing CVOC concentration trends. A semi-annual groundwater monitoring program has been implemented for the landfill, which includes sampling landfill wells M10-A and M10-B. Monitoring well M10-A is screened in the unconfined groundwater zone, and monitoring well M10-B is screened in the upper semi-confined groundwater zone. These wells are situated near the northwest corner of the landfill, near the southeast corner of the Subject Property. During the 2019 second semi-annual groundwater monitoring event (October 2019) detected CVOC concentrations in well M10-B were all below regulatory limits. Well M10-A was dry and could not be sampled.

The on-going groundwater monitoring and analysis reports from the Teapot Dome Landfill site should continue to be reviewed, to evaluate trends. The detection of PFAS in the irrigation well groundwater supports the designation of PFAS in site groundwater and its suspected wastewater source as a BER to the Subject Property. Please see Section 5.1.2 and Section 7.7 of this report for additional information regarding the sampling event and associated findings generated during the completion of this Phase I ESA.

- As noted in Section 3.3 and Section 7.0 of this report, CBRE observed the presence of various containers of herbicides, fungicides, pesticides, miticide products, and other agricultural chemicals as well as tractor-related fluids with the on-site warehouse/shed facility and throughout the associated equipment yard. In addition to these in-use chemicals containers, CBRE also observed three rusted, empty 55-gallon drums, an out-of-use aboveground storage tank (empty), an empty tote of agricultural chemicals near the irrigation well, and several aboveground well water storage tanks. Of note,

chemicals stored within the on-site warehouse/shed were placed atop concrete or on small shelving units while chemical containers within the equipment storage yard were stored directly atop exposed soils. As no evidence of significant stains, spills, leaks, and/ or distressed vegetation was noted, CBRE considers the observed presence of on-site chemicals and associated containers (empty and in-use), as well as the presumed historical agricultural yard use, to represent a BER to the Subject Property.

- Based on the historical agricultural usage there is a potential for the soil at the Subject Property to harbor residual agricultural chemicals from normal use. As the Subject Property is proposed to continue to be used for agricultural proposes, CBRE does not consider the potential residual agricultural chemicals to be present in soil to represent a REC. The intended future use of the Subject Property may change in the future, and CBRE does consider normal agricultural chemical use to represent a BER.
- The Subject Property was formerly developed with residential and/or farm-related structures from at least 1929 to circa 1952, and likely serviced by a septic system at that time. Currently, the Subject Property does not generate sanitary waste and is not connected to the municipal sewer system. CBRE was unable to ascertain any information regarding the location of the former septic system or how it might have been abandoned. Thus, CBRE considers the possibility of an abandoned/relic septic system to represent a BER to the Subject Property. No further assessment is recommended at this time; however, should a system be identified in the future it should be properly abandoned or removed in accordance with applicable regulatory requirements at that time.

RECOMMENDATIONS

The nearby Teapot Dome Landfill and the City of Porterville WWTP effluent infiltration basins have potential to impact the Subject Property with CVOC, metals, cyanide, and PFAS contaminants. The potential for impact constitutes RECS and BERs to the Subject Property and is based on several factors:

- Prior reports of extensive groundwater monitoring by Tulare County at the landfill and downgradient supply wells that indicate groundwater impact by the stated contaminants.
- Source proximity and documented hydraulic and topographically-based potential for migration of impact to the Subject Sites.
- Monitoring that shows PFAS impact, albeit below action levels, in the site irrigation supply well.

To establish greater certainty regarding potential site impact associated with the RECs and BERs, CBRE recommends subsurface investigation of the unconfined groundwater zone and the upper semi-confined groundwater zone beneath the site. Specifically, an approach recommended by CBRE will provide much greater certainty regarding the site conditions and anticipated future use in relation to the REC from Teapot Dome Landfill impact and the BER from the City of Porterville WWTP effluent infiltration. Determination of the need for additional evaluation of the on-site uses as BERs can also be considered as part of the subsurface investigation, if necessary.

2.0 INTRODUCTION

2.1 General

CBRE was retained by Renewable Resources Group ("Client" or "User") to prepare a Phase I ESA, in conformance with ASTM International's Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process E 1527-13 and Client's Scope of Work on the Subject Property in accordance with our Agreement dated August 6, 2020, and the Conditions and Limitations described herein.

2.2 Purpose

The purpose of this report is to identify potential RECs in connection with the Subject Property, using the methodology recommended by ASTM International for a user to satisfy one of the requirements to qualify for the innocent landowner, contiguous Subject Property owner, or bona fide prospective purchaser defenses to CERCLA liability and/or to help understand potential environmental conditions that could materially impact the operation of the business associated with the Subject Property. Specifically, this methodology is referred to as *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* Designation: E 1527-13.

2.3 Scope

This assessment consisted of reviewing readily ascertainable information and environmental data relating to the Subject Property; interviewing readily available persons knowledgeable about the Subject Property; reviewing readily available maps, aerial photographs and records maintained by federal, state, and local regulatory agencies; and conducting a visit to the Subject Property.

The Client is advised that federal, state, and local laws may impose environmental assessment obligations beyond the scope of this practice.

The specific scope of this assignment included the following:

Subject Property Reconnaissance

A reconnaissance of the Subject Property was performed to characterize conditions and assess the likelihood of identifying RECs in connection with the Subject Property. This includes consideration of observed adjoining and surrounding property uses, natural surface features, surrounding roadways, and other adjoining and nearby improvements. To the extent that they can be visually and/or physically observed, current and past uses of the Subject Property, adjoining and surrounding area, and associated known or potential environmental concerns and RECs were documented. Photographs taken as part of the Subject Property reconnaissance are provided in the Photographs Appendix of this report.

Interviews

CBRE made a reasonable effort to interview past and present owners and occupants, as well as government representatives to obtain information on present and previous on-site activities potentially resulting in environmental degradation of the Subject Property or adjoining properties. A reasonable effort was also made to interview the User or their representative to assist the User and the environmental professional in gathering information from the User that may be material to identifying RECs. In accordance with ASTM E1527-13, questions and/or questionnaires have been established specific to 1) key site contact; 2) past and present owners and occupants (if not the key site contact); and 3) the User or representative(s). These questionnaires are in the User and Pre-Survey Questionnaires Appendix of this report.

Previous Reports and Documentation

If provided, the Phase I ESA process included the review of information such as previously prepared appraisals, building plans and specifications, and environmental reports from the User. Copies of pertinent documents provided to and reviewed by CBRE are included in the Correspondence and Supporting Documents Appendix of this report.

Historical Documents

CBRE reviewed readily available historical documents to identify previous activities on and in the vicinity of the Subject Property. These include topographic maps, Sanborn Fire Insurance Maps, aerial photographs, and city directories, if available, as described within Section 4.0 HISTORICAL USE . Copies of these documents are included in the Maps and/or Historical Aerial Photographs Appendix of this report.

Regulatory Records

The Phase I ESA process included reviewing readily available environmental databases maintained by federal, state, and local agencies within the approximate minimum search distances as described within Section 5.0 REGULATORY RECORDS in this report. A copy of the environmental Regulatory Database Report (Regulatory Database), provided by EDR can be referenced in the Regulatory Database Report Appendix of this report.

Regulatory Agency File Review

CBRE reviewed readily available environmental databases maintained as files, records, or reports by federal, state, and local agencies, as applicable, to assess environmental conditions at the Subject Property, and as appropriate the adjoining or surrounding properties, as described within Section 5.2 Regulatory Agency File and Records Review. A copy of the records can be referenced in the Supplementary Documentation Appendix of the report.

Vapor Encroachment Screening

CBRE conducted a "Tier I" (non-intrusive) Vapor Encroachment Screening (VES) on the Subject Property in accordance with the methodology set forth in ASTM E 2600-15 "*Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions"* as described in Section 9.0 VAPOR ENCROACHMENT CONDITIONS (VECs). CBRE utilized applicable industry standard methodology for conducting the VES.

Non-ASTM Scope Considerations

Environmental issues or conditions that are not included in CERCLA's definition of hazardous substances (42 U.S.C. §9601(14)), or that do not otherwise present potential CERCLA liability at a property, that are outside the scope of this practice and that have been considered, are documented in Section 8.0 NON-ASTM SCOPE CONSIDERATIONS. This may also include standards or protocols for the assessment of potential hazards and conditions associated with non-scope conditions developed by governmental entities, professional organizations, private entities, or the User of this Phase I ESA.

Asbestos

CBRE conducted a visual survey of readily accessible common areas to identify the presence of the most obvious and common types of suspect asbestos-containing materials (ACM). The basis for "suspect" determination is taken from the materials listed in Appendix G of the USEPA publication Managing Asbestos in Place (also known as the Green Book). Building materials listed within Appendix G of the Green Book are considered to be suspect ACMs at the Subject Property. The suspect ACM screening is not intended for formal identification or management of asbestos in building materials that might be disturbed by demolition, abatement, renovation, or repair work.

Microbial Growth

In the course of conducting observations for the presence of microbial growth, only representative accessible portions of the Subject Property improvements were inspected. In those observed portions, CBRE made representative observations of areas that are readily accessible, easily visible, and safe with respect to the field observer. For this reason CBRE does not warrant that findings represent conditions in unobserved areas. The limited observations for mold are not to be construed as a in-depth microbial survey.

Lead Based Paint

CBRE evaluated the age of the Subject Property to determine whether it is predisposed to contain lead-based paint (LBP), and if the presence of LBP is likely, made observations of the condition of painted surface. In the course of conducting observations for the presence of LBP, only representative accessible portions of the Subject Property improvements were inspected. In those observed portions, such observations were limited to representative areas that were readily

accessible, easily visible, and safe with respect to the field observer. For this reason CBRE does not warrant that findings represent conditions in unobserved areas. The limited observations for lead-based paint are not to be construed as a in-depth LBP survey.

Sample Collection and Analysis

Testing, if any, of building materials, was designed solely to meet the requirements of the client's scope of work, not to meet any local, state or federal regulations and shall not be utilized as such, unless indicated herein.

Wetlands

A wetland delineation survey was beyond the scope of this assessment. CBRE reviewed the applicable United States Fish and Wildlife Service National Wetlands Inventory (NWI) map and USGS quadrangle map. Observations were made for general wetland features.

Radon

CBRE reviewed published radon occurrence maps to determine whether the site is located in an area with a propensity for elevated radon concentrations.

2.4 Data Gaps

According to § 3.2.21 of ASTM Standard E 1527-13, a data gap is a lack of or inability to obtain information required by the ASTM Standard despite good faith efforts to gather same. Data gaps may result from incompleteness in any of the activities required by the ASTM Standard. The following data gaps were identified in connection with this report:

Data Gap Detail	Significance of Data Gap
History not conducted back to the Subject Property's first developed use, or 1940, whichever is earlier (See § 4)	Low - not likely to alter Report's conclusions due to information reviewed from historical sources of information such as aerial photographs, historic topographic maps, city directory abstracts, fire insurance maps, and interviews with individuals who were familiar with the historical use of the Subject Property.
Site history not conducted in 5-year intervals (See § 4)	Low - not likely to alter Report's conclusions
User Questionnaire not returned to CBRE	Low - not likely to alter Report's conclusions
No response to FOIA (See § 5.2)	Low - not likely to alter Report's conclusions
Unable to locate or interview former site owner or operator	Low - not likely to alter Report's conclusions

None of the data gaps affected the ability of the Environmental Professionals involved in this assessment to identify RECs in connection with the Subject Property, as defined by ASTM. If receipt of a FOIA response alters the report's conclusions, the client will be notified.

3.0 SUBJECT PROPERTY AND AREA DESCRIPTION

3.1 Subject Property Location Details

Refer to the Subject Property Plan and available Tax Maps provided within the Site Plan / Location Map Appendix of this report.

Name	Behl Property
Address	158.58 Acre Tract of Agricultural Land, Porterville, Tulare County, California 93257
Additional Addresses	A physical address for the Subject Property was not available. Thus, for the purposes of identifying the Subject Property, corresponding with local municipalities, and researching regulatory/historical records, CBRE identified the Subject Property as being 158.58-acres of land located to the northwest of the Avenue 128 and Rockford Road (Road 208) intersection.
Acreage	158.58-Acres
Number of Parcels	One
Shape	Rectangular
Parcel ID Number(s)	302-020-013-000
Parcel ID Source	Tulare County Property Appraiser

3.2 Subject Property Improvements

The following information was obtained from various sources, including the County Assessor, personnel associated with the Subject Property, and visual observations.

Building Information

Number of Buildings	One; Metal Warehouse/Shed
Construction Dates	Early- to mid-19
Building Square Footage	2,160-Square Feet
Number of Stories	One
Number of Units	One
Substructure	Slab-on-grade
Superstructure	Conventional steel stud framing.
Exterior Walls	Painted corrugated sheet metal walls.
Roof Systems	Pitched; corrugated sheet metal.

Interior Finishes	Open system
HVAC	Heating and cooling are not provided.
Vertical Transportation	None
Parking Structures	Unpaved surface parking.

Utilities

Date of Utility Connections	Since Construction
Domestic (Potable) Water	Not provided; a single irrigation water well, utilized for on-site irrigation of the walnut orchard is present next to the metal warehouse/shed located on the eastern portion of the Subject Property.
Sanitary Waste	Not provided
Storm Drainage and Runoff	Not provided
Electricity	Southern California Edison
Natural Gas	Not provided

3.3 Current Subject Property Use and Operations

At the time of CBRE's site reconnaissance, the Subject Property predominately consisted of an walnut orchard with unpaved access roads traversing the central and northern portions of the Subject Property. Further, an approximately 2,160-square foot metal warehouse/shed building, used for housing farming equipment and agricultural chemicals, as well as an irrigation well was present on the eastern portion of the Subject Property, along Rockford Road.

More specifically, the on-site warehouse/shed is located within a fenced, unpaved equipment yard. The equipment yard was noted to be used to store various pieces of agricultural equipment as well as waste tractor tires, scrap metal, concrete conduit piping, pallets, and other similar pieces of equipment traditionally utilized in farming operations. Also present within this area were three rusted, 55-gallon drums of unknown content (i.e. drums were unlabeled and one was noted to be punctured) and an out-of-use, rusted aboveground storage tank (AST), presumably used previously to refuel on-site diesel equipment (i.e. tractors, etc.). Of importance, although evidence of significant stains, spills and/or leaks was not readily identified within proximity of the observed drums and ASTs or within the overall equipment yard, based on the storage of these items atop exposed soils as well as approximately 30-40 years of agricultural equipment and chemical storage in this area, CBRE considers the possibility for concentrated agricultural chemical and petroleum hydrocarbon impacts to represent a BER to the Subject Property. Please see Section 7.0 of this report for additional information regarding the equipment and associated materials stored within the equipment yard.

As further denoted within Section 7.0of this report, the interior of the on-site warehouse/shed, which sits atop a concrete foundation free of subsurface infrastructure (i.e. floor drains, sumps, clarifiers, oil-water separators), was observed to be predominately empty but for the presence

of small quantities of various agricultural chemicals stored within original containers on the building's floor and small shelving units. With the exception of apparent surface staining on the concrete flooring within the building, evidence of significant stains, spills and/or leaks indicative of prior, significant releases was not observed within the on-site warehouse/shed. Further inventorying of all on-site chemicals is listed in Section 7.3 of this report.

With respect to the on-site irrigation well, this feature was noted to be located directly next to the equipment storage yard. The irrigation well was observed to be equipped with a wellhead, a filtration system, a submersible electrical pump (not vertical turbines), and several large water storage ASTs (plastic). Evidence of stains, spills, leaks, and/or chemical storage was noted within proximity of the well system. Please see Section 7.7 of this report for additional information regarding the well. Of note, this section also includes a detailed discussion of CBRE's well sampling event that was completed as part of this Phase I ESA's scope of work.

3.4 Adjoining and Surrounding Land Use

The Subject Property is located in a rural setting characterized by mixed-use development as tabulated below:

Direction	Adjoining Properties	Surrounding Properties
North	Agriculturally cultivated land (orchard)	Numerous tracts of agriculturally cultivated land with some scattered single-family residential farmsteads
East	Rockford Road (Road 208) followed by agriculturally cultivated land (orchard) inclusive of a single-family residential farmstead (13096 Road 208)	Numerous tracts of agriculturally cultivated land with some scattered single-family residential farmsteads
Southeast	Road 208 and Avenue 128 intersection followed by the Teapot Dome Landfill Tulare County (20801-21169 Teapot Dome Avenue)	Numerous tracts of agriculturally cultivated land with some scattered single-family residential farmsteads. The City of Porterville WWTP effluent infiltration areas are further to the southeast beyond the Firant-Kern Canal.
South	Avenue 128 followed by agriculturally cultivated land (orchard) inclusive of a single-family residential farmstead (20397 Avenue 128)	Numerous tracts of agriculturally cultivated land with some scattered single-family residential farmsteads
West	Agriculturally cultivated land (orchard)	Numerous tracts of agriculturally cultivated land with some scattered single-family residential farmsteads

No tenants, occupants, or operations were identified on the adjoining or surrounding properties that are considered an environmental concern to the Subject Property; with the exception of the Teapot Dome Landfill that is located immediately to the southeast of the Subject Property. This facility was identified on a number of regulatory databases associated with landfilling operations as well as documented releases affecting both soil and groundwater, inclusive of chlorinated

solvents, etc. Based on this facility's up-gradient position relative to the Subject Property and documented impacts to subsurface media, CBRE considers this facility to represent a REC to the Subject Property. Please see Section 5.1.2 of this report for additional information regarding the adjoining Teapot Dome Landfill.

3.5 Physical Setting

CBRE evaluated the general physical setting of the Subject Property and vicinity using Information regarding the topography, surface water, geology, and hydrology to evaluate the likelihood of hazardous substances or petroleum products originating from off-site sources, from within the Subject Property, or from the Subject Property to off-site receptors. The information was obtained from readily-accessible sources. Actual conditions may vary from general conditions in the area.

Physical Attribute	Description
Topography	The Subject Property is essentially level with slight regional slope to the west and northwest and at the same approximate topographic gradient as the surrounding properties. The topography of the area is best described as level to very gently sloping. According to the United States Geological Survey (USGS) *Porterville, California* 7.5 Minute Series 1969 topographic map, the Subject Property's topographic elevation is approximately 389' to 398' above mean sea level.
Surface Waters	No surface water bodies were observed on or bordering the Subject Property. The closest open surface water to the Subject Property is an irrigation canal, Friant-Kern Canal, which is located approximately 0.51 mile to the southeast.
Wetlands	CBRE reviewed the applicable United States Fish and Wildlife Service National Wetlands Inventory (NWI) map and USGS quadrangle map. Based on this information, no wetland resources were identified on the Subject Property. A 2.75 acre Freshwater Pond habitat is located southeast adjacent, across Road 208 and Avenue 128 intersection.

Physical Attribute	Description
Geology	There are no predominant geological surface features such as rock outcroppings on the Subject Property. The Subject Property is situated within the Great Valley, or Central Valley, Physiographic Province of the State of California. The Great Valley is an alluvial plain about 50 miles wide and 400 miles long in the central part of California. Its northern part is the Sacramento Valley, drained by the Sacramento River and its southern part is the San Joaquin Valley drained by the San Joaquin River. The Great Valley is a sediment-filled, regional tectonic trough in which sediments have been deposited almost continuously since the Jurassic (about 160 million years ago). The deeper parts of the trough are in the western parts of the valley, which have sediment thickenesses of greater than 20,000 feet, with the deeper sediments being from marine deposition and the shallower from continental deposition from erosion of the Coast Ranges on the west but most predominantly from the Sierra Nevada on the east. Oil fields have been found in southernmost San Joaquin Valley and along anticlinal uplifts on its southwestern margin. In the Sacramento Valley, the Sutter Buttes, the remnants of an isolated Pliocene volcano, rise above the valley floor. Based on available information at the Teapot Dome Landfill site, located southeast adjoining, the upper 300 feet below ground surface (bgs) consists of alluvial, fluvial, or lacustrine continental deposits, with upper young alluvium, up to 100 feet thick, and a lower, old alluvium, approximately 200 feet thick. The young alluvium is described as generally unsaturated but moderately to highly permeable. The old alluvium is described as lenticular deposits of brown clay, silt, sand and gravel, which are comparatively more weathered and cemented than in the young alluvium. Previous subsurface investigations have divided the site subsurface into four reasonably distinct waterbearing units; 1. Unconfined Aquifer of young alluvium (water table to about 110 feet bgs), 2. Semi-Confining Unit in old alluvium (110 feet to about 140 feet bgs), which may be coincident with the diatomaceous Corcoran Clay Member of the Tulare Formation (ancient Tulare Lake deposits), 3. Upper Semi-Confined Aquifer of old alluvium (about 140 feet to 310 feet bgs), and 4. Lower Semi-Confined Aquifer of oxidized continental deposits (about 310 feet to greater than 400 feet bgs), with general groundwater flow direction to generally westward. In the vernacular of this report, the uppermost waterbearing zone corresponds to unit 1, and the next-deepest water bearing zone corresponds to unit 3. The monitor wells at the adjacent Teapot Dome landfill are screened at discreet intervals, typically within these zones, with the M-x series designation being the uppermost, unit 1 wells, and the M-xB or M-xC series designations being the next-deepest, unit 3 wells. Groundwater flow in the uppermost (unit 1) zone beneath and apparently near the landfill is predominantly westward, and groundwater flow in the next-deepest, unit 3 wells varies with a component of flow westward on the southern part of the landfill and northwestward, toward the subject property, on the northern part of the landfill. Geophysical and soil boring data show that the Upper Semi-Confined Aquifer material is confined in discrete sand channels encased in a lower permeability matrix, inferred to be hydraulically connected vertically and horizontally, provide the source of water to water supply wells, and as pathways for transport of potential contaminants. Most water supply wells also likely penetrate the unit 4 Lower Semi-Confined Aquifer to provide sustainable water supply. Continuous, decades long pumping for agriculture has caused appreciable land surface subsidence and water level drops in the San Joaquin Valley and in particular in the local area.

Physical Attribute	Description
	Direct rainwater infiltration, agricultural water distribution, and losing stream conditions for surface water from Sierra Nevada snowmelt and rainwater outflow in streams and rivers are sources of aquifer replenishment. Certain properties are also flooded during times of high Sierra Nevada runoff with a goal of further aquifer replenishment. However, the various effort have not, to date, provided an equilibrium condition for groundwater, which continues to drop in elevation.
Soils	According to the USDA NRCS Web Soil Survey, soils are expected to be of the Exeter loam (72.0%), Flamen loam (14.3%), Tujunga loam (11.6%), and Nord fine sandy loam (2.1%) series. The Exeter series consists of moderately deep to a duripan, moderately well drained soils that formed in alluvium mainly from granitic sources. Exeter soils are on alluvial fans and stream terraces. The Tujunga series consists of very deep, somewhat excessively drained soils that formed in alluvium from granitic sources. Tujunga soils are on alluvial fans and floodplains, including urban areas. The Nord series consists of very deep, well drained soils that formed in mixed alluvium dominantly from granitic and sedimentary rocks. Nord soils occur on alluvial fans and flood plains. Slopes range from 0 to 2 percent
Groundwater	According to the USEPA *Groundwater Handbook, Vol. 1 Groundwater and Contamination*, *September 1990*, the water table typically conforms to surface topography. This means that the direction of flow for shallow groundwater is generally from higher elevations to lower elevations. Localized flow direction, however, may vary as a result of rainfall, development, geologic characteristics, nearby surface water bodies, underground utilities such as storm drains, septic systems and sewers, or other influences such as the presence of pumping from high capacity wells, which are common in the site vicinity and include the site irrigation supply well. Shallow groundwater in the vicinity of the Subject Property is anticipated to be encountered at a depths between 100' and 140' below ground surface with a groundwater flow direction inferred to be generally westward toward the center of the Central Valley, unless affected by localized irrigation supply well pumping.

4.0 HISTORICAL USE

Subject Property Summary Findings

Historically, the Subject Property appears to have been a mix of undeveloped, vacant and agriculturally cultivated land with a single-family residential farmstead and an irrigation pond located on the eastern side (along Rockford Road) and an irrigation mole ditch traversing the western, central and northern portions of the Subject Property from at least 1928 (earliest available topographic map) until the 1950s when the prior irrigation pond and mole ditch were depicted as no longer in use. The apparent single-family residential farmstead appears to have remained on-site through at least the 1960s, and by at least 1984, this area had been redeveloped with the current on-site metal warehouse/shed. With the exception of some apparent rotational landfarming and replanting, the Subject Property appears to have remained in this same configuration through the present.

Based on the historical agricultural usage there is a potential for the soil at the Subject Property to harbor residual agricultural chemicals. As the Subject Property is proposed to continue to be used for agricultural proposes, CBRE does not consider the potential residual agricultural chemicals to be present in soil to represent a REC; however, as the intended future use of the Subject Property may change in the future, CBRE does consider this condition to represent a BER.

Adjoining and Surrounding Property Summary Findings

The historical uses of the adjoining and surrounding properties predominately consisted of a mix of undeveloped, vacant and agriculturally cultivated land with scattered single-family residential farmsteads with ancillary support structures from at least 1929 to present. Of note and as previously cited in Section 3.4 of this report, the southeast adjoining property, beyond the Avenue 128 and Rockford Road intersection, is known to have been in operation since at least 1950. Historical operations affiliated with the Teapot Dome Landfill are known to have resulted in various impacts to soil and groundwater. Based on this facility's up-gradient position relative to the Subject Property and documented impacts to subsurface media, CBRE considers this facility to represent a REC to the Subject Property. Please see Section 5.1.2 of this report for additional information regarding the adjoining Teapot Dome Landfill.

Sources of Historical Information

The following table summarizes the time interval and sources of information reviewed to determine the historical use of the Subject Property, as well as the adjoining and surrounding area.

Dates	Topographic Maps	Aerial Photographs	Sanborn Maps	City Directory Abstracts	Other
Pre - 1940	✔	✔			
1940	✔				

Dates	Topographic Maps	Aerial Photographs	Sanborn Maps	City Directory Abstracts	Other
1945					
1950	✔	✔			
1955					
1960				✔	
1965				✔	
1970	✔	✔		✔	
1975		✔		✔	
1980				✔	
1985		✔		✔	
1990				✔	
1995		✔		✔	
2000				✔	
2005		✔		✔	
2010	✔	✔		✔	
2015		✔		✔	
2020					

4.1 Topographic Maps

CBRE reviewed the following historical topographic maps of the Subject Property and vicinity, as provided by EDR and included in the Maps and/or Historical Aerial Photographs Appendix of this report:

Topographic Maps		
Year	**Subject Property**	**Surrounding Properties**
1928	The Subject Property is depicted as predominately undeveloped, vacant land, but for an apparent irrigation pond and single-family residential farmhouse located along the far eastern boundary of the Subject Property. Additionally, portions of a "Mole Ditch" are depicted as traversing the central and northern portion of the Subject Property, in a reverse L-shape.	The adjoining and surrounding properties are predominately depicted as a mix of undeveloped, vacant and agriculturally cultivated land, but for the current Avenue 128 and Rockford Road abutting the southern and eastern Subject Property boundaries, respectively. Of note, the adjoining and surrounding areas are generally void of significant structural development; however, some scattered improvements, presumably single-family residential farmsteads or agricultural support structures are depicted as improved within the area.
1942	The Subject Property is depicted in a generally similar manner as the previously reviewed topographic map.	The adjoining and surrounding properties are depicted in generally the same manner as the previously reviewed topographic map, but for an irrigation reservoir, seemingly associated with the "Mole Ditch" depicted as improved on the west adjoining property.
1951	The previously described on-site irrigation pond is no longer depicted as improved along the Subject Property's eastern boundary; however, an additional structure, likely an agricultural support structure is depicted as improved near the southeastern corner of the Subject Property. The remainder of the Subject Property is depicted in a generally similar manner to the previously reviewed topographic map.	The adjoining and surrounding properties are depicted in generally the same manner as the previously reviewed topographic map, but for the southeast adjoining/surrounding properties being depicted as improved with several gravel pits. The current Friant Kern Canal is depicted as improved to the east of the denoted gravel pits.
1969	Previously described "Mole Ditch" is no longer depicted as improved on the Subject Property. Otherwise, the remainder of the Subject Property is depicted in a generally similar manner to the previously reviewed topographic map.	The previously described reservoir on the west adjoining property is no longer depicted as improved, while the east adjoining properties, beyond Rockford Road, are depicted as improved with orchards. Otherwise, the adjoining and surrounding properties are depicted in a similar manner to the previously reviewed topographic map.
2012	The most recent US topographic map reviewed is a graphic representation of The National Map digital data. Some features depicted on traditional topographic maps, such as pipelines and buildings, are absent because suitable data is not currently available.	

4.2 Aerial Photographs

Aerial photographs provided by EDR were reviewed to identify historical features of the Subject Property and vicinity that are considered an environmental concern. Aerial maps are located in the Maps and/or Historical Aerial Photographs Appendix of this report. A summary of the review of aerial photographs follows:

Aerial Photographs		
Year	**Subject Property**	**Surrounding Properties**
1937	The Subject Property appears as agriculturally cultivated land with several small structures on the southeastern portion, likely a single-family residential farmstead with ancillary support structures, and an apparent irrigation pond appears present on the eastern boundary, along Rockford Road. A reverse L-shaped irrigation ditch appears to traverse the central and northern portions of the Subject Property.	The adjoining and surrounding properties predominately appear as a mix of undeveloped, vacant or agriculturally cultivated land the current Avenue 128 and Rockford Road appearing improved along the eastern and southern Subject Property boundaries. Apparent single-family residential farmsteads with ancillary support structures appear on the northeast, east (beyond Rockford Road), and southwest (beyond Avenue 128) adjoining properties. Additionally, an apparent irrigation pond associated with the on-site irritation ditch appears improved on the west adjoining property.
1952	The previously described irrigation pond no longer appears present. Otherwise, the Subject Property appears in generally the same manner as the previously reviewed aerial photograph.	The adjoining and surrounding properties appear in the same general configuration as the previously reviewed aerial photograph.
1969, 1977	The previously described reverse L-shaped irrigation ditch no longer appears on-site. Additionally, several of the previously described on-site buildings no longer appear improved. Otherwise, the Subject Property appears in generally the same manner as the previously reviewed aerial photograph.	The previously described irrigation pond on the west adjoining property no longer appears improved. Additionally, the southeast adjoining property, beyond the Avenue 128 and Rockford Road intersection, appears to have undergone some level of earthmoving, likely affiliated with the Teapot Dome Landfill.
1984, 1994	All prior on-site improvements appear to have been razed and the current on-site warehouse/shed appears improved. The remainder of the Subject Property appears generally similar to the previously reviewed aerial photographs.	The adjoining and surrounding properties appear in the same general configuration as the previously reviewed aerial photographs, but for the apparent presence of additional earth moving activities and the presence of a manmade pond on the southeast adjoining property, beyond the Avenue 128 and Rockford Road intersection.

Aerial Photographs		
Year	**Subject Property**	**Surrounding Properties**
2006, 2009, 2012, 2016	The Subject Property appears in generally the same manner as the previously reviewed aerial photographs.	The adjoining and surrounding properties appear in generally the same manner as the previously reviewed aerial photographs, but for the northeast adjoining property no longer appearing improved with apparent single-family residential farmstead structures. The landfill to the southeast of the Subject Property also appears further developed.

4.3 City Directories

A historical City Directory Abstract provided by EDR was reviewed to assess the presence of historical occupants with potentially adverse environmental operations or conditions at the Subject Property and vicinity. The years and associated general uses and/or operations are summarized in the following table.

City Directory Abstracts		
Year	**Subject Property**	**Adjoining/Surrounding Properties**
1992	Not listed.	Road 208: 12325-14264 Private individuals, 13096 Edwards Nicki Portraiture.
1995	Not listed.	Road 208: 12325-14264 Private individuals, 13096 Edwards Nicki Portraiture.
2000	Not listed.	Road 208: 12325-14264 Private individuals, 13096 Edwards Nicki Portraiture.
2005	Road 208: 12891 Occupant unknown.	Road 208: 11939 A&E Farms, Occupant Unknown, 12325-14284 Private individuals, 13096 Edwards Nicki Portraiture.
2010	Not listed.	Road 208: 11939-14284 Private individuals, 13096 Nicki Edwards Portraiture.
2014	Not listed.	Road 208: 11939-14284 Private individuals, 13096 Nicki Edwards Portraiture.
2017	Not listed.	Road 208: 11939-14264 Private individuals, 13096 Nicki Edwards Portraiture.

A review of City Directory Abstracts did not identify environmental concerns to the Subject Property. The Subject Property address was not available or provided; however, may include 12891 Road 208, which was listed with 'Occupant Unknown' in 2005 only. Adjoining and surrounding properties consisted of residential, agriculture, and an artist listings.

4.4 Chain-of-Ownership / Chain-of-Title

A copy of the Subject Property's Chain-of-Title has not been provided to CBRE for review.

4.5 Previous Reports, Plans, Surveys, and Other Historical Documentation

Although requested, no previously prepared documentation related to the Subject Property, such as Phase I or II Environmental Site Assessments, lead-based paint surveys, lead-in-water surveys, asbestos surveys or geotechnical reports were provided to CBRE.

Of note, CBRE did review previously prepared records related to the southeast adjoining Teapot Dome Landfill, due to it environmentally sensitive operations and the types of regulatory database listings affiliated with the facility. CBRE's review of available records is further discussed in Section 5.12 of this report.

5.0 REGULATORY RECORDS

5.1 Regulatory Database

The Regulatory Database Report documents the listing of sites identified on federal, state and local (when applicable) standard source environmental databases within the approximate minimum search distance (AMSD) specified by ASTM Standard Practice for Environmental Site Assessments E 1527-13. A copy of the Regulatory Database Report is in the Appendices and is used to identify RECs in connection with the Subject Property. The listings serve to identify the known indications of the storage, use, generation, disposal, or release of hazardous substance at the Subject Property and the potential for contaminants to migrate onto the Subject Property from off-site sources in groundwater, or soil in the form of liquids or vapor.

The following table lists the number of sites as categorized by the regulatory database within the prescribed AMSD.

Database Reviewed	AMSD (Mile)	Subject Property	Adjoining	Surrounding	Total Within AMSD
Federal NPL Site List	1.00				0
Federal SEMS Sites	0.50				0
SEMS-ARCHIVE (No Further Action) Sites	0.50		✔		1
Federal RCRIS TSD Sites	0.50				0
Federal RCRIS Generators Sites	Subject Property / Adjoining				0
Federal CORRACTS Site	1.00				0
Federal ERNS Site	Subject Property				0
Federal IC/EC Registries	Subject Property				0
Federal FINDS Site	Subject Property				0
State and Tribal Equivalent NPL	1.0				0
State and Tribal Lists of SEMS Equivalent Sites (former Equivalent CERCLIS)	0.50				0
State and Tribal Landfills or Solid Waste Sites	0.50		✔		1

Database Reviewed	AMSD (Mile)	Subject Property	Adjoining	Surrounding	Total Within AMSD
State and Tribal Registered UST Site Facility List	Subject Property / Adjoining				0
State and Tribal Leaking UST/Spill (LUST) List	0.50				0
State and Tribal IC/ EC Registries	Subject Property				0
State and Tribal Voluntary Cleanup Sites	0.50				0
State and Tribal Brownfields Sites	0.50				0
Other Regulatory Databases	Subject Property / Adjoining				2

5.1.1 Subject Property Listings and Findings

The Subject Property was not identified on any regulatory databases reviewed by CBRE as part of this assessment.

5.1.2 Adjoining / Surrounding Property Listings and Findings

CBRE considered the following factors to determine if sites on the list have a likelihood to represent an environmental concern to the Subject Property:

- The regulatory status and specific database listing on which the site is identified.
- The topographic position, direction, and distance of the identified site relative to the Subject Property.
- Local soil conditions in the Subject Property area.
- The known or inferred groundwater flow direction in the Subject Property area.
- Surface and subsurface obstructions and preferential pathways (e.g., buildings, roads, sewers, utility service lines, rivers, lakes, and ditches) between the identified site and the Subject Property.

Adjoining Properties

The southeast adjoining Teapot Dome Solid Waste Disposal facility, addressed as 21063 Avenue 128 and located immediately beyond the Avenue 128 and Rockford Road intersection, was identified on the SWF/LF, SEMS-Archive, Financial Assurance, and CERS.

Information related to these listings indicated that the facility is permitted to operate as a 122-acre solid waste landfill that accepts a variety of waste including agricultural debris, construction/ demolition materials, industrial wastes, and mixed municipal items. Under its current ownership, Tulare County, the facility is permitted to dispose of 800 tons of waste per day, with a maximum capacity of 8,320,307 total cubic yards. Of note, based on information provided in the regulatory database report, the facility currently has an additional 712,861 cubic yards of additional capacity remaining. With respect to the facility's permits, the most recently issued operating permit was dated July 24, 2017 and has an established closure/expiration date of December 31, 2022, which was premised on regulatory approval of a closure plan and the provision of a $1,000,000 insurance policy (i.e. the Financial Assurance regulatory database listing).

The facility's SEMS-Archive listing is related to historical subsurface investigations that were completed at the facility in the late-1980s and early-1990s, more specifically a discovery event was assigned to the Subject Property in 1987 and full assessment was conducted through 1990. Based on the previously completed investigations, the facility's regulatory status was transitioned to "no further remedial action planned" as the site did not qualify for registration as a federal National Priority List (NPL) facility.

To further support the above, CBRE reviewed numerous previously prepared reports (available online) including a January 29, 2020 Per- and Polyfluoroalkyl Substances (PFAS) Sampling Report for the Teapot Dome Landfill. The assessment was prepared for the California Regional Water Quality Control Board - Central Valley Region (RWQCB) by Mr. James W. Babcock, PhD, PG (Babcock).

Babcock reported that the Teapot Dome Landfill is an active municipal Class III solid waste landfill that originally started operation in 1950 and currently operates an approximately 71-acre unlined waste management unit. In addition, Babcock reports that a landfill gas extraction system has been in operation on-site since January 2001. According to RWQCB information, the extraction system was implemented at the Teapot Dome Landfill due to the documented release of landfill constituents to groundwater.

As part of this determination, an evaluation monitoring program (EMP) was required to be completed as required by applicable regulations. Subsequently, Tulare County implemented an EMP that was successfully completed, inclusive of an Engineering Feasibility Study (EFS). As part of the EFS, a corrective action plan (CAP) was submitted and approved by the RWQCB in 2006. The CAP implemented corrective action measures to ensure that constituents of concern achieve their respective water quality protection standard at all monitoring points affected by the release, including chlorinated volatile organic compounds (CVOCs). In 2015, a CAP evaluation report was approved by the RWQCB which included required sampling of off-site potable (domestic) and irrigation water supply wells located to the west and southwest of the Subject Property. The 2015 sampling event documented that the contaminate plume emanating from the Teapot Dome Landfill was stable and groundwater remediation via natural attenuation was proving effective.

As of the date of the Babcock report, there were a total of 29 on-site and three off-site groundwater monitoring wells that were all being sampled in accordance with a RWQCB-approved semi-annual groundwater monitoring program. Documented impacts to groundwater to the west and southwest of the Teapot Dome Landfill include tetrachloroethene

(PCE), trichloroethene (TCE) and their degradation products. The semi-annual groundwater monitoring program includes sampling landfill wells M10-A and M10-B. Monitoring well M10-A is screened in the unconfined groundwater zone, and monitoring well M10-B is screened in the upper semi-confined groundwater zone. These wells are situated near the northwest corner of the landfill, near the southeast corner of the Subject Property. During the 2019 second semi-annual groundwater monitoring event (October 2019) detected CVOC concentrations in well M10-B were all below regulatory limits. Well M10-A was dry and could not be sampled.

Of importance, in December 2019, groundwater samples were also collected from two up-gradient and two down-gradient monitoring wells (already in existence) at the Teapot Dome Landfill to investigate the potential presence of PFAS in groundwater. The analytical sampling results determined that various combinations of PFAS constituents (PFBA, PFBS, PFHPA, PFHXA, PFHXS, PFNA, PFOA, PFOS, PFOSA, and/or PFPEA) were present in all of the analyzed samples, ranging from 3.6 to 39 nanograms per liter (ng/L). As the Teapot Dome Landfill is located downgradient from the City of Porterville's WWTP, located immediately southeast of the Teapot Dome Landfill (across the Friant Kern Canal), and impacts were detected in both up-gradient and down-gradient wells. Babcock concluded that the varying PFAS concentrations were from the source of treated wastewater effluent discharge. More specifically, the detected impacts in the up-gradient wells indicated that the source of the PFAS impacts could not be coming directly from the Teapot Dome Landfill, and no other feasible sources for PFAS impacts were identified as being present within the immediate area. Based on the results, Babcock reported that upgradient recharge of groundwater from the WWTP effluent disposal pond contains PFAS, and the detected concentration of PFAS at the Teapot Dome Landfill site likely from an off-site source. Babcock also found that the sampling equipment used in the assessment was not a source of the identified PFAS impacts.

Based on the close proximity to the Teapot Dome Landfill site, the reported CVOCs impacts represent a REC to the Subject Property. Further, the detailing of PFAS impacts from an up-gradient source to the Teapot Dome Landfill is considered to represent a BER to the Subject Property, based on groundwater sampling conducted by CBRE as part of this Phase I ESA Scope of Work and further discussed in Section 7.7 of this report. Please refer to Section 7.7 of this report for additional detailing of PFAS analytical findings and the associated determination of the impacts representing BER to the Subject Property.

Surrounding Properties

Given a variety of factors including intervening distances, anticipated groundwater flow (southeast to northwest), the furthest known extent to areas of possible contamination, and/or regulatory status, sites with additional regulatory database listings within the area of the Subject Property were determined to not represent RECs to the Subject Property.

5.1.3 Discussion of Orphan Sites

The regulatory database identified five "Orphan Sites." Orphan Sites are those sites that could not be mapped or "geocoded" due to inadequate address information. CBRE attempted to locate these sites via a review of street maps, vehicular reconnaissance and/or interviews with people familiar with the area. Based on the information reviewed by CBRE, no Orphan Sites were identified within the AMSD.

5.2 Government Records Review and Findings

Summary of Findings

The following table summarizes regulatory agencies that were contacted for records and the response status on the Subject Property and/or surrounding sites of interest.

Agency	Contact	Contact No.	Date	Response
Building Dept.	Samantha Franks	rmapublicrequest @co.tulare.ca.us	08/13/20	Yes
Tax Assessor	Online research	https://tularecounty .ca.gov/assessor/ index.cfm/ parcel-search/	08/13/20	Yes
Fire Dept.	Telephone	(559) 802-9800	08/13/20	No
Tulare County Health Dept.	Joel Martens	(559) 624-7419	08/13/20	Yes
San Joaquin Valley Air Pollution Control District	Online request	https://www.valleyair.org/General_info/public_records_release_request.htm	08/13/20	Yes
RWQCB	Online research	https://geotracker.waterboards.ca.gov/	08/07/20	Yes
Department of Toxic Substances Control (DTSC)	Online research	https://www.envirostor.dtsc.ca.gov/public/ https://hwts.dtsc.ca.gov/report_search.cfm?id=5	08/07/20	Yes
California Department of Conservation	Online research	https://maps.conservation.ca.gov/doggr/wellfinder/#close	08/07/20	Yes

5.2.1 Municipal Records Review and Interviews

The status of the request for information and/or interviews from municipal agencies is described below:

Building Department
Review of records provided by the Building Department included one permit to replace 200AMP service for agriculture pump in 2010 and one expired permit to install a 1,500-gallon septic tank for a proposed farm bathroom and shower, which was never completed. No additional information and no information of environmental concern were provided.
Tax Assessor
According to the tax assessor records, the Subject Property improvements were constructed on a 158.58-acre parcel. The Subject Property is identified on local tax maps as 302-020-013-000. The existing Subject Property improvements were constructed in Early- to mid-19.
Fire Department
No response received as of the date of this report.
Tulare County Health Department
The response from the County Health Department did not identify records available for the Subject Property.
Air Pollution Control District
The response from the Air Pollution Control District did not identify records available for the Subject Property.
Zoning
According to the Tulare County, the Subject Property is located within the AE-20 zoning, an agricultural district.

5.2.2 State Agency Records Review and Interviews

The status of the request for information from state agencies and the information received is described below:

Regional Water Quality Control Board (RWQCB)
The Subject Property was not identified on the RWQCB's GeoTracker database online.
DTSC EnviroStor and Hazardous Waste Tracking System (HWTS)
The Subject Property was not identified on the DTSC's EnviroStor or HWTS databases online.

California Department of Conservation
According to the California Department of Conservation's online Well Finder database, no oil or gas well is located on the Subject Property. However, one plugged dry hole well is located approximately 0.3 mile to the east of the Subject Property. The lease and operator is identified as Porterville Oil Syndicate. Based on the distance and status, this plugged well is not considered to represent an REC to the Subject Property.

5.2.3 Environmental Permits

Based on available information reviewed by CBRE, no environmental permits such as wastewater discharge, National Pollutant Discharge Elimination System (NPDES), air emissions, or petroleum bulk storage (PBS) tank registrations are required at the Subject Property.

5.3 Environmental Liens and/or Activity and Use Limitations (AULs)

A review of available records cited in this section did not identify environmental liens or AULs associated with the Subject Property.

6.0 QUESTIONNAIRES AND INTERVIEWS

CBRE sent a User Questionnaire to the User, or conducted interviews as tabulated below. The purpose of User Questionnaire is to determine the User's knowledge of environmental concerns related to the Subject Property. The purpose of the interviews is to obtain information indicating RECs in connection with the Subject Property which were not apparent during CBRE's site reconnaissance or historical review. This includes hazardous waste or toxic material releases and affected media, conditions, which may not have been apparent at the time of the site reconnaissance and to satisfy the User interview and all appropriate inquiry requirements.

Interview / Questionnaire Response Summary

Interviews / Questionnaires				
Name	**Affiliation**	**Telephone No.**	**Questionnaire**	**Interview**
Nadine Stroud	User		Not Completed	Not Completed
David Gill	Senior Associate, Lion Group	(559) 361-6758	Not Completed	Completed

Summary of Findings

The information obtained from the interview identified no environmental concerns associated with the Subject Property.

6.1 Subject Property Representative Interviews

6.1.1 User

The User did not provide a completed User Questionnaire.

6.1.2 Key Site Manager

Historical Site Use

According to David Gill, the Senior Associate at Lion Group, who has been involved with the Subject Property for the past six years, the current Subject Property owner did not have knowledge of the year built or size of the warehouse shell building. The owner acquired the Subject Property in 2017 and did not receive any information regarding the Subject Property and improvements. Mr. Gill indicated that the Subject Property has always been an agriculture land with one irrigation well.

Proceedings Involving the Subject Property

According to David Gill, they had no knowledge of pending, threatened, or past litigation, administrative proceedings, or notices from governmental agencies regarding violations of environmental laws regarding hazardous substances or petroleum products involving the Subject Property.

6.1.3 Occupants

Occupants were not interviewed as part of this assessment.

6.1.4 Past Owners

CBRE was unable to locate the Subject Property's former owner.

6.2 Environmental Liens and/or Activity and Use Limitations (AULs)

No environmental liens or AULs related to the Subject Property were identified from interview information.

7.0 SITE RECONNAISSANCE

7.1 Site Reconnaissance Information

Site Visit Date	August 17, 2020
CBRE Representative	Brian Kim
Site Contact, Title, Contact Information	David Gill, Senior Associate, (559) 361-6758
Weather Conditions	Sunny and 95F

7.2 Site Reconnaissance Observations

During the Subject Property reconnaissance, CBRE conducted a visual assessment for indications of environmental concerns at the Subject Property. Consistent with the ASTM Standard, an effort was made to identify the presence of the following tabulated items, which could indicate the potential presence of RECs on the Subject Property. Observations at the Subject Property are described in greater detail below the table.

Subject Property Reconnaissance Observations	Observed on Subject Property
Chemical Storage and Use	Yes
Bulk Storage Tanks	
• USTs	No
• ASTs	Yes
Solid and Liquid Waste and Wastewater	
• Solid Waste (i.e. Household and Industrial Waste)	No
• Sanitary Waste (i.e. Municipal System and/or Septic Systems Features)	No
• Stormwater (Including on-site retention or detention features)	Yes
• Hazardous Waste	No
Floor Drains and Sumps	No
Transformers and other Electrical Equipment	Yes
Elevators and Lifts	No
Compactors, Balers, and Other Mechanical Equipment	No
Stained Soil, Stained Pavement, Stressed Vegetation, and Pooled Liquid, and/or Odors	No
On-Site Fill	No
Wells	Yes

Subject Property Reconnaissance Observations	Observed on Subject Property
Pits, Ponds and Lagoons	No
Air Emissions	No
Other Potential Environmental Concerns Observed	Yes

7.3 Chemical Storage and Usage

The chemical storage and usage identified at the Subject Property is discussed and tabulated below:

Location	Container Type	Product Type	Container Size (Gallons)	Secondary Containment	Area Conditions	Concern
Storage yard area	Bucket	Tractor hydraulic fluid	5	No	Satisfactory	Yes; See Below
Storage yard area	Bucket	Automatic transmission fluid	5	No	Satisfactory	Yes; See Below
Outside warehouse shell building	Bucket	Liquid AMS	2.5	No	Satisfactory	No
Outside warehouse shell building	Bucket	Vigilant 4SC Miticide	2.5	No	Satisfactory	No
Outside warehouse shell building	Bucket	Che-Zinc 9%	2.5	No	Satisfactory	No
Inside warehouse shell building	Bucket	Hydraulic oil	5	No	Satisfactory	No
Inside warehouse shell building	Bucket	Motor oil	5	No	Satisfactory	No
Inside warehouse shell building	Bucket	Herbicide	2.5	No	Satisfactory	No
Inside warehouse shell building	Bucket	Propi-Star EC	2.5	No	Satisfactory	No

Location	Container Type	Product Type	Container Size (Gallons)	Secondary Containment	Area Conditions	Concern
Inside warehouse shell building	Bucket	Liquid AMS	2.5	No	Satisfactory	No
Inside warehouse shell building	Retail-Sized	Clethodim 2E	1	No	Satisfactory	No
Inside warehouse shell building	Bucket	Kicker CA, ammonium sulfate	2.5	No	Satisfactory	No
Inside warehouse shell building	Retail-Sized	AD MAX 90	1	No	Satisfactory	No
Inside warehouse shell building	Bucket	Roundup Power Max	2.5	No	Satisfactory	No
Inside warehouse shell building	Bucket	Tractor hydraulic fluid	5	No	Satisfactory	No
Inside warehouse shell building	Bucket	Maximizer Crop Oil Concentrate	2.5	No	Satisfactory	No
Inside warehouse shell building	Retail-Sized	Total Solutions Barren	1	No	Satisfactory	No
Inside warehouse shell building	Bucket	Cornerstone, herbicide	2.5	No	Satisfactory	No
Inside warehouse shell building	Bucket	DuPont Manex and Direx	2.5	No	Satisfactory	No
Inside warehouse shell building	Bucket	Field marking paint	5	No	Satisfactory	No

The Subject Property operates as an walnut orchard with a small metal warehouse/shed located on the eastern portion of the Subject Property. During CBRE's site reconnaissance, numerous containers of tractor hydraulic fluid and motor oil as well as plant nutrients, herbicides, fungicides, pesticides, miticide products, and other agricultural chemicals (as tabulated above) were observed to be stored inside the warehouse and directly outside the warehouse under its covered canopy. As noted in prior sections of this report, the warehouse/shed is constructed atop

a concrete-paved foundation and no floor drains or other concrete penetrations were observed. Of note, evidence of surficial staining was noted to be present within the warehouse/shed building.

With respect to the exterior equipment storage yard, CBRE also observed tractor hydraulic fluid and automatic transmission fluid containers (5-gallon or small buckets) as being present. Although no evidence of staining, leaks, or spills was observed in the vicinity of the buckets, the unpaved ground is a direct conduit for potential release to impact the subsurface.

Thus, based on the above, CBRE considers the likely long-term presence of these on-site chemicals and associated operations (agricultural chemical storage, blending, application as well as minor equipment maintenance) to represent an environmental concern to the Subject Property as the potential exists for the presence/use of these chemicals on-site to have resulted in adverse impacts to subsurface media. However, as evidence of significant staining was not observed and intended future usage of the Subject Property is not intended to change substantially, CBRE considers the above to represent a BER to the Subject Property and further investigation is not recommended at this time.

7.4 Bulk Storage Tanks

ASTs

Location	Size (g)	Age (yrs)	Product	Secondary Containment	Construction Type	Staining	Concern
Storage yard near the water filtration system	500 to 1,000	Unknown	Water and/ or agriculture use solution	No	Plastic	Yes; Minor/ De Minimis	No
Storage yard near the water filtration system	275	Unknown	Che-Cop 7.5%, plant micronutrie nts	No	Plastic tote	Yes; Minor/ De Minimis	No

Two empty ASTs and one full plastic AST, ranging from 500 to 1,000 gallons in capacity, were observed directly next to the previously described on-site irrigation well. The ASTs were noted to be associated with the storage of well water from the purposes of irrigation and/or introduction to agricultural chemicals for blended solutions. Directly between the ASTs was a single, empty 275-gallon plastic tote encased within a metal frame. Based on labeling, the tote formerly contained a plant micronutrient, Che-Cop 7.5%. Evidence of *de minimis* soil discoloration and areas of moisture were observed on the soil surrounding the vicinity of the empty ASTs, while the concrete slab beneath the filled AST did not have any discoloration or moist areas.

Thus, based on the above, CBRE considers the likely long-term presence of these on-site chemicals and associated operations (agricultural chemical storage, blending, application) to represent an environmental concern to the Subject Property as the potential exists for the presence/use of these chemicals on-site to have resulted in adverse impacts to subsurface media. However, as evidence of significant staining was not observed and intended future usage of the Subject Property is not intended to change substantially, CBRE considers the above to represent a BER to the Subject Property and further investigation is not recommended at this time.

7.5 Solid and Liquid Waste

Solid Waste

During CBRE's site reconnaissance, evidence of numerous empty containers (retail-sized; 5-gallons or less) of agriculture chemicals were noted to be stored within the equipment yard. Further, a total of three, empty and rusted 55-gallon drums, with at least one of them appearing punctured, and a single AST, rusted and out-of-use, were observed within the equipment yard. Lastly, as noted above, an empty 275-gallon tote of agricultural chemicals was also noted as being present near the on-site irrigation well.

Although these solid and liquid waste containers were observed to be present within the equipment storage yard, evidence of significant stains, spills, leaks, and/or distressed vegetation was not observed within proximity of these items. Thus, based on the above, CBRE considers the presence of these on-site items to represent BERs.

Sanitary Waste

The Subject Property was formerly developed with residential and/or farm-related structures from at least 1929 to circa 1952, and likely serviced by a septic system at that time. Currently, the Subject Property does not generate sanitary waste and not connected to the municipal sewer system. CBRE was unable to ascertain any information regarding the location of the former septic system or how it might have been abandoned. As a septic system may have previously been affiliated with an apparent on-site residence, in the event that one is identified during future on-site operations and/or redevelopment activities, it should be removed and disposed of in accordance with applicable regulations. CBRE considers the above to represent a BER to the Subject Property.

Stormwater

Storm water flows off the Subject Property by sheet flow or percolates into the ground.

7.6 Transformers and Other Electrical Equipment

Location	Number	Type	Age (yrs)	Owner	PCB Containing	Condition	Concern
West adjacent to the warehouse shell building	4	Pole-mounted transformers	Unknown	Southern California Edison	No	Good	No

CBRE observed four, utility owned, pole-mounted transformers on the southeastern portion of the Subject Property. The electrical equipment CBRE observed appeared to be in good condition, free of leakage.

In accordance with *Title 40—Protection of Environment, Chapter 1—Environmental Protection Agency, Subchapter R—Toxic Substance Control Act (TSCA), Part 761—Polychlorinated Biphenyls (PCBs), Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions*, the owner of the transformers, Southern California Edison, is responsible for the transformers' maintenance and remediation in the event of a leak.

7.7 Wells

Well Location	Well Type	Well Age	Well Depth	Well Construction	Concern
Southeastern portion, near the warehouse shell building	Irrigation well equipped with a filtration system, submersible electrical pump (not vertical turbines), and several large water storage ASTs (plastic)	Unknown	Unknown	Steel casing near ground surface, well screened intervals and screen type uncertain.	Yes; See Below

As noted in several prior sections of this report, the Subject Property is located directly to the northwest of the current Teapot Dome Landfill, present directly to the southeast of the intersection of Avenue 128 and Rockford Road. As detailed in Section 5.12, reported releases from the Teapot Dome Landfill are known to have resulted in impacts groundwater within the boundary of the landfill as well as down-gradient of the facility (to the northwest, inclusive of the Subject Property). Known impacts are documented as including CVOCs and PFAS.

Based on the above, as part of CBRE's Phase I ESA Scope of Work, CBRE also completed groundwater sampling of the on-site irrigation well (IW-1). Collected samples were analyzed for a variety of potential chemicals of concern including priority pollutants, title-22 metals, and PFAS. With respect to the priority pollutant and Title-22 metals analyses, no constituents were detected above their applicable regulatory action levels and/or laboratory detection limits; however, analysis for PFAS did detect the presence of numerous PFAS constituents as further described below.

In preparation for the PFAS sampling event, CBRE adhered to published protocols for the avoidance of PFAS cross-contamination from typical human activities and commercial products. More specifically, CBRE's Project Manager used standard field protocols for the avoidance of other sampling-related bias including performing PFAS sampling first and donning attire not treated with fabric softeners/protectors as well as the avoidance of the use of insect repellants, Tyvek-coated/Gore-Tex products, personal care products (i.e. cosmetics, hand creams, moisturizers, dental floss, plaque removers, sunscreens, and insect repellents), recycled/ waterproof/treated paper, plastic clipboards, binders, markers, adhesive paper products (e.g. Post-It notes), food/beverage products that were previously in contact with pre-packaged containers, fast food wrappers/containers, aluminum foil, and non-stick cookware/containers.

The groundwater sampling event for PFAS was completed on August 18, 2020. Of note, prior to the collection of any groundwater samples, IW-1 was operated on a several hours-per-day basis in the week prior to the CBRE's sampling event and was operated for a period of approximately one hour upon CBRE's arrival to ensure a full purging of the on-site well column (irrigation water flow rate was estimated to be greater than 100-gallons per minute). Sampling was initiated with the collection of a field reagent blank (FRB) by opening a container of PFAS-grade reagent water and pouring the reagent water into a sample container, which was then sealed prior to the well sampling. The collected samples were subsequently shipped to and analyzed by a California-accredited laboratory, Pace Analytical, using EPA Method 533.

Based on the analytical sampling results, the following was determined (note:, the prior findings from the select well monitoring by Tulare County at the Teapot Dome landfill in January 2020 was utilized to draw additional comparisons of the analytical findings from CBRE's sampling event):

- Seven PFAS-list compounds were detected in IW-1 at concentrations ranging from 1.7 to 4.4 ng/L, which are generally equivalent to parts per trillion. The IW-1 PFAS concentrations were below the applicable Groundwater (GW) Reporting Limits from the federal Department of Defense Quality Systems Manual as adopted by the California State Water Resources Control Board (DOD/CA SWRCB). The detected constituents were also below the California Division of Drinking Water (CA DDW) Notification Levels (NLs), Response Levels (RLs), and the PFAS aggregate constituent level (70 ng/L) for the IW-1 sample. Because IW-1 is not used for drinking water the CA DDW standards may not apply, but as a best management practice, the drinking water standards should be consulted in relation to agriculture.
- No PFAS-list compounds were detected in the FRB associated with the IW-1 sampling, which provides evidence of appropriate field sampler preparation and sampling protocol.

- Nine PFAS-listed constituents were detected in the landfill wells, at concentrations ranging from 3.6 to 39 ng/L. Each of the constituents detected in IW-1 were also detected in the landfill monitor wells, albeit at lower concentrations in IW-1. With the exception of one constituent, abbreviated as PNFA in downgradient well M-16C, the constituents in the select landfill monitor wells exceeded the GW Reporting Limits – DOD/CA SWRCB. The CA DDW landfill NL, RL, and aggregate concentration would not apply to the landfill monitor wells; however, the concentrations exceed CA DDW standards.
- Charts depicting PFAS groundwater quality are displayed in the attached Chart file. Table 1 and the charts demonstrate PFAS geochemical similarity that indicate source consistency and downgradient reduction in concentrations and detected constituent types. That is, concentrations are highest at landfill well M-1B, modestly lower and similar at downgradient landfill wells M-11C and M-16C, and much lower, with fewer detected constituents, at IW-1. Extrapolation of apparent groundwater flow suggests that IW-1 is the farthest downgradient point in the existing dataset, although not on the same flow paths as downgradient landfill wells M-11C and M-16C.

Based on the analysis results of the IW-1 groundwater samples, groundwater impacted with PFAS appears to have migrated to the Subject Property, likely as a result of the City of Porterville WWTP effluent disposal via infiltration basins, located upgradient and southeast of the Teapot Dome Landfill and the Subject Property, which is a documented source of PFAS. However, the detected concentration of PFAS-listed constituents in IW-1 did not exceed the regulatory reporting levels, as outlined by the DOD/CA SWRCB standard.

A well-bore inspection was completed of the IW by Well Spy that provided the results of a down-hole video inspection of the IW. Results of the inspection indicated that the IW is approximately 260 feet deep, with a perforated interval extending from 122.3 feet BTOC to 259.8 feet BTOC. The static water level was measured at 137.8 feet BTOC. This information in conjunction with the known subsurface lithology, shows that the IW screened interval begins near the base of the aquidard and extends through the upper semi-confined groundwater zone and into a deeper water-bearing zone. The IW is not screened in the unconfined groundwater zone. A cross-section illustrating the casing and screened interval of the IW in relation to the aquitard separating the two water-bearing zones is presented as an appendix.

The IW lies in an area side-gradient to down-gradient of the Teapot Dome Landfill, based on extrapolation of groundwater flow conditions evaluated by the landfill monitoring well network that were screened in the upper semi-confined groundwater zone. The analytical sampling results did not detect the presence of Priority Pollutants or Title-22 metal constituents above applicable regulatory action levels and/or laboratory detection limits. Of note, the groundwater sample (IW-1) collected from the IW by CBRE did not detect the presence of the CVOC impact.

The Subject Property is not used for residential purposes, is not identified as a potential responsible party for the contamination, and groundwater at the Subject Property is not currently used as a source of drinking water. However, the on-going groundwater monitoring and analysis reports from the Teapot Dome Landfill site should continue to be reviewed, to evaluate the trend of detected concentration of PFAS-listed and other constituents in groundwater.

8.0 NON-ASTM SCOPE CONSIDERATIONS

Summary Findings

Observations and/or other documentation related to the Non-ASTM Scope Considerations addressed in this section resulted in no identification of BERs or other environmental concerns.

8.1 Asbestos-Containing Materials (ACM)

No buildings are currently present on the Site, other than the warehouse shell metal building; therefore, ACM is not considered to represent a concern to the Subject Property.

8.2 Lead-Based Paint (LBP)

While LBP may be present, based on the date of construction of the existing improvements, the Subject Property is not used for residential purposes. Thus, ACM is not considered to represent a concern to the Subject Property.

8.3 Water Intrusion, Staining and Potential Microbial Growth

Although microbial growth is ubiquitous and may occur in a very short time span, an effort was made to identify conspicuous microbial growth and areas of apparent water intrusion/staining in the common areas surveyed.

No visual or olfactory indications of water damage or mold growth were observed. No concerns regarding mold or musty smells were reported to CBRE. According to David Gill, Senior Associate, there are no known water leaks, infiltration or ponding concerns and there are no known mold problems.

8.4 Lead in Drinking Water

The Subject Property is currently developed as an walnut orchard with a warehouse shell building and one irrigation well, and is not serviced by a municipal water system. In the event the Subject Property is developed, a drinking water source will need to be installed.

8.5 Wetlands

CBRE reviewed the applicable United States Fish and Wildlife Service National Wetlands Inventory (NWI) map and USGS quadrangle map. Based on this information, no wetland resources were identified on the Subject Property. A 2.75 acre Freshwater Pond habitat is located southeast adjacent, across Road 208 and Avenue 128 intersection.

8.6 Radon

According to the *Table Version of EPA Radon Zones by County* list maintained by the USEPA, radon concentrations in Tulare County average between 2.0 to less than 4.0 pCi/L, which is below the 4.0 pCi/L action level established by the USEPA and places the Subject Property in an EPA Radon Zone 2. Based solely on this data, radon does not represent an environmental concern at this time.

9.0 VAPOR ENCROACHMENT CONDITIONS (VECS)

CBRE conducted a "Tier I" (non-intrusive) Vapor Encroachment Screening (VES) on the Subject Property in accordance with the methodology set forth in ASTM E 2600-15 "*Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions*". During the VES, the Area of Concern (AOC) was minimized using the methodology taught in the ASTM Screening for Vapor Encroachment onto Property Involved in Real Estate Transactions Training Course. The purpose of the Tier I VES is to conduct an initial screen to identify, to the extent feasible, the potential for a vapor encroachment condition (VEC) in connection with the Subject Property with respect to chemicals of concern that may migrate as vapors into the vadose zone of the Subject Property as a result of contaminated soil and/or groundwater on or near the Subject Property.

This VES utilized readily available data sources previously discussed in this Phase I ESA to include the type of soils, geology and groundwater characteristics of the Subject Property area (Section 3.5 Physical Site Setting) as well as known or potentially contaminated sites as identified on Federal, State, tribal and local databases. CBRE also utilized previously discussed standard historical sources of information to identify potential historical sources of contamination on the Subject Property and surrounding properties which may be indicative of a VEC. This data collection and analysis was coupled with our site reconnaissance of the Subject Property and surrounding properties.

Historical and current uses of the Subject Property were not identified to likely represent a VEC. The Teapot Dome Landfill site located southeast adjoining has been documented to be associated with a release of CVOCs groundwater within the boundaries of the landfill and well as off-site (towards the Subject Property). While there is potential that the groundwater plume may have migrated beneath the Subject Property and considered as a potential source of a VEC, shallow groundwater is reportedly encountered at depths of approximately 100 to 140 feet below ground surface. Thus, based on the above as well as the lack of on-site structures utilized for continuous occupancy (i.e. commercial/retail and residential buildings), CBRE concludes that a VEC can be ruled out. Furthermore, the laboratory analysis results of the groundwater sample collected from the one irrigation water supply well on the Subject Property did not contain any detectable concentration of volatile organic compounds or semi-volatile organic compounds above the laboratory detection limits.

10.0 ENVIRONMENTAL PROFESSIONAL STATEMENT AND SIGNATURE

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 C.F.R. 312.

I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Subject Property. I have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 C.F.R. Part 312.

Signature of EP:

Name of EP: Paul Hitchings

Title: Project Management Director, EP

Date: September 10, 2020

11.0 LIMITING CONDITIONS

This report has been prepared in compliance with the ASTM standard entitled "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" E1527-13.

The observations described in this report were made under the conditions stated herein. The conclusions presented in the report were based solely upon the services described therein, and not on scientific tasks or procedures beyond the scope of described services within the constraints imposed by the client. The work described in this report was carried out in accordance with the Terms and Conditions of the contract.

In preparing this report, CBRE has relied on certain information provided by federal, state, and local officials and other parties referenced therein, and on information contained in the files of governmental agencies, that were readily available to CBRE at the time of this assessment. Although there may have been some degree of overlap in the information provided by these various sources, CBRE did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this site assessment.

Observations were made of the Subject Property and of the structures on the site as indicated in this report. Where access to portions of the site or to structures on the site was unavailable or limited, CBRE renders no opinion as to the presence of direct or indirect evidence relating to petroleum substances, hazardous substances, or both, in that portion of the Subject Property and structure. In addition, CBRE renders no opinion as to the presence of indirect evidence relating to hazardous material or oil, where direct observation of the ground surface, interior walls, floors, ceiling or a structure is obstructed by objects or materials, including snow, covering on or over these surfaces.

CBRE submitted requests for information in accordance with the Freedom of Information Act (FOIA) to various governmental agencies. As of the date of this report, responses to some or all these requests may not have been received.

CBRE does not represent that the Subject Property referred to herein contains no petroleum or hazardous or toxic substances or other conditions beyond those observed by CBRE during the site reconnaissance, information referenced or discussed in the report, and analysis of the database search results.

CBRE has produced this document under an agreement between CBRE and Renewable Resources Group. All terms and conditions of that agreement are included within this document by reference. This report is the property of CBRE and Renewable Resources Group and was prepared for a specific purpose and reliance as defined within the agreement between CBRE and Renewable Resources Group. Except as permitted in the Agreement between CBRE and the Client, this report is not to be relied upon by any party other than Renewable Resources Group and is not to be used for any purpose not specifically stated in the agreement with Renewable Resources Group or within this Report's Introduction section. The Phase I report is only viable based on the intended transaction (acquisition or non-acquisition) necessitating the report and associated time frames as specified in ASTM E1527-13, Section 4.6.

Unless specifically identified within Section 2, Chinese drywall, indoor air quality and any other non-ASTM scope issues as identified in ASTM E1527-13, Section 13.1.5, are excluded from the scope of this assessment.

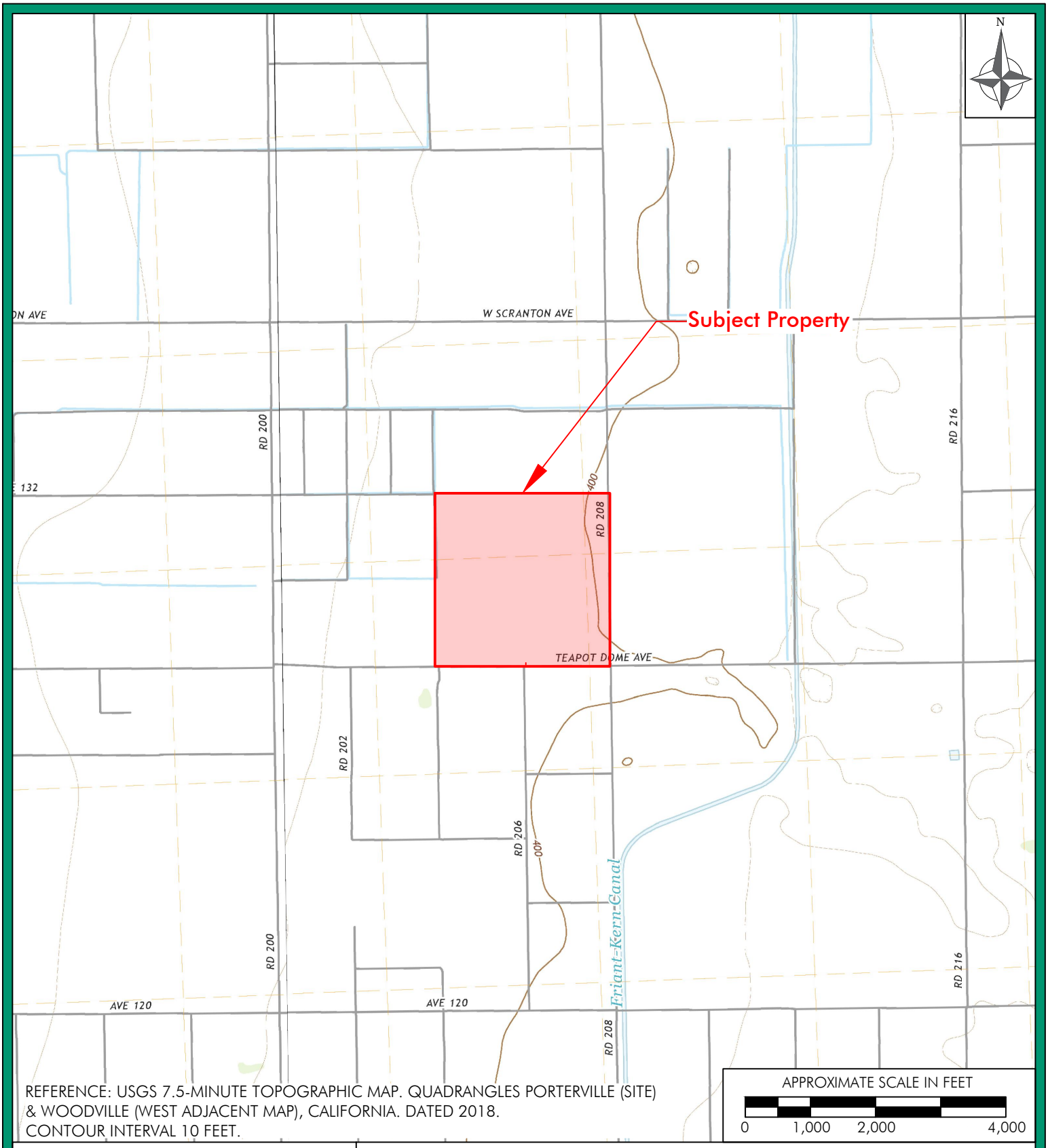
ACRONYMS AND DEFINITIONS

This ESA uses various acronyms and abbreviations to describe site, regulatory, or regulatory database phrases. Not all acronyms or abbreviations are applicable to every ESA. Refer to the commonly used acronyms and related phrases below.

Acronym	Phrase
AAI	All Appropriate Inquiry
ACM	Asbestos-Containing Material
AHERA	Asbestos Hazard Emergency Response Act
AST	Aboveground Storage Tank
ASTM	American Standard for Testing Materials International
BRA	Brownfield Redevelopment Authority
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CERCLIS	Comprehensive Environmental Response Compensation and Liability Information System
CESQG	Conditionally Exempt Small Quantity Generator
COC	Chemicals of Concern
CORRACTS	Corrective Action Sites
CREC	Controlled Recognized Environmental Condition
DEQ	Department of Environmental Quality
DNPL	Delisted National Priority List
DNR	Department of Natural Resources
DTSC	Department of Toxic Substances Control
ENG	Engineering
ERNS	Emergency Response Notification System
FEMA	Federal Emergency Management Agency
FOI	Freedom of Information
FOIA	Freedom of Information Act
FOIL	Freedom of Information Letter
HASP	Health and Safety Plan
HREC	Historic Recognized Environmental Condition
HUD	U.S. Department of Housing and Urban Development
HVAC	Heating Ventilation & Air Conditioning
IAQ	Indoor Air Quality
INST	Institutional

Acronym	Phrase
LBP	Lead-Based Paint
LQG	Large Quantity Generator
LUST	Leaking Underground Storage Tank
MSDS	Material Safety Data Sheet
NFA	No Further Action
NFRAP	No Further Remedial Actions Planned
NPDES	National Pollutant Discharge Elimination System
NPL	National Priority List
OSHA	Occupational Safety and Health Administration
PCA	Property Condition Assessment
PCBs	Polychlorinated Biphenyls
PCR	Property Condition Report
PNAs	Polynuclear Aromatics
RAP	Remedial Action Plan
RCRA	Resource Conservation and Recovery Act
RCRIS	Resource Conservation and Recovery Information System
REC	Recognized Environmental Condition
RWQCB	Regional Water Quality Control Board
SARA	Superfund amendments and Reauthorization Act
SCAQMD	South Coast Air Quality Management District
SQG	Small Quantity Generator
SVOC	Semi-Volatile Organic Compounds
TSCA	Toxic Substance Control Act
TSDF	Treatment Storage and/or Disposal Facility
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound
WWTP	Wastewater Treatment Plan

SUBJECT PROPERTY PLAN / LOCATION MAP



REFERENCE: USGS 7.5-MINUTE TOPOGRAPHIC MAP. QUADRANGLES PORTERVILLE (SITE) & WOODVILLE (WEST ADJACENT MAP), CALIFORNIA. DATED 2018. CONTOUR INTERVAL 10 FEET.

EXPLANATION

Approximate Subject Property Boundary

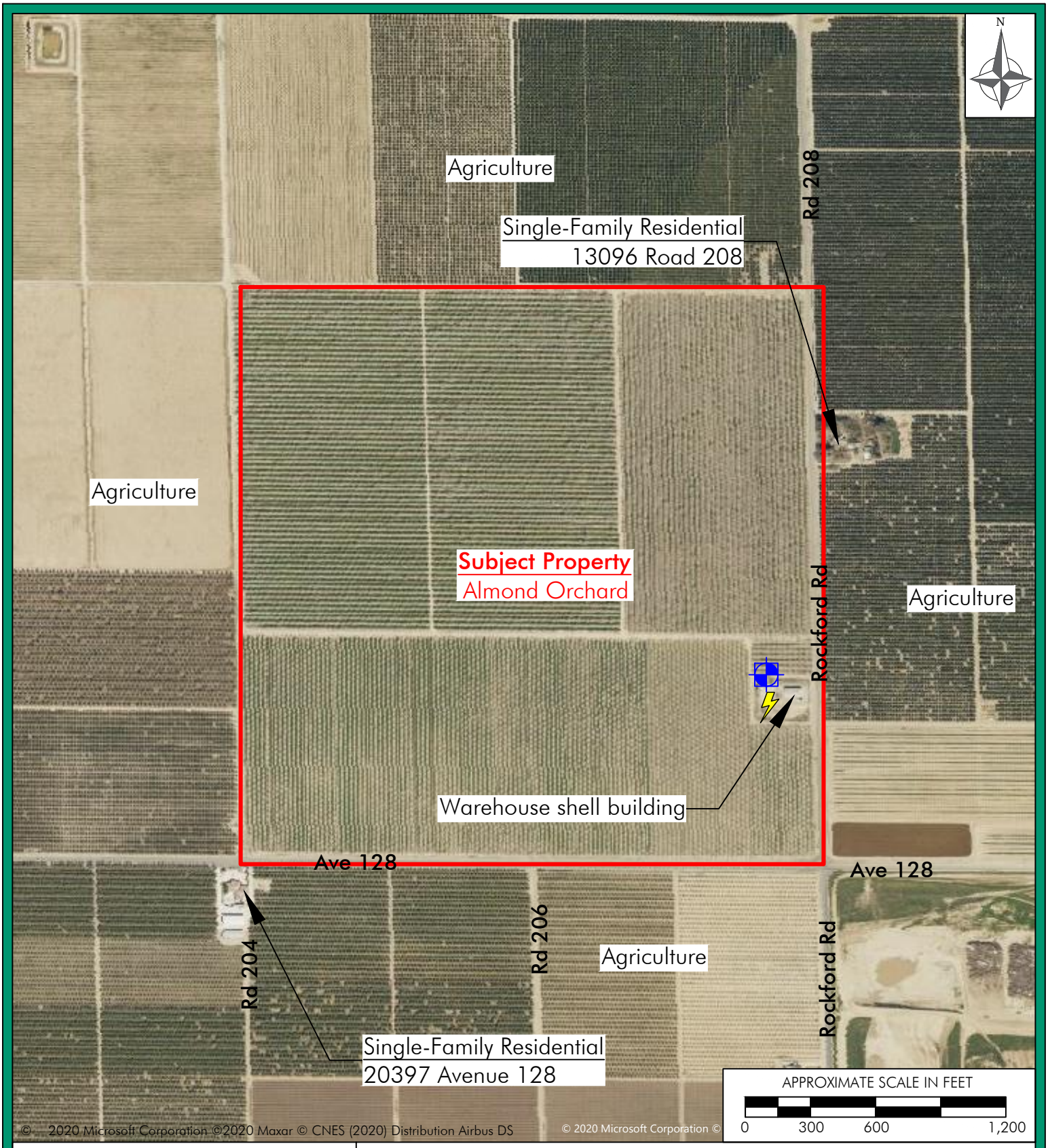
Figure 1 - Subject Property Location Map

Behl Property
158.58-Acres of Agricultural Land
Porterville, Tulare County, California 93257

Project No.	Date	Drawn By	Reviewed By
PC00864273	9.4.20	AD	DH

CBRE

ASSESSMENT & CONSULTING SERVICES



EXPLANATION

Approximate Subject Property Boundary

Irrigation Well Location

Transformer Location

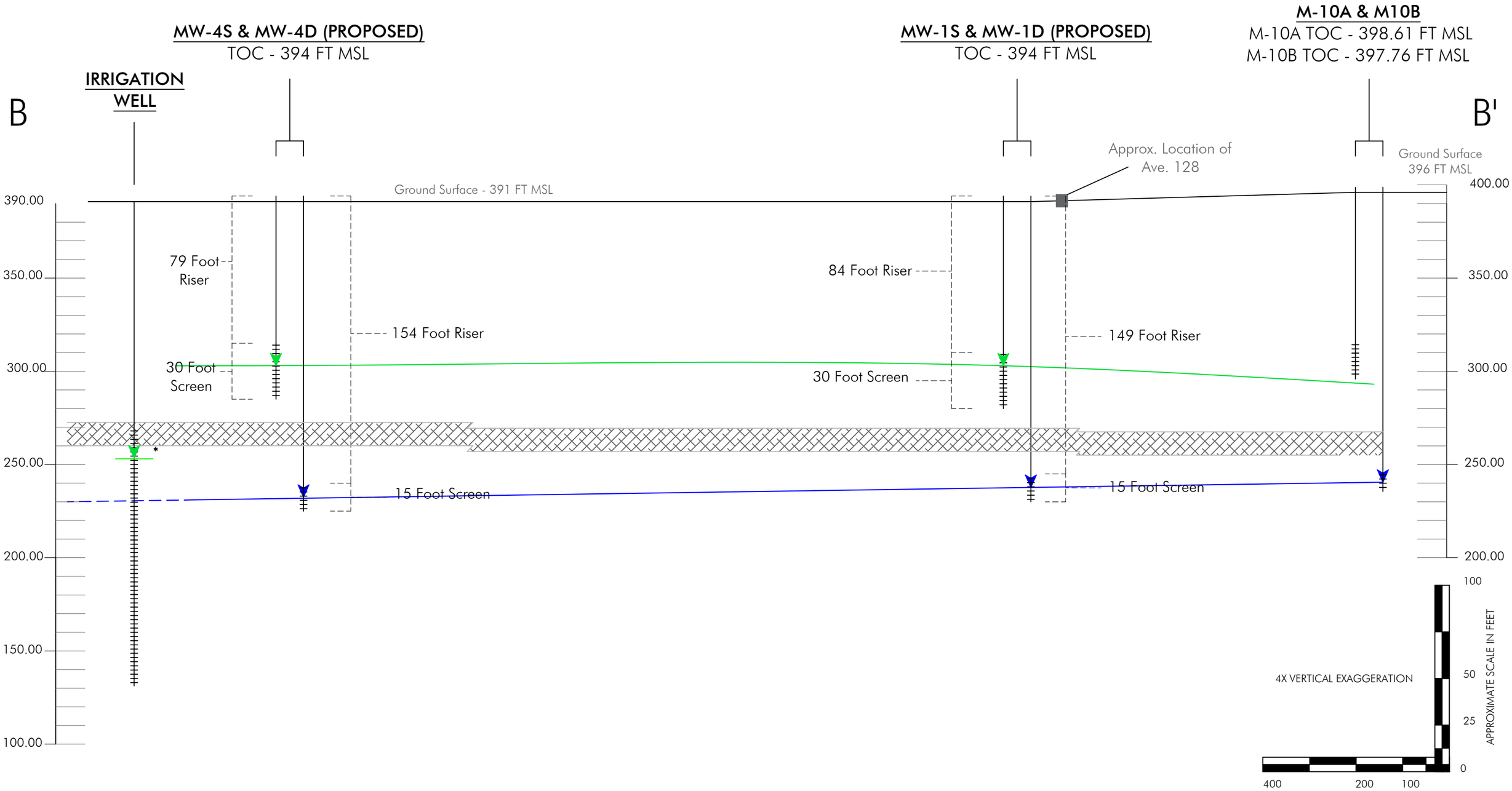
Figure 2 - Subject Property Plan

Behl Property
158.58-Acres of Agricultural Land
Porterville, Tulare County, California 93257

Project No.	Date	Drawn By	Reviewed By
PC00864273	9.4.20	AD	DH

CBRE

ASSESSMENT & CONSULTING SERVICES



Notes:

1. Irrigation well information from Behl Property Wellbore Inspection Report dated 9/15/2020.
   * Irrigation well water level from Wellbore Inspection Report.

EXPLANATION

Estimated Water Level of Unconfined/Shallow Groundwater

Estimated Water Level of Upper Semi-Confined Groundwater

Roughly Estimated Interval of Lower Permeability Material (Aquitard)

Title		Project No.	Figure
Figure 3 - Approximate Irrigation Well Configuration	CBRE ASSESSMENT & CONSULTING SERVICES	E00806747	3
Project: Behl Property, Terra Bella, Tulare County, California	SCALE AS SHOWN	Date: 9.16.20	

PHOTOGRAPHS

Subject's southern elevation, adjacent to Avenue 128.

Subject's eastern elevation, adjacent to Road 208.

Subject's western elevation, adjacent to an access road.

Subject's northern elevation, adjacent to an access road.

Subject's almond orchard operation.

Subject's almond orchard operation.

Subject's almond orchard operation.

Subject's almond orchard operation.

Subject's almond orchard operation.

Subject's access road to the storage yard and warehouse shell building.

Subject's irrigation water supply well.

Subject's irrigation water filtration system and ASTs.

Subject's irrigation water filtration system and ASTs.

Empty agriculture chemical containers.

Subject's irrigation water AST.

Subject's utility-owned pole-mounted transformers.

Subject's storage yard area.

Rusted and unlabeled steel drums on the storage yard area.

Punctured hole on a steel drum.

Subject's storage yard area.

Rusted and inactive 1,000-gallon diesel AST.

Subject's warehouse shell building.

Subject's warehouse shell building.

Subject's warehouse shell building and unpaved areas.

Subject's warehouse shell building frontal entrance.

Inside the Subject's warehouse shell building.

Agriculture chemical containers inside the warehouse shell building.

Agriculture chemical containers inside the warehouse shell building.

Agriculture chemical containers inside the warehouse shell building.

Floor staining observed inside the warehouse shell building.

North adjoining area.

East adjoining area.

Southeast adjoining area.

South adjoining area.

West adjoining area.

HISTORICAL MAPS AND/OR AERIAL PHOTOGRAPHS

Behl Property

158.58-Acres of Agricultural Land

Porterville, CA 93257

Inquiry Number: 6151185.4

August 10, 2020

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

08/10/20

Site Name:	Client Name:
Behl Property	CBRE
158.58-Acres of Agricultural La	70 West Red Oak Lane
Porterville, CA 93257	West Harrison, NY 10604
EDR Inquiry # 6151185.4	Contact: Sandy Smith

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by CBRE 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:		*Coordinates:*	
P.O.#	PC00864273	**Latitude:**	36.025993 36° 1' 34" North
Project:	PC00864273	**Longitude:**	-119.112016 -119° 6' 43" West
		UTM Zone:	Zone 11 North
		UTM X Meters:	309698.11
		UTM Y Meters:	3988894.90
		Elevation:	398.00' above sea level

Maps Provided:

2012
1969
1951
1942
1928, 1929

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

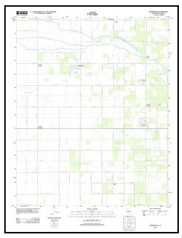
Copyright 2020 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets

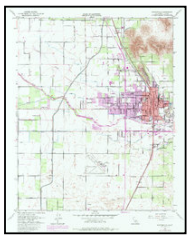


Woodville
2012
7.5-minute, 24000

Porterville
2012
7.5-minute, 24000

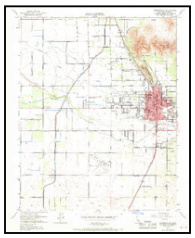
1969 Source Sheets

Woodville
1969
7.5-minute, 24000
Aerial Photo Revised 1969



Porterville
1969
7.5-minute, 24000
Aerial Photo Revised 1969

1951 Source Sheets



Porterville
1951
7.5-minute, 24000

Woodville
1951
7.5-minute, 24000
Aerial Photo Revised 1946

1942 Source Sheets

Porterville
1942
15-minute, 62500

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

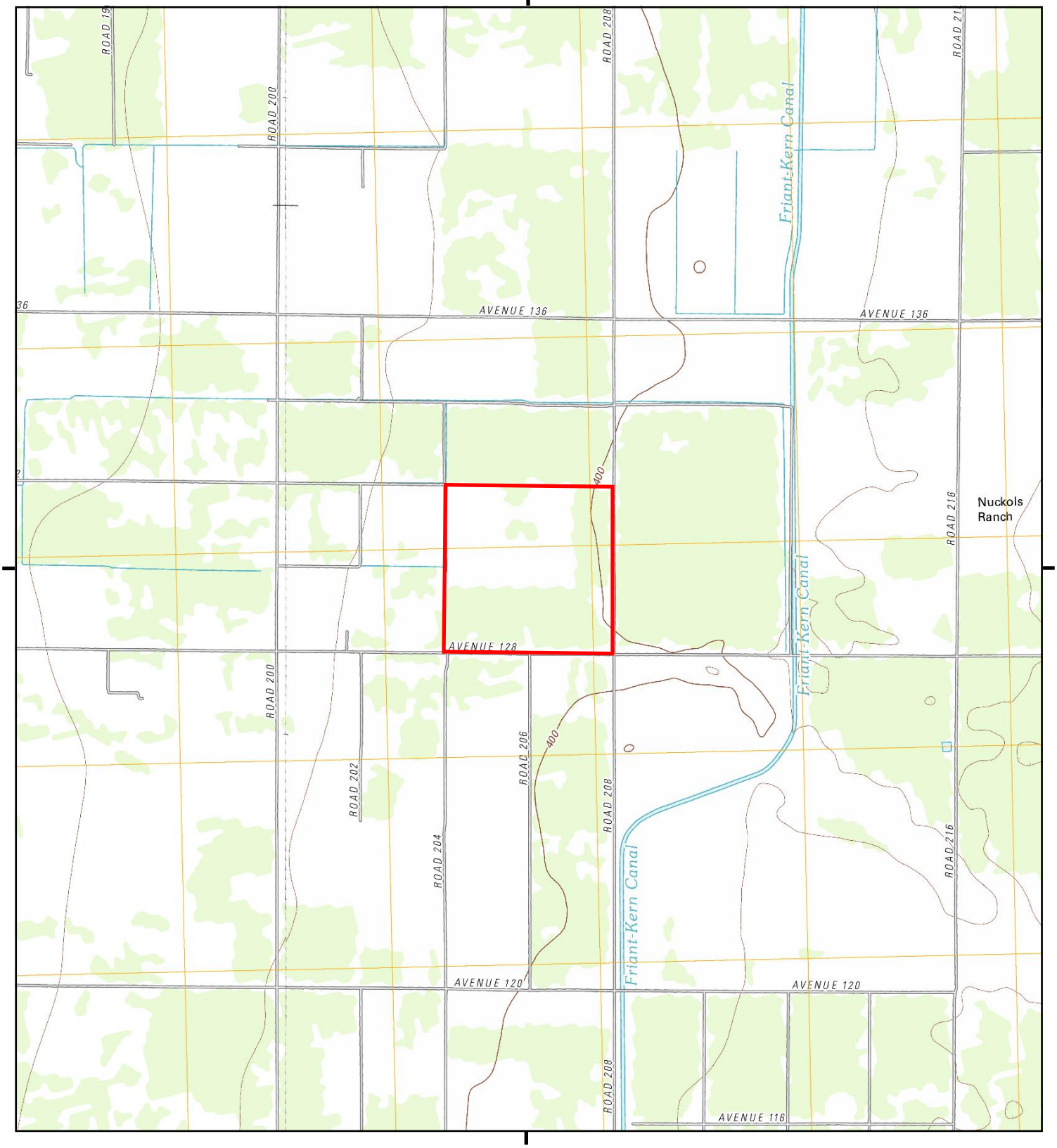
1928, 1929 Source Sheets

Woodville
1928
7.5-minute, 31680

Porterville
1929
7.5-minute, 31680

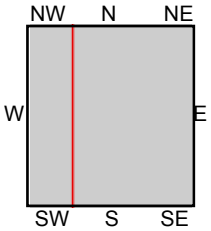
Historical Topo Map

2012



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5



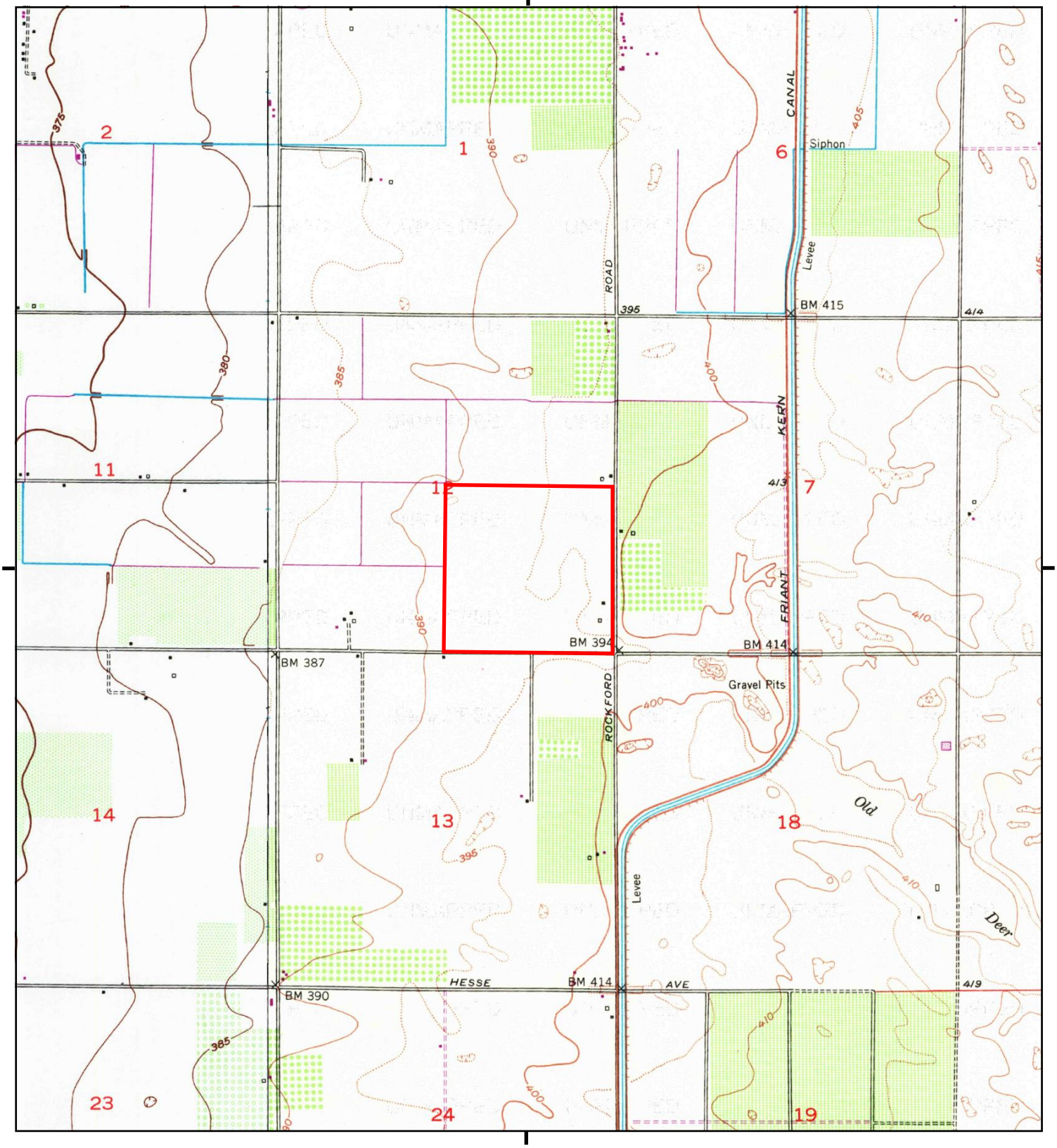
TP, Porterville, 2012, 7.5-minute
NW, Woodville, 2012, 7.5-minute

SITE NAME: Behl Property
ADDRESS: 158.58-Acres of Agricultural Land
Porterville, CA 93257
CLIENT: CBRE

N

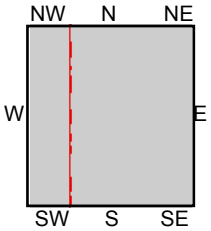
Historical Topo Map

1969



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5



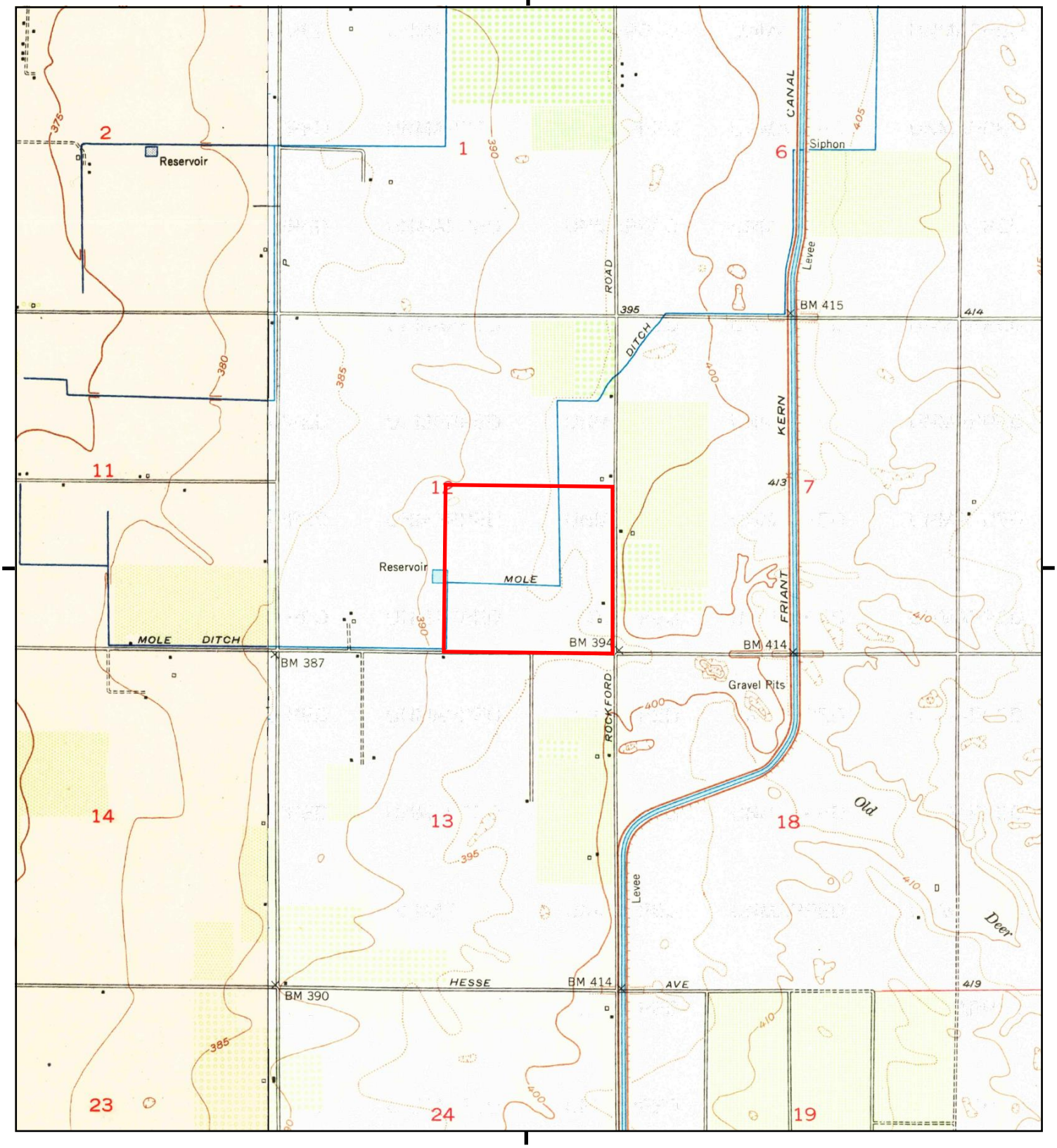
TP, Porterville, 1969, 7.5-minute
NW, Woodville, 1969, 7.5-minute

SITE NAME: Behl Property
ADDRESS: 158.58-Acres of Agricultural Land
Porterville, CA 93257
CLIENT: CBRE

N

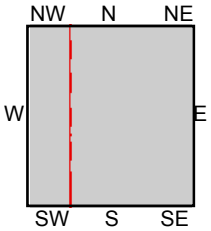
Historical Topo Map

1951



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5



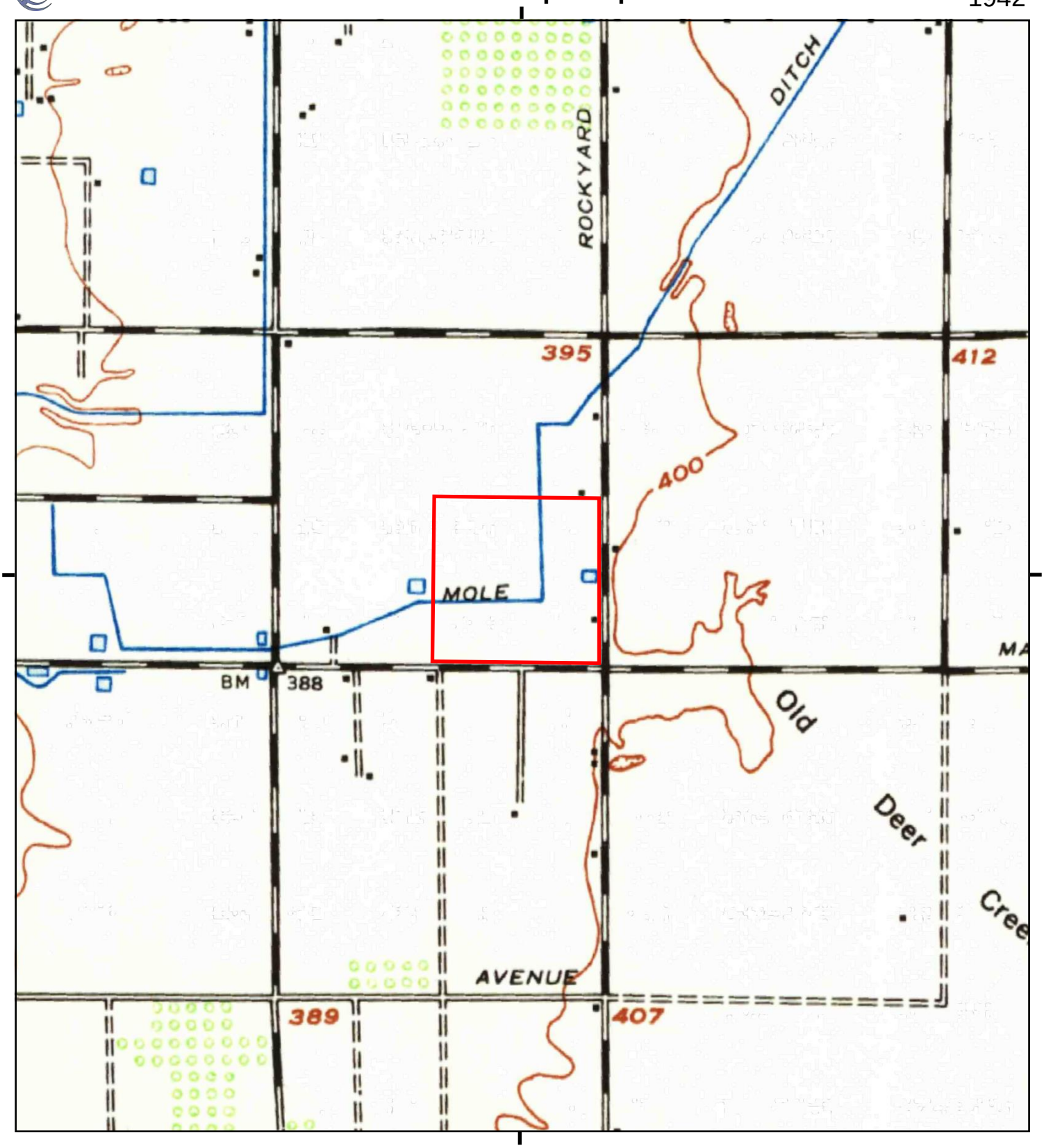
TP, Porterville, 1951, 7.5-minute
NW, Woodville, 1951, 7.5-minute

SITE NAME: Behl Property
ADDRESS: 158.58-Acres of Agricultural Land
Porterville, CA 93257
CLIENT: CBRE

N

Historical Topo Map

1942



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

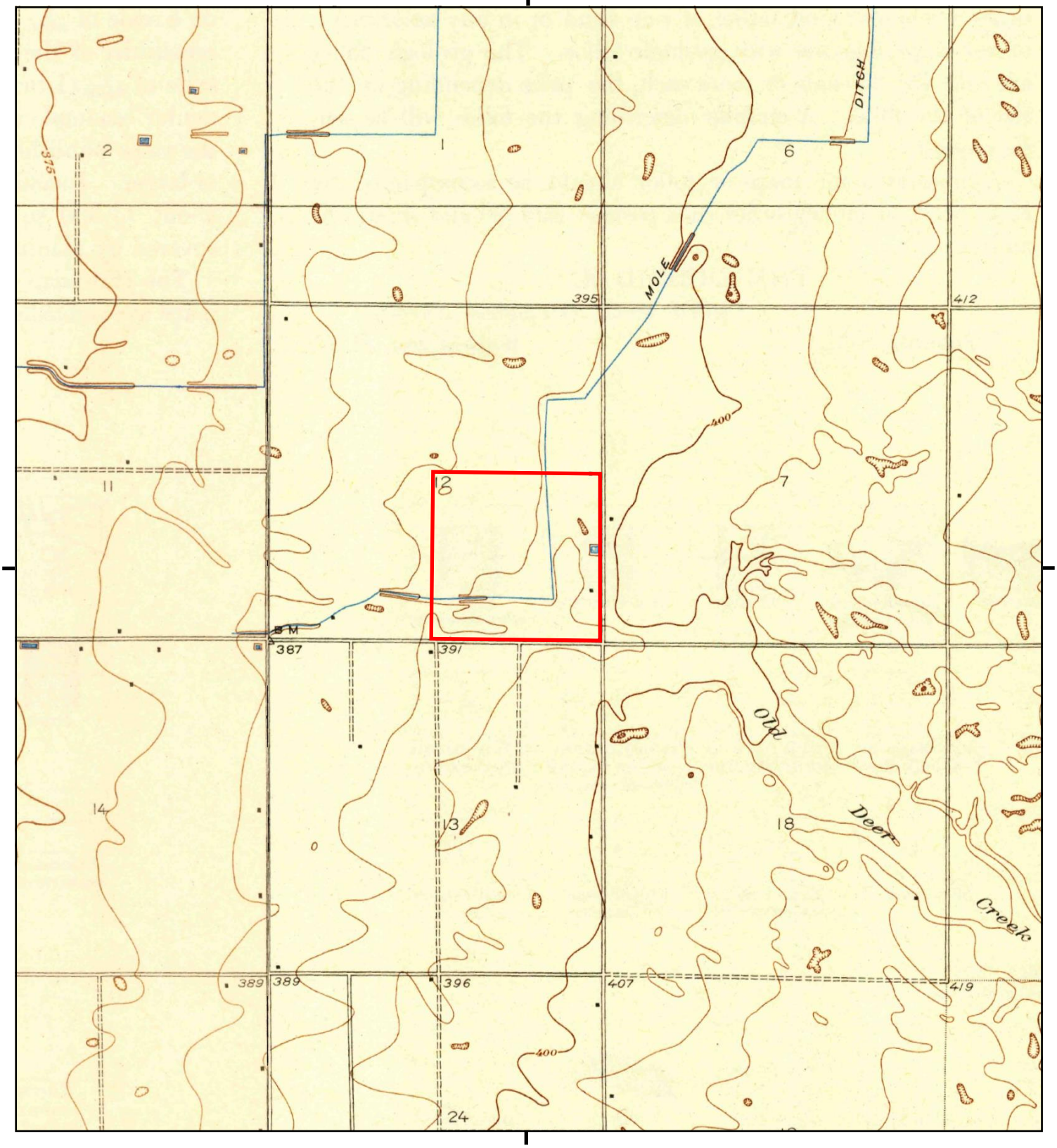
TP, Porterville, 1942, 15-minute

SITE NAME: Behl Property
ADDRESS: 158.58-Acres of Agricultural Land
Porterville, CA 93257
CLIENT: CBRE

N

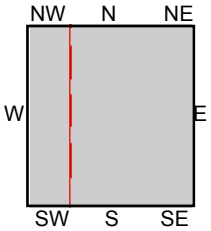
Historical Topo Map

1928, 1929



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5



TP, Porterville, 1929, 7.5-minute
NW, Woodville, 1928, 7.5-minute

SITE NAME: Behl Property
ADDRESS: 158.58-Acres of Agricultural Land
Porterville, CA 93257
CLIENT: CBRE

N

Behl Property

158.58-Acres of Agricultural Land

Porterville, CA 93257

Inquiry Number: 6151185.3

August 10, 2020

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

08/10/20

Site Name:	Client Name:
Behl Property	CBRE
158.58-Acres of Agricultural La	70 West Red Oak Lane
Porterville, CA 93257	West Harrison, NY 10604
EDR Inquiry # 6151185.3	Contact: Sandy Smith

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by CBRE were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # F843-41F3-92E1

PO # PC00864273

Project PC00864273

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: F843-41F3-92E1

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✔ Library of Congress
- ✔ University Publications of America
- ✔ EDR Private Collection

The Sanborn Library LLC Since 1866™

Limited Permission To Make Copies

CBRE (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2020 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

Behl Property

158.58-Acres of Agricultural Land

Porterville, CA 93257

Inquiry Number: 6151185.8

August 10, 2020

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

08/10/20

Site Name:

Behl Property
158.58-Acres of Agricultural La
Porterville, CA 93257
EDR Inquiry # 6151185.8

Client Name:

CBRE
70 West Red Oak Lane
West Harrison, NY 10604
Contact: Sandy Smith

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	*Scale*	*Details*	*Source*
2016	1"=500'	Flight Year: 2016	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
1994	1"=500'	Acquisition Date: September 04, 1994	USGS/DOQQ
1984	1"=500'	Flight Date: June 16, 1984	USDA
1977	1"=500'	Flight Date: June 02, 1977	USGS
1969	1"=500'	Flight Date: July 24, 1969	USGS
1952	1"=500'	Flight Date: September 29, 1952	USDA
1937	1"=500'	Flight Date: October 12, 1937	USDA

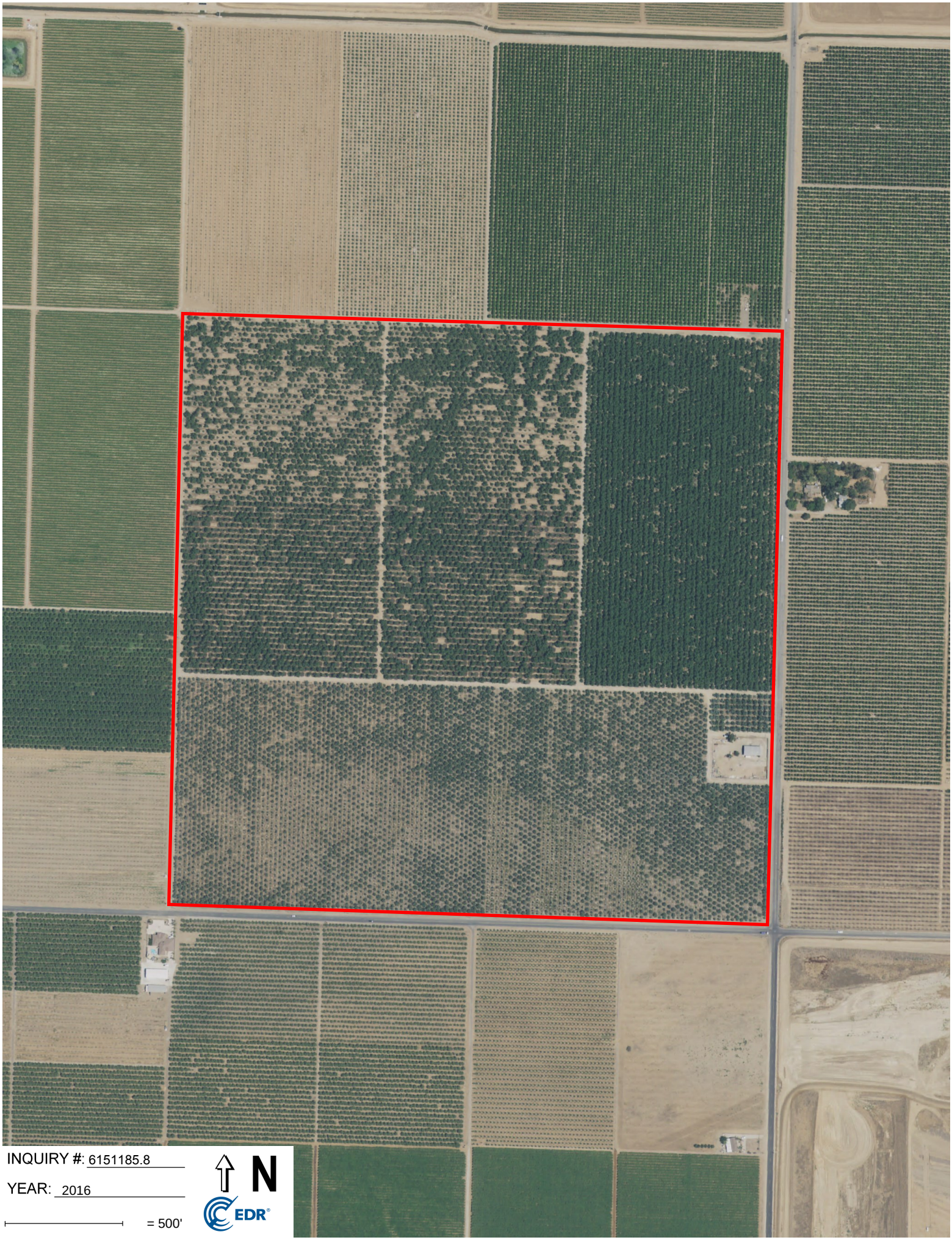
When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2020 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.


INQUIRY #: 6151185.8
YEAR: 2016
= 500'
N
EDR

INQUIRY #: 6151185.8

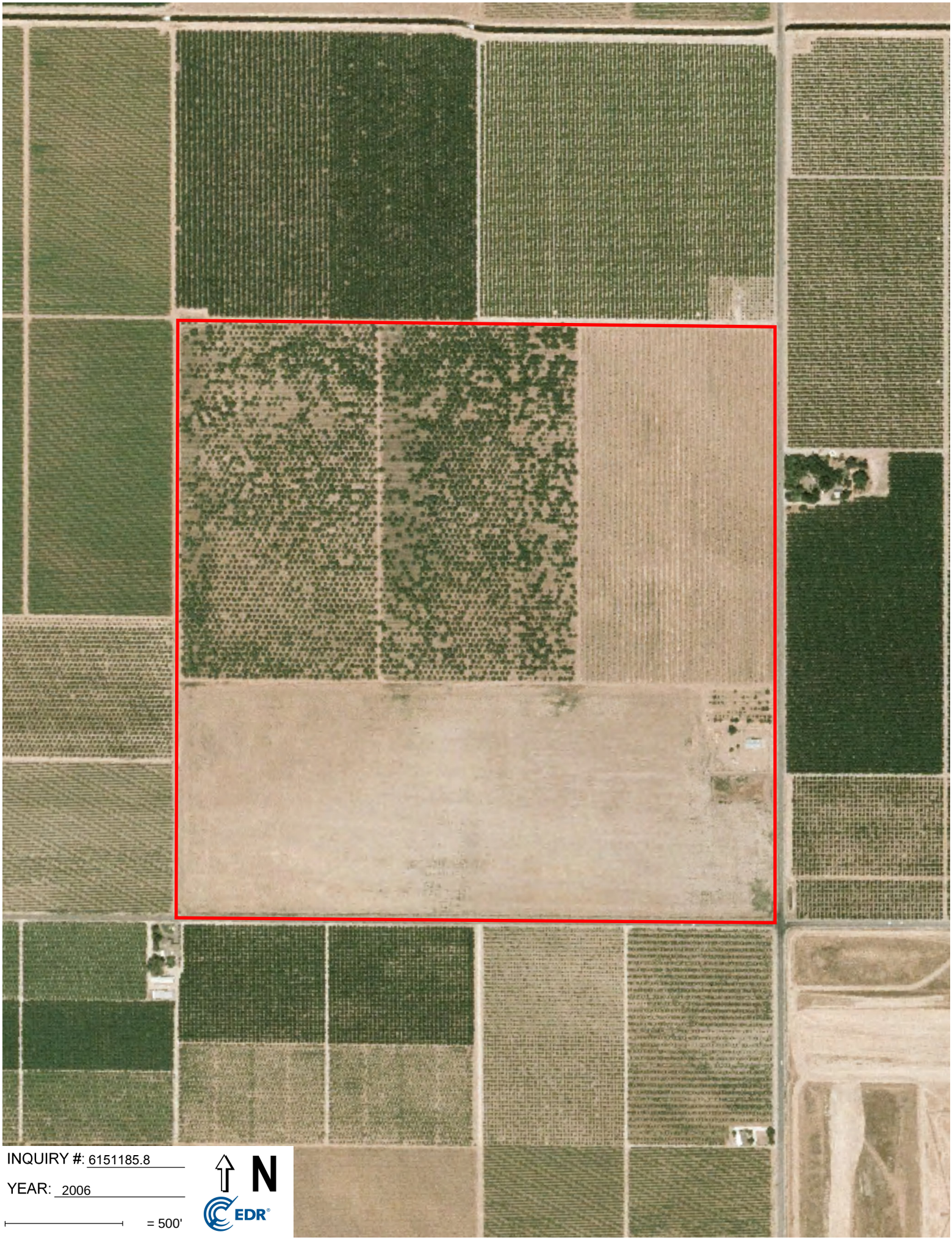
YEAR: 2012

= 500'

N

EDR

INQUIRY #: 6151185.8
YEAR: 2009
= 500'
N
EDR



INQUIRY #: 6151185.8

YEAR: 2006

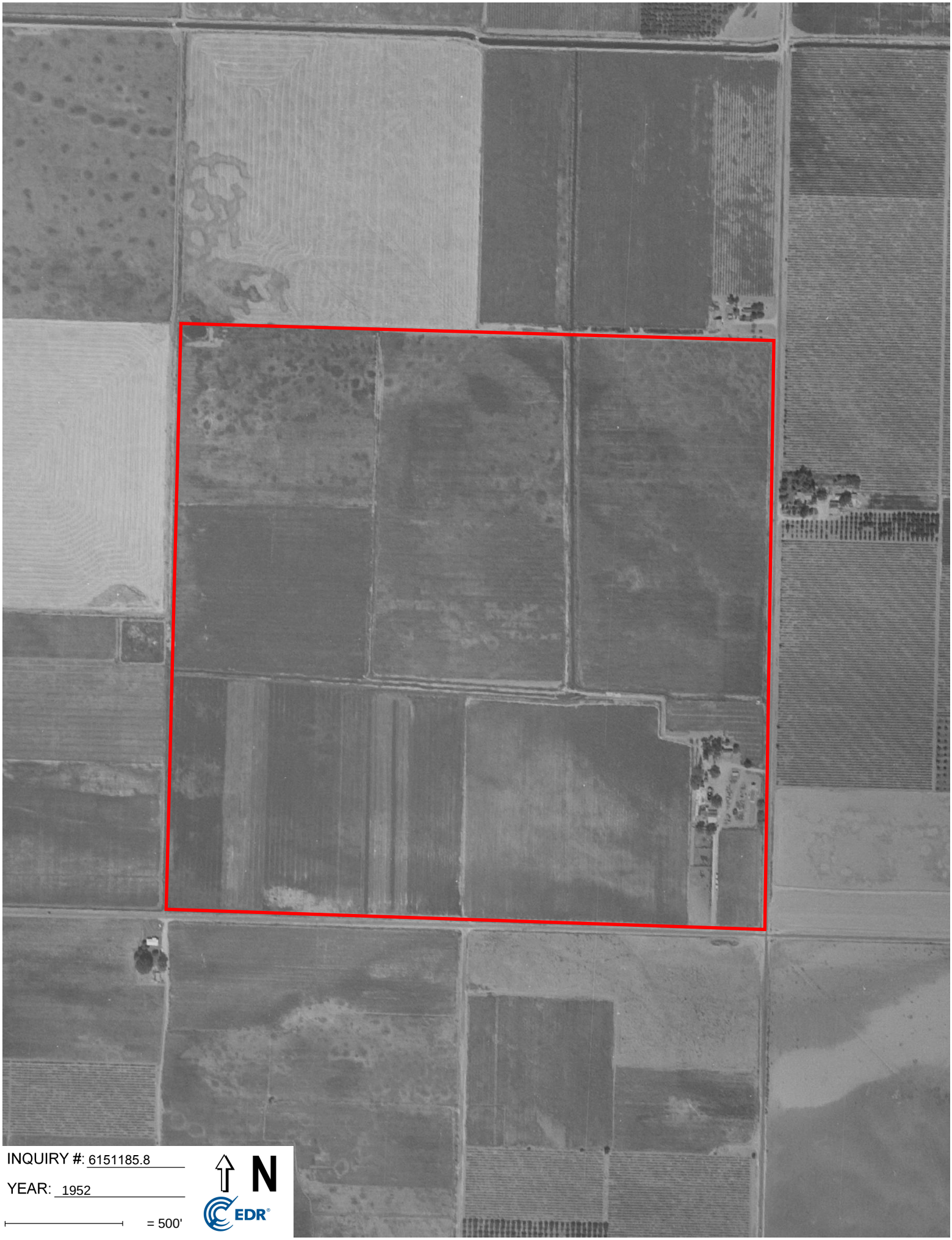
= 500'

INQUIRY #: 6151185.8
YEAR: 1994
= 500'
N
EDR

INQUIRY #: 6151185.8
YEAR: 1984
= 500'
N
EDR

INQUIRY #: 6151185.8
YEAR: 1977
= 500'
N
EDR

INQUIRY #: 6151185.8
YEAR: 1969
= 500'
N
EDR


INQUIRY #: 6151185.8
YEAR: 1952
= 500'
N
EDR

INQUIRY #: 6151185.8

YEAR: 1937

= 500'

N

EDR

CITY DIRECTORY ABSTRACT

Behl Property
158.58-Acres of Agricultural Land
Porterville, CA 93257

Inquiry Number: 6151185.5
August 13, 2020

The EDR-City Directory Image Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

City Directory Images

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OR DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction orforecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2020 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc. or its affiliates is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

EDR is licensed to reproduce certain City Directory works by the copyright holders of those works. The purchaser of this EDR City Directory Report may include it in report(s) delivered to a customer. Reproduction of City Directories without permission of the publisher or licensed vendor may be a violation of copyright.

Data by infoUSA®

Copyright©2008
All Rights Reserved

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
2017	☑	☐	EDR Digital Archive
2014	☑	☐	EDR Digital Archive
2010	☑	☐	EDR Digital Archive
2005	☑	☐	EDR Digital Archive
2000	☑	☐	EDR Digital Archive
1995	☑	☐	EDR Digital Archive
1992	☑	☐	EDR Digital Archive
1989	☐	☐	Polk's City Directory
1986	☐	☐	Polk's City Directory
1981	☐	☐	Polk's City Directory
1976	☐	☐	Polk's City Directory
1971	☐	☐	Polk's City Directory
1967	☐	☐	Polk's City Directory
1963	☐	☐	Polk's City Directory
1959	☐	☐	Polk's City Directory

EXECUTIVE SUMMARY

Year	Target Street	Cross Street	Source

FINDINGS

TARGET PROPERTY STREET

158.58-Acres of Agricultural Land
Porterville, CA 93257

Year	*CD Image*	*Source*	
ROAD 208			
2017	pg A1	EDR Digital Archive	
2014	pg A2	EDR Digital Archive	
2010	pg A3	EDR Digital Archive	
2005	pg A4	EDR Digital Archive	
2000	pg A5	EDR Digital Archive	
1995	pg A6	EDR Digital Archive	
1992	pg A7	EDR Digital Archive	
1989	-	Polk's City Directory	Street not listed in Source
1986	-	Polk's City Directory	Street not listed in Source
1981	-	Polk's City Directory	Street not listed in Source
1976	-	Polk's City Directory	Street not listed in Source
1971	-	Polk's City Directory	Street not listed in Source
1967	-	Polk's City Directory	Street not listed in Source
1963	-	Polk's City Directory	Street not listed in Source
1959	-	Polk's City Directory	Street not listed in Source

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

ROAD 208 2017

11939	CHANGALA, ELIZABETH T
12325	SWANSON, GARRETT L
12651	DALL, SANDRA
13096	EDWARDS, GLENN
	NICKI EDWARDS PORTRAITURE
14190	LOPEZ, ANTONIO
14226	SALAS, JESUS
14236	MEJIA, JANET
14240	LOPEZ, ANTONIO L
14264	SMITH, WANDA K

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

ROAD 208 2014

11939	OCCUPANT UNKNOWN,
12325	PERRY, ROBERT A
12651	BELL, CARI
13096	EDWARDS, V
	NICKI EDWARDS PORTRAITURE
13671	BAUMGARDNER, SCOTT S
14190	LOPEZ, ANTONIO
14226	SALAS, JESUS C
14234	OCCUPANT UNKNOWN,
14236	MEJIA, JANET
14240	LOPEZ, ANTONIO L
14264	SMITH, WANDA K
14284	OCCUPANT UNKNOWN,

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

ROAD 208 2010

11939	OCCUPANT UNKNOWN,
12325	ZIMMERMAN, SHER L
12651	BERRA, ANDREA L
13096	EDWARDS, V
	NICKI EDWARDS PORTRAITURE
13671	BAUMGARDNER, SCOTT S
14190	DIAS, MISAEL S
14226	SALAS, JESUS C
14234	TORRES, SALVADOR
14236	OCCUPANT UNKNOWN,
14240	LOPEZ, ANTONIO L
14264	SMITH, WANDA K
14284	OCCUPANT UNKNOWN,

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

ROAD 208 2005

11939	A & E FARMS
	OCCUPANT UNKNOWN,
12325	ZIMMERMAN, SHER L
12651	BERRA, TONY R
12891	OCCUPANT UNKNOWN,
13096	EDWARDS NICKI PORTRAITURE
	EDWARDS, NICKI A
14190	SANCHEZ, RUPERTO
14234	REGALADO, CESAR
14236	HERRERA, AUDELIA
14240	LOPEZ, ANTONIO L
14264	SMITH, WANDA K
14284	LAWS, JEFFREY R

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

ROAD 208 2000

12325 ZANINOVICH, JOHN D
13096 EDWARDS NICKI PORTRAITURE
14190 STAMM, V
14236 ACUNA, CHRISTI
14240 LOPEZ, ANTONIO
14264 POSEY, WAYNE

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

ROAD 208 1995

12325 ZANINOVICH, JOHN D
13096 NICKI EDWARDS PORTRAITURE
14226 OCCUPANT UNKNOWNN
14236 CEBALLOA, ALBERTO
14240 LOPEZ, ANTONIO
14264 POSEY, WAYNE

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

ROAD 208 1992

12325 ZANINOVICH, JOHN D
13096 EDWARDS N PORTRAITR
14236 CEBALLOA, ALBERTO
14240 LOPEZ, ANTONIO
14264 POSEY, WAYNE

REGULATORY DATABASE REPORT

Behl Property
158.58-Acres of Agricultural Land
Porterville, CA 93257

Inquiry Number: 06151185.2r
August 10, 2020

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	9
Orphan Summary	15
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-11
Physical Setting Source Map Findings	A-13
Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2020 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

158.58-ACRES OF AGRICULTURAL LAND
PORTERVILLE, CA 93257

COORDINATES

Latitude (North):	36.0259930 - 36˚ 1' 33.57''
Longitude (West):	119.1120160 - 119˚ 6' 43.25''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	309693.6
UTM Y (Meters):	3988694.5
Elevation:	398 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5603202 PORTERVILLE, CA
Version Date:	2012
Northwest Map:	5619130 WOODVILLE, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140617
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
158.58-ACRES OF AGRICULTURAL LAND
PORTERVILLE, CA 93257

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	TEAPOT DOME DISPOSAL	AVENUE 128 AND ROAD	SWF/LF, Financial Assurance, CERS	Higher	30, 0.006, SE
A2	DAVID EVANS FARMING	20191 AVENUE 128	RCRA NonGen / NLR	Lower	1196, 0.227, WSW
A3	FULL CIRCLE FARMING	20191 AVE 128	RCRA NonGen / NLR	Lower	1196, 0.227, WSW
4	TEA POT DOME SWDS	21063 AVE 128	SEMS-ARCHIVE	Higher	1998, 0.378, ESE

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 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-VSQG ..... RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS ..... Land Use Control Information System
US ENG CONTROLS ..... Engineering Controls Sites List
US INST CONTROLS ..... Institutional Controls Sites List

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 leaking storage tank lists

LUST Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST Leaking Underground Storage Tanks on Indian Land
CPS-SLIC Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST Underground Storage Tank Listing
UST Active UST Facilities
AST Aboveground Petroleum Storage Tank Facilities
INDIAN UST Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP Voluntary Cleanup Priority Listing
VCP Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT Waste Management Unit Database
SWRCY Recycler Database
HAULERS Registered Waste Tire Haulers Listing
INDIAN ODI Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9 Torres Martinez Reservation Illegal Dump Site Locations
ODI Open Dump Inventory
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
CERS HAZ WASTE CERS HAZ WASTE

Toxic Pits	Toxic Pits Cleanup Act Sites
US CDL	National Clandestine Laboratory Register
PFAS	PFAS Contamination Site Location Listing

Local Lists of Registered Storage Tanks

SWEEPS UST	SWEEPS UST Listing
HIST UST	Hazardous Substance Storage Container Database
CA FID UST	Facility Inventory Database
CERS TANKS	California Environmental Reporting System (CERS) Tanks

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

EXECUTIVE SUMMARY

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
DOCKET HWC	Hazardous Waste Compliance Docket Listing
UXO	Unexploded Ordnance Sites
ECHO	Enforcement & Compliance History Information
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
HIST CORTESE	Hazardous Waste & Substance Site List
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
MINES	Mines Site Location Listing
MWMP	Medical Waste Management Program Listing
NPDES	NPDES Permits Listing
PEST LIC	Pesticide Regulation Licenses Listing
PROC	Certified Processors Database
Notify 65	Proposition 65 Records
UIC	UIC Listing
UIC GEO	UIC GEO (GEOTRACKER)
WASTEWATER PITS	Oil Wastewater Pits Listing
WDS	Waste Discharge System
WIP	Well Investigation Program Case List
MILITARY PRIV SITES	MILITARY PRIV SITES (GEOTRACKER)
PROJECT	PROJECT (GEOTRACKER)
WDR	Waste Discharge Requirements Listing
CIWQS	California Integrated Water Quality System
CERS	CERS
NON-CASE INFO	NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS	OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS	PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT	SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ	Well Stimulation Project (GEOTRACKER)
HWTS	Hazardous Waste Tracking System
MINES MRDS	Mineral Resources Data System

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants
EDR Hist Auto	EDR Exclusive Historical Auto Stations
EDR Hist Cleaner	EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF	Recovered Government Archive Solid Waste Facilities List

EXECUTIVE SUMMARY

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.

STANDARD ENVIRONMENTAL RECORDS

Federal CERCLIS NFRAP site list

SEMS-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.

A review of the SEMS-ARCHIVE list, as provided by EDR, and dated 04/27/2020 has revealed that there is 1 SEMS-ARCHIVE site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
TEA POT DOME SWDS Site ID: 0900104 EPA Id: CAD982359135	21063 AVE 128	ESE 1/4 - 1/2 (0.378 mi.)	4	13

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: The Solid Waste Facilities/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data come from the Integrated Waste Management Board's Solid Waste Information System (SWIS) database.

A review of the SWF/LF list, as provided by EDR, has revealed that there is 1 SWF/LF site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
TEAPOT DOME DISPOSAL Database: SWF/LF (SWIS), Date of Government Version: 05/11/2020	***AVENUE 128 AND ROAD***	***SE 0 - 1/8 (0.006 mi.)***	***1***	***9***

EXECUTIVE SUMMARY

Facility ID: 54-AA-0004
Operational Status: Active
Regulation Status: Permitted

ADDITIONAL ENVIRONMENTAL RECORDS

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 03/23/2020 has revealed that there are 2 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

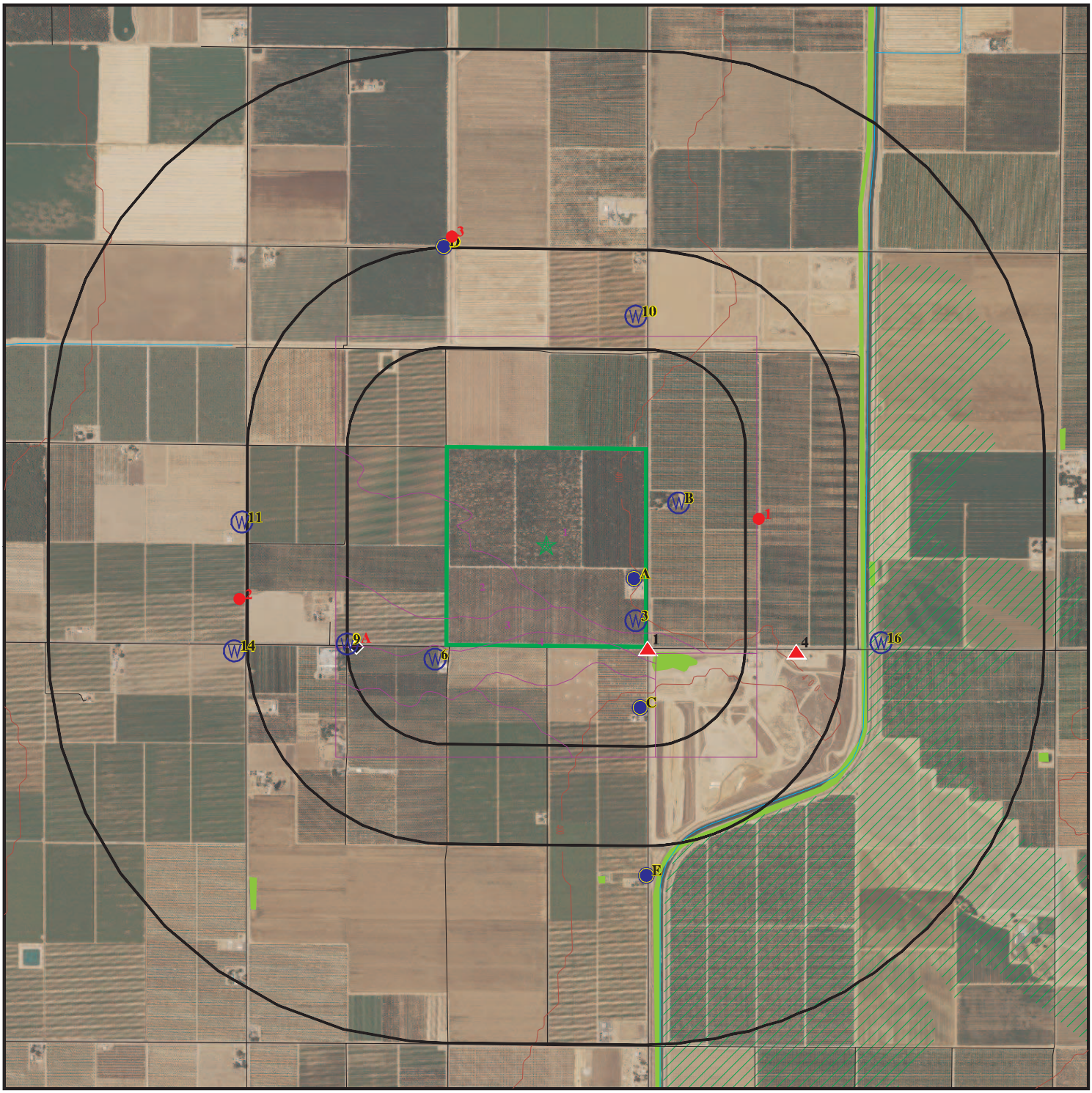
Lower Elevation	Address	Direction / Distance	Map ID	Page
DAVID EVANS FARMING EPA ID:: CAL000232112	20191 AVENUE 128	WSW 1/8 - 1/4 (0.227 mi.)	A2	11
FULL CIRCLE FARMING EPA ID:: CAL000430210	20191 AVE 128	WSW 1/8 - 1/4 (0.227 mi.)	A3	12

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 5 records.

Site Name	Database(s)
	CDL
	CDL
	CDL
	CDL
WILSON GROVE	LUST, Cortese

OVERVIEW MAP - 06151185.2R



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

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

Areas of Concern

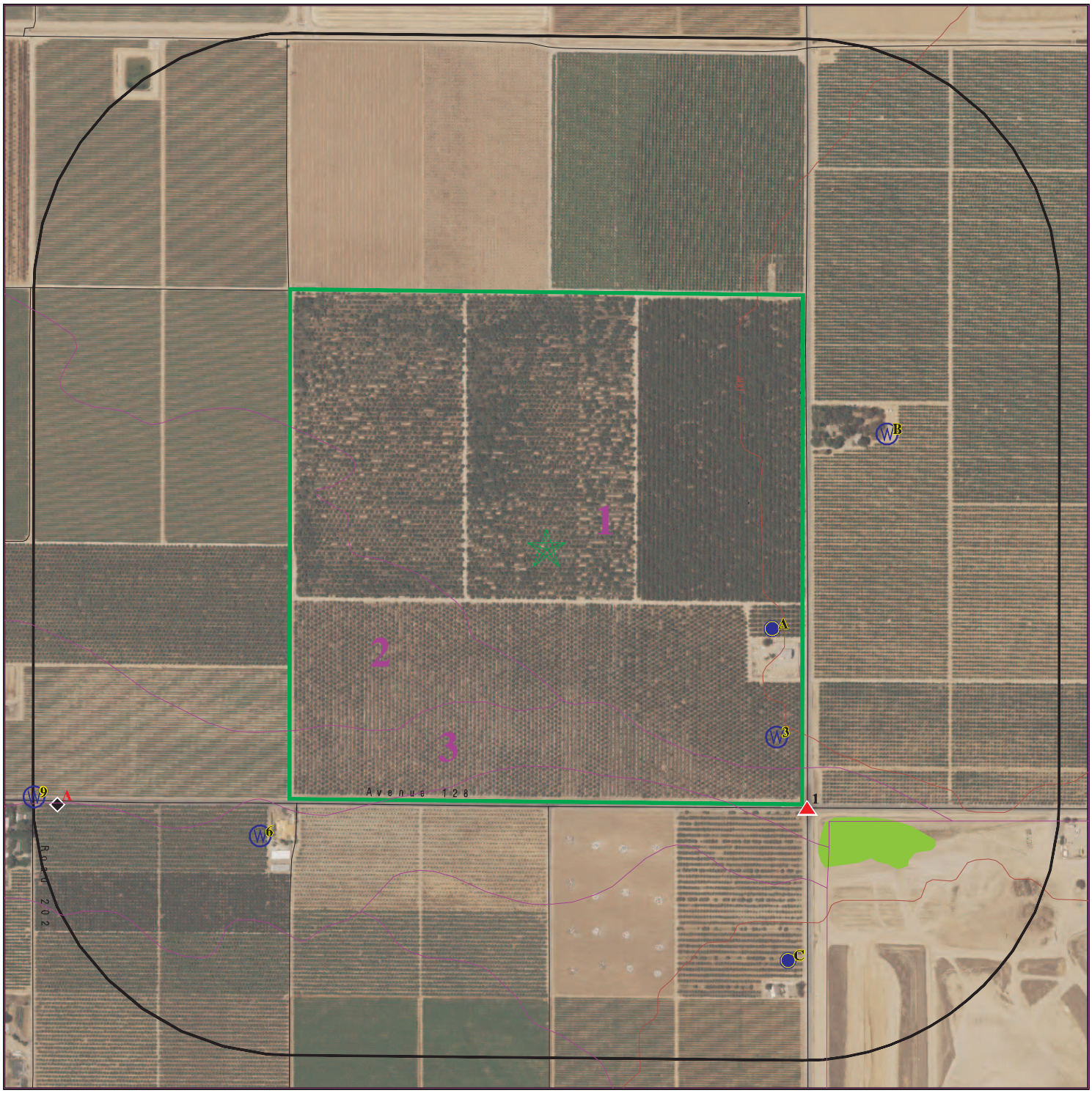
N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Behl Property	CLIENT:	CBRE
ADDRESS:	158.58-Acres of Agricultural Land Porterville CA 93257	CONTACT:	Sandy Smith
		INQUIRY #:	06151185.2r
LAT/LONG:	36.025993 / 119.112016	DATE:	August 10, 2020 4:26 pm

Copyright © 2020 EDR, Inc. © 2015 TomTom Rel. 2015.

DETAIL MAP - 06151185.2R



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

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

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:	Behl Property	CLIENT:	CBRE
ADDRESS:	158.58-Acres of Agricultural Land Porterville CA 93257	CONTACT:	Sandy Smith
		INQUIRY #:	06151185.2r
LAT/LONG:	36.025993 / 119.112016	DATE:	August 10, 2020 4:27 pm

Copyright © 2020 EDR, Inc. © 2015 TomTom Rel. 2015.

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	1.000		0	0	0	0	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	1	NR	NR	1
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-VSQG	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 CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	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		1	0	0	NR	NR	1
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
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	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	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	TP		NR	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	TP		NR	NR	NR	NR	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP		NR	NR	NR	NR	NR	0
LDS	TP		NR	NR	NR	NR	NR	0
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	2	NR	NR	NR	2
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	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	TP		NR	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

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
ICE	TP		NR	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
PEST LIC	TP		NR	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	TP		NR	NR	NR	NR	NR	0
UIC GEO	TP		NR	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	TP		NR	NR	NR	NR	NR	0
PROJECT	TP		NR	NR	NR	NR	NR	0
WDR	TP		NR	NR	NR	NR	NR	0
CIWQS	TP		NR	NR	NR	NR	NR	0
CERS	TP		NR	NR	NR	NR	NR	0
NON-CASE INFO	TP		NR	NR	NR	NR	NR	0
OTHER OIL GAS	TP		NR	NR	NR	NR	NR	0
PROD WATER PONDS	TP		NR	NR	NR	NR	NR	0
SAMPLING POINT	TP		NR	NR	NR	NR	NR	0
WELL STIM PROJ	TP		NR	NR	NR	NR	NR	0
HWTS	TP		NR	NR	NR	NR	NR	0
MINES MRDS	TP		NR	NR	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	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		0	1	2	1	0	0	4

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

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1 SE < 1/8 0.006 mi. 30 ft. | **TEAPOT DOME DISPOSAL SITE AVENUE 128 AND ROAD 208 PORTERVILLE, CA** | **SWF/LF Financial Assurance CERS** | **S102362974 N/A**

Relative: Higher

Actual: 398 ft.

SWF/LF (SWIS):

Name:	TEAPOT DOME DISPOSAL SITE
Address:	AVENUE 128 AND ROAD 208
City,State,Zip:	PORTERVILLE, CA
Facility ID:	54-AA-0004
Lat/Long:	36.02111 / -119.10583
Owner Name:	Tulare County
Owner Telephone:	5597336291
Owner Address:	Not reported
Owner Address2:	5961 South Mooney Blvd.
Owner City,St,Zip:	Visalia, CA 93277
Operational Status:	Active
Operator:	Tulare County
Operator Phone:	5597336291
Operator Address:	Not reported
Operator Address2:	5961 South Mooney Blvd.
Operator City,St,Zip:	Visalia, CA 93277
Permit Date:	07/24/2017
Permit Status:	Permitted
Permitted Acreage:	$122.00
Activity:	Solid Waste Landfill
Regulation Status:	Permitted
Landuse Name:	Rural,Residential,Agricultural
GIS Source:	Map
Category:	Disposal
Unit Number:	01
Inspection Frequency:	Monthly
Accepted Waste:	Agricultural,Construction/demolition,Industrial,Mixed municipal
Closure Date:	12/31/2022
Closure Type:	Estimated
Disposal Acreage:	$71.00
SWIS Num:	54-AA-0004
Waste Discharge Requirement Num:	III
Program Type:	BOE Reporting Disposal Facility,Financial Assurance Responsibilities,Remaining Capacity Landfill
Permitted Throughput with Units:	800
Actual Throughput with Units:	Tons/day
Permitted Capacity with Units:	8320307
Remaining Capacity:	712861
Remaining Capacity with Units:	Cubic Yards
Lat/Long:	36.02111 / -119.10583

CA Financial Assurance 2:

Name:	TEAPOT DOME DISPOSAL SITE
Address:	AVENUE 128 AND ROAD 208
City,State,Zip:	PORTERVILLE, CA
Region:	2
SWIS_NO:	54-AA-0004
Closure Approved:	Yes
Closure Inf Coverage Date:	06/01/2007
Closure Plan Coverage:	3077800
Closure Plan Date:	12/01/2016
PostClose Approved:	Yes

TEAPOT DOME DISPOSAL SITE (Continued) **S102362974**

PostClose Adequacy Date:	12/01/2016
PostClose Inf Coverage:	4690431
PostClose Inf Coverage Date:	06/01/2007
CorActCoverage:	602141
CorActApproved:	Yes
CorAct Mec Adequacy Date:	Not reported
CorAct Inf Coverage:	602141
CorActPlanCoverage:	0
CorAct Plan Date:	Not reported
Lia Coverage:	1000000
Lia Approved:	Yes
Review:	05/01/2017
Closure Mechanism A:	ENTERPRISE FUND
Closure Mechanism B:	Not reported
Closure Coverage:	8058489
Closure Adequacy:	Not reported
Closure Inflation Estimate:	8058489
Post Closure Mechanism A:	ENTERPRISE FUND
Post Closure Established A:	05/30/1995
Post Closure Mechanism B:	Not reported
Post Closure Coverate:	4690431
Post Closure Adequacy:	Not reported
Corrective Action Extablished A:	05/09/2005
Corrective Actiont Coverage:	602141
Corrective Action Approved:	Yes
Corrective Action Inflation Estimate:	602141
Corrective Action Inflationdate:	05/18/2006
Corrective Action Plan Estimate:	0
Liability Mechanism A:	SELF-INS. & RISK MANAGEMENT
Liability Established A:	12/20/1995
Liability Mechanism B:	Not reported
CostAnniversary:	08/29/2003
ClosureEstablishedA:	08/29/1995
ClosureEstablishedB:	Not reported
ClosureDisbursement:	0
PostClosureEstablishedB:	Not reported
PostClosureDisbursement:	0
CorrectiveActionMechanismA:	ENTERPRISE FUND
CorrectiveActionMechanismB:	Not reported
CorrectiveActionExtablishedB:	Not reported
CorrectiveActiontDisbursement:	0
LiabilityEstabllishedB:	Not reported
LiabilityAdequacy:	Not reported
Responsible Party:	Tulare County
Provider:	Tulare County
Contact:	Not reported

CERS:

Name:	TEAPOT DOME DISPOSAL SITE
Address:	AVENUE 128 AND ROAD 208
City,State,Zip:	PORTERVILLE, CA
Site ID:	512282
CERS ID:	54-AA-0004
CERS Description:	Solid Waste and Recycle Sites

Affiliation:

Affiliation Type Desc:	Legal Operator

TEAPOT DOME DISPOSAL SITE (Continued) **S102362974**

Entity Name:	Tulare County
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Visalia
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	93277
Affiliation Phone:	5597336291

Affiliation Type Desc:	Legal Owner
Entity Name:	Tulare County
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Visalia
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	93277
Affiliation Phone:	5597336291

A2 **DAVID EVANS FARMING** **RCRA NonGen / NLR** **1024801640**
WSW **20191 AVENUE 128** **CAL000232112**
1/8-1/4 **PORTERVILLE, CA 93257**
0.227 mi.
1196 ft. **Site 1 of 2 in cluster A**

Relative:
Lower

Actual:
391 ft.

RCRA NonGen / NLR:

Date form received by agency:	2002-01-28 00:00:00.0
Facility name:	DAVID EVANS FARMING
Facility address:	20191 AVENUE 128 PORTERVILLE, CA 93257-8940
EPA ID:	CAL000232112
Contact:	BILL WALLACE
Contact address:	20191 AVENUE 128 PORTERVILLE, CA 93257
Contact country:	Not reported
Contact telephone:	559-789-0347
Contact email:	NOVA.ORONG.DEF@GMAIL.COM
EPA Region:	09
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	DAVID EVANS
Owner/operator address:	20191 AVENUE 128 PORTERVILLE, CA 93257
Owner/operator country:	Not reported
Owner/operator telephone:	559-789-0347
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Other
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	BILL WALLACE

DAVID EVANS FARMING (Continued) **1024801640**

Owner/operator address:	20191 AVENUE 128 PORTERVILLE, CA 93257
Owner/operator country:	Not reported
Owner/operator telephone:	559-789-0347
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Other
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Violation Status: No violations found

A3 **FULL CIRCLE FARMING LLC** **RCRA NonGen / NLR** **1024861723**
WSW **20191 AVE 128** **CAL000430210**
1/8-1/4 **PORTERVILLE, CA 93257**
0.227 mi.
1196 ft. **Site 2 of 2 in cluster A**

Relative:
Lower

Actual:
391 ft.

RCRA NonGen / NLR:

Date form received by agency:	2017-08-24 00:00:00.0
Facility name:	FULL CIRCLE FARMING LLC
Facility address:	20191 AVE 128 PORTERVILLE, CA 93257
EPA ID:	CAL000430210
Contact:	MATT GISLER
Contact address:	20191 AVE 128 PORTERVILLE, CA 93257
Contact country:	Not reported
Contact telephone:	559-789-0347
Contact email:	MATT.GISLER.DEF@GMAIL.COM
EPA Region:	09
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	MATT GISLER
Owner/operator address:	20191 AVE 128 PORTERVILLE, CA 93257
Owner/operator country:	Not reported

FULL CIRCLE FARMING LLC (Continued) **1024861723**

Owner/operator telephone:	559-789-0347
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Other
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	MATT GISLER
Owner/operator address:	20191 AVE 128 PORTERVILLE, CA 93257
Owner/operator country:	Not reported
Owner/operator telephone:	559-789-0347
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Other
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Violation Status: No violations found

4
ESE
1/4-1/2
0.378 mi.
1998 ft.

TEA POT DOME SWDS **SEMS-ARCHIVE** **1003877980**
21063 AVE 128 **CAD982359135**
PORTERVILLE, CA 93257

Relative:
Higher

Actual:
402 ft.

SEMS Archive:

Site ID:	0900104
EPA ID:	CAD982359135
Name:	TEA POT DOME SWDS
Address:	21063 AVE 128
Address 2:	Not reported
City,State,Zip:	PORTERVILLE, CA 93257
Cong District:	17
FIPS Code:	06107
FF:	N
NPL:	Not on the NPL

TEA POT DOME SWDS (Continued) **1003877980**

Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

SEMS Archive Detail:

Region:	09
Site ID:	0900104
EPA ID:	CAD982359135
Site Name:	TEA POT DOME SWDS
NPL:	N
FF:	N
OU:	00
Action Code:	VS
Action Name:	ARCH SITE
SEQ:	1
Start Date:	Not reported
Finish Date:	1990-08-23 04:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf In-Hse

Region:	09
Site ID:	0900104
EPA ID:	CAD982359135
Site Name:	TEA POT DOME SWDS
NPL:	N
FF:	N
OU:	00
Action Code:	PA
Action Name:	PA
SEQ:	1
Start Date:	Not reported
Finish Date:	1990-08-23 04:00:00
Qual:	N
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900104
EPA ID:	CAD982359135
Site Name:	TEA POT DOME SWDS
NPL:	N
FF:	N
OU:	00
Action Code:	DS
Action Name:	DISCVRY
SEQ:	1
Start Date:	1987-12-01 05:00:00
Finish Date:	1987-12-01 05:00:00
Qual:	Not reported
Current Action Lead:	St Perf

Count: 5 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
PORTERVILLE	S108723805		AVENUE 160, 1/2 MILE E OF ROAD	93257	CDL
PORTERVILLE	S107537692		AVENUE 128, 1/8 MI E ROAD 232	93257	CDL
PORTERVILLE	S107537593		AT DIAGONAL 208 AND ROAD 208	93257	CDL
PORTERVILLE	S108277131	WILSON GROVE	900' E OF CRESTVIEW/1000' S OF	93257	LUST, Cortese
TULARE COUNTY	S107526683		100 YDS FROM ROAD 208 & AVENUE		CDL

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: 04/27/2020
Date Data Arrived at EDR: 05/06/2020
Date Made Active in Reports: 05/28/2020
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 10/12/2020
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: 04/27/2020
Date Data Arrived at EDR: 05/06/2020
Date Made Active in Reports: 05/28/2020
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 04/27/2020
Date Data Arrived at EDR: 05/06/2020
Date Made Active in Reports: 05/28/2020
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 10/12/2020
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: 04/03/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 07/02/2020
Next Scheduled EDR Contact: 10/12/2020
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: 04/27/2020
Date Data Arrived at EDR: 05/06/2020
Date Made Active in Reports: 05/28/2020
Number of Days to Update: 22

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 10/26/2020
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: 04/27/2020
Date Data Arrived at EDR: 05/06/2020
Date Made Active in Reports: 05/28/2020
Number of Days to Update: 22

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 03/25/2020
Date Made Active in Reports: 05/21/2020
Number of Days to Update: 57

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 03/25/2020
Date Made Active in Reports: 05/21/2020
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 03/25/2020
Date Made Active in Reports: 05/21/2020
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 03/25/2020
Date Made Active in Reports: 05/21/2020
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly 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). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 03/25/2020
Date Made Active in Reports: 05/21/2020
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/15/2020
Date Data Arrived at EDR: 05/19/2020
Date Made Active in Reports: 06/18/2020
Number of Days to Update: 30

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 08/04/2020
Next Scheduled EDR Contact: 11/23/2020
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: 02/13/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 05/15/2020
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/15/2020
Next Scheduled EDR Contact: 09/07/2020
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

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: 02/13/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 05/15/2020
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/15/2020
Next Scheduled EDR Contact: 09/07/2020
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: 03/22/2020
Date Data Arrived at EDR: 03/24/2020
Date Made Active in Reports: 06/18/2020
Number of Days to Update: 86

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 04/27/2020
Date Data Arrived at EDR: 04/28/2020
Date Made Active in Reports: 07/13/2020
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/27/2020
Next Scheduled EDR Contact: 11/09/2020
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: 04/27/2020
Date Data Arrived at EDR: 04/28/2020
Date Made Active in Reports: 07/13/2020
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/27/2020
Next Scheduled EDR Contact: 11/09/2020
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: 05/11/2020
Date Data Arrived at EDR: 05/12/2020
Date Made Active in Reports: 07/27/2020
Number of Days to Update: 76

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 05/12/2020
Next Scheduled EDR Contact: 08/24/2020
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

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: 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: 05/13/2020
Date Data Arrived at EDR: 05/13/2020
Date Made Active in Reports: 05/15/2020
Number of Days to Update: 2

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Quarterly

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 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 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 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 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 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: No Update Planned

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 10/15/2019
Date Data Arrived at EDR: 12/17/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 55

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

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: 10/01/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 68

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
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: 10/11/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 68

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 10/04/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/27/2020
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
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: 10/02/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 68

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 10/01/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 68

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
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: 10/10/2019
Date Data Arrived at EDR: 12/05/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 67

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/03/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/14/2020
Number of Days to Update: 72

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 05/13/2020
Date Data Arrived at EDR: 05/13/2020
Date Made Active in Reports: 05/14/2020
Number of Days to Update: 1

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
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: No Update Planned

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: No Update Planned

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: No Update Planned

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: No Update Planned

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: No Update Planned

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: No Update Planned

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: No Update Planned

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: 02/01/2020
Date Data Arrived at EDR: 03/19/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 82

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 07/06/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 03/09/2020
Date Data Arrived at EDR: 03/10/2020
Date Made Active in Reports: 05/20/2020
Number of Days to Update: 71

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Semi-Annually

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases

UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 03/09/2020
Date Data Arrived at EDR: 03/11/2020
Date Made Active in Reports: 05/26/2020
Number of Days to Update: 76

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)

Military ust sites

Date of Government Version: 05/13/2020
Date Data Arrived at EDR: 05/13/2020
Date Made Active in Reports: 05/15/2020
Number of Days to Update: 2

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

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: 06/10/2020
Next Scheduled EDR Contact: 09/28/2020
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: 10/11/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 68

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/01/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 68

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
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: 10/10/2019
Date Data Arrived at EDR: 12/05/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 67

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 10/01/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 68

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 10/02/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 68

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 10/11/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 68

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 10/03/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/14/2020
Number of Days to Update: 72

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
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: 10/04/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/27/2020
Number of Days to Update: 85

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 07/23/2020
Next Scheduled EDR Contact: 11/01/2020
Data Release Frequency: Varies

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: 06/17/2020
Next Scheduled EDR Contact: 10/05/2020
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: 04/27/2020
Date Data Arrived at EDR: 04/28/2020
Date Made Active in Reports: 07/13/2020
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/27/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Quarterly

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 03/24/2020
Date Made Active in Reports: 06/05/2020
Number of Days to Update: 73

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/01/2020
Date Data Arrived at EDR: 06/02/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/02/2020
Next Scheduled EDR Contact: 09/28/2020
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: 07/21/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 03/09/2020
Date Data Arrived at EDR: 03/10/2020
Date Made Active in Reports: 05/19/2020
Number of Days to Update: 70

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 11/15/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/23/2020
Number of Days to Update: 69

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 08/04/2020
Next Scheduled EDR Contact: 11/23/2020
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: 07/21/2020
Next Scheduled EDR Contact: 11/09/2020
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: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
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: 07/31/2020
Next Scheduled EDR Contact: 11/09/2020
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: 03/18/2020
Date Data Arrived at EDR: 03/19/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/18/2020
Next Scheduled EDR Contact: 09/07/2020
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: 04/27/2020
Date Data Arrived at EDR: 04/28/2020
Date Made Active in Reports: 07/13/2020
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/27/2020
Next Scheduled EDR Contact: 11/09/2020
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: 12/31/2018
Date Data Arrived at EDR: 02/05/2020
Date Made Active in Reports: 04/15/2020
Number of Days to Update: 70

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 07/09/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Varies

CERS HAZ WASTE: CERS HAZ WASTE
List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 04/20/2020
Date Data Arrived at EDR: 04/21/2020
Date Made Active in Reports: 07/13/2020
Number of Days to Update: 83

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Quarterly

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: 03/18/2020
Date Data Arrived at EDR: 03/19/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/18/2020
Next Scheduled EDR Contact: 09/07/2020
Data Release Frequency: Quarterly

PFAS: PFAS Contamination Site Location Listing

A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 03/09/2020
Date Data Arrived at EDR: 03/10/2020
Date Made Active in Reports: 05/19/2020
Number of Days to Update: 70

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

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: 05/20/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/06/2020
Number of Days to Update: 78

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 05/15/2020
Next Scheduled EDR Contact: 09/07/2020
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database
The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing
Aboveground storage tank sites

Date of Government Version: 05/04/2020
Date Data Arrived at EDR: 05/06/2020
Date Made Active in Reports: 07/17/2020
Number of Days to Update: 72

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

CERS TANKS: California Environmental Reporting System (CERS) Tanks
List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 04/20/2020
Date Data Arrived at EDR: 04/21/2020
Date Made Active in Reports: 07/09/2020
Number of Days to Update: 79

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Quarterly

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: 03/03/2020
Date Data Arrived at EDR: 03/05/2020
Date Made Active in Reports: 05/14/2020
Number of Days to Update: 70

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/27/2020
Next Scheduled EDR Contact: 09/14/2020
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: 04/27/2020
Date Data Arrived at EDR: 05/06/2020
Date Made Active in Reports: 05/28/2020
Number of Days to Update: 22

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 03/02/2020
Date Data Arrived at EDR: 03/03/2020
Date Made Active in Reports: 05/13/2020
Number of Days to Update: 71

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 06/02/2020
Next Scheduled EDR Contact: 09/14/2020
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: 02/27/2020
Date Data Arrived at EDR: 03/24/2020
Date Made Active in Reports: 06/18/2020
Number of Days to Update: 86

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 06/23/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 03/31/2020
Date Data Arrived at EDR: 04/21/2020
Date Made Active in Reports: 07/09/2020
Number of Days to Update: 79

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 05/13/2020
Date Data Arrived at EDR: 05/13/2020
Date Made Active in Reports: 05/14/2020
Number of Days to Update: 1

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
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: 05/13/2020
Date Data Arrived at EDR: 05/13/2020
Date Made Active in Reports: 05/15/2020
Number of Days to Update: 2

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 03/25/2020
Date Made Active in Reports: 05/21/2020
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/28/2020
Date Data Arrived at EDR: 02/19/2020
Date Made Active in Reports: 05/14/2020
Number of Days to Update: 85

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 05/18/2020
Next Scheduled EDR Contact: 08/31/2020
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: 07/09/2020
Next Scheduled EDR Contact: 10/19/2020
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: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 07/06/2020
Next Scheduled EDR Contact: 10/19/2020
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: 08/05/2020
Next Scheduled EDR Contact: 11/23/2020
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: 03/23/2020
Date Data Arrived at EDR: 03/24/2020
Date Made Active in Reports: 06/18/2020
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
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: 07/31/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/06/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 198

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/17/2020
Next Scheduled EDR Contact: 09/28/2020
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: 12/31/2018
Date Data Arrived at EDR: 02/05/2020
Date Made Active in Reports: 04/24/2020
Number of Days to Update: 79

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 05/21/2020
Next Scheduled EDR Contact: 08/31/2020
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: 03/01/2020
Date Data Arrived at EDR: 04/21/2020
Date Made Active in Reports: 07/15/2020
Number of Days to Update: 85

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/02/2020
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: 04/27/2020
Date Data Arrived at EDR: 05/06/2020
Date Made Active in Reports: 05/28/2020
Number of Days to Update: 22

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 09/14/2020
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: 01/31/2020
Date Data Arrived at EDR: 05/13/2020
Date Made Active in Reports: 08/03/2020
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 07/15/2020
Next Scheduled EDR Contact: 11/02/2020
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: 04/27/2020
Date Data Arrived at EDR: 05/06/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 34

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 11/16/2020
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: 10/09/2019
Date Data Arrived at EDR: 10/11/2019
Date Made Active in Reports: 12/20/2019
Number of Days to Update: 70

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 07/13/2020
Next Scheduled EDR Contact: 10/19/2020
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: 06/30/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

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: 10/25/2019
Date Data Arrived at EDR: 10/25/2019
Date Made Active in Reports: 01/15/2020
Number of Days to Update: 82

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 07/20/2020
Next Scheduled EDR Contact: 11/02/2020
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: 12/31/2018
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 01/15/2020
Number of Days to Update: 42

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 06/05/2020
Next Scheduled EDR Contact: 09/14/2020
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: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/01/2020
Next Scheduled EDR Contact: 09/14/2020
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: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 08/06/2020
Next Scheduled EDR Contact: 11/16/2020
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: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 06/24/2020
Next Scheduled EDR Contact: 10/12/2020
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: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 07/27/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2020
Date Data Arrived at EDR: 07/15/2020
Date Made Active in Reports: 07/21/2020
Number of Days to Update: 6

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 07/06/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
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: 07/07/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
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: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/18/2020
Next Scheduled EDR Contact: 08/31/2020
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites
A listing of former lead smelter site locations.

Date of Government Version: 04/27/2020
Date Data Arrived at EDR: 05/06/2020
Date Made Active in Reports: 05/28/2020
Number of Days to Update: 22

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites
A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)
The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data
Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 03/31/2020
Date Data Arrived at EDR: 04/01/2020
Date Made Active in Reports: 05/21/2020
Number of Days to Update: 50

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 05/27/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Quarterly

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: 02/11/2020
Date Data Arrived at EDR: 02/25/2020
Date Made Active in Reports: 05/21/2020
Number of Days to Update: 86

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 05/21/2020
Next Scheduled EDR Contact: 09/07/2020
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: 01/16/2018
Date Data Arrived at EDR: 02/28/2020
Date Made Active in Reports: 05/22/2020
Number of Days to Update: 84

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/27/2020
Next Scheduled EDR Contact: 09/07/2020
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: 05/21/2020
Next Scheduled EDR Contact: 09/07/2020
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: 03/05/2020
Date Data Arrived at EDR: 03/06/2020
Date Made Active in Reports: 05/29/2020
Number of Days to Update: 84

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 06/19/2020
Next Scheduled EDR Contact: 09/21/2020
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: 02/03/2020
Date Data Arrived at EDR: 03/03/2020
Date Made Active in Reports: 05/28/2020
Number of Days to Update: 86

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 06/02/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 01/17/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 74

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 07/09/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ECHO: Enforcement & Compliance History Information
ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 04/04/2020
Date Data Arrived at EDR: 04/07/2020
Date Made Active in Reports: 06/26/2020
Number of Days to Update: 80

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 07/02/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing
A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 07/26/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 71

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 05/18/2020
Next Scheduled EDR Contact: 09/07/2020
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: 05/18/2020
Date Data Arrived at EDR: 05/19/2020
Date Made Active in Reports: 08/03/2020
Number of Days to Update: 76

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 05/19/2020
Next Scheduled EDR Contact: 08/31/2020
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: 03/23/2020
Date Data Arrived at EDR: 03/24/2020
Date Made Active in Reports: 06/05/2020
Number of Days to Update: 73

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing
list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/14/2019
Date Made Active in Reports: 07/17/2019
Number of Days to Update: 64

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 05/15/2020
Next Scheduled EDR Contact: 08/24/2020
Data Release Frequency: Varies

CUPA SAN FRANCISCO CO: CUPA Facility Listing
Cupa facilities

Date of Government Version: 05/04/2020
Date Data Arrived at EDR: 05/06/2020
Date Made Active in Reports: 07/17/2020
Number of Days to Update: 72

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 02/27/2020
Date Data Arrived at EDR: 02/28/2020
Date Made Active in Reports: 05/07/2020
Number of Days to Update: 69

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 05/27/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 12/04/2019
Date Data Arrived at EDR: 01/29/2020
Date Made Active in Reports: 04/09/2020
Number of Days to Update: 71

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 05/27/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Annually

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 03/25/2020
Date Data Arrived at EDR: 03/26/2020
Date Made Active in Reports: 06/15/2020
Number of Days to Update: 81

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 05/15/2020
Next Scheduled EDR Contact: 09/07/2020
Data Release Frequency: Varies

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/24/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 59

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 06/16/2020
Next Scheduled EDR Contact: 09/28/2020
Data Release Frequency: Varies

ENF: Enforcement Action Listing
A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 04/03/2020
Date Data Arrived at EDR: 04/07/2020
Date Made Active in Reports: 04/15/2020
Number of Days to Update: 8

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 04/09/2020
Date Data Arrived at EDR: 04/10/2020
Date Made Active in Reports: 07/01/2020
Number of Days to Update: 82

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
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: 05/14/2020
Date Data Arrived at EDR: 05/15/2020
Date Made Active in Reports: 07/27/2020
Number of Days to Update: 73

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 08/04/2020
Next Scheduled EDR Contact: 11/23/2020
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: 12/31/2019
Date Data Arrived at EDR: 04/15/2020
Date Made Active in Reports: 07/02/2020
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 07/06/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 05/18/2020
Date Data Arrived at EDR: 05/19/2020
Date Made Active in Reports: 07/31/2020
Number of Days to Update: 73

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 05/18/2020
Next Scheduled EDR Contact: 08/31/2020
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: 05/18/2020
Date Data Arrived at EDR: 05/18/2020
Date Made Active in Reports: 07/31/2020
Number of Days to Update: 74

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/18/2020
Next Scheduled EDR Contact: 08/31/2020
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: 04/06/2020
Date Data Arrived at EDR: 04/08/2020
Date Made Active in Reports: 06/26/2020
Number of Days to Update: 79

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 07/07/2020
Next Scheduled EDR Contact: 10/19/2020
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: 03/09/2020
Date Data Arrived at EDR: 03/10/2020
Date Made Active in Reports: 05/19/2020
Number of Days to Update: 70

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 02/12/2020
Date Data Arrived at EDR: 03/03/2020
Date Made Active in Reports: 05/14/2020
Number of Days to Update: 72

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 06/02/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 05/12/2020
Date Data Arrived at EDR: 05/12/2020
Date Made Active in Reports: 07/28/2020
Number of Days to Update: 77

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 05/12/2020
Next Scheduled EDR Contact: 08/24/2020
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: 03/02/2020
Date Data Arrived at EDR: 03/03/2020
Date Made Active in Reports: 05/14/2020
Number of Days to Update: 72

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 06/02/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 03/09/2020
Date Data Arrived at EDR: 03/10/2020
Date Made Active in Reports: 05/19/2020
Number of Days to Update: 70

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
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: 03/12/2020
Date Data Arrived at EDR: 03/13/2020
Date Made Active in Reports: 05/21/2020
Number of Days to Update: 69

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 06/10/2020
Next Scheduled EDR Contact: 09/28/2020
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: 03/09/2020
Date Data Arrived at EDR: 03/10/2020
Date Made Active in Reports: 05/19/2020
Number of Days to Update: 70

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 05/13/2020
Date Data Arrived at EDR: 05/13/2020
Date Made Active in Reports: 05/15/2020
Number of Days to Update: 2

Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 11/19/2019
Date Data Arrived at EDR: 01/07/2020
Date Made Active in Reports: 03/09/2020
Number of Days to Update: 62

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 07/09/2020
Next Scheduled EDR Contact: 10/19/2020
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: 05/07/2020
Next Scheduled EDR Contact: 08/31/2020
Data Release Frequency: No Update Planned

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: 06/17/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 05/13/2020
Date Data Arrived at EDR: 05/13/2020
Date Made Active in Reports: 05/15/2020
Number of Days to Update: 2

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 05/13/2020
Date Data Arrived at EDR: 05/13/2020
Date Made Active in Reports: 05/15/2020
Number of Days to Update: 2

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing

In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 03/09/2020
Date Data Arrived at EDR: 03/10/2020
Date Made Active in Reports: 05/19/2020
Number of Days to Update: 70

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System

The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 03/02/2020
Date Data Arrived at EDR: 03/03/2020
Date Made Active in Reports: 05/13/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 06/02/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 04/20/2020
Date Data Arrived at EDR: 04/21/2020
Date Made Active in Reports: 07/13/2020
Number of Days to Update: 83

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 05/13/2020
Date Data Arrived at EDR: 05/13/2020
Date Made Active in Reports: 05/15/2020
Number of Days to Update: 2

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 05/13/2020
Date Data Arrived at EDR: 05/13/2020
Date Made Active in Reports: 05/15/2020
Number of Days to Update: 2

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)
Produced water ponds sites

Date of Government Version: 05/13/2020
Date Data Arrived at EDR: 05/13/2020
Date Made Active in Reports: 05/15/2020
Number of Days to Update: 2

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)
Sampling point - public sites

Date of Government Version: 05/13/2020
Date Data Arrived at EDR: 05/13/2020
Date Made Active in Reports: 05/15/2020
Number of Days to Update: 2

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)
Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 05/13/2020
Date Data Arrived at EDR: 05/13/2020
Date Made Active in Reports: 05/15/2020
Number of Days to Update: 2

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

PCS INACTIVE: Listing of Inactive PCS Permits
An inactive permit is a facility that has shut down or is no longer discharging.

Date of Government Version: 11/05/2014
Date Data Arrived at EDR: 01/06/2015
Date Made Active in Reports: 05/06/2015
Number of Days to Update: 120

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 07/09/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Semi-Annually

PCS ENF: Enforcement data
No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 07/01/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System
Mineral Resources Data System

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 10/21/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 3

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 05/21/2020
Next Scheduled EDR Contact: 09/07/2020
Data Release Frequency: Varies

HWTS: Hazardous Waste Tracking System
DTSC maintains the Hazardous Waste Tracking System that stores ID number information since the early 1980s and manifest data since 1993. The system collects both manifest copies from the generator and destination facility.

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 04/09/2020
Date Made Active in Reports: 07/01/2020
Number of Days to Update: 83

Source: Department of Toxic Substances Control
Telephone: 916-324-2444
Last EDR Contact: 08/02/2020
Next Scheduled EDR Contact: 10/18/2020
Data Release Frequency: Varies

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 06/08/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Semi-Annually

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List
The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank
The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites
A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 06/30/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks
Underground storage tank sites located in Alameda county.

Date of Government Version: 06/30/2020
Date Data Arrived at EDR: 07/01/2020
Date Made Active in Reports: 07/17/2020
Number of Days to Update: 16

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 06/30/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA AMADOR: CUPA Facility List
Cupa Facility List

Date of Government Version: 05/18/2020
Date Data Arrived at EDR: 05/19/2020
Date Made Active in Reports: 06/01/2020
Number of Days to Update: 13

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 06/30/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 03/27/2020
Date Data Arrived at EDR: 03/31/2020
Date Made Active in Reports: 06/15/2020
Number of Days to Update: 76

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 06/17/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/06/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 78

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 04/01/2020
Date Data Arrived at EDR: 04/20/2020
Date Made Active in Reports: 07/06/2020
Number of Days to Update: 77

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 04/16/2020
Date Data Arrived at EDR: 04/20/2020
Date Made Active in Reports: 07/08/2020
Number of Days to Update: 79

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 08/04/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 05/07/2020
Date Data Arrived at EDR: 05/07/2020
Date Made Active in Reports: 07/23/2020
Number of Days to Update: 77

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 08/04/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 01/10/2020
Date Data Arrived at EDR: 03/31/2020
Date Made Active in Reports: 06/15/2020
Number of Days to Update: 76

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 06/30/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: No Update Planned

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 05/19/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 06/15/2020
Number of Days to Update: 26

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 05/14/2020
Next Scheduled EDR Contact: 08/31/2020
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/09/2020
Date Data Arrived at EDR: 04/10/2020
Date Made Active in Reports: 07/01/2020
Number of Days to Update: 82

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 05/07/2020
Next Scheduled EDR Contact: 08/31/2020
Data Release Frequency: Varies

KERN COUNTY:

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 04/29/2020
Date Data Arrived at EDR: 05/05/2020
Date Made Active in Reports: 07/17/2020
Number of Days to Update: 73

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 05/11/2020
Date Data Arrived at EDR: 05/12/2020
Date Made Active in Reports: 07/27/2020
Number of Days to Update: 76

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 05/07/2020
Next Scheduled EDR Contact: 08/31/2020
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/20/2020
Date Data Arrived at EDR: 04/28/2020
Date Made Active in Reports: 07/14/2020
Number of Days to Update: 77

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 07/08/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/30/2020
Date Data Arrived at EDR: 01/31/2020
Date Made Active in Reports: 04/09/2020
Number of Days to Update: 69

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 08/05/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 06/10/2020
Next Scheduled EDR Contact: 09/28/2020
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 03/26/2020
Date Data Arrived at EDR: 03/26/2020
Date Made Active in Reports: 06/15/2020
Number of Days to Update: 81

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 06/30/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 04/13/2020
Date Data Arrived at EDR: 04/14/2020
Date Made Active in Reports: 07/01/2020
Number of Days to Update: 78

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 07/13/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 01/15/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 51

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 07/08/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Varies

LOS ANGELES AST: Active & Inactive AST Inventory
A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/25/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills

This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 04/30/2012
Date Data Arrived at EDR: 04/17/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 42

Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 07/13/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: No Update Planned

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory

A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/25/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory

A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/25/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 03/25/2020
Date Data Arrived at EDR: 04/14/2020
Date Made Active in Reports: 07/01/2020
Number of Days to Update: 78

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 07/17/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 07/08/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: No Update Planned

UST LONG BEACH: City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 06/27/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 10/02/2019
Number of Days to Update: 64

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 02/24/2020
Date Data Arrived at EDR: 02/25/2020
Date Made Active in Reports: 05/07/2020
Number of Days to Update: 72

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 05/07/2020
Next Scheduled EDR Contact: 08/31/2020
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 06/24/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 07/28/2020
Date Data Arrived at EDR: 07/30/2020
Date Made Active in Reports: 07/31/2020
Number of Days to Update: 1

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 02/21/2020
Date Data Arrived at EDR: 03/05/2020
Date Made Active in Reports: 05/13/2020
Number of Days to Update: 69

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 05/15/2020
Next Scheduled EDR Contact: 09/07/2020
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 07/13/2020
Date Data Arrived at EDR: 07/15/2020
Date Made Active in Reports: 07/31/2020
Number of Days to Update: 16

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 07/08/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/15/2020
Next Scheduled EDR Contact: 09/07/2020
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/15/2020
Next Scheduled EDR Contact: 09/07/2020
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 05/06/2020
Date Data Arrived at EDR: 05/07/2020
Date Made Active in Reports: 07/24/2020
Number of Days to Update: 78

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 05/01/2020
Date Data Arrived at EDR: 05/08/2020
Date Made Active in Reports: 07/24/2020
Number of Days to Update: 77

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 07/31/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 05/01/2020
Date Data Arrived at EDR: 05/08/2020
Date Made Active in Reports: 07/24/2020
Number of Days to Update: 77

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 07/31/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 05/01/2020
Date Data Arrived at EDR: 05/05/2020
Date Made Active in Reports: 07/17/2020
Number of Days to Update: 73

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 03/02/2020
Date Data Arrived at EDR: 03/03/2020
Date Made Active in Reports: 05/13/2020
Number of Days to Update: 71

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 05/27/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 03/10/2020
Date Data Arrived at EDR: 03/11/2020
Date Made Active in Reports: 05/20/2020
Number of Days to Update: 70

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 02/10/2020
Next Scheduled EDR Contact: 09/28/2020
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 03/10/2020
Date Data Arrived at EDR: 03/11/2020
Date Made Active in Reports: 05/20/2020
Number of Days to Update: 70

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/10/2020
Next Scheduled EDR Contact: 09/28/2020
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 02/18/2020
Date Data Arrived at EDR: 03/31/2020
Date Made Active in Reports: 06/15/2020
Number of Days to Update: 76

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/02/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 02/24/2020
Date Data Arrived at EDR: 03/31/2020
Date Made Active in Reports: 06/17/2020
Number of Days to Update: 78

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/02/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List

Cupa facility list

Date of Government Version: 04/24/2020
Date Data Arrived at EDR: 04/28/2020
Date Made Active in Reports: 07/13/2020
Number of Days to Update: 76

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 02/25/2020
Date Data Arrived at EDR: 02/26/2020
Date Made Active in Reports: 05/07/2020
Number of Days to Update: 71

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 03/02/2020
Date Data Arrived at EDR: 03/03/2020
Date Made Active in Reports: 05/13/2020
Number of Days to Update: 71

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 06/02/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 56

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing
A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 04/09/2020
Date Data Arrived at EDR: 04/10/2020
Date Made Active in Reports: 06/26/2020
Number of Days to Update: 77

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

SAN DIEGO CO SAM: Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 05/27/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

LUST SAN FRANCISCO: Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: No Update Planned

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 05/04/2020
Date Data Arrived at EDR: 05/06/2020
Date Made Active in Reports: 07/17/2020
Number of Days to Update: 72

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 06/10/2020
Next Scheduled EDR Contact: 09/28/2020
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 05/08/2020
Date Data Arrived at EDR: 05/08/2020
Date Made Active in Reports: 08/03/2020
Number of Days to Update: 87

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 05/07/2020
Next Scheduled EDR Contact: 08/31/2020
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 02/20/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 04/24/2020
Number of Days to Update: 64

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/12/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/03/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 05/07/2020
Next Scheduled EDR Contact: 08/31/2020
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 05/08/2020
Date Data Arrived at EDR: 05/12/2020
Date Made Active in Reports: 07/27/2020
Number of Days to Update: 76

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 05/07/2020
Next Scheduled EDR Contact: 08/31/2020
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 05/15/2020
Next Scheduled EDR Contact: 09/07/2020
Data Release Frequency: No Update Planned

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 04/22/2020
Date Data Arrived at EDR: 04/24/2020
Date Made Active in Reports: 05/07/2020
Number of Days to Update: 13

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 05/07/2020
Next Scheduled EDR Contact: 08/31/2020
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 05/07/2020
Next Scheduled EDR Contact: 08/31/2020
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/13/2019
Number of Days to Update: 68

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 05/26/2020
Next Scheduled EDR Contact: 09/13/2020
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 03/02/2020
Date Data Arrived at EDR: 03/04/2020
Date Made Active in Reports: 05/14/2020
Number of Days to Update: 71

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/23/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 02/25/2020
Date Data Arrived at EDR: 02/26/2020
Date Made Active in Reports: 03/11/2020
Number of Days to Update: 14

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 06/30/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 04/03/2020
Date Data Arrived at EDR: 04/08/2020
Date Made Active in Reports: 06/26/2020
Number of Days to Update: 79

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 06/17/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 02/04/2020
Date Data Arrived at EDR: 02/05/2020
Date Made Active in Reports: 04/15/2020
Number of Days to Update: 70

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 07/06/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 01/23/2020
Date Data Arrived at EDR: 03/03/2020
Date Made Active in Reports: 05/08/2020
Number of Days to Update: 66

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 05/27/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 05/18/2020
Date Data Arrived at EDR: 05/19/2020
Date Made Active in Reports: 07/31/2020
Number of Days to Update: 73

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 04/09/2020
Date Data Arrived at EDR: 04/10/2020
Date Made Active in Reports: 07/01/2020
Number of Days to Update: 82

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 05/14/2020
Date Data Arrived at EDR: 05/15/2020
Date Made Active in Reports: 07/27/2020
Number of Days to Update: 73

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 08/06/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 03/26/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/09/2020
Number of Days to Update: 77

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 07/20/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/24/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: No Update Planned

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/04/2020
Next Scheduled EDR Contact: 11/23/2020
Data Release Frequency: No Update Planned

MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 03/26/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/09/2020
Number of Days to Update: 77

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 07/20/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 01/27/2020
Date Data Arrived at EDR: 03/10/2020
Date Made Active in Reports: 05/20/2020
Number of Days to Update: 71

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 04/01/2020
Date Made Active in Reports: 06/17/2020
Number of Days to Update: 77

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 06/24/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 04/27/2020
Date Data Arrived at EDR: 04/29/2020
Date Made Active in Reports: 07/17/2020
Number of Days to Update: 79

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 08/04/2020
Next Scheduled EDR Contact: 11/09/2020
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: 05/12/2020
Date Data Arrived at EDR: 05/12/2020
Date Made Active in Reports: 07/27/2020
Number of Days to Update: 76

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 05/12/2020
Next Scheduled EDR Contact: 08/24/2020
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 07/09/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 04/29/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 72

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 07/31/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 07/09/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 10/02/2019
Date Made Active in Reports: 12/10/2019
Number of Days to Update: 69

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 05/14/2020
Next Scheduled EDR Contact: 08/31/2020
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/04/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
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 Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data
Source: Endeavor Business Media
This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

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.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

BEHL PROPERTY
158.58-ACRES OF AGRICULTURAL LAND
PORTERVILLE, CA 93257

TARGET PROPERTY COORDINATES

Latitude (North):	36.025993 - 36˚ 1' 33.57''
Longitude (West):	119.112016 - 119˚ 6' 43.26''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	309693.6
UTM Y (Meters):	3988694.5
Elevation:	398 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5603202 PORTERVILLE, CA
Version Date:	2012
Northwest Map:	5619130 WOODVILLE, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

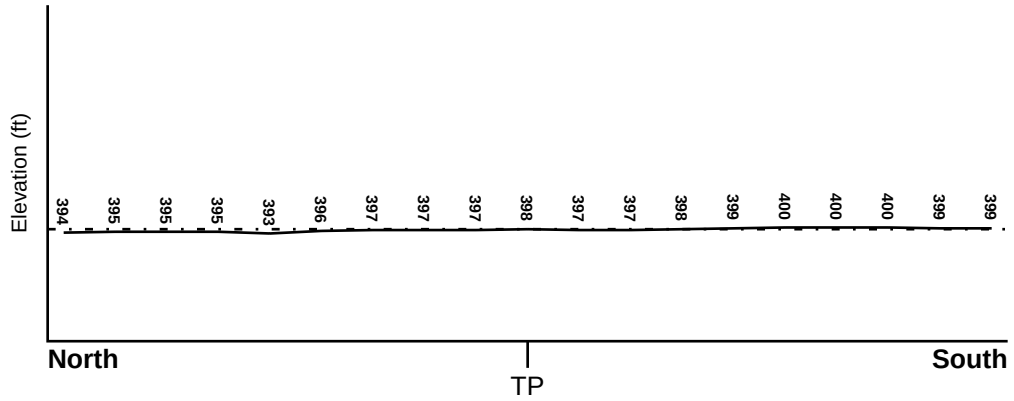
TOPOGRAPHIC INFORMATION

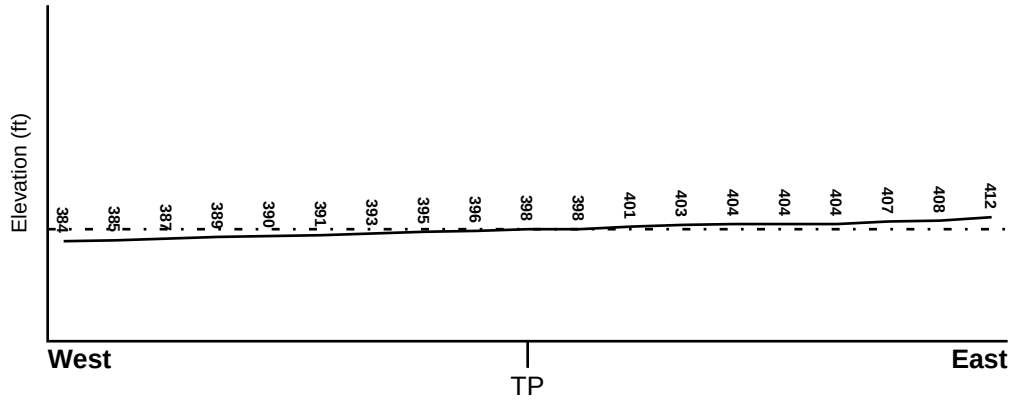
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

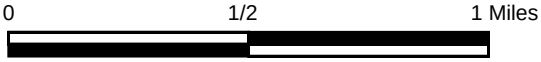
General Topographic Gradient: General West

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 398 ft.



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
06107C1640E	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
0650661050B	FEMA Q3 Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
PORTERVILLE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

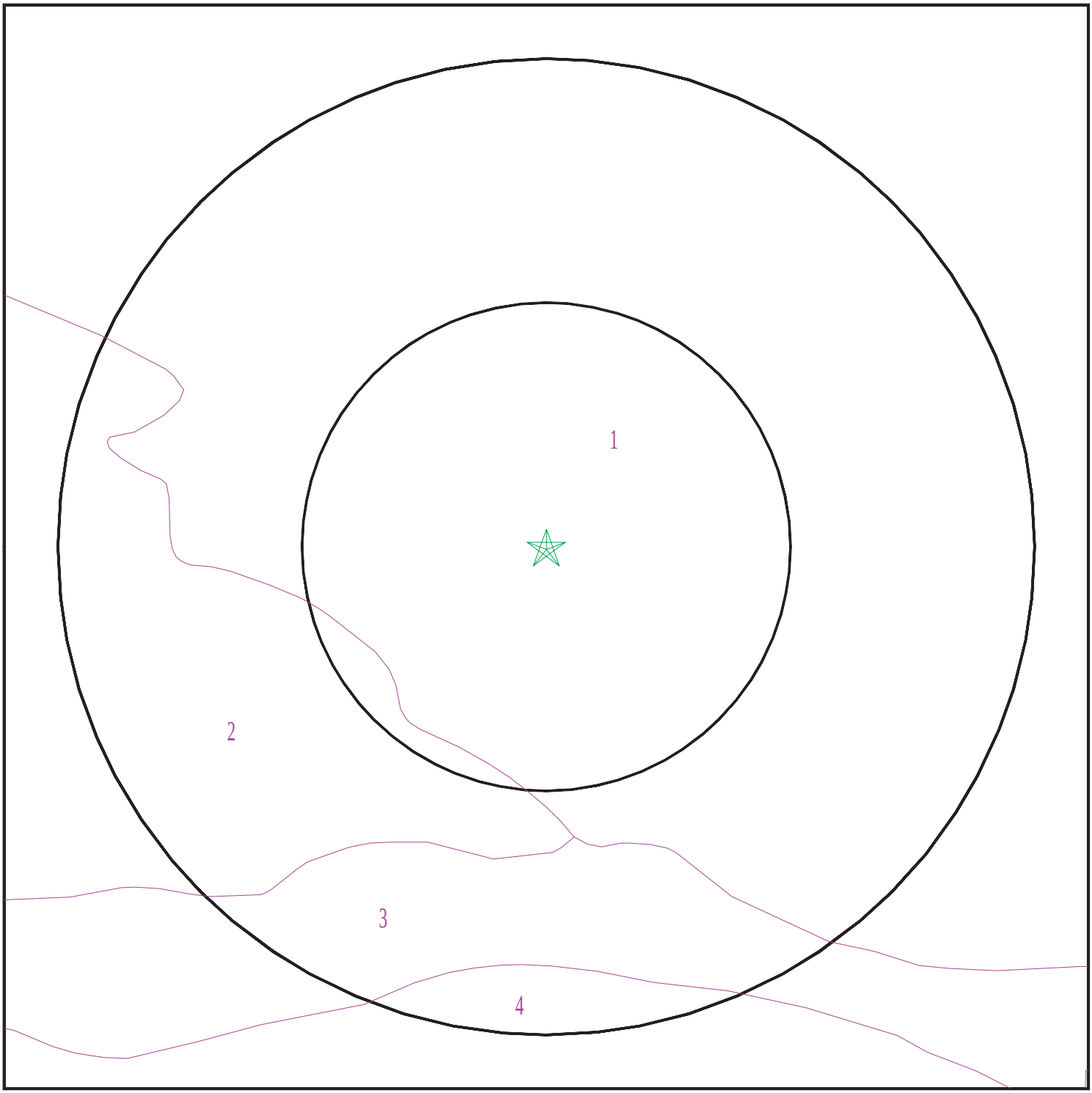
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

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 - 06151185.2r



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Behl Property	CLIENT:	CBRE
ADDRESS:	158.58-Acres of Agricultural Land Porterville CA 93257	CONTACT:	Sandy Smith
		INQUIRY #:	06151185.2r
LAT/LONG:	36.025993 / 119.112016	DATE:	August 10, 2020 4:27 pm

Copyright © 2020 EDR, Inc. © 2015 TomTom Rel. 2015.

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: Exeter

Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 141.14 Min: 4.23	Max: 8.4 Min: 7.4
2	9 inches	25 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 141.14 Min: 4.23	Max: 8.4 Min: 7.4
3	25 inches	27 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 141.14 Min: 4.23	Max: 8.4 Min: 7.4
4	27 inches	46 inches	indurated	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 141.14 Min: 4.23	Max: 8.4 Min: 7.4

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
5	46 inches	72 inches	stratified very gravelly loamy coarse sand to gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 141.14 Min: 4.23	Max: 8.4 Min: 7.4

Soil Map ID: 2

Soil Component Name: Flamen

Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	16 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 1.41 Min: 0.42	Max: Min:
2	16 inches	27 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 1.41 Min: 0.42	Max: Min:

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
3	27 inches	42 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 1.41 Min: 0.42	Max: Min:
4	42 inches	72 inches	cemented	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 1.41 Min: 0.42	Max: Min:

Soil Map ID: 3

Soil Component Name: Tujunga

Soil Surface Texture: loamy sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

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	14 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141.14 Min: 42.34	Max: 7.3 Min: 6.1

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	14 inches	70 inches	stratified coarse sand to loamy sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141.14 Min: 42.34	Max: 7.3 Min: 6.1

Soil Map ID: 4

Soil Component Name: Nord

Soil Surface Texture: fine sandy loam

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: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14.11 Min: 4.23	Max: 8.4 Min: 6.6
2	11 inches	38 inches	stratified sandy loam to loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14.11 Min: 4.23	Max: 8.4 Min: 6.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
3	38 inches	50 inches	stratified loamy coarse sand to coarse sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14.11 Min: 4.23	Max: 8.4 Min: 6.6
4	50 inches	72 inches	stratified sandy loam to silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14.11 Min: 4.23	Max: 8.4 Min: 6.6

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	USGS40000168970	1/8 - 1/4 Mile ESE
B4	USGS40000168992	1/4 - 1/2 Mile ENE
B5	USGS40000168990	1/4 - 1/2 Mile ENE
C8	USGS40000168887	1/2 - 1 Mile SSE
9	USGS40000168940	1/2 - 1 Mile WSW
11	USGS40000168985	1/2 - 1 Mile West
D13	USGS40000169170	1/2 - 1 Mile NNW
E17	USGS40000168846	1/2 - 1 Mile SSE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

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

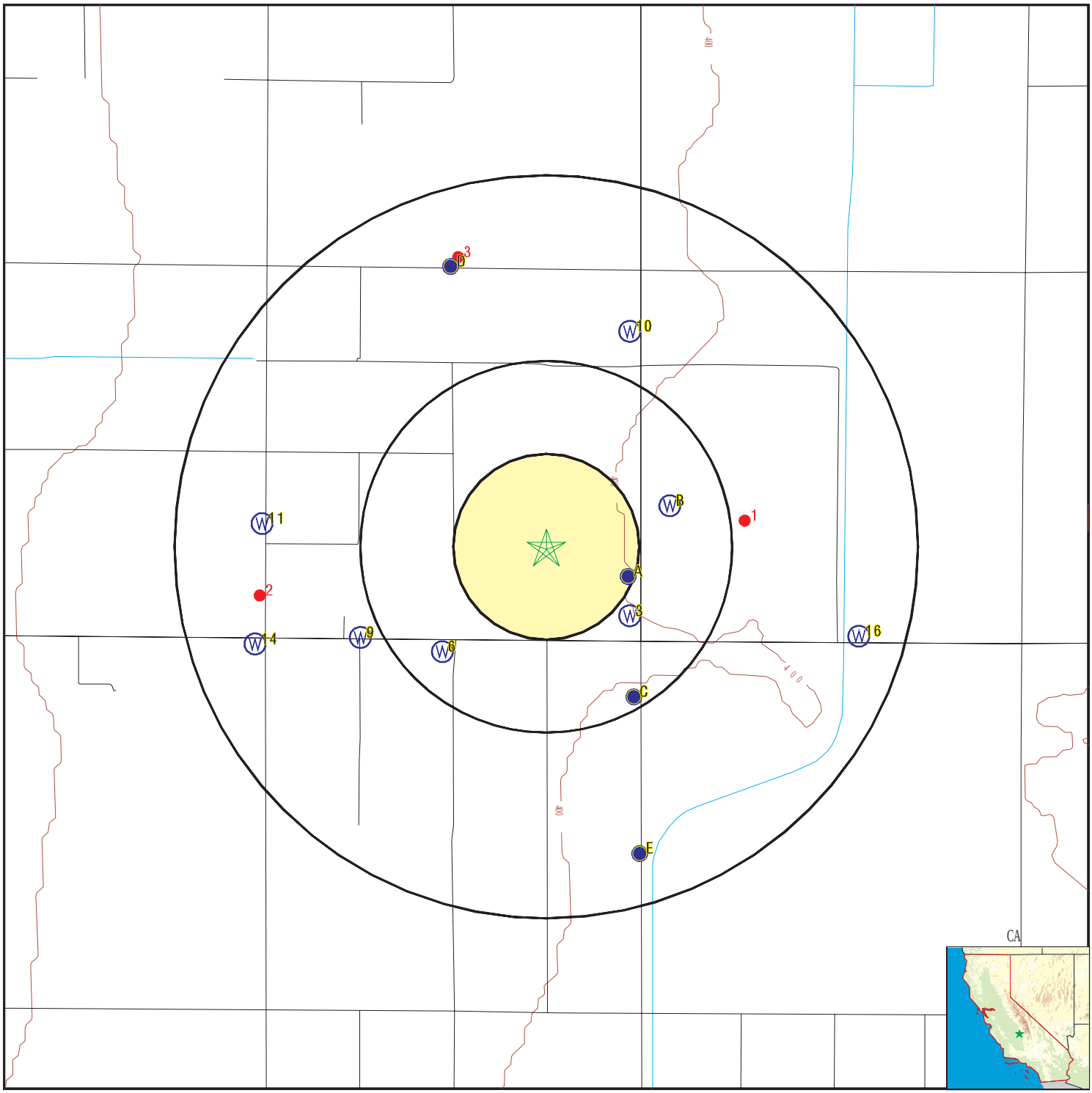
MAP ID	WELL ID	LOCATION FROM TP
A2	CADWR8000021770	1/8 - 1/4 Mile ESE
3	CADWR8000021766	1/4 - 1/2 Mile SE
6	CADWR8000021743	1/4 - 1/2 Mile SW
C7	CADWR8000021729	1/4 - 1/2 Mile SSE
10	CADWR8000021804	1/2 - 1 Mile NNE
D12	CADWR8000021829	1/2 - 1 Mile NNW
14	CADWR8000021754	1/2 - 1 Mile WSW
E15	CADWR8000021709	1/2 - 1 Mile SSE
16	CADWR8000021759	1/2 - 1 Mile ESE

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	CAOG13000004684	1/2 - 1 Mile East
2	CAOG13000004672	1/2 - 1 Mile West
3	CAOG13000004668	1/2 - 1 Mile NNW

PHYSICAL SETTING SOURCE MAP - 06151185.2r



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

0 1/4 1/2 1 Miles

Groundwater Flow Direction
GI Indeterminate Groundwater Flow at Location
GV Groundwater Flow Varies at Location
HD Closest Hydrogeological Data
Oil, gas or related wells

N

SITE NAME:	Behl Property	CLIENT:	CBRE
ADDRESS:	158.58-Acres of Agricultural Land Porterville CA 93257	CONTACT:	Sandy Smith
		INQUIRY #:	06151185.2r
LAT/LONG:	36.025993 / 119.112016	DATE:	August 10, 2020 4:27 pm

Copyright © 2020 EDR, Inc. © 2015 TomTom Rel. 2015.

Map ID Direction Distance Elevation	Database	EDR ID Number
A1 **ESE** **1/8 - 1/4 Mile** **Higher**	**FED USGS**	**USGS40000168970**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	022S026E12R001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19620116	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1962-01-16
Feet below surface:	12.20	Feet to sea level:	Not Reported
Note:	Not Reported		

A2 **ESE** **1/8 - 1/4 Mile** **Higher**	**CA WELLS**	**CADWR8000021770**

State Well #:	22S26E12R002M	Station ID:	36630
Well Name:	Not Reported	Well Use:	Unknown
Well Type:	Unknown	Well Depth:	0
Basin Name:	Tule	Well Completion Rpt #:	Not Reported

---

3 **SE** **1/4 - 1/2 Mile** **Higher**	**CA WELLS**	**CADWR8000021766**

State Well #:	22S26E12R001M	Station ID:	22931
Well Name:	Not Reported	Well Use:	Unknown
Well Type:	Unknown	Well Depth:	0
Basin Name:	Tule	Well Completion Rpt #:	Not Reported

B4 **ENE** **1/4 - 1/2 Mile** **Higher**	**FED USGS**	**USGS40000168992**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	022S027E07M001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported

Construction Date:	19610817	Well Depth:	375
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1961-08-17
Feet below surface:	130.40	Feet to sea level:	Not Reported
Note:	Not Reported		

B5
ENE
1/4 - 1/2 Mile
Higher

FED USGS **USGS40000168990**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	022S027E07M002M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19620116	Well Depth:	175
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1962-01-16
Feet below surface:	114.50	Feet to sea level:	Not Reported
Note:	Not Reported		

6
SW
1/4 - 1/2 Mile
Lower

CA WELLS **CADWR8000021743**

State Well #:	22S26E13C001M	Station ID:	22933
Well Name:	Not Reported	Well Use:	Unknown
Well Type:	Unknown	Well Depth:	0
Basin Name:	Tule	Well Completion Rpt #:	Not Reported

C7
SSE
1/4 - 1/2 Mile
Higher

CA WELLS **CADWR8000021729**

State Well #:	22S26E13A001M	Station ID:	22932
Well Name:	Not Reported	Well Use:	Unknown
Well Type:	Unknown	Well Depth:	0
Basin Name:	Tule	Well Completion Rpt #:	Not Reported

Map ID Direction Distance Elevation	Database	EDR ID Number
C8 **SSE** **1/2 - 1 Mile** **Higher**	**FED USGS**	**USGS40000168887**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	022S026E13A017M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19610814	Well Depth:	357
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

---

9 **WSW** **1/2 - 1 Mile** **Lower**	**FED USGS**	**USGS40000168940**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	022S026E13D001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19610814	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

---

10 **NNE** **1/2 - 1 Mile** **Higher**	**CA WELLS**	**CADWR8000021804**

State Well #:	22S26E12A001M	Station ID:	22930
Well Name:	22S26E12A001M	Well Use:	Unknown
Well Type:	Single Well	Well Depth:	0
Basin Name:	Tule	Well Completion Rpt #:	Not Reported

---

11 **West** **1/2 - 1 Mile** **Lower**	**FED USGS**	**USGS40000168985**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	022S026E11J001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported

Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19590316	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1959-03-16
Feet below surface:	101.00	Feet to sea level:	Not Reported
Note:	Not Reported		

D12
NNW
1/2 - 1 Mile
Lower

CA WELLS **CADWR8000021829**

State Well #:	22S26E12B001M	Station ID:	36629
Well Name:	Not Reported	Well Use:	Unknown
Well Type:	Unknown	Well Depth:	0
Basin Name:	Tule	Well Completion Rpt #:	Not Reported

D13
NNW
1/2 - 1 Mile
Lower

FED USGS **USGS40000169170**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	022S026E12C001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19610814	Well Depth:	350
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1961-08-14
Feet below surface:	109.10	Feet to sea level:	Not Reported
Note:	Not Reported		

14
WSW
1/2 - 1 Mile
Lower

CA WELLS **CADWR8000021754**

State Well #:	22S26E14A001M	Station ID:	23067
Well Name:	22S26E14A001M	Well Use:	Unknown
Well Type:	Single Well	Well Depth:	0
Basin Name:	Tule	Well Completion Rpt #:	Not Reported

Map ID Direction Distance Elevation	Database	EDR ID Number
E15 **SSE** **1/2 - 1 Mile** **Higher**	**CA WELLS**	**CADWR8000021709**

State Well #:	22S26E13J001M	Station ID:	36631
Well Name:	Not Reported	Well Use:	Unknown
Well Type:	Unknown	Well Depth:	0
Basin Name:	Tule	Well Completion Rpt #:	Not Reported

---

16 **ESE** **1/2 - 1 Mile** **Higher**	**CA WELLS**	**CADWR8000021759**

State Well #:	22S27E07Q001M	Station ID:	47952
Well Name:	048	Well Use:	Unknown
Well Type:	Single Well	Well Depth:	0
Basin Name:	Tule	Well Completion Rpt #:	Not Reported

E17 **SSE** **1/2 - 1 Mile** **Higher**	**FED USGS**	**USGS40000168846**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	022S026E13J001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19620114	Well Depth:	294
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1962-01-14
Feet below surface:	134.70	Feet to sea level:	Not Reported
Note:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance	Database	EDR ID Number

1
East
1/2 - 1 Mile

OIL_GAS **CAOG13000004684**

API #:	0410700289	Well #:	1
Well Status:	Plugged	Well Type:	DH
Operator Name:	Porterville Oil Syndicate	Lease Name:	Lease by Porterville Oil Syndicate
Field Name:	Any Field	Area Name:	Any Area
GIS Source:	hud	Confidential Well:	N
Directionally Drilled:	N	SPUD Date:	Not Reported

2
West
1/2 - 1 Mile

OIL_GAS **CAOG13000004672**

API #:	0410700277	Well #:	87-11
Well Status:	Plugged	Well Type:	CH
Operator Name:	Chevron U.S.A. Inc.	Lease Name:	Core Hole
Field Name:	Any Field	Area Name:	Any Area
GIS Source:	hud	Confidential Well:	N
Directionally Drilled:	N	SPUD Date:	Not Reported

3
NNW
1/2 - 1 Mile

OIL_GAS **CAOG13000004668**

API #:	0410700273	Well #:	1
Well Status:	Plugged	Well Type:	DH
Operator Name:	Alvin O. Preszler	Lease Name:	Preszler & Beaver
Field Name:	Any Field	Area Name:	Any Area
GIS Source:	hud	Confidential Well:	N
Directionally Drilled:	N	SPUD Date:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
93257	145	23

Federal EPA Radon Zone for TULARE County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 93257

Number of sites tested: 8

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.363 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Dept of Conservation, Geologic Energy Management Division
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

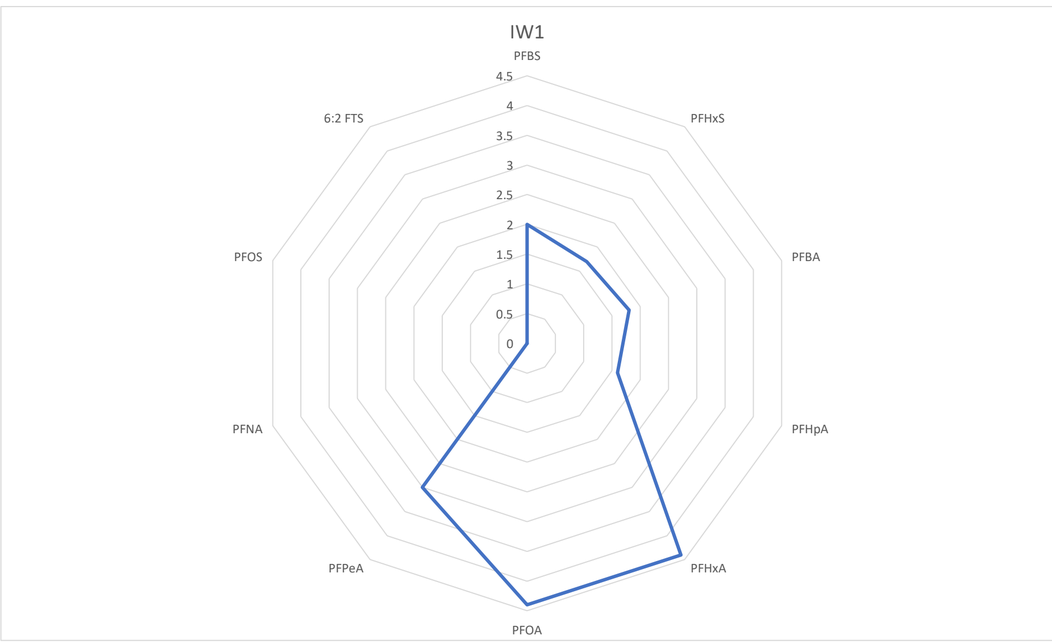
STREET AND ADDRESS INFORMATION

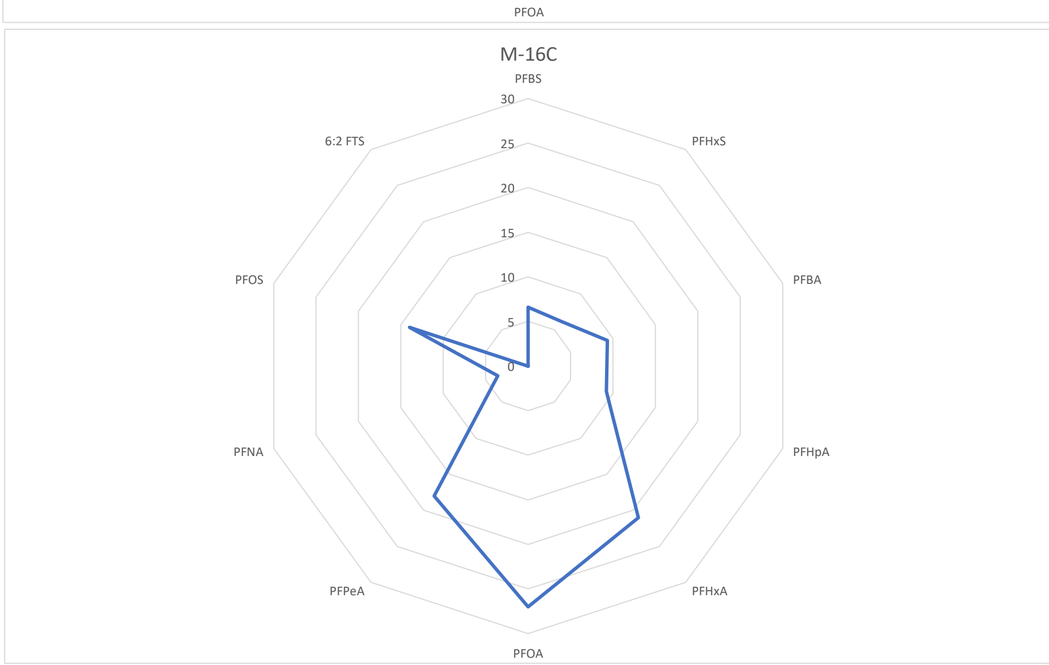
© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

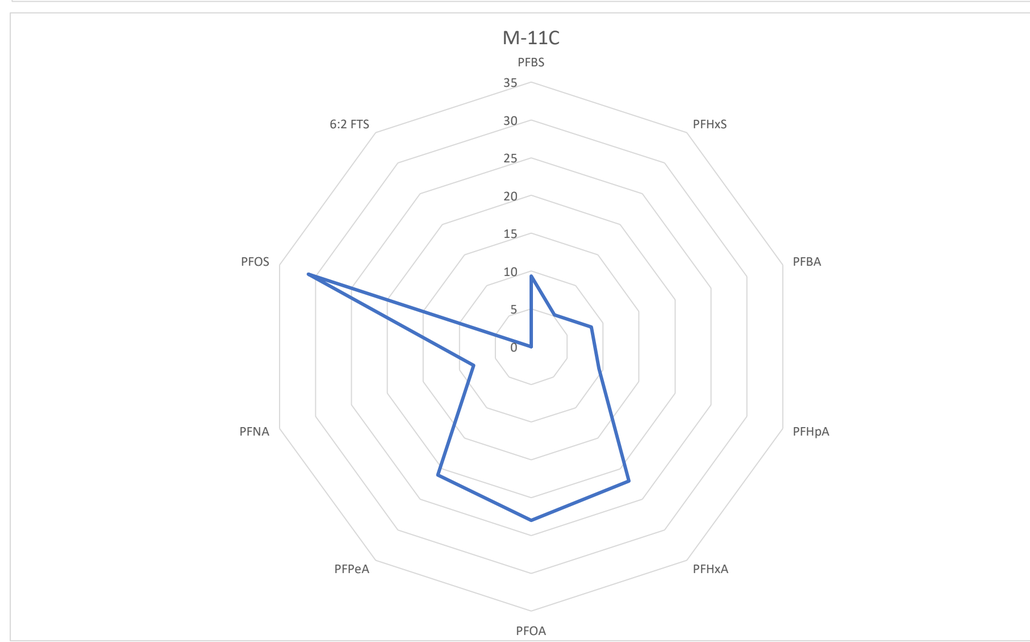
SUPPLEMENTARY DOCUMENTATION

TABLE 1
SUMMARY OF PFAS ANALYTICAL RESULTS - BEHL PROPERTY IRRIGATION WELL (CBRE) AND PRIOR ANALYSIS OF SELECT TEAPOT DOME LANDFILL MONITOR WELLS (TULARE COUNTY)
BEHL PROPERTY
TERRA BELLA, TULARE COUNTY, CA

Behl Property Analytical Results		Select Teapot Dome Landfill Monitor Well Analytical Results			
PFAS Compounds	IW-1	M-1B (Pump)	M-1B (Bailer)	M-11C	M-16C
	Concentrations in ng/L				
PFBS	2.0 J	**11**	**10**	**9.3 J**	**6.6J**
PFHxS	1.7 J	**6.0**	4.9J	**5.2 J**	**6.2 J**
PFBA	1.8 J	**9.8 J**	**9.8 J**	**8.4 J**	**9.3 J**
PFHpA	1.6 J	**11**	**10**	**9.4 J**	**9.2 J**
PFHxA	4.4	**28**	**28**	**22**	**21**
PFOA	4.4	**37**	**39**	**23**	**27**
PFPeA	3.0	**26**	**25**	**21**	**18**
PFNA	<0.90	**8.0 J**	**6.3 J**	**8.0 J**	**3.6 J**
PFOS	<0.90	**37**	**19**	**31**	**14**
6:2 FTS	<1.8	<2.0	<2.0	<2.0	<2.0
Aggregate Concentration	18.9	**173.8**	**152.0**	**137.3**	**114.9**







General Information

Parcel # (APN):	**302-020-013-000** Open Map
Owner:	See Full Detail
Mailing Address:	**1475 N HIGHLAND DR PORTERVILLE CA 93257**
Legal Description:	**SE/4 SEC 12-22-26**
Use Type:	**AGRICULTURAL**
Tax Rate Area:	**132-002**

Assessment

Total Value:	**$1,430,738**	Year Assd:	**2020**
Land:	**$145,045**	Zoning:	
Structures:	**$191,017**	Use Code:	See Full Detail
Other:	**$1,094,676**	Census Tract:	See Full Detail
% Improved:	See Full Detail	Price/SqFt:	
Exempt Amt:			
HO Exempt:	**N**		

Full Detail $14.95 Add to Cart The Full Property Detail includes everything displayed here plus completed information for those fields where "See Full Detail" is shown. If a field is empty on this page, no data is available, and the field will also be empty on the Full Property Detail.

**The information provided here is deemed reliable, but is not guaranteed.

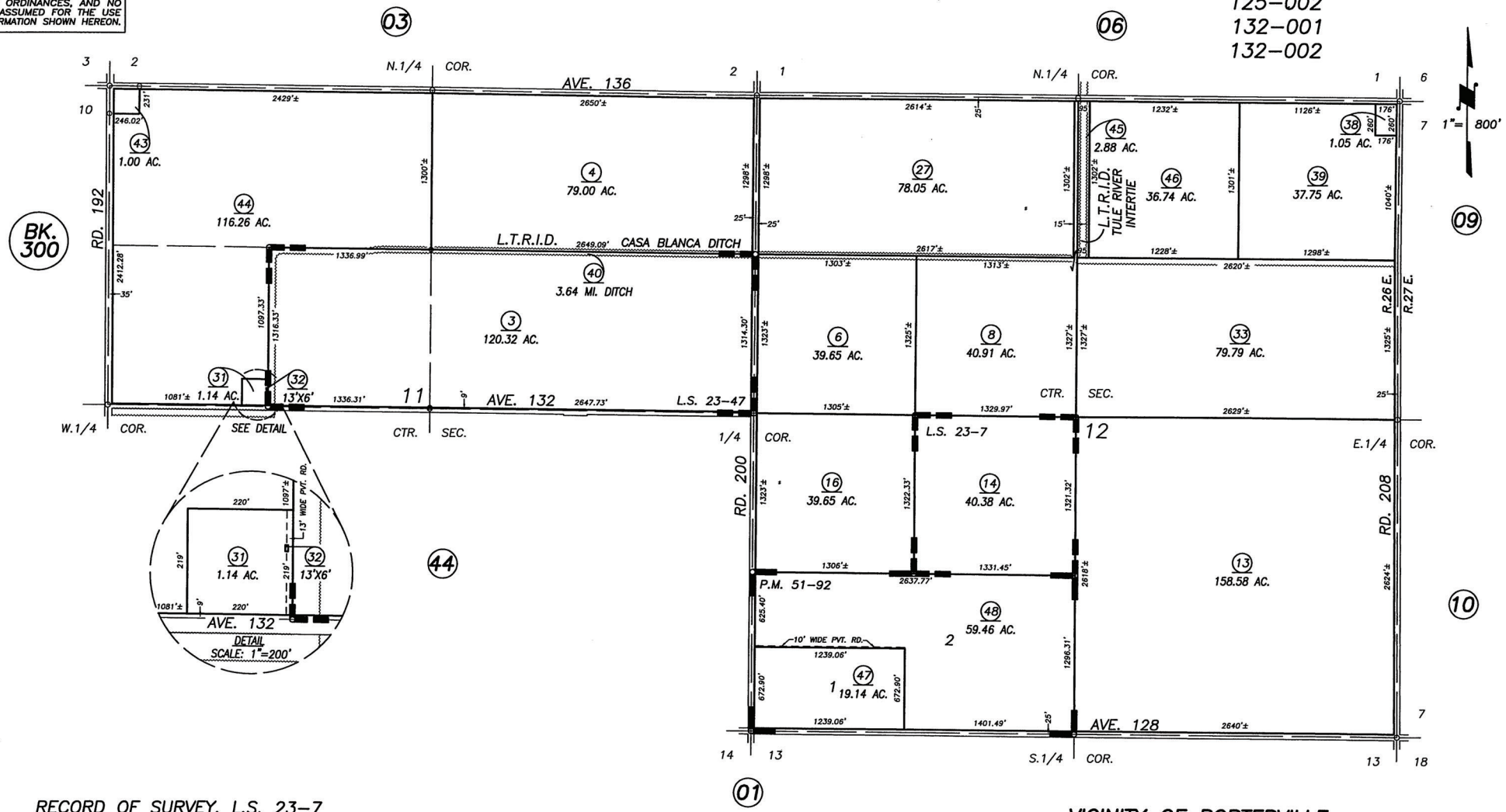
Additional reports on this property

© 2020 **ParcelQuest** | Toll Free 1-844-893-7216 | Privacy Policy | Refund Policy | Disclaimer | Usage Limits

Provided by:
DISCLAIMER
THIS MAP WAS PREPARED FOR LOCAL PROPERTY ASSESSMENT PURPOSES ONLY AND THE PARCELS SHOWN HEREON MAY NOT COMPLY WITH STATE AND LOCAL SUBDIVISION ORDINANCES, AND NO LIABILITY IS ASSUMED FOR THE USE OF THE INFORMATION SHOWN HEREON.

N1/2 SEC.11, & SEC.12, T.22S., R.26E., M.D.B.&M.

Tax Area Codes 302–02
125–000
125–002
132–001
132–002



RECORD OF SURVEY, L.S. 23–7
RECORD OF SURVEY, L.S. 23–47
PARCEL MAP NO. 5086, P.M. 51–92
RECORD OF SURVEY, L.S. 26–27 (RD. 192)

VICINITY OF PORTERVILLE
ASSESSOR'S MAPS BK. 302 , PG. 02
COUNTY OF TULARE, CALIFORNIA, U.S.A.

NOTE: Assessor's Parcel Numbers Shown in Circles (1)
Assessor's Block Numbers Shown in Ellipses (123)

REVISION	DATE	TECH
2013–0058369	06/06/2014	RLW

Map Scale: 1:6,690 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Tulare County, Western Part, California
Survey Area Data: Version 14, May 29, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 17, 2019—Mar 24, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
114	Exeter loam, 0 to 2 percent slopes	110.9	72.0%
116	Flamen loam, 0 to 2 percent slopes	22.1	14.3%
130	Nord fine sandy loam, 0 to 2 percent slopes	3.2	2.1%
138	Tujunga loamy sand, 0 to 2 percent slopes	17.9	11.6%
Totals for Area of Interest		**154.1**	**100.0%**

U.S. Fish and Wildlife Service

National Wetlands Inventory

Wetlands

August 18, 2020

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Manage Permit A1002703

Menu

- Permit Details
- Additional Info
- Linked Records
- Workflow Details
- Documents
- Attached Tasks
- Time Tracker Log
- Conditions
- Bonds

Permit Details

Launch App

Permit Type	Fire Sprinklers Permit	Project		Application Date	12/14/2010
Work Class	Single Family	District	<NONE>	Issue Date	12/14/2010
Permit Status	Finaled	Assigned To		Expiration Date	6/21/2011
Description	REPLACE 200 AMP SERVICE FOR AG PUMP	Square Feet	0	Last Inspection Date	Enter date
IVR Number	11002703	Valuation	$7,000.00	Finaled Date	12/23/2010

Parcels (1) | Addresses | Zones | Contacts (1) | Notes | Activities (1) | Fees (4) | Holds | Review Team | Inspection Cases | Impact Units

Drag a column header and drop it here to group by that column

Parcel Number
302-020-013

Manage Permit A9601578

nu

- Permit Details
- Additional Info
- Linked Records
- Workflow Details
- Documents
- Attached Tasks
- Time Tracker Log
- Conditions
- Bonds
- GIS Information
- History

Additional Info

General | Trades | Fire | Planning | EH/Public Works | Affordable Housing | Boundaries | Permits Plus I

Permits Plus Contacts

APPLICANT
CORMAN ROGER
12891 RD 208
PORTERVILLE, CA.
784-4127

AGENT
WILLIAM PEUGH

OWNER
CORMAN ROGER & JULIE A

Permits Plus Data

COMP_TYPE: CONSTR
SUB_TYPE: ALT
CLASS: 434
HOUSE_CNT: 1
INSP_AREA: 7
OCC: R3
VALIDATED BY: KH
Title: SDS FOR FUTURE BATH IN BARN
Planning Comments (1): ADDITIONAL PERMITS
Planning Comments (2): NEEDED FOR BATH IN BARN
Commercial Desc.: FARM BATHROOM/SHOWER
Fixture Units: PORTA POTTIES
Septic Tank Size: 1500 GAL.
Leachfield (1): 2LL@60'(HIGH CAP.INFILTR
Leachfield (2): 600 SQ.FT. APPROVED
Leachfield (3): CHANGE STG *

Kim, Brian @ San Francisco

From: Zone-Information <Zone-Information@co.tulare.ca.us>
Sent: Thursday, August 13, 2020 3:15 PM
To: Kim, Brian @ San Francisco
Subject: RE: APN 302-020-013

External

Brian,

I didn't notice until I looked again, that permit expired, it was never installed. Thank you for reaching out and have a nice rest of your day.

Samantha Franks, Planner III

Tulare County RMA-Permit Center

>>> "Kim, Brian @ San Francisco" <Brian.Kim1@cbre.com> 8/13/2020 3:08 PM >>>
Hello Samantha,

Much appreciate your call back and emailing me the screen shots. One quick question for the permit A9601578, do you have a date or year the septic system permit was issued?

Thank you,
Brian Kim | Senior Environmental Site Assessor
CBRE, Inc. | Assessment & Consulting Services
(415) 350-5192 (Mobile)
Brian.Kim1@cbre.com | www.cbre.com/assessment

From: Zone-Information <Zone-Information@co.tulare.ca.us>
Sent: Thursday, August 13, 2020 2:50 PM
To: Kim, Brian @ San Francisco <Brian.Kim1@cbre.com>
Subject: APN 302-020-013

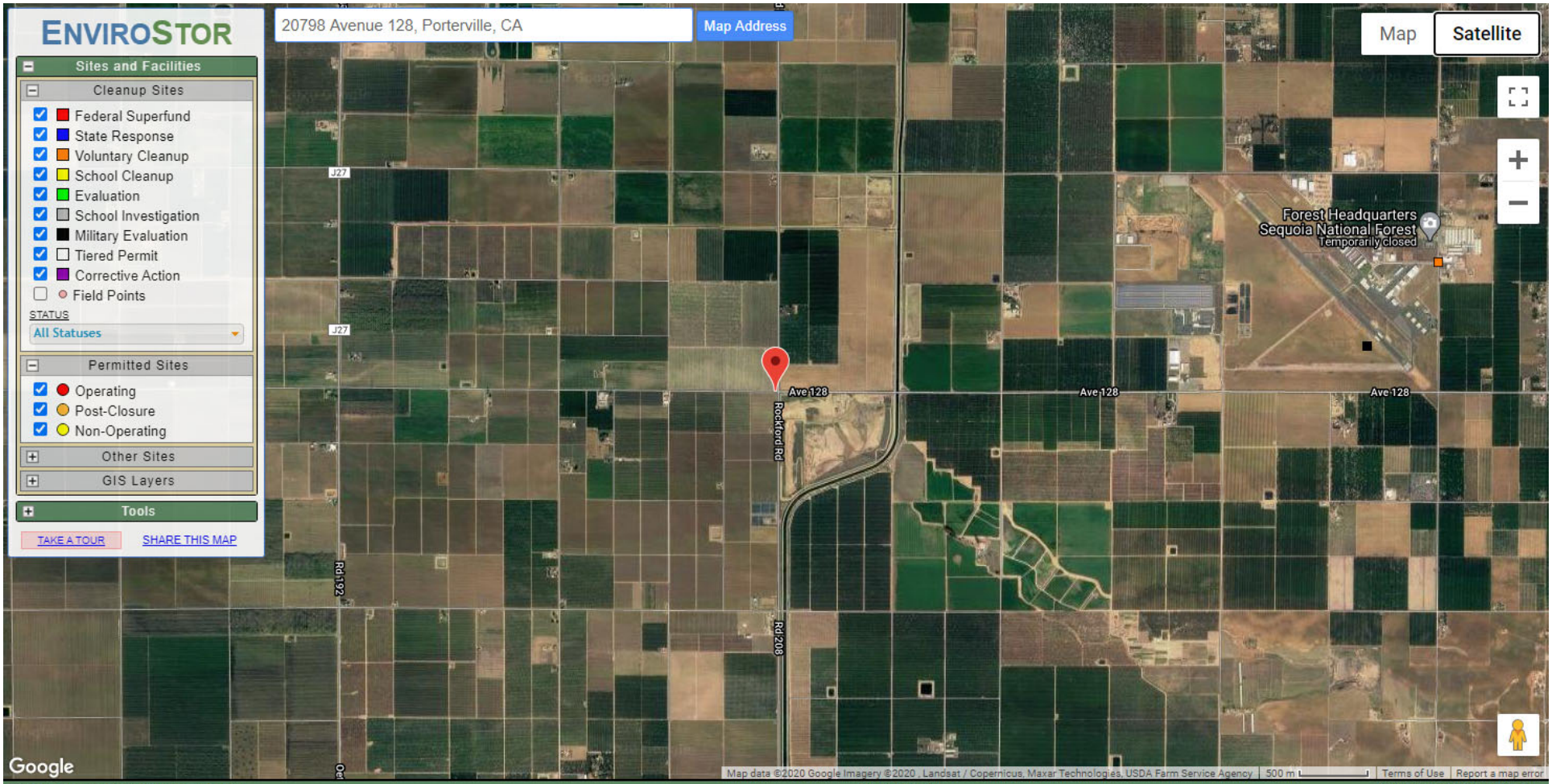
External

Hi Brian,

Please see attached. Thank you and have a great day!

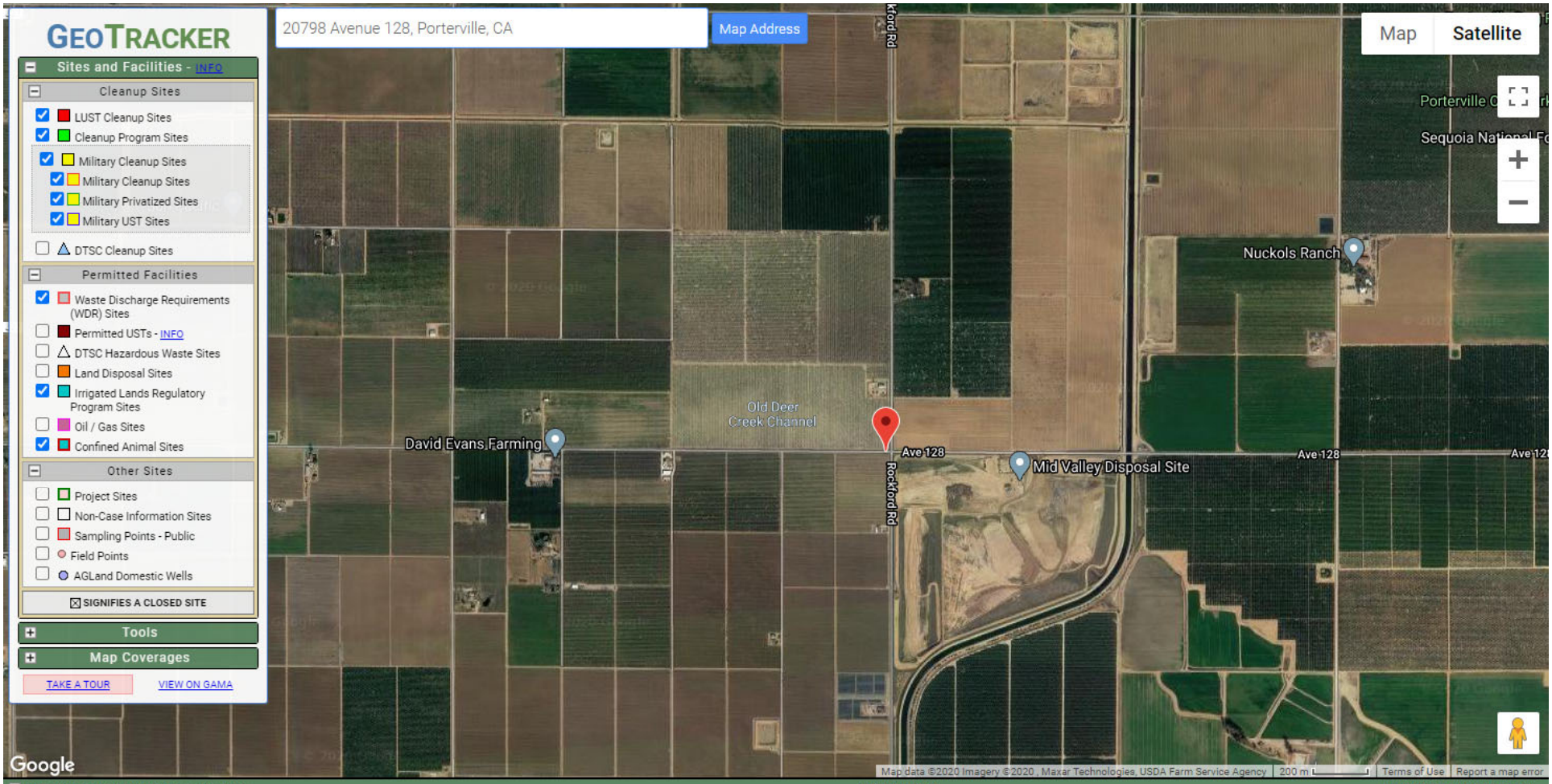
Samantha Franks, Planner III

Tulare County RMA-Permit Center



SITES CURRENTLY VISIBLE ON MAP — 2 SITES LISTED — EXPORT THIS LIST TO EXCEL

PROJECT NAME	STATUS	PROJECT TYPE	ADDRESS	CITY
PORTERVILLE ARMY AIRFIELD (J09CA0902)	REFER: RWQCB	MILITARY EVALUATION		PORTERVILLE
PORTERVILLE MUNICIPAL AIRPORT	ACTIVE	VOLUNTARY CLEANUP	1893 S NEWCOMB ST	PORTERVILLE



SITES CURRENTLY VISIBLE ON MAP

0 SITES LISTED

EXPORT THIS LIST TO EXCEL

SITE NAME	GLOBAL ID	STATUS	ADDRESS	CITY

County of Tulare

Solid Waste Department • 5955 South Mooney Boulevard • Visalia, CA 93277

Per- and Polyfluoroalkyl Substances (PFAS) Sampling Report

Teapot Dome Landfill
Tulare County, California

Groundwater and Leachate Sampling in Compliance with California Water Code Section 13267 Order WQ 2019-0006-DWQ

Supplement to the 2019 2nd Semi-Annual / Annual Monitoring Report

January 29, 2020

Report Prepared By:

James W. Babcock, PhD., PG

1335 American Way
Nipomo, California 93444
510.301.5063

James W. Babcock, PhD, PG
Consulting Geologist
1335 American Way
Nipomo, CA 93444
510-301-5063
JBabcock356@gmail.com

TRANSMITTED BY ELECTRONIC MAIL
Daniel L. Carlson (Daniel.Carlson@waterboards.ca.gov)
Kristen S. Gomes (Kristen.Gomes@waterboards.ca.gov)
Ken Bowers (KBowers@tularehhsa.org)
Scott Pfanstiel (SPfansti@co.tulare.ca.us)
Jonah Trevino (JTrevino@co.tulare.ca.us)

January 29, 2020

Mr. Daniel L. Carlson, PG, CHG, CEG
Senior Engineering Geologist
Attn: Ms. Kristen Gomes, Water Resource Control Engineer
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD – CENTRAL VALLEY REGION
1685 E Street
Fresno, CA 93721

Subject: Transmittal – Per- and Polyfluoroalkyl Substances (PFAS) Sampling Report for Teapot Dome Landfill, Tulare County, California

Dear Mr. Carlson:

On behalf of Tulare County Department of Solid Waste (Tulare County) James W. Babcock, Consulting Geologist (Babcock) is pleased to submit the Per- and Polyfluoroalkyl Substances (PFAS) Sampling Report for Teapot Dome Landfill, Tulare County, California. The submittal is intended to comply with State Water Resources Control Board (SWRCB) California Water Code Section 13267 Order Water Quality (WQ) 2019-0006-DWQ dated March 20, 2019.

The report is considered a supplement to the 2019 2nd Semi-Annual / Annual Monitoring Report. The 2019 2nd Semi-Annual / Annual Monitoring Report will be submitted on or before its required submittal date according to the Teapot Dome Landfill Waste Discharge Requirements (WDR).

If you have any questions regarding this submittal, please call Scott Pfanstiel at (559) 624-7197 or Jonah Trevino at (559) 624-7206.

Very truly yours,

James W. Babcock, Ph.D., P.G.
Consulting Geologist
PG (CA-4515)

Contents

1. Introduction 1-1

1.1. Objectives 1-1

1.2. Site Background 1-1
1.2.1. Regulatory History 1-2
1.2.2. Site History 1-2

1.3. Geology and Hydrogeology 1-2

1.4. Groundwater Monitoring Well Networks 1-3
1.4.1. Detection Monitoring Wells 1-4
1.4.2. Corrective Action Program History 1-4
1.4.3. Corrective Action Monitoring Wells 1-5

2. Per- and Polyfluoroalkyl Substances (PFAS) 2-1

2.1. PFAS Chemistry and Nomenclature 2-1
2.1.1. Perfluoroalkyl Substances 2-1
2.1.2. Polyfluoroalkyl Substances 2-2
2.1.3. Long Chain and Short Chain Terminology 2-4
2.1.4. PFAS History and Use 2-4
2.1.4.1. PFAS at Solid Waste Disposal Facilities 2-5
2.1.4.2. PFAS at Wastewater Treatment Plants 2-5
2.1.4.3. City of Porterville Wastewater Treatment Ponds and Treated Effluent as Potential PFAS Sources 2-6
2.1.5. PFAS Regulations and Guidance Levels 2-6
2.1.5.1. Federal Regulations and Guidance 2-6
2.1.5.2. California Regulations 2-7
2.1.5.3. Other State Regulations 2-7

2.2. Analytical Issues and Methods 2-8
2.2.1. California Environmental Accreditation Program 2-8
2.2.2. US EPA Methods for PFAS 2-9

3. Groundwater Sampling 3-1

3.1. Groundwater Sampling Locations 3-1
3.1.1. Groundwater Sampling Points 3-1
3.1.1.1. Well Sampling Locations with Suspected PFAS Constructed Materials 3-1
3.1.1.2. Monitoring Well M-1B 3-1
3.1.1.3. Monitoring Well M-11C 3-2
3.1.1.4. Monitoring Well M-16B 3-2

3.2. Sample Collection 3-2
3.2.1. Sampling Process for Groundwater 3-2

4. Analysis and Summary 4-1

4.1. Analytical Laboratory Services 4-1

4.1. Groundwater Monitoring Data....4-1
4.1.1. Monitoring Well M-1B Results....4-2
4.1.2. Monitoring Well M-11C Results....4-2
4.1.3. Monitoring Well M-16C Results....4-3
4.2. QA/QC Samples....4-3
4.2.1. Field Reagent Blank....4-4
4.2.2. Trip Blank....4-4
4.2.3. Equipment Blank....4-4
4.3. Comparison of Detected PFAS with other California Landfills....4-4
4.4. Comparison of Detected PFAS with Effluent from WWTPs....4-5
4.4.1. San Francisco Bay WWTP Effluent....4-5
4.4.2. City of Burlington North Carolina WWTP Effluent....4-5
4.5. Summary....4-6

5. References 5-1

5.1. General Site References....5-1
5.2. PFAS References....5-2

Tables

Table 1: Analytical Parameters
Table 2: Analytical Results

Figures

Figure 1: Location Map
Figure 2: PFAS Sampling Location Map

List of Appendices

Appendix A Groundwater Analytical Reports
Appendix B Field Sheets and Notes

Acronyms and Abbreviations

Site Acronyms (separate PFAS acronyms following)

µg/kg	micrograms per kilogram
µg/L	micrograms per liter
µmhos/cm	micromhos per centimeter
1,1-DCA	1,1-Dichloroethane
cis-1,2-DCE	cis-1,2-Dichloroethene
1,2-DCP	1,2-Dichloropropane
1,2,3-TCP	1,2,3-Trichloropropane
ATSDR	Agency for Toxic Substances and Disease Registry
bgs	below ground surface
BMPs	Best Management Practices
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CAO	Cleanup and Abatement Order
CAP	Corrective Action Program
CCR	California Code of Regulations
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
CFC	Chlorofluorocarbon
CFC-11	Trichlorofluoromethane
CFC-12	Dichlorodifluoromethane
CFR	U.S. Code of Federal Regulations
cm/s	centimeters per second
COC	Chemical of Concern
COP	City of Porterville
CSM	Conceptual Site Model
CVOCs	Chlorinated Volatile Organic Compounds
DHS	California Department of Health Services
DMP	Detection Monitoring Program
DMR	Detection Monitoring Report
DDW	Division of Drinking Water of SWRCB
DWR	California Department of Water Resources
EC	Electrical Conductivity
EFS	Engineering Feasibility Study
EIS	Extracted Internal Standard (analytical lab)
ELAP	Environmental Laboratory Accreditation Program
EMP	Evaluation Monitoring Program
EPA	United States Environmental Protection Agency
FRB	Field Reagent Blank
HDPE	High-density Polyethylene
ITRC	Interstate Technology and Regulatory Council

LCL	Lower Control Limit (analytical lab)
LCRS	Leachate Collection and Removal System
LCS	Laboratory Control Spike (analytical lab)
LCSD	Laboratory Control Spike Duplicate (analytical lab)
LFG	Landfill Gas
LFGCCS	Landfill gas collection and control system
LHA	Lifetime Health Advisory
M&RP	Monitoring and Reporting Program
MCL	Maximum Contaminant Level
mg/kg	milligrams per kilogram
MNA	Monitored Natural Attenuation
ND	Not detected above laboratory detection limit
Ng/L	Nanograms per liter
NL	Notification Level
NM	Not measured
NMOC	Non-methane organic compounds
NOE	Notice of Exemption
NS	Not sampled
ORCR	Office of Resource Conservation and Recovery of U.S. EPA
PCE	Tetrachloroethene
ppb	Parts per Billion
ppm	Parts per Million
PQL	Practical Quantitation Limit
ROWD	Report of Waste Discharge
RWQCB	Cal-EPA Regional Water Quality Control Board
SDWA	Safe Drinking Water Act
SWRCB	California State Water Resources Control Board
TCE	Trichloroethene
TDS	Total Dissolved Solids
TSCA	Toxic Substances Control Act
UCMR	Unregulated Contaminant Monitoring Rule
VOCs	Volatile Organic Compounds
WDR	Waste Discharge Requirements
WMU	Waste Management Unit
WQPS	Water Quality Protection Standards
WWTP	Wastewater Treatment Plant

Per- and Polyfluoroalkyl Substances Acronyms [1]

Note: 1 Bolded Acronyms are the 23 analytes required by WQ Order

AFFF	Aqueous film forming foam
APFO	Ammonium perfluorooctanoate
BuFASA	N-Butyl perfluoroalkane sulfonamide
BuFASE	N-Butyl perfluoroalkane sulfonamido ethanols
BuFASAA	N-Butyl perfluoroalkane sulfonamido acetic acid
EtFASA	N-Ethyl perfluoroalkane sulfonamide
EtFASE	N-Ethyl perfluoroalkane sulfonamido ethanol
EtFASAA	N-Ethyl perfluoroalkane sulfonamido acetic acid
EtFOSA	N-Ethyl perfluorooctane sulfonamide
EtFOSE	N-Ethyl perfluorooctane sulfonamido ethanol
FASA	Perfluoroalkane sulfonamide
FASE	Perfluoroalkane sulfonamido ethanol
FASAA	Perfluoroalkane sulfonamido acetic acid
FFFP	Film-forming fluoroprotein foam
FOSA, or PFOSA	perfluorooctane sulfonamide
FOSAA	perfluorooctane sulfonamido acetic acid
FOSE	perfluorooctane sulfonamido ethanol
FP	fluoroprotein
FTCA	fluorotelomer carboxylic acid
FTOH	fluorotelomer alcohol
FTSA or FTS	fluorotelomer sulfonate, fluorotelomer sulfonic acid
4:2 FTS	**4:2 fluorotelomer sulfonic acid**
6:2 FTS	**6:2 fluorotelomer sulfonic acid**
8:2 FTS	**8:2 fluorotelomer sulfonic acid**
GenX (trade name)	ammonium 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propanoate
ITRC	Interstate Technology and Regulatory Council
LHA	Lifetime Health Advisory
MeFASA	N-Methyl perfluoroalkane sulfonamide
MeFASAA	N-Methyl perfluoroalkane sulfonamido acetic acid
MeFASE	N-Methyl perfluoroalkane sulfonamido ethanol
NEtFOSA	**N-Ethyl perfluorooctane sulfonamide**
NMeFOSA	**N-Methyl perfluorooctane sulfonamide**
PASF	perfluoroalkane sulfonyl fluoride
PBT	persistent, bioaccumulative, and toxic
PFAA	perfluoroalkyl acid
PFAS	per- and polyfluoroalkyl substances
PFBA	**perfluorobutanoate, perfluorobutanoic acid, perfluorobutyrate,** perfluorobutyric acid

PFBS	**perfluorobutane sulfonate, perfluorobutane sulfonic acid**
PFC	perfluorinated compound or perfluorochemical
PFCA	perfluoroalkyl carboxylate, perfluoroalkyl carboxylic acid
PFDA	**perfluorodecanoate, perfluorodecanoic acid**
PFDoA, or PFDoDA	**perfluorododecanoate, perfluorododecanoic acid**
PFDoS, or PFDoDS	perfluorododecane sulfonate, perfluorododecane sulfonic acid
PFDS	**perfluorodecane sulfonate, perfluorodecane sulfonic acid**
PFHpA	**perfluoroheptanoate, perfluoroheptanoic acid**
PFHpS	**perfluoroheptane sulfonate, perfluoroheptane sulfonic acid**
PFHxA	**perfluorohexanoate, perfluorohexanoic acid**
PFHxS	**perfluorohexane sulfonate, perfluorohexane sulfonic acid**
PFNA	**perfluorononanoate, perfluorononanoic acid**
PFNS	perfluorononane sulfonate, perfluorononane sulfonic acid
PFOA	**perfluorooctanoate, perfluorooctanoic acid**
PFOS	**perfluorooctane sulfonate, perfluorooctane sulfonic acid**
PFOSAm, or FOSA	**perfluorooctane sulfonamide**
PFOSE	perfluoroalkylsulfonamidoethanol
PFPA	perfluorophosphonic acid
PFPeA	**perfluoropentanoate, perfluoropentanoic acid**
PFPeS	**perfluoropentane sulfonate, perfluoropentane sulfonic acid**
PFPiA	perfluorophosphinic acid
PFSA	perfluoroalkyl sulfonate, perfluoroalkane sulfonic acid
PFTeDA, or PFTA	**Perfluorotetradecanoic acid**
PFTrDA, or PFTriA	**Perfluorotridecanoic acid**
PFUnA, or PFUnDA	**perfluoroundecanoate, perfluoroundecanoic acid**
PFUnS, or PFUnDS	perfluoroundecane sulfonate, perfluoroundecane sulfonic acid
PTFE	polytetrafluoroethylene
SNUR	Significant New Use Rule

1. Introduction

1.1. Objectives

James W. Babcock, Consulting Geologist (Babcock) has prepared a report for a one-time sampling event at the Teapot Dome Solid Waste Disposal Site (Teapot Dome Landfill or Site) at the request of Tulare County Solid Waste Department (County). The work was performed under Professional Services Agreement PA-3766.

We understand that this report will be submitted to the California Regional Water Quality Control Board (RWQCB). This submittal is intended to satisfy the requirements of Order WQ 2019-0006-DWQ issued on March 20, 2019 by the State Water Resources Control Board (SWRCB) pursuant to California Water Code Section (§) 13267 that requires Tulare Solid Waste Department to submitted technical reports to investigate Per- and Polyfluoroalkyl Substances (PFAS) in groundwater at Teapot Dome Landfill. The PFAS Sampling Report is the final required technical report.

This technical report presents the results of implementing the sampling work plan. It summarizes the sampling locations for groundwater, sample collection and decontamination procedures, laboratory testing procedures, laboratory data evaluation, results and discussion of quality control sampling for field and laboratory, and provides an evaluation and summary of the groundwater sampling results.

A major source of information in this report came from the PFAS sampling work plan (Babcock, 2019) that drew directly, or indirectly through various U.S., state environmental regulatory agencies, from the Interstate Technology and Regulatory Council (ITRC) and their fact sheets.

The Interstate Technology and Regulatory Council (ITRC) is a state-led coalition working to reduce barriers to the use of innovative air, water, waste, and remediation environmental technologies and processes. ITRC produces documents and training that broaden and deepen technical knowledge and expedite quality regulatory decision making while protecting human health and the environment. With public and private sector members from all 50 states and the District of Columbia, ITRC provides a national perspective.

1.2. Site Background

The Teapot Dome Landfill is owned and operated by Tulare County. It is located on the southeast corner of Road 208 and Avenue 128 about four miles southwest of Porterville, California (**Figure 1**) in Section 18, Township 22S, Range 27E, Mount Diablo Base & Meridian (T18S, R24E, MDB&M). It is an active municipal Class III solid waste landfill that accepts waste in accordance with California Code of Regulations (CCR) Title 27. The landfill property is bounded on the east

and south by the Friant-Kern Canal. Immediately southeast of the Canal and the landfill property is the City of Porterville wastewater treatment plant effluent disposal field.

1.2.1. Regulatory History

The RWQCB adopted Waste Discharge Requirements (Order No. R5-2014-0021) for the Teapot Dome Landfill. As noted in the WDR the RWQCB determined that the waste management unit (WMU) has released landfill constituents to groundwater and that an evaluation monitoring program was required in accordance with the provisions of Evaluation Monitoring Program (EMP) regulations CCR Title 27, Section (§) 20425]. Tulare County implemented an EMP and it was successfully concluded, including an Engineering Feasibility Study (EFS) (Malcolm Pirnie, 2005). The EFS recommended a CAP that was approved by the RWQCB on September 6, 2006 (RWQCB, 2006). The CAP implemented corrective action measures to ensure that constituents of concern achieve their respective water quality protection standard at all monitoring points throughout the zones affected by the release in accordance with CCR Title 27 §20430c. The WDR requires the County to submit a CAP evaluation report that determines whether the CAP is effective in reducing chlorinated volatile organic compound (CVOC) concentrations in groundwater and should continue, or whether alternative/additional corrective action methods should be utilized. RWQCB approved the CAP evaluation report (ARCADIS, 2015) in a letter dated July 14, 2015 (RWQCB, 2015). Since then, additional off-site domestic and irrigation water supply wells to the west and southwest have been sampled. The results indicate that the plume is stable and not increasing. (EBA Engineering, 2019). The CAP initiated by the County (Malcolm Pirnie, 2005) using natural attenuation as the groundwater remedy is successful.

1.2.2. Site History

The Teapot Dome Landfill started operations in 1950. Currently, the unlined waste management unit covers about 71 acres. A landfill gas extraction system has been in operation at the Site since January 2001.

1.3. Geology and Hydrogeology

The geologic units of interest at the Teapot Dome Landfill are alluvial deposits in the upper 300 feet below ground surface (bgs). Alluvial deposits are characterized as having an upper young alluvium, up to 100 feet thick, and a lower, old alluvium, approximately 200 feet in thickness. The young alluvium, although generally unsaturated, is moderately to highly permeable. The old alluvium consists of lenticular deposits of brown clay, silt, sand and gravel, which are comparatively more weathered and cemented than in the young alluvium. Site investigations have divided the site subsurface into four reasonably distinct waterbearing units, which are listed below:

- Unconfined Aquifer of young alluvium (water table to about 110 bgs).
- Semi-confining Unit in old alluvium between the Unconfined Aquifer and the Upper Semi-confined Aquifer (110 feet to about 140 feet bgs).
- Upper semi-confined Aquifer of old alluvium (about 140 feet to 310 feet bgs). Geophysical and soil boring data show that aquifer material is confined in discrete sand

channels encased in a lower permeability matrix. These sand channels are inferred to be hydraulically connected vertically and horizontally, provide the source of water to water supply wells, and pathways for CVOC transport.

- Lower semi-confined Aquifer of oxidized continental deposits (about 310 feet to greater than 400 feet bgs). Groundwater flow directions are generally to the west to southwest.

Since the EMP in 2003, groundwater levels have fallen approximately 60 feet. With recent water levels, projection of the hydraulic gradient west of the Site indicates that the water table will be encountered within the Upper Semi- confined aquifer.

The existing monitoring wells are sampled semi-annually as part of the detection monitoring program (DMP) and CAP required under Title 27. Previous sampling results identified a groundwater plume of chlorinated volatile organic compounds (CVOCs) characterized by the presence of tetrachloroethene (PCE), trichloroethene (TCE), and their degradation products in groundwater west and southwest of the Site. As defined in the Revised Engineering Feasibility Study for Corrective Action (Malcolm Pirnie, 2005), at this Site, the term CVOCs or total CVOCs refer to all detected CVOCs, excluding refrigerant compounds (chlorofluorocarbons), trihalomethane compounds (primarily chloroform), and the pesticide 1,2-Dibromo-3-chloropropane (DBCP).

Water levels in the point of compliance wells fell immediately after pumping began at the new landfill operations well. This indicates that the pumping influence of the new well affected the sand channels that were not directly intercepted by the well, and suggests the sand channels along the western site boundary are hydraulically connected.

CVOCs detected in the point of compliance wells include PCE, TCE, c-I,2-DCE, I,1- DCA, with infrequent detections of I,1-DCE, 1,4-DCB, and 1,2-DCA. Initial values of total CVOCs detected along the western site boundary were as high as 14.6 µg/L at M16B in 2004. The data demonstrate that since approval of the CAP in September 2006, concentrations of total landfill-derived CVOCs have not exceeded 10 µg/L for two consecutive monitoring events in any well located along the western site boundary, and are on a stable to decreasing trend. The CAP is successful in reducing VOC concentrations in the point of compliance wells.

1.4. Groundwater Monitoring Well Networks

The groundwater monitoring network at the Teapot Dome Landfill, as presented in the M&RP, is comprised of 29 monitoring wells (26 on-site and 3 off-site) and miscellaneous off-site domestic and agricultural supply wells positioned at locations upgradient and downgradient from the WMU and completed in the upper alluvial and lower alluvial groundwater zones. Multiple monitoring wells completed at different depths are present at most of the monitoring locations. There are 16 monitoring locations in total. In accordance with 27CCR, §20415, the monitoring wells are utilized to monitor background conditions and water quality characteristics along the Point of Compliance (vertical surface located at the hydraulically downgradient limit of a WMU and that extends through the uppermost aquifer underlying the unit) and additional locations (“other” monitoring wells).

Furthermore, selected on-site monitoring wells and off-site water supply wells are used for corrective action monitoring.

1.4.1. Detection Monitoring Wells

The DMP wells are divided into two groundwater zones, the unconfined groundwater zone and the upper semi-confined groundwater zone. Due to drought conditions some of the DMP wells are dry and they are not currently monitored.

The Unconfined Groundwater Zone wells are further divided into Background monitoring wells and point of compliance wells

Background Monitoring Wells:

M-1A, M-1S, M-5, and M-13A

Point of Compliance Monitoring Wells:

M-3A, M-4A, M-6, M-7, M-8, and M-14A

The LOWER ALLUVIAL GROUNDWATER ZONE wells are background monitoring wells.

Background Monitoring Wells:

M-1B, M-1C, M-13B, and M-13C

Point of Compliance Monitoring Wells:

M-4B, M-6B, and M-14B

1.4.2. Corrective Action Program History

The existing monitoring wells are sampled semi-annually as part of the DMP and CAP required under Title 27. Previous sampling results identified a groundwater plume of chlorinated volatile organic compounds (CVOCs) characterized by the presence of tetrachloroethene (PCE), trichloroethene (TCE), and their degradation products in groundwater west and southwest of the Landfill. As defined in the Revised Engineering Feasibility Study for Corrective Action (Malcolm Pirnie, 2005b), at this site, the term CVOCs or total CVOCs refer to all detected CVOCs, excluding refrigerant compounds (chlorofluorocarbons), trihalomethane compounds (primarily chloroform), and the pesticide 1,2-Dibromo-3- chloropropane (DBCP).

Water levels in the point of compliance wells fell immediately after pumping began at the new landfill operations well. This indicates that the pumping influence of the new well affected the sand channels that were not directly intercepted by the well, and suggests the sand channels along the western site boundary are hydraulically connected.

CVOCs detected in the point of compliance wells include PCE, TCE, c-I,2-DCE, I,1- DCA, with infrequent detections of I,1-DCE, 1,4-DCB, and 1,2-DCA. Initial values of total CVOCs detected along the western site boundary were as high as 14.6 µg/L at M16B in 2004. The data demonstrate that the since approval of the CAP in September 2006, concentrations of total landfill-derived CVOCs have not exceeded 10 µg/L for two consecutive monitoring events in any well located along the western site boundary, and are on a stable to decreasing trend. The CAP is successful in reducing VOC concentrations in the point of compliance wells.

The WDR requires the County to submit a CAP evaluation report that determines whether the CAP is effective in reducing chlorinated volatile organic compound (CVOC) concentrations in groundwater and should continue, or whether alternative/additional corrective action methods should be utilized. RWQCB approved the CAP evaluation report (ARCADIS, 2015) in a letter dated July 14, 2015 (RWQCB, 2015). Since then, additional off-site domestic and irrigation water supply wells to the west and southwest have been sampled. The results indicate that the plume is stable and not increasing. (EBA Engineering, 2019). The CAP designed and initiated by Malcolm Pirnie using natural attenuation as the groundwater remedy is successful.

1.4.3. Corrective Action Monitoring Wells

The corrective action monitoring well network consists of the following wells.

Corrective Action Program Monitoring Wells:

M-10A, M-3C, M-10B, M-10C, M-11C, M-15C, and M-16B

Off- Site Corrective Action Program Domestic and Agricultural Wells

15 downgradient domestic and agricultural wells are included in the corrective action program. As private wells their sampling is dependent upon the permission to sample from the well owner.

2. Per- and Polyfluoroalkyl Substances (PFAS)

PFAS are man-made chemicals that have been used in industry and consumer products worldwide since the 1950s. They have been used in non-stick cookware, water-repellent clothing, stain resistant fabrics and carpets, some cosmetics, some firefighting foams, and products that resist grease, water, and oil. PFAS became contaminants of emerging concern in the early 2000s. In recent years federal, state, and international authorities have established a number of health-based regulatory values and evaluation criteria (ITRC, 2018).

2.1. PFAS Chemistry and Nomenclature

PFAS nomenclature defines their chemistry in families, classes, and groups.

PFAS encompass a wide universe of substances with very different physical and chemical properties, including gases, liquids, surfactants, and solid material high-molecular weight polymers (for example, polytetrafluoroethylene [PTFE]). It is helpful to arrange PFAS that share similar chemical and physical properties into families. The PFAS families may be divided into two primary categories: polymer and non-polymer. The non-polymer PFAS are most commonly detected in the environment (ITRC, 2018).

The family of non-polymeric PFAS encompasses two major classes: perfluoroalkyl substances and polyfluoroalkyl substances, which include many subgroups of chemicals. These compounds are most commonly detected in humans, biota, and other environmental media, appear to be relatively more abundant at PFAS investigation sites, and are included in most laboratory PFAS analyte lists.

2.1.1. Perfluoroalkyl Substances

Perfluoroalkyl substances are fully fluorinated (perfluoro-) alkane (carbon-chain) molecules. Their basic chemical structure is a chain of two or more carbon atoms with a charged functional group attached at one end.

Polyfluoroalkyl substances are not fully fluorinated. Instead, they have a non-fluorine atom (typically hydrogen or oxygen) attached to at least one, but not all, carbon atoms, while at least two or more of the remaining carbon atoms in the carbon chain are fully fluorinated.

The most commonly studied PFAS are perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS). The next most commonly studied are perfluorohexane sulfonic acid (PFHxS), and perfluorononanoic acid (PFNA). PFOA and PFOS have been phased out of production and use in the United States, but other countries may still manufacture and use them

The USEPA's Unregulated Contaminant Monitoring Rule (UCMR) program found that approximately six million residents of the United States had drinking water with concentrations of perfluorooctanoic acid (PFOA) or perfluorooctane sulfonate (PFOS), or both, above the USEPA's Lifetime Health Advisory (LHA) of 70 nanograms per liter (ng/L, equivalent to parts per trillion [ppt]) (Hu et al. 2016). Many of the public water systems with detections of PFOA or PFOS above the USEPA LHA have taken action to reduce these levels. However, most public water systems that supply fewer than 10,000 customers and private wells were not included in the third round of monitoring, or UCMR3 program, and remain untested.

Perfluoroalkyl substances are fully fluorinated (perfluoro-) alkane (carbon-chain) molecules. Their basic chemical structure is a chain (or tail) of two or more carbon atoms with a charged functional group head attached at one end. The functional groups commonly are carboxylic or sulfonic acids, but other forms are also detected in the environment. Fluorine atoms are attached to all possible bonding sites along the carbon chain of the tail, except for one bonding site on the last carbon where the functional group head is attached (ITRC, 2018).

Perfluoroalkyl Substances have two classes:

Perfluoroslkyl acids (PFAA) - are some of the most basic PFAS molecules. They are essentially non-degradable and currently are the class of PFAS most commonly tested for in the environment. Biotic and abiotic degradation of many polyfluoroalkyl substances may result in the formation of PFAA. PFAA can be further divided into two major groups.

Perfluoroalkyl carboxylic acids (PFCAs), or perfluoroalkyl carboxylates, are terminal degradation products of select precursor polyfluoroalkyl substances, such as fluorotelomer alcohols (FTOHs). The most frequently detected PFCA is PFOA.

Perfluoroalkane sulfonic acids (PFSAs), or perfluoroalkyl sulfonates, are also terminal degradation products of select precursor polyfluoroalkyl substances, such as perfluoroalkylsulfonamidoethanols (PFOSEs). The most frequently detected PFSA is PFOS.

Perfluoroalkane sulfonamides (FASAs), such as perfluorooctane sulfonamide (FOSA), are used as raw material to make perfluoroalkyl sulfonamide substances that are used for surfactants and surface treatments. FASAs can degrade to form PFAAs such as PFOS. Examples include N-Methyl perfluorooctane sulfonamide (MeFOSA) and N-Ethyl perfluorooctane sulfonamide (EtFOSA) (ITRC, 2018).

2.1.2. Polyfluoroalkyl Substances

Polyfluoroalkyl substances and some side-chain fluorinated polymers are increasingly being identified as important to understanding the fate and transport of PFAS. Polyfluoroalkyl substances are distinguished from perfluoroalkyl substances by not being fully fluorinated. Instead, they have a non-fluorine atom (typically hydrogen or oxygen) attached to at least one,

but not all, carbon atoms, while at least two or more of the remaining carbon atoms in the carbon chain tail are fully fluorinated (ITRC, 2018).

The family of polyfluoroalkyl substances include the:

- Fluorotelomer substances class comprised of the n:2 Flurotelomer alcohols (n:2 FTOH) group, the n:2 Fluorotelomer sulfonic acids (n:2 FTSAs) group, and the Fluorotelomer carboxylic acids (FTCAs) group.

- Perfluoroalkane sulfonamido substances class comprised of the Perfluoroalkane sulfonamido ethanols (FASEs) group, N-alkyl perfluoroalkane sulfonamido ethanols (MeFASEs, EtFASEs, BuFASEs) group, and the Perfluoroalkane sulfonamido acetic acids (FASAAs) and N-alkyl perfluoroalkane sulfonamido acetic acids (MeFASAAs, EtFASAAs, BuFASAAs)

Anion versus Acid Form (ITRC, 2018)

A note of caution: The names for the anionic and acid forms of PFAAs are often used interchangeably. However, it is critical to know which form is being discussed because of differences in their physical and chemical properties and behavior in the environment. Some important things to keep in mind regarding the anionic vs. acid forms are:

- Most PFAAs are present in environmental and human matrices in their anionic form. For example, PFOS is present in the environment in the anionic form, perfluorooctane sulfonate.
- Although laboratories may be reporting PFOA or PFOS using the acid form of their name, they are actually measuring the anionic form (for example, octanoate or sulfonate), as this is the form that exists in the environment.
- The acid form and their associated cationic salts have CAS numbers, while the anionic forms may not. For example, PFOS can exist as different salts (cationic), including sodium, lithium, potassium, or ammonium. Each of these salts will have a different CAS number:
    - PFOS, acid form CAS No.: 1763-23-1
    - PFOS, potassium salt CAS No.: 2795-39-3
    - PFOS, ammonium salt CAS No.: 29081-56-9
    - When the salt or acid exists in water or other liquids
- It is important to distinguish between the acid form and anionic form when reporting the physical and chemical properties.

2.1.3. Long Chain and Short Chain Terminology

The distinction between long chain and short is important for multiple reasons. The Stockholm Convention on Persistent Organic Pollutants (POPs) added PFAS in 2009 amended the treaty to include PFAS. The manufacturing and use of long chain PFAS are being reduced.

PFAAs are sometimes described as long-chain and short-chain as a shorthand way to group PFCAs and PFSAs that may behave similarly in the environment. However, it is important not to make generalizations about PFAA behavior based only on chain length. As recent research suggests, other factors besides chain length may affect bioaccumulation potential of PFAS (ITRC, 2018).

According to the Organisation for Economic Co-operation and Development (OECD 2013):

Long-chain refers to:

- perfluoroalkyl carboxylic acids, PFCAs, with eight or more carbons (seven or more carbons are perfluorinated)
- perfluoroalkane sulfonates, PFSAs, with six or more carbons (six or more carbons are perfluorinated

Short-chain refers to:

- perfluoroalkyl carboxylic acids with seven or fewer carbons (six or fewer carbons are perfluorinated)
- perfluoroalkane sulfonates with five or fewer carbons (five or fewer carbons are perfluorinated)

2.1.4. PFAS History and Use

PFAS were invented and developed in the late 1930s and 1940s. The use of PFAS substances (including PFOS, PFOA) commenced significantly in the 1950s, but only in the late 1990s were they identified as substances of environmental concern. Some manufacturers moved to shorter chain PFAS substances such as PFHxS. Originally, all PFAS were considered relatively inert and non-hazardous substances. Most instances of contamination have arisen from manufacturing sites, and the normal or expected use of firefighting foams in fighting fires or firefighter training.

However, PFAS are ubiquitous occurring in:

- Food packaged in PFAS-containing materials, processed with equipment that used PFAS, or grown in PFAS-contaminated soil or water.
- Consumer Products, in hair spray, deodorant, sunscreen, insect repellants, cosmetics, lotion, moisturizers, clothing, fabric softeners, stain-resistant clothing
- Commercial household products, including stain- and water-repellent fabrics, nonstick products (e.g., Teflon), polishes, waxes, paints, cleaning products, and fire-fighting foams

(a major source of groundwater contamination at airports and military bases where firefighting training occurs).

- Workplace, including production facilities or industries (e.g., chrome plating, electronics manufacturing or oil recovery) that use PFAS.
- Drinking water, typically localized and associated with a specific facility (e.g., manufacturer, landfill, wastewater treatment plant, firefighter training facility).
- Living organisms, including fish, animals and humans, where PFAS have the ability to build up and persist over time (USEPA, 2019)

PFOS, PFOA and PFHxS are persistent in the environment and in the human body. They are resistant to environmental degradation. They also bioaccumulate in the tissues of living organisms for long periods of time (New Zealand Ministry of the Environment, 2019).

2.1.4.1. PFAS at Solid Waste Disposal Facilities

Hamid and others (2018) conducted a review of the occurrence of PFAS in landfills. The following information is excerpted from Hamid and others (2018).

A variety of consumer products (e.g., paper, textiles, carpets) and packaging containing PFAAs and their precursors are sent to municipal landfills at the end of their useful lives. In many municipalities, biosolids containing PFASs are also landfilled. Following disposal, PFASs are released from the waste through biological and abiotic leaching (e.g., desorption). Depending on their physio-chemical properties, some anionic, water soluble PFASs (e.g., PFAAs) can be released with the landfill leachate. Most often, leachate from lined landfills are collected and sent to wastewater treatment plants for treatment before their final disposal in surface water bodies.

2.1.4.2. PFAS at Wastewater Treatment Plants

PFAS detected in drinking water is linked to wastewater treatment plants (WWTP) among other sources (Hu and other, 2016). WWTP receive their PFAS from multiple sources within their wastewater collection system including domestic household waste, commercial and industrial customers. Also, they may receive PFAS from leachate from septic systems (Schaider and others, 2016) and from landfills (Hamid and others, 2018). However, WWTPs, already burdened with PFAS from wastewater, are not equipped to remove these classes of contaminants, instead are acting as secondary sources of PFASs in the aquatic environment.

The secondary sources provided by WWTP operations include their primary discharge of treated effluent to receiving water bodies, percolation ponds recharging groundwater, recycled water percolating to groundwater, and biosolids sludge disposal to agricultural fields that results in percolation of PFAS to groundwater and runoff to streams.

2.1.4.3. City of Porterville Wastewater Treatment Ponds and Treated Effluent as Potential PFAS Sources

The City of Porterville WWTP has historically caused challenges for Tulare County's management of Teapot Dome Landfill. Malcolm Pirnie (2005) documented the issue with immediately adjacent upgradient groundwater recharging by the WWTP causing violations of the landfill 5-foot separation of the bottom of waste from groundwater. Also, detections of disinfection by-products (DBPs) in the recharging treated effluent were detected in DMP wells that forced a County response to the RWQCB and resulted in the County expanding their upgradient groundwater monitoring network. The WWTP recharging also was documented in upgradient storage ponds and agricultural irrigation using treated effluent.

The County recognized the potential of detecting upgradient PFAS in their groundwater monitoring wells during the PFAS sampling event based on the discussion in Section 2.1.4.2 and the PFAS groundwater sampling work plan (Babcock, 2019) and selected upgradient wells to investigate and document any apparent detection of upgradient sources of PFAS. .

2.1.5. PFAS Regulations and Guidance Levels

2.1.5.1. Federal Regulations and Guidance

Toxic Substances Control Act (TSCA) authorizes the USEPA to require reporting, record-keeping, and testing of chemicals and chemical mixtures that may pose a risk to human health or the environment. Section 5 of TSCA allows the USEPA to issue Significant New Use Rules (SNURs) to limit the use of a chemical when it is newly identified, or a significant new use of an existing chemical is identified, before it is allowed into the marketplace (USEPA 2017a). The USEPA has applied a SNUR to PFOS in four separate actions and to 277 chemically-related PFAS (ITRC, 2018). Although citizens have complained that USEPA's current proposed actions are entirely inadequate. Most importantly, they only consider two of the thousands of existing PFAS, allowing companies to continue using the regulatory loopholes that they have used for decades (United States Senate Hearing-Homeland Security and Governmental Affairs, September 26, 2018)

The Safe Drinking Water Act of 1974 (SDWA) is the federal law that protects public drinking water supplies throughout the nation. Under the SDWA, the USEPA has authority to set enforceable Maximum Contaminant Levels (MCLs) for specific chemicals and require testing of public water supplies. The SDWA applies to all public water systems in the United States but does not apply to private domestic drinking water wells nor to water not being used for drinking. USEPA has not established MCLs for any PFAS. However, in May 2016, USEPA established Lifetime Health Advisory (LHA) of 70 nanograms per liter (ng/L, equivalent to ppt) for PFOA and PFOS in drinking water. This LHA is applicable to PFOA and PFOS individually, or in combination, if both chemicals are present at concentrations above the reporting limit (ITRC, 2018).

Much of the current data available regarding PFAS in public drinking water was generated by USEPA under Unregulated Contaminant Monitoring Rule (UCMR). USEPA uses the UCMR to collect data for chemicals that are suspected to be present in drinking water but do not have

health-based standards set under the SDWA. The third round of this monitoring effort, or UCMR3, included six PFAS (ITRC, 2018).

2.1.5.2. California Regulations

In July 2018, the State Water Resources Control Board's Division of Drinking Water (DDW) issued drinking water Notification Levels (NL) for PFOS and PFOA at 13 ppt and 14 ppt, respectively, per recommendations from California's Office of Environmental Health Hazard Assessment (OEHHA). DDW requires a combined PFOS/PFOA response level of 70 ppt.

The State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs) are charged with the protection of the beneficial uses of water in California, including water used or intended for use as drinking water. This PFAS sampling event was ordered by the RWQCB-Region 5.on.

2.1.5.3. Other State Regulations

Eastern and Mid-West States have taken a leadership role in the investigation and regulation of PFAS, in part because the USEPA has been perceived as lagging in the regulation of PFAS with no determination of MLCs in the over 4,000 PFAS chemicals. Some of the most active States are ones that had PFAS manufacturing facilities or significant discoveries of groundwater contaminated by aqueous film-forming foam (AFFF). These States are Minnesota, New Hampshire, Vermont, Massachusetts, Michigan, New Jersey, and Connecticut.

A debate on how to regulate PFAS has received international attention, will it be by individual chemical or as a group (similar to the federal approach in regulating polychlorinated biphenyls (PCBs)

New Hampshire

The New Hampshire Department of Environmental Services has adopted maximum contaminant levels for drinking water for four PFAS chemicals. Their standards effective in July 2019 are:

- PFOS at 15 ppt;
- PFOA at 12 ppt,
- PFHxS at 18 ppt;
- PFNA at 11 ppt;

Minnesota

Minnesota Department of Health (MDH) officials on April 3, 2019 issued new health-based advisory values for two chemicals. The new PFOS value of 15 ppt replaces the previous value of 27 ppt. The new health-based value for PFHxS is 47 ppt.

Vermont

On May 16, 2019, Vermont established one of the most stringent limits in the country on the presence of PFAS in drinking water. The law requires public water systems to monitor their water supplies in an effort to ensure that they do not exceed a combined limit of 20 ppt for five PFAS compounds as follows: PFOA, PFOS, PFHxS, PFNA and PFHpA

Connecticut

Connecticut is regulating some PFAS chemicals as a group. The Connecticut Department of Public Health has developed a Drinking Water Action Level for private wells in which the sum of five PFAS chemicals (PFOA and PFOS, plus perfluorononanoic acid, PFNA, perfluorohexane sulfonate, PFHxS, and perfluoroheptanoic acid, PFHpA) should not exceed the limit of 70 ppt.

2.2. Analytical Issues and Methods

PFAS analytical issues and methods are evolving and at the present time California does not use a formal US EPA Method for groundwater, leachate, and wastewater.

2.2.1. California Environmental Accreditation Program

In January 1988, the California Environmental Laboratory Improvement Act (Assembly Bill 3729, Chapter 894, Statutes of 1988) established the State's Environmental Laboratory Accreditation Program (ELAP) to provide evaluation and accreditation of environmental testing laboratories. ELAP ensures that laboratories performing analytical tests used for regulatory oversight of the State's drinking water, wastewater, shellfish, food, and hazardous waste programs meet State requirements. All environmental testing laboratories are required to receive accreditation prior to providing analytical data used for State regulatory purposes. In 2014, the ELAP program was transferred from the Department of Public Health to the SWRCB.

On March 20, 2019, the SWRCB issued Orders which require analysis of 23 PFAS analytes in non-drinking water matrices at specified locations. An additional 15 PFAS analytes listed in the Order are encouraged to be analyzed as part of the effort. All analytes must be analyzed in compliance with Department of Defense (DoD) Table B-15 of Quality Systems Manual (QSM) version 5.1 (or latest version). Only laboratories that can demonstrate accuracy and precision for all 23 analytes will be considered for accreditation

On April 2, 2019, ELAP updated the Field of Testing (FOT) Forms 111 and 117 to include Per- and Polyfluorinated Alkyl Substances (PFAS) in non-drinking water matrices. This updated method offering was approved by the State and Regional Water Quality Control Boards for state regulatory purpose. To analyze PFAS samples received from customers who report to the State and Regional Water Quality Control Board, laboratories must use the approved offerings for analysis of drinking water samples. Proficiency Testing Requirements – To be accredited for analysis in non-drinking water matrices compliant with DoD Table B-15 of QSM version 5.1 (or

latest version), laboratories must submit acceptable proficiency testing reports for all 23 PFAS analytes.

2.2.2. US EPA Methods for PFAS

In the revised April 2019 Drinking Water Sample Collection for PFAS, Sampling Guidance (SWRCB, 2019), DDW identifies EPA Method 537.1 and the previously used Method 537 Revision 1.1. It states that Method 537 Revision 1.1 is being phased out.

Although the sampling guidance is directed at the collection of drinking water, it has guidance that will apply to the collection of groundwater and leachate to be analyzed by EPA Method 537-Modified. Additional information about the modified analytical method is included in Section 4.2.3.

Statistically significant decreases in the concentrations of several PFAS in leachate with increasing landfill age have been observed in studies of multiple landfills, both active and closed (Hamid and others, 2018).

3. Groundwater Sampling

3.1. Groundwater Sampling Locations

Teapot Dome landfill has a DMP and CAP groundwater monitoring well network that was utilized to comply with the WQ Order.

3.1.1. Groundwater Sampling Points

Tulare County proposed to collect groundwater samples at one upgradient monitoring well and two downgradient monitoring wells. The two downgradient monitoring wells chosen were M-11C and M-16B that monitor the western boundary of the WMU. These wells have historically documented the detection of VOCs from the unlined WMU. The upgradient monitoring well M-1B was chosen because it is upgradient of all waste disposal operations. The groundwater sampling points are shown on **Figure 2**. Additional information about the monitoring wells are in Sections 4.1.1.2, 4.1.1.3 and 4.1.1.4.

3.1.1.1. Well Sampling Locations with Suspected PFAS Constructed Materials

The WQ Order states "If the sampling locations are known to have or suspected to be constructed with materials containing PFAS … include descriptions of the materials."

Groundwater levels are measured using a calibrated electric water level indicator such as a QED Model 6000 flat tape electric water level indicator or equivalent. The flat tape sounder is equipped with a plastic laminated, two wire cable. The plastic laminate is of unknown composition.

All the proposed PFAS sampling locations at the Tulare County landfills have groundwater monitoring wells with dedicated GeoPump, Inc. bladder pumps for purging water. These pumps and associated tubing may have PFAS-bearing components. The GeoPump bladder pumps are manufactured with polyvinyl chloride (PVC) bodies and Teflon bladders and Teflon upper and lower ball check valves, PFAS-bearing Viton O-rings and Teflon-lined polyethylene discharge tubing. However, the cross-contamination threat may be extremely small because QED tested their bladder pump and PFAS-containing components including tubing with non-detect results for 25 PFAS constituents (22 of the 23 PFAS constituents in the WQ Order) (QED, 2019). Based on this information, no change in groundwater sampling protocol is warranted during the sample collection process using the dedicated pumps and accessory equipment. However, a preliminary sampling event is proposed in Section 4.2.2 as a quality control event at Teapot Dome especially in light of our discussion in Sections 1.5.2.3 and 4.1.1.3.

3.1.1.2. Monitoring Well M-1B

The background monitoring well M-1B is a 4-inch diameter well completed in the upper semi-confined groundwater zone. M-1B is located immediately downgradient of the Friant-Kern Canal and the COP WWTP effluent disposal ponds discussed in Section 2.1.4.3 and 4.1.1.3.

M-1B is located on the east boundary of the landfill property and as a background monitoring well we never have encountered any landfill-derived chemicals of concern. However, ever since we learned about the expansion of the City of Porterville waste water treatment plant effluent disposal lagoons immediately east of the landfill, the construction of a recharge pond complex northeast of the landfill, and extensive treated effluent being used for irrigation on fields to the northeast, we have been concerned with the 5-foot separation of bottom of waste to top of groundwater (Malcolm Pirnie, 2005).

3.1.1.3. Monitoring Well M-11C

The monitoring well M-11C is a downgradient well located along the western boundary of the WMU. It is designated as a corrective action program well. The purpose of the well is to monitor groundwater in the C-zone described as the lower zone of the upper semi-confined aquifer.

M-11C is a 4-inch diameter well with a total depth of about 207 feet bgs.

3.1.1.4. Monitoring Well M-16B

The monitoring well M-16B is a downgradient well located along the western boundary of the WMU. It is designated as a corrective action program well. The purpose of the well is to monitor groundwater in the B-zone described as the upper zone of the upper semi-confined aquifer.

M-16B is a 4-inch diameter well with a total depth of about 180 feet bgs.

3.2. Sample Collection

Tulare County field staff and their field contractor staff conducting the PFAS sampling utilized their standard sampling protocol augmented with the PFAS sample collection guidance provided in Section 3.1 of the work plan and any special sampling instruction from the analytical laboratory.

To minimize the complexity of the PFAS sampling, no other sampling was conducted at the same time. Also, to minimize cross-contamination between groundwater samples the groundwater samples from the upgradient location was collected first.

3.2.1. Sampling Process for Groundwater

Monitoring well purging was conducted by experienced Tulare County field staff and their sampling contractor staff familiar with standard groundwater monitoring well sampling protocol and instructed with the precautions of PFAS sampling procedures.

Groundwater was purged by the dedicated monitoring well sampling pumps. Based on the analytical testing by QED (2019), the dedicated pumps and equipment are considered to be PFAS free even though they have PFAS-bearing components. The sample water was collected from the dedicated discharge line and from a bailer for the upgradient sample.

The samples were placed unfiltered in unpreserved 250 milliliter (ml) APPL laboratory provided PFAS 250 ml HDPE sample bottles immediately after collection. A field sample was collected at

each sample location pouring laboratory PFAS certified clean water into an APPL laboratory bottle. Sample bottles were labeled and placed in a chilled ice chest with ice and delivered to APPL, Inc., Clovis, CA, for chemical analysis. Chemical ice or blue ice was not be used because there was concern that chemical or blue ice may not cool and maintain the samples at or below 42.8^{o} F (as determined by EPA 40 CFR 136 NPDES) during collection and through transit to the analytical laboratory. Holding time for these samples is 14 days.

4. Analysis and Summary

After collection of the groundwater samples, they were delivered to the laboratory for analytical testing for the analytes listed in **Table 1**. The laboratory assessed the quality of the analytical results and provide Tulare County with the certified laboratory reports. Babcock reviewed the results and conducted the appropriate QA/QC in accordance with the work plan. **Table 2** was prepared summarizing the monitoring well and QA/QC sample results.

4.1. Analytical Laboratory Services

Tulare County contracted with APPL, Inc. (also known as Agriculture & Priority Pollutants Laboratories, Inc.) for analytical services. They have been a leader in California on PFAS analytical procedures. They were one of two California analytical laboratories that were certified with ELAP and DoD on March 20, 2019 when the WQ Order was issued.

They are ELAP certified for all PFAS analytes that ELAP certifies and they also are DoD certified for PFAS Table B-15 analytes. APPL, Inc. uses the EPA Method 537-Modified (537-M) or more specifically as updated by ELAP the method is referred to as the DoD QSM Version 5.1 DOD.

Information on the ELAP website provides the following documentation:

- Accredited Fields of Testing for Agriculture & Priority Pollutants Laboratories, Inc. (APPL, Inc),
- Certificate No. 1312, (Expiration Date 9/30/2020),
- Field of Testing: 117 – Semi-volatile Organic Chemistry of Hazardous Waste Subgroup Code 117.290, Analyte Code 000, Analyte – PFAS, Method DoD QSM Version 5.1 DOD.

4.1. Groundwater Monitoring Data

A total of eight groundwater and QA/QC samples were collected. Three wells, M-1B, M-11C and M-16C were sampled. The groundwater monitoring wells have dedicated pumps installed that contain some potential PFAS materials. Although preliminary information from pump manufacturers indicated that the Teflon-bearing components do not cause PFAS contamination and the work plan accepted that premise, Babcock and Tulare County Solid Waste Department staff reevaluated that decision based on the cost effectiveness of collecting an additional upgradient sample to avoid the cost of a second mobilization to re-sample if PFAS was detected in the initial upgradient groundwater sample. A field modification to the sampling plan was suggested by Babcock and approved by Tulare County staff. The modification was to collect an

additional upgradient groundwater and field reagent blank samples using PFAS free HDPE bailers after the initial upgradient sample was collected using the dedicated well pump.

4.1.1. Monitoring Well M-1B Results

Monitoring well M-1B is an upgradient well located along the east perimeter of the WMU and it is designated as a background monitoring well. See section 3.1.1.2 for additional well information. The groundwater samples were designated M-1B (Pump) for the sample collected by using the dedicated pump, and M-1B (bailer) for the sample collected by using the HDPE bailer. Both of the M-1B groundwater samples detected the same nine PFAS compounds (**Table 2**). M-1B (Pump) reported the following PFAS:

- PFBA 9.8 J nanograms per Liter (ng/L)
- PFBS 11 ng/L
- PFHPA 11 ng/L
- PFHXA 28 ng/L
- PFHXS 6.0 J ng/L
- PFNA 8.0 J ng/L
- PFOA 37 ng/L
- PFOS 17 ng/L
- PFPEA 26 ng/L

M-1B (Bailer) reported the following PFAS:

- PFBA 9.8 J nanograms per Liter (ng/L)
- PFBS 10 ng/L
- PFHPA 10 ng/L
- PFHXA 28 ng/L
- PFHXS 4.9 J ng/L
- PFNA 6.3 J ng/L
- PFOA 39 ng/L
- PFOS 19 ng/L
- PFPEA 25 ng/L

4.1.2. Monitoring Well M-11C Results

Monitoring well M-11C is a downgradient well located along the western boundary of the WMU. See section 3.1.1.3 for additional well information. The groundwater sample was designated M-11C for the sample collected by using the dedicated pump. The M-11C groundwater sample detected the same nine PFAS compounds, as follows:

- PFBA 8.4 J ng/L
- PFBS 9.3 J ng/L

- PFHPA 9.4 J ng/L
- PFHXA 22 ng/L
- PFHXS 5.2 J ng/L
- PFNA 8.0 J ng/L
- PFOA 23 ng/L
- PFOS 31 ng/L
- PFPEA 21 ng/L

These PFAS compounds have no regulatory limits.

4.1.3. Monitoring Well M-16C Results

Monitoring well M-16C is a downgradient well located along the western boundary of the WMU. See section 3.1.1.4 for additional well information. The groundwater sample was designated M-16C for the sample collected by using the dedicated pump. The M-16C groundwater sample detected the same nine PFAS compounds plus PFOSA, as follows:

- PFBA 9.3 J ng/L
- PFBS 6.6 J ng/L
- PFHPA 9.2 J ng/L
- PFHXA 21 ng/L
- PFHXS 6.2 J ng/L
- PFNA 3.6 J ng/L
- PFOA 27 ng/L
- PFOS 14 ng/L
- PFOSA 2.0 J ng/L
- PFPEA 18 ng/L

4.2. QA/QC Samples

Four water samples for project “Teapot Dome” were received December 5, 2019 at 11.8°C. All holding times were met. The samples were extracted on December 19, 2019. The analyses were conducted on December 28, 2019. Certified written results were provided on January 6, 2020, for the requested analyses of PFAS compounds by EPA 537-M / QSM B-15 analysis, the samples were prepared according to the APPL Standard Operating Procedures (SOP).

No recovery problems were report or noted for Extracted Internal Standard (EIS) or recovery below the Lower Control Limit (LCL) for the EIS for any PFAS compounds. No significant failures in the run QC necessitating reinjection were reported or noted. The APPL method blank had no QA/QC issues.

4.2.1. Field Reagent Blank

The field reagent blank (FRB) is a PFAS required sample. It is analyzed to assess the potential for PFAS cross-contamination being introduced during the sampling process and consists of a sample bottled filled at the sample site using reagent water provided by the laboratory. The FRB must be collected at each sample site (for example, each source being sampled) and stored in the ice chest used to store and transport samples. The laboratory provided the FRB sample bottle and the reagent water.

The FRB samples for M-1B (Pump) had a detection of 4.5 J ng/L of 6:2 FTS. The FRB samples for M-1B (bailer), M11C and M-1C reported ND for all analyzed PFAS.

4.2.2. Trip Blank

SWRCB revised their sampling guidance (April 2019) stating that the FRB provides the same quality assurance under this sampling guidance and therefore the Trip Blank is not a required sample for PFAS monitoring. No trip blank was collected.

4.2.3. Equipment Blank

Equipment rinse blanks (EB) should be collected by passing laboratory verified PFAS-free water over or through decontaminated field sampling equipment before the collection of samples to assess the adequacy of the decontamination process and/or to evaluate potential contamination from the equipment used during sampling. We proposed to collect one EB sample per day for groundwater sampling, if necessary. No equipment blank was deemed necessary based on the sampling team's experience at other PFAS sampling locations.

4.3. Comparison of Detected PFAS with other California Landfills

The SWRCB requirements for California landfills to test for PFAS provides a GeoTracker database of information about the analytes detected and the issues reported by accredited analytical laboratories concerning PFAS QA/QC. Babcock reviewed a selected group of landfills other than the Tulare County landfills to better understand PFAS detections and laboratory issues with QA/QC when analyzing constitutes at the ng/L (parts per trillion) level.

Six landfills reported to the RWQCB – Colorado River Basin Region that their laboratory, Eurofins TestAmerica Laboratories (Eurofins) had documented a range of laboratory QA/QC issues including Method Blank detections of PFBA, PFHxS and FOSA at a level between the MDL and PQL that required a J (trace) flag.

- In two samples where PFBA was detected in the Method Blank, PFBA was also detected in both field blank samples at a J flag concentration and in both groundwater well samples, one of which is above the J flag concentration.

- In one of the samples where FOSA was detected in the Method Blank, FOSA was also detected in a field blank sample at a J flag concentration.
- In five of the samples where PFHxS was detected in the Method Blank, PFHxS was also detected in a field blank sample and groundwater well sample(s) at a J flag concentration.
- In one of the samples where PFHxS was detected in the Method Blank, PFHxS was also detected in a field blank sample at a J flag concentration and a groundwater well sample at a concentration of 19 nanograms per Liter (ng/L), above the J flag value..
- All six landfills had detections of PFAS constitutes other than PFHxS and FOSA.

At this time, no similar laboratory QA/QC are reported to Tulare County Solid Waste Department from APPL.

4.4. Comparison of Detected PFAS with Effluent from WWTPs

As discussed in Section 2.1.4.3, Teapot Dome Landfill is immediately downgradient of the City of Porterville WWTP. The reported discharges of WWTP treated effluent with varying concentrations of PFAS compounds is well documented. The concentrations of PFAS in the Teapot Dome upgradient well M-1B suggest that there may be an upgradient source and the COP WWTP is a logical possibility.

4.4.1. San Francisco Bay WWTP Effluent

Sedlak and Lin (2018) summarized PFAS concentrations from eight WWTP effluent discharges to San Francisco Bay as reported in Houtz (2016) and Sedlak et al, 2017. Effluent from six municipal WWTP contained similar amounts of total PFAS with totals of the five highest individual PFAS averaging about 85 to 90 ng/L with the highest median concentrations of PFHxA at 24 ng/L, PFOA at 23 ng/L, PFBA at 19 ng/L, and PFOS at 15 ng/L.

4.4.2. City of Burlington North Carolina WWTP Effluent

WWTP effluent sampling results for PFAS from two of the City of Burlington's WWTP is reported in Knappe (2013) and in Southern Environmental Law Center (SELC, 2019).The effluent from the East Burlington WWTP had concentrations of **total PFAS as high as 2,417 ng/L** on August 6, 2019 with 845 ng/L PFHpA, 706 ng/L PFHxA, 523 ng/L PFPeA, and 141 ng/L PFBA, 64.7 ng/L PFOA, 56.4 ng/L PFOS

The South Burlington WWTP has PFAS concentrations apparently similar to the potential effluent discharges from the City of Porterville WWTP. South Burlington WWTP has PFAS concentrations of **total PFAS as high as 178 ng/L** in August 2019. The significant difference in PFAS concentrations are apparently due to the differences in industrial discharges within the two

sewer collection systems with the South Burlington WWTP effluent being more typical of municipal domestic sewer collection systems.

4.5. Summary

The results of the one-time only PFAS sampling event at Teapot Dome Landfill confirms the County's concern that upgradient recharge of groundwater from the City of Porterville WWTP effluent disposal ponds contains PFAS.

A review of the Teapot Dome Landfill PFAS concentrations presented in Table 2 shows that downgradient concentrations in M-11C and M-16C are near equal to or lower than the upgradient concentrations in M-1B suggesting that the PFAS detections are not Teapot Dome landfill-derived.

Additionally, an inspection of Table 2 PFAS concentrations in M-1B collected using the dedicated in-well bladder pump with Teflon-bearing components is essentially the same as the M-1B sample collected with an HDPE bailer. Apparently, the premise by the well pump manufacturer QED is true that Teflon-bearing bladder pumps are not a significant source of PFAS in landfill groundwater based on the groundwater sampling data at Teapot Dome Landfill.

5. References

There are two reference sections for convenience in locating the cited references. The general site references including site regulatory orders and correspondence are presented in Section 5.1 and the Per- and Polyfluoroalkyl Substances related references are presented in Section 5.2

5.1. General Site References

ARCADIS, U.S. (ARCADIS), 2015, Corrective Action Program Evaluation Report Teapot Dome Landfill Tulare County, California. June 2015.

Babcock (James W. Babcock Consulting Geologist), 2019, Per- and Polyfluoroalkyl Substances (PFAS) Work Plan, Teapot Dome Landfill, Tulare County, California. Dated June 25. Prepared for County of Tulare Solid Waste Department.

EBA Engineering, 2019, 2018 Second Semi-Annual and Annual Monitoring Report for Teapot Dome Landfill, Tulare County, California. Dated February.

Malcolm Pirnie, Inc., 2004, Evaluation Monitoring program report, An Interim report for Phase I Investigations. Prepared for Tulare County, Resource Management Agency, Solid Waste Division. January 2004.

Malcolm Pirnie, Inc., 2005a, Final Evaluation Monitoring Program Report Teapot Dome Solid Waste Disposal Site, Porterville, California, Prepared for Tulare County, Resource Management Agency, Solid Waste Division. January 2005.

Malcolm Pirnie, Inc., 2005b, Groundwater – Waste Separation Mitigation Plan, Teapot Dome Solid Waste Disposal Site, Porterville, California. September 2005.

Malcolm Pirnie, Inc., 2005c, Revised Engineering Feasibility Study for Corrective Action, Teapot Dome Solid Waste Disposal Site, Porterville, California. August 2005, (updated December 2005).

Malcolm Pirnie, Inc., 2006, Revised Groundwater - Waste Separation Mitigation Plan, Teapot Dome Solid Waste Disposal Site, Porterville, California, November.

Malcolm Pirnie, Inc., 2008, Revised Time Schedule for the Groundwater-Waste Separation Mitigation Plan, Teapot Dome Solid Waste Disposal Site, Porterville, California, January 31.

Regional Water Quality Control Board (RWQCB), 2003, Waste Discharge Requirements, Teapot Dome Solid Waste Disposal Site, Order 5-2003-0115.

RWQCB, 2006, Report Review – Proposed Revisions to Approved Corrective Action Program, Teapot Dome Solid Waste Disposal Site, September 6.

RWQCB, 2014, Waste Discharge Requirements, Teapot Dome Solid Waste Disposal Site, Order R5-2014-0021.

5.2. PFAS References

ATSDR. 2017. An Overview of Perfluoroalkyl and Polyfluoroalkyl Substances and Interim Guidance for Clinicians Responding to Patient Exposure Concerns. Interim Guidance. Revised on 6/7/2017.

Benskin, J.P., Li, B., Ikonomou, M.G., Grace JR, and Li, L.Y., 2012, Per- and polyfluoroalkyl substances in landfill leachate: Patterns, time trends, and sources. Environmental Science & Technology v. 46 (21), 11532-11540.

Buck, R.C., Franklin, J., Berger,U., Conder, J.M., Cousins, I.T., de Voogt, P., Jensen, A.A., Kannan, K, Mabury,S.A., and van Leeuwenet, S.P., 2011. Perfluoroalkyl and Polyfluoroalkyl Substances in the Environment: Terminology, Classification, and Origins. Integrated Environmental Assessment and Management, v. 7, no. 4, 513- 541.

CA OEHHA. 2016. “Notice of Intent to List Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS).

Covello, V.T. and F. Allen. 1988. Seven Cardinal Rules of Risk Communication. US Environmental Protection Agency, Office of Policy Analysis, Washington, D.C., Sources of Exposure (ATSDR, 2017).

CRC CARE, 2017, Assessment, management and remediation guidance for perfluorooctanesulfonate (PFOS) and perfluorooctanoic acid (PFOA) – Part 5: management and remediation of PFOS and PFOA, CRC CARE Technical Report no. 38.

D'Eon, J.C., Crozier, P.W., Furdui, V.I., Reiner, E.J., Libelo, E.L., and Mabury, S.A., 2009, Perfluorinated phosphonic acids in Canadian surface waters and wastewater treatment plant effluent: Discovery of a new class of perfluorinated acids. Environ Toxicol Chem 28(10):2101-7 doi:10.1897/09-048.1

Fuertes, I., Gomez-Lavin, S., Elizalde, M.P., and Urtiaga, A., 2017, Perfluorinated alkyl substances (PFASs) in northern Spain municipal solid waste landfill leachates. Chemosphere 168:399-407

Gallen, C., Drage, D., Eaglesham, G., Grant, S., Bowman, M., and Mueller, J.F., 2017, Australia-wide assessment of perfluoroalkyl substances (PFASs) in landfill leachates. J Hazard Materials 331:132-141.

Hamid, H., Li, L.Y., and Grace, J.R., 2018, Review of the fate and transformation of per- and polyfluoroalkyl substances (PFASs) in landfills, Environmental Pollution v. 235, 74-84.

Houtz, E.F., Sutton R, Park, J.S., and Sedlak, M. 2016. Poly- and perfluoroalkyl substances in wastewater: Significance of unknown precursors, manufacturing shifts, and likely AFFF impacts. Water Research 95:142-149.

Hu, Xindi C., Andrews, D.Q., Lindstrom, A.B., Bruton, T.A., Schaider, L.A., Grandjean, P., Lohmann, R., Carignan, C.C., Blum, A., Balan, S.A., Higgins, C.P., and Sunderland, E.M., 2014, Detection of Poly- and Perfluoroalkyl Substances (PFASs) in U.S. Drinking Water Linked to Industrial Sites, Military Fire Training Areas, and Wastewater Treatment Plants. Environmental Science & Technology Letters v 3 (10), 344-350.

Interstate Technology and Regulatory Council (ITRC), 2017, Fact Sheet, History and Use of Per- and Polyfluoroalkyl Substances (PFAS), November 13, 2017.

ITRC, 2018, Fact Sheet, Regulations, Guidance, and Advisories for Per- and Polyfluoroalkyl Substances (PFAS), January 4, 2018.

ITRC, 2018, Fact Sheet, Site Characterization Considerations, Sampling Precautions, and Laboratory Analytical Methods for Per- and Polyfluoroalkyl Substances (PFAS), March 15, 2018.

ITRC, 2018, Fact Sheet, Naming Conventions and Physical and Chemical Properties of Per- and Polyfluoroalkyl Substances (PFAS), March 16, 2018.

IRTC, 2018, Fact Sheet, Aqueous Film-Forming Foam (AFFF), October, 2018.

Kotthoff, M., Muller, J, Jurling, H., Schlummer, M., and Fiedler, D., 2015, Perfluoroalkyl and polyfluoroalkyl substances in consumer products. Environ Sci Pollut Res Int 22(19):14546-59 doi:10.1007/s11356-015-4202-7

Lindstrom, A.B., Strynar, M.J., Delinsky, A.D., et al., 2011a, Application of WWTP biosolids and resulting perfluorinated compound contamination of surface and well water in Decatur, Alabama, USA. *Environmental Science & Technology,* v.45 (19), 8015-8021.

McGuire, M. E., Schaefer, C., Richards, T., Backe, W.J., Field, J.A., Houtz, E., Sedlak, D.L., Guelfo, J.L., Wunsch, A., and Higgins, C.P., 2014 Evidence of Remediation-Induced Alteration of Subsurface Poly- and Perfluoroalkyl Substance Distribution at a Former Firefighter Training Area. *Environmental Science & Technology, v. 48* (12), 6644-6652.

Michigan Department of Environmental Quality (MDEQ), 2018, Wastewater PFAS Sampling Guidance. Revised October 11, 2018.

QED Environmental Systems (QED), 2019, Testing of QED Sample Pro 1.75-inch Portable Bladder Pump for Perfluorinated Compounds. Accessed April 17, 2019 at QEDenv.com.

Plumlee, M.H., Larabee, J., and Reinhard, M., 2008, Perfluorochemicals in water reuse. Chemosphere 72(10):1541-1547.

Schaider, L.A., Ackerman, J.M., and Rudel, R.A., 2016, Septic systems as sources of organic wastewater compounds in domestic drinking water wells in a shallow sand and gravel aquifer. Science Total Environ 547:470-481.

Sedlak M, Benskin J.P., Wong, A., Grace, R., and Greig D.J., 2017, Per- and polyfluoroalkyl substances (PFASs) in San Francisco Bay wildlife: Temporal trends, exposure pathways, and notable presence of precursor compounds. Chemosphere.

Sedlak, M., Sutton, R., Wong, A., and Lin, D., . 2018, Per and Polyfluoroalkyl Substances (PFASs) in San Francisco Bay: Synthesis and Strategy. RMP Contribution No. 867. San Francisco Estuary Institute, Richmond CA. 130 pages.

Shoaeioskouei S, 2012, Perfluorinated compounds in landfill leachate from discarded carpets. M.S. Thesis, Faculty of Graduate Studies (Civil Engineering), the University of British Columbia, Vancouver. June 2012.

Southern Environmental Law Center (SELC), 2019, Notice of Intent to Sue the City of Burlington for Violations of the Clean Water Act and the Resource Conservation and Recovery Act. Dated November 7, 2019. The NOI was submitted by SELC on behalf of the Haw River Assemblyis located

U.S. Environmental Protection Agency, 2016, Technical Advisory – Laboratory Analysis of Drinking Water Samples for Perfluorooctanoic Acid (PFOA) Using EPA Method 537 Rev. 1.1., EPA 815-B-16-021, September.

Weber, R., Watson, A., Forter, M. and Oliaei, F., 2011, 'Persistent organic pollutants and landfills – a review of past experiences and future challenges', Waste Management & Research, vol. 29, no. 1, pp. 107–121.

TABLES

James W. Babcock, PhD, PG
Consulting Geologist

TABLE 1. PFAS Analytes[1]

Name	Abbrev.	Formula	CAS[2] No.
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic Acid	*11-CL-PF3OUDS*	$C_{10}HF_{20}ClSO_4$	*763051-92-9*
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic Acid	*9-CL-PF3ONS*	$C_8HF_{16}ClSO_4$	*756426-58-1*
4,8-Dioxa-3H-perfluorononanoic Acid	*ADONA*	$C_7H_2F_{12}O_4$	*919005-14-4*
4:2 Fluorotelomer sulfonate acid	4:2 FTS	$C_6H_4F_9O_3S$	757124-72-4
6:2 Fluorotelomer sulfonate	6:2 FTS	$C_8H_4F_{13}O_3S$	27619-97-2
8:2 Fluorotelomer sulfonate	8:2 FTS	$C_{10}H_4F_{17}O_3S$	39108-34-4
Hexafluoropropylene Oxide Dimer Acid	*HFPO-DA*	$C_6HF_{11}O_3$	*13252-13-6*
N-ethyl perfluorooctane- sulfonamidoacetic acid	NEtFOSAA	$C_{12}H_6F_{17}NO_4S$	2991-50-6
N-methyl perfluorooctane-sulfonamidoacetic acid	NMeFOSAA	$C_{11}H_6F_{17}NO_4S$	2355-31-9
Perfluorobutanoic acid	PFBA	$C_4HF_7O_2$	375-22-4
Perfluorobutanesulfonic acid	PFBS	$C_4HF_9O_3S$	375-73-5
Perfluorodecanoic acid	PFDA	$C_{10}HF_{19}O_2$	335-76-2
Perfluorododecanoic acid	PFDOA[3]	$C_{12}HF_{23}O_2$	307-55-1
Perfluorodecane sulfonic acid	PFDS	$C_{10}HF_{21}SO_3$	335-77-3
Perfluoroheptanoic acid	PFHpA	$C_7HF_{13}O_2$	375-85-9
Perfluoroheptane sulfonate	PFHpS	$C_7HF_{15}O_3S$	375-92-8
Perfluorohexanoic acid	PFHxA	$C_6HF_{11}O_2$	307-24-4
Perfluorohexanesulfonic acid	PFHxS	$C_6HF_{13}O_3S$	355-46-4
Perfluorononanoic acid	PFNA	$C_9HF_{17}O_2$	375-95-1
Perfluorononane Sulfonic Acid	*PFNS*	$C_9HF_{19}SO_3$	*68259-12-1*
Perfluorooctanoic acid	PFOA	$C_8HF_{15}O_2$	335-67-1
Perfluorooctanesulfonic acid	PFOS	$C_8HF_{17}O_3S$	1763-23-1
Perfluorooctanesulfonamide	PFOSA[4]	$C_8HF_{17}SO_2NH_2$	754-91-6
Perfluoropentanoic acid	PFPEA	$C_5HF_9O_2$	2706-90-3
Pefluoropentane sulfonic acid	PFPES	$C_5HF_{11}SO_3$	2706-91-4
Perfluorotetradecanoic acid	PFTEDA	$C_{14}HF_{27}O_2$	376-06-7
Perfluorotridecanoic acid	PFTrDA	$C_{13}HF_{25}O_2$	72629-94-8
Perfluoroundecanoic acid	PFUDA[5]	$C_{11}HF_{21}O_2$	2058-94-8

Notes:

1. APPL analytes reported for EPA Method 537-M (DoD QSM Table B-15)
2. Chemical Abstracts Service
3. Also known as PFDoDA
4. Also known as FOSA
5. Also known as PFUnDA

Table 2

Groundwater Analytical Results (ng/L)[1]

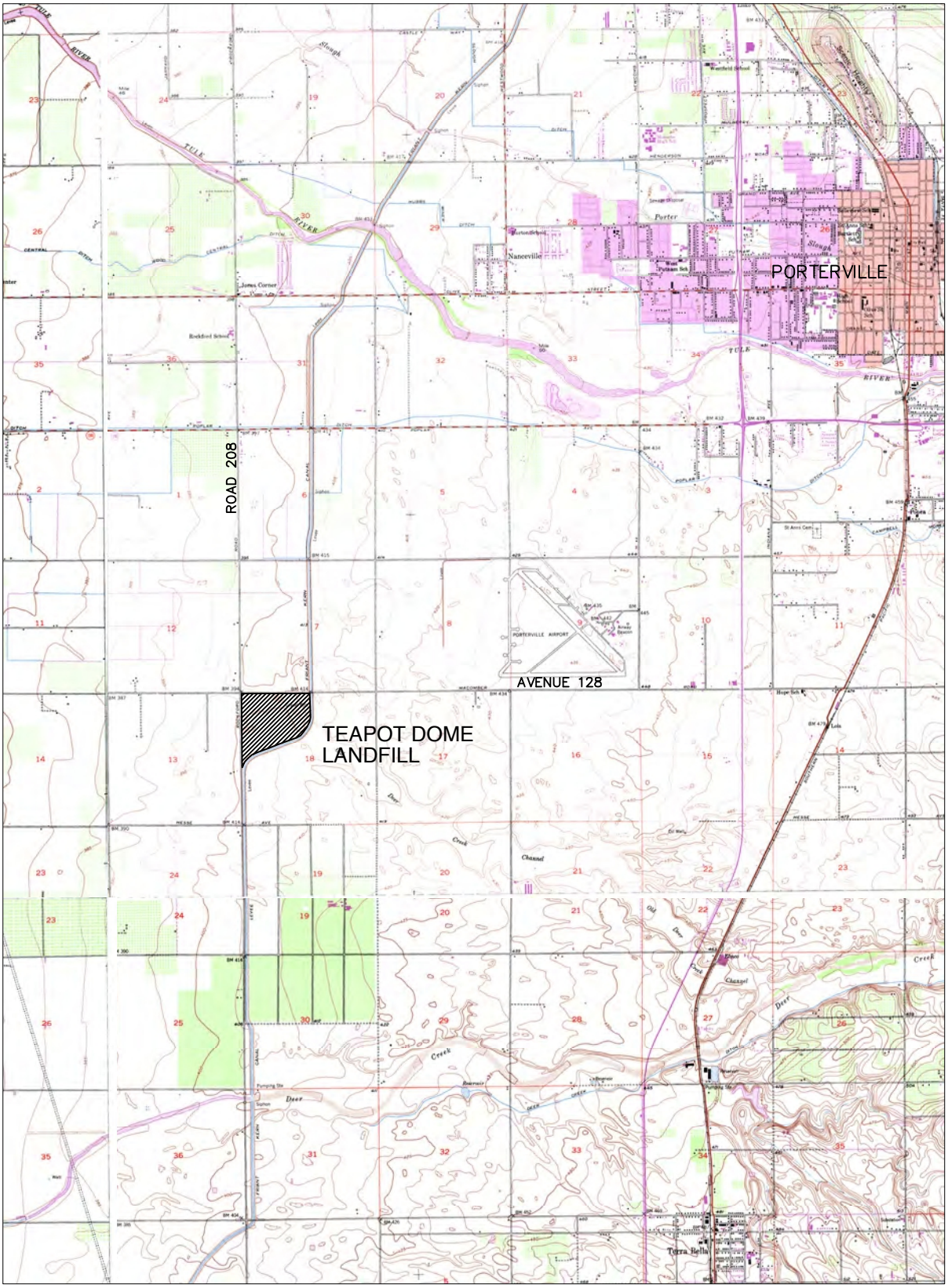
Teapot Dome Landfill, Tulare County

		Groundwater Wells				Field Reagent Blanks (FRB)			
Abbreviation	CAS Number	M-1B p[2]	M-1B b[3]	M-11C[4]	M-16C[4]	M-1B p FB	M-1B b FB	M-11C FB	M-16C FB
11-CL-PF3OUDS	763051-92-9	nd[5]	nd	nd	nd	nd	nd	nd	nd
9-CL-PF3ONS	756426-58-1	nd	nd	nd	nd	nd	nd	nd	nd
ADONA	919005-14-4	nd	nd	nd	nd	nd	nd	nd	nd
4:2 FTS	757124-72-4	nd	nd	nd	nd	nd	nd	nd	nd
6:2 FTS	27619-97-2	nd	nd	nd	nd	**4.5 J**	nd	nd	nd
8:2 FTS	39108-34-4	nd	nd	nd	nd	nd	nd	nd	nd
HFPO-DA	13252-13-6	nd	nd	nd	nd	nd	nd	nd	nd
NEtFOSAA	2991-50-6	nd	nd	nd	nd	nd	nd	nd	nd
NMeFOSAA	2355-31-9	nd	nd	nd	nd	nd	nd	nd	nd
PFBA	375-22-4	**9.8 J**	**9.8 J**	**8.4 J**	**9.3 J**	nd	nd	nd	nd
PFBS	375-73-5	**11**	**10**	**9.3 J**	**6.6 J**	nd	nd	nd	nd
PFDA	335-76-2	nd	nd	nd	nd	nd	nd	nd	nd
PFDOA	307-55-1	nd	nd	nd	nd	nd	nd	nd	nd
PFDS	335-77-3	nd	nd	nd	nd	nd	nd	nd	nd
PFHpA	375-85-9	**11**	**10**	**9.4 J**	**9.2 J**	nd	nd	nd	nd
PFHpS	375-92-8	nd	nd	nd	nd	nd	nd	nd	nd
PFHxA	307-24-4	**28**	**28**	**22**	**21**	nd	nd	nd	nd
PFHxS	355-46-4	**6.0 J**	**4.9 J**	**5.2 J**	**6.2 J**	nd	nd	nd	nd
PFNA	375-95-1	**8.0 J**	**6.3 J**	**8.0 J**	**3.6 J**	nd	nd	nd	nd
PFNS	474511-07-4	nd	nd	nd	nd	nd	nd	nd	nd
PFOA	335-67-1	**37**	**39**	**23**	**27**	nd	nd	nd	nd
PFOS	1763-23-1	**17**	**19**	**31**	**14**	nd	nd	nd	nd
PFOSA	754-91-6	nd	nd	nd	**2.0 J**	nd	nd	nd	nd
PFPeA	2706-90-3	**26**	**25**	**21**	**18**	nd	nd	nd	nd
PFPeS	2706-91-4	nd	nd	nd	nd	nd	nd	nd	nd
PFTeDA	376-06-7	nd	nd	nd	nd	nd	nd	nd	nd
PFTrDA	72629-94-8	nd	nd	nd	nd	nd	nd	nd	nd
PFUDA	2058-94-8	nd	nd	nd	nd	nd	nd	nd	nd

Notes: 1 - ng/L = nanograms per Liter, 2 - p = dedicated pump, 3 - b = HDPE bailer, 4 - dedicated pump, 5 - nd = non-detect

James W. Babcock
Consulting Geologist

FIGURES



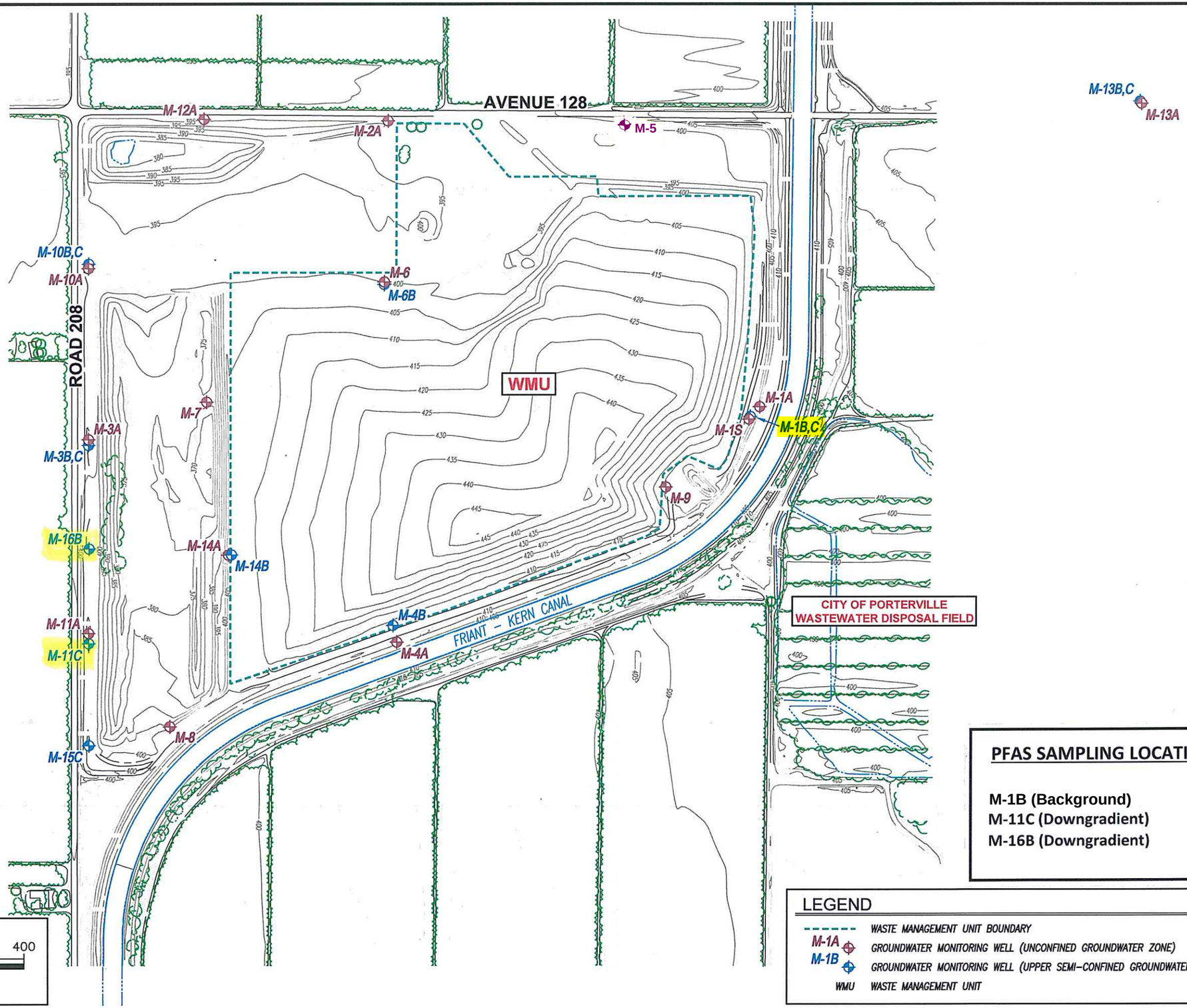
N

0 1 MI 2 MI

SCALE

BASE SOURCE: USGS 7.5 WOODVILLE, PORTERVILLE, SAUSALITO SCHOOL, AND DUCOR QUADRANGLES

James W. Babcock, PhD, PG Consulting Geologist	Location Map Teapot Dome Landfill Tulare County, California	May 2019 Figure 1



PFAS SAMPLING LOCATIONS

M-1B (Background)
M-11C (Downgradient)
M-16B (Downgradient)

LEGEND

- WASTE MANAGEMENT UNIT BOUNDARY
- M-1A — GROUNDWATER MONITORING WELL (UNCONFINED GROUNDWATER ZONE)
- M-1B — GROUNDWATER MONITORING WELL (UPPER SEMI-CONFINED GROUNDWATER ZONE)
- WMU — WASTE MANAGEMENT UNIT

FIGURE 2

14-2052

PFAS SAMPLING LOCATION MAP

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Prepared by:
County of Tulare
Solid Waste Department
May 2019

APPENDICES

APPENDIX A

Groundwater Analytical Reports -PFAS Sampling Event

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

NELAP Certification Number: CA00046 (HW)

January 6, 2020

Tulare County RMA-Solid Waste Div.
5955 S. Mooney Blvd.
Visalia, California 93277

Attn: Jonah Trevino

Subject: Report of Data: Case 90936

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.

Dear Mr. Trevino:

Eight water samples for project "E94401.02" were received December 5, 2019 at 11.8°C. Written results are being provided on this January 6, 2020, for the requested analyses. All holding times were met.

For PFAS by QSM B-15, the samples were prepared according to our SOP.

If you have any questions or require further information, please contact us at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Paula McCartney

Paula McCartney, Laboratory Director
APPL, Inc.

PM/gs
Enclosure
cc: File

EPA 537-M PFAS IN WASTEWATER

Tulare Co RMA-Solid Waste Div.
5955 S. Mooney Blvd.
Visalia, CA 93277

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Jonah Trevino

Project: E94401.02

ARF: 90936

Sample ID: M-1B (PUMP)

APPL ID: BA04110

Sample Collection Date: 12/05/19

QCG: #537WM-191219A1-248728

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 537m	11-CL-PF3OUDS	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
EPA 537m	FTS 4:2	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
EPA 537m	FTS 6:2	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
EPA 537m	FTS 8:2	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
EPA 537m	N-ETFOSAA	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
EPA 537m	N-MEFOSAA	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
EPA 537m	PFBA	9.8 J	10.0	2.00	ng/L	12/19/19	12/27/19
EPA 537m	PFBS	11	10.0	2.00	ng/L	12/19/19	12/27/19
EPA 537m	PFDA	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
EPA 537m	PFDOA	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
EPA 537m	PFDS	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
EPA 537m	PFHPA	11	10.0	2.00	ng/L	12/19/19	12/27/19
EPA 537m	PFHPS	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
EPA 537m	PFHXA	28	10.0	2.00	ng/L	12/19/19	12/27/19
EPA 537m	PFHXS	6.0 J	10.0	2.00	ng/L	12/19/19	12/27/19
EPA 537m	PFNA	8.0 J	10.0	2.00	ng/L	12/19/19	12/27/19
EPA 537m	PFOA	37	10.0	2.00	ng/L	12/19/19	12/27/19
EPA 537m	PFOS	17	10.0	2.00	ng/L	12/19/19	12/27/19
EPA 537m	PFOSA	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
EPA 537m	PFPEA	26	10.0	2.00	ng/L	12/19/19	12/27/19
EPA 537m	PFPES	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
EPA 537m	PFTEDA	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
EPA 537m	PFTRDA	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
EPA 537m	PFUDA	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
EPA 537m	SURROGATE: 13C2-4:2FTS (S)	67.0	50-150		%	12/19/19	12/27/19
EPA 537m	SURROGATE: 13C2-6:2FTS (S)	71.2	50-150		%	12/19/19	12/27/19
EPA 537m	SURROGATE: 13C2-8:2FTS (S)	59.4	50-150		%	12/19/19	12/27/19
EPA 537m	SURROGATE: 13C2-PFDOA (S)	67.3	50-150		%	12/19/19	12/27/19
EPA 537m	SURROGATE: 13C2-PFTEDA (S)	68.2	50-150		%	12/19/19	12/27/19
EPA 537m	SURROGATE: 13C3-HFPO-DA (S)	72.9	50-150		%	12/19/19	12/27/19
EPA 537m	SURROGATE: 13C3-PFBS (S)	66.9	50-150		%	12/19/19	12/27/19
EPA 537m	SURROGATE: 13C3-PFHXS (S)	61.9	50-150		%	12/19/19	12/27/19
EPA 537m	SURROGATE: 13C4-PFBA (S)	69.4	50-150		%	12/19/19	12/27/19
EPA 537m	SURROGATE: 13C4-PFHPA (S)	69.4	50-150		%	12/19/19	12/27/19
EPA 537m	SURROGATE: 13C5-PFHXA (S)	71.7	50-150		%	12/19/19	12/27/19

J = Estimated value.

Quant Method:
Run #: 191227B6
Instrument: Saphira
Sequence: 191227
Dilution Factor: 1
Initials: HHE

Printed: 12/30/19 5:32:09 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 537-M PFAS IN WASTEWATER

Tulare Co RMA-Solid Waste Div.
5955 S. Mooney Blvd.
Visalia, CA 93277

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Jonah Trevino

Project: E94401.02

ARF: 90936

Sample ID: M-1B (PUMP)

APPL ID: BA04110

Sample Collection Date: 12/05/19

QCG: #537WM-191219A1-248728

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 537m	SURROGATE: 13C5-PFPEA (S)	70.1	50-150		%	12/19/19	12/27/19
EPA 537m	SURROGATE: 13C6-PFDA (S)	71.8	50-150		%	12/19/19	12/27/19
EPA 537m	SURROGATE: 13C7-PFUDA (S)	68.8	50-150		%	12/19/19	12/27/19
EPA 537m	SURROGATE: 13C8-PFOA (S)	70.5	50-150		%	12/19/19	12/27/19
EPA 537m	SURROGATE: 13C8-PFOS (S)	62.7	50-150		%	12/19/19	12/27/19
EPA 537m	SURROGATE: 13C8-PFOSA (S)	72.5	50-150		%	12/19/19	12/27/19
EPA 537m	SURROGATE: 13C9-PFNA (S)	66.1	50-150		%	12/19/19	12/27/19
EPA 537m	SURROGATE: D3-NMEFOSAA (S)	57.7	50-150		%	12/19/19	12/27/19
EPA 537m	SURROGATE: D5-NETFOSAA (S)	64.1	50-150		%	12/19/19	12/27/19

J = Estimated value.

Quant Method:
Run #: 191227B6
Instrument: Saphira
Sequence: 191227
Dilution Factor: 1
Initials: HHE

Printed: 12/30/19 5:32:09 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 537-M PFAS IN WASTEWATER

Tulare Co RMA-Solid Waste Div.
5955 S. Mooney Blvd.
Visalia, CA 93277

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Jonah Trevino

Project: E94401.02

ARF: 90936

Sample ID: M-1B (PUMP) FRB

APPL ID: BA04111

Sample Collection Date: 12/05/19

QCG: #537WM-191219A1-248728

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 537m	11-CL-PF3OUDS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	FTS 4:2	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	FTS 6:2	4.5 J	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	FTS 8:2	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	N-ETFOSAA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	N-MEFOSAA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFBA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFBS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFDOA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFDS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHPA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHPS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHXA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHXS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFNA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFOA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFOS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFOSA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFPEA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFPES	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFTEDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFTRDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFUDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-4:2FTS (S)	76.5	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-6:2FTS (S)	79.1	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-8:2FTS (S)	70.8	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-PFDOA (S)	75.6	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-PFTEDA (S)	76.7	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C3-HFPO-DA (S)	79.0	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C3-PFBS (S)	73.7	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C3-PFHXS (S)	73.6	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C4-PFBA (S)	79.3	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C4-PFHPA (S)	78.3	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C5-PFHXA (S)	79.8	50-150		%	12/19/19	12/28/19

J = Estimated value.

Quant Method:
Run #: 191227B7
Instrument: Saphira
Sequence: 191227
Dilution Factor: 1
Initials: HHE

Printed: 12/30/19 5:32:09 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 537-M PFAS IN WASTEWATER

Tulare Co RMA-Solid Waste Div.
5955 S. Mooney Blvd.
Visalia, CA 93277

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Jonah Trevino

Project: E94401.02

ARF: 90936

Sample ID: M-1B (PUMP) FRB

APPL ID: BA04111

Sample Collection Date: 12/05/19

QCG: #537WM-191219A1-248728

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 537m	SURROGATE: 13C5-PFPEA (S)	77.7	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C6-PFDA (S)	75.1	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C7-PFUDA (S)	78.1	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C8-PFOA (S)	74.6	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C8-PFOS (S)	74.2	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C8-PFOSA (S)	76.5	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C9-PFNA (S)	74.2	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: D3-NMEFOSAA (S)	68.9	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: D5-NETFOSAA (S)	75.7	50-150		%	12/19/19	12/28/19

J = Estimated value.

Quant Method:
Run #: 191227B7
Instrument: Saphira
Sequence: 191227
Dilution Factor: 1
Initials: HHE

Printed: 12/30/19 5:32:09 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 537-M PFAS IN WASTEWATER

Tulare Co RMA-Solid Waste Div.
5955 S. Mooney Blvd.
Visalia, CA 93277

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Jonah Trevino

Project: E94401.02

ARF: 90936

Sample ID: M-1B (BAILER)

APPL ID: BA04112

Sample Collection Date: 12/05/19

QCG: #537WM-191219A1-248728

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 537m	11-CL-PF3OUDS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	FTS 4:2	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	FTS 6:2	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	FTS 8:2	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	N-ETFOSAA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	N-MEFOSAA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFBA	9.8 J	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFBS	10	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFDOA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFDS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHPA	10.0	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHPS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHXA	28	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHXS	4.9 J	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFNA	6.3 J	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFOA	39	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFOS	19	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFOSA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFPEA	25	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFPES	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFTEDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFTRDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFUDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-4:2FTS (S)	70.9	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-6:2FTS (S)	77.0	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-8:2FTS (S)	71.0	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-PFDOA (S)	72.3	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-PFTEDA (S)	71.9	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C3-HFPO-DA (S)	76.3	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C3-PFBS (S)	72.1	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C3-PFHXS (S)	72.1	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C4-PFBA (S)	74.4	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C4-PFHPA (S)	69.6	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C5-PFHXA (S)	75.3	50-150		%	12/19/19	12/28/19

J = Estimated value.

Quant Method:
Run #: 191227B8
Instrument: Saphira
Sequence: 191227
Dilution Factor: 1
Initials: HHE

Printed: 12/30/19 5:32:09 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 537-M PFAS IN WASTEWATER

Tulare Co RMA-Solid Waste Div.
5955 S. Mooney Blvd.
Visalia, CA 93277

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Jonah Trevino

Project: E94401.02

ARF: 90936

Sample ID: M-1B (BAILER)

APPL ID: BA04112

Sample Collection Date: 12/05/19

QCG: #537WM-191219A1-248728

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 537m	SURROGATE: 13C5-PFPEA (S)	74.0	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C6-PFDA (S)	72.8	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C7-PFUDA (S)	71.6	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C8-PFOA (S)	73.5	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C8-PFOS (S)	69.2	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C8-PFOSA (S)	77.6	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C9-PFNA (S)	71.6	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: D3-NMEFOSAA (S)	70.1	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: D5-NETFOSAA (S)	67.7	50-150		%	12/19/19	12/28/19

J = Estimated value.

Quant Method:
Run #: 191227B8
Instrument: Saphira
Sequence: 191227
Dilution Factor: 1
Initials: HHE

Printed: 12/30/19 5:32:09 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 537-M PFAS IN WASTEWATER

Tulare Co RMA-Solid Waste Div.
5955 S. Mooney Blvd.
Visalia, CA 93277

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Jonah Trevino

Project: E94401.02

ARF: 90936

Sample ID: M-1B (BAILER) FRB

APPL ID: BA04113

Sample Collection Date: 12/05/19

QCG: #537WM-191219A1-248728

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 537m	11-CL-PF3OUDS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	FTS 4:2	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	FTS 6:2	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	FTS 8:2	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	N-ETFOSAA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	N-MEFOSAA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFBA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFBS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFDOA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFDS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHPA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHPS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHXA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHXS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFNA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFOA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFOS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFOSA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFPEA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFPES	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFTEDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFTRDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFUDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-4:2FTS (S)	80.8	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-6:2FTS (S)	77.1	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-8:2FTS (S)	82.8	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-PFDOA (S)	81.1	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-PFTEDA (S)	78.7	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C3-HFPO-DA (S)	82.1	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C3-PFBS (S)	79.3	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C3-PFHXS (S)	75.1	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C4-PFBA (S)	77.4	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C4-PFHPA (S)	80.2	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C5-PFHXA (S)	82.3	50-150		%	12/19/19	12/28/19

Quant Method:
Run #: 191227B9
Instrument: Saphira
Sequence: 191227
Dilution Factor: 1
Initials: HHE

Printed: 12/30/19 5:32:09 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 537-M PFAS IN WASTEWATER

Tulare Co RMA-Solid Waste Div.
5955 S. Mooney Blvd.
Visalia, CA 93277

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Jonah Trevino

Project: E94401.02

ARF: 90936

Sample ID: M-1B (BAILER) FRB

APPL ID: BA04113

Sample Collection Date: 12/05/19

QCG: #537WM-191219A1-248728

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 537m	SURROGATE: 13C5-PFPEA (S)	80.5	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C6-PFDA (S)	79.4	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C7-PFUDA (S)	81.6	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C8-PFOA (S)	78.1	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C8-PFOS (S)	76.4	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C8-PFOSA (S)	82.0	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C9-PFNA (S)	77.1	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: D3-NMEFOSAA (S)	72.3	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: D5-NETFOSAA (S)	74.9	50-150		%	12/19/19	12/28/19

Quant Method:
Run #: 191227B9
Instrument: Saphira
Sequence: 191227
Dilution Factor: 1
Initials: HHE

Printed: 12/30/19 5:32:09 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 537-M PFAS IN WASTEWATER

Tulare Co RMA-Solid Waste Div.
5955 S. Mooney Blvd.
Visalia, CA 93277

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Jonah Trevino

Project: E94401.02

ARF: 90936

Sample ID: M-11C

APPL ID: BA04114

Sample Collection Date: 12/05/19

QCG: #537WM-191219A1-248728

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 537m	11-CL-PF3OUDS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	FTS 4:2	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	FTS 6:2	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	FTS 8:2	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	N-ETFOSAA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	N-MEFOSAA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFBA	8.4 J	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFBS	9.3 J	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFDOA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFDS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHPA	9.4 J	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHPS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHXA	22	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHXS	5.2 J	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFNA	8.0 J	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFOA	23	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFOS	31	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFOSA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFPEA	21	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFPES	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFTEDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFTRDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFUDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-4:2FTS (S)	74.9	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-6:2FTS (S)	74.8	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-8:2FTS (S)	71.6	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-PFDOA (S)	74.9	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-PFTEDA (S)	75.2	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C3-HFPO-DA (S)	80.0	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C3-PFBS (S)	73.0	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C3-PFHXS (S)	69.3	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C4-PFBA (S)	75.9	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C4-PFHPA (S)	76.5	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C5-PFHXA (S)	77.9	50-150		%	12/19/19	12/28/19

J = Estimated value.

Quant Method:
Run #: 191227B10
Instrument: Saphira
Sequence: 191227
Dilution Factor: 1
Initials: HHE

Printed: 12/30/19 5:32:09 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 537-M PFAS IN WASTEWATER

Tulare Co RMA-Solid Waste Div.
5955 S. Mooney Blvd.
Visalia, CA 93277

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Jonah Trevino

Project: E94401.02

ARF: 90936

Sample ID: M-11C

APPL ID: BA04114

Sample Collection Date: 12/05/19

QCG: #537WM-191219A1-248728

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 537m	SURROGATE: 13C5-PFPEA (S)	77.0	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C6-PFDA (S)	74.4	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C7-PFUDA (S)	80.2	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C8-PFOA (S)	74.8	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C8-PFOS (S)	71.6	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C8-PFOSA (S)	79.7	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C9-PFNA (S)	77.5	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: D3-NMEFOSAA (S)	61.7	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: D5-NETFOSAA (S)	76.0	50-150		%	12/19/19	12/28/19

J = Estimated value.

Quant Method:
Run #: 191227B10
Instrument: Saphira
Sequence: 191227
Dilution Factor: 1
Initials: HHE

Printed: 12/30/19 5:32:09 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 537-M PFAS IN WASTEWATER

Tulare Co RMA-Solid Waste Div.
5955 S. Mooney Blvd.
Visalia, CA 93277

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Jonah Trevino

Project: E94401.02

ARF: 90936

Sample ID: M-11C FRB

APPL ID: BA04115

Sample Collection Date: 12/05/19

QCG: #537WM-191219A1-248728

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 537m	11-CL-PF3OUDS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	FTS 4:2	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	FTS 6:2	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	FTS 8:2	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	N-ETFOSAA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	N-MEFOSAA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFBA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFBS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFDOA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFDS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHPA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHPS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHXA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHXS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFNA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFOA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFOS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFOSA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFPEA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFPES	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFTEDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFTRDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFUDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-4:2FTS (S)	70.2	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-6:2FTS (S)	71.9	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-8:2FTS (S)	65.5	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-PFDOA (S)	70.4	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-PFTEDA (S)	72.8	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C3-HFPO-DA (S)	73.2	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C3-PFBS (S)	68.1	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C3-PFHXS (S)	69.8	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C4-PFBA (S)	71.4	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C4-PFHPA (S)	71.5	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C5-PFHXA (S)	71.4	50-150		%	12/19/19	12/28/19

Quant Method:
Run #: 191227B11
Instrument: Saphira
Sequence: 191227
Dilution Factor: 1
Initials: HHE

Printed: 12/30/19 5:32:09 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 537-M PFAS IN WASTEWATER

Tulare Co RMA-Solid Waste Div.
5955 S. Mooney Blvd.
Visalia, CA 93277

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Jonah Trevino

Project: E94401.02

ARF: 90936

Sample ID: M-11C FRB

APPL ID: BA04115

Sample Collection Date: 12/05/19

QCG: #537WM-191219A1-248728

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 537m	SURROGATE: 13C5-PFPEA (S)	69.6	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C6-PFDA (S)	69.7	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C7-PFUDA (S)	72.1	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C8-PFOA (S)	71.7	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C8-PFOS (S)	66.4	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C8-PFOSA (S)	73.7	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C9-PFNA (S)	69.1	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: D3-NMEFOSAA (S)	64.3	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: D5-NETFOSAA (S)	68.2	50-150		%	12/19/19	12/28/19

Quant Method:
Run #: 191227B11
Instrument: Saphira
Sequence: 191227
Dilution Factor: 1
Initials: HHE

Printed: 12/30/19 5:32:09 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 537-M PFAS IN WASTEWATER

Tulare Co RMA-Solid Waste Div.
5955 S. Mooney Blvd.
Visalia, CA 93277

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Jonah Trevino

Project: E94401.02

ARF: 90936

Sample ID: M-16B

APPL ID: BA04116

Sample Collection Date: 12/05/19

QCG: #537WM-191219A1-248728

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 537m	11-CL-PF3OUDS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	FTS 4:2	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	FTS 6:2	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	FTS 8:2	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	N-ETFOSAA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	N-MEFOSAA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFBA	9.3 J	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFBS	6.6 J	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFDOA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFDS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHPA	9.2 J	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHPS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHXA	21	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHXS	6.2 J	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFNA	3.6 J	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFOA	27	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFOS	14	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFOSA	2.0 J	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFPEA	18	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFPES	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFTEDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFTRDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFUDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-4:2FTS (S)	70.0	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-6:2FTS (S)	69.3	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-8:2FTS (S)	69.3	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-PFDOA (S)	68.1	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-PFTEDA (S)	68.2	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C3-HFPO-DA (S)	70.7	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C3-PFBS (S)	67.3	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C3-PFHXS (S)	66.8	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C4-PFBA (S)	70.0	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C4-PFHPA (S)	70.0	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C5-PFHXA (S)	69.2	50-150		%	12/19/19	12/28/19

J = Estimated value.

Quant Method:
Run #: 191227B12
Instrument: Saphira
Sequence: 191227
Dilution Factor: 1
Initials: HHE

Printed: 12/30/19 5:32:09 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 537-M PFAS IN WASTEWATER

Tulare Co RMA-Solid Waste Div.
5955 S. Mooney Blvd.
Visalia, CA 93277

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Jonah Trevino

Project: E94401.02

ARF: 90936

Sample ID: M-16B

APPL ID: BA04116

Sample Collection Date: 12/05/19

QCG: #537WM-191219A1-248728

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 537m	SURROGATE: 13C5-PFPEA (S)	71.8	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C6-PFDA (S)	66.8	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C7-PFUDA (S)	68.0	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C8-PFOA (S)	68.6	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C8-PFOS (S)	63.9	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C8-PFOSA (S)	75.4	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C9-PFNA (S)	69.9	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: D3-NMEFOSAA (S)	60.4	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: D5-NETFOSAA (S)	65.6	50-150		%	12/19/19	12/28/19

J = Estimated value.

Quant Method:
Run #: 191227B12
Instrument: Saphira
Sequence: 191227
Dilution Factor: 1
Initials: HHE

Printed: 12/30/19 5:32:09 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 537-M PFAS IN WASTEWATER

Tulare Co RMA-Solid Waste Div.
5955 S. Mooney Blvd.
Visalia, CA 93277

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Jonah Trevino

Project: E94401.02

ARF: 90936

Sample ID: M-16B FRB

APPL ID: BA04117

Sample Collection Date: 12/05/19

QCG: #537WM-191219A1-248728

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 537m	11-CL-PF3OUDS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	FTS 4:2	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	FTS 6:2	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	FTS 8:2	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	N-ETFOSAA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	N-MEFOSAA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFBA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFBS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFDOA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFDS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHPA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHPS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHXA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFHXS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFNA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFOA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFOS	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFOSA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFPEA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFPES	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFTEDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFTRDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	PFUDA	Not detected	10.0	2.00	ng/L	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-4:2FTS (S)	80.5	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-6:2FTS (S)	79.0	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-8:2FTS (S)	76.7	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-PFDOA (S)	73.1	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C2-PFTEDA (S)	68.2	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C3-HFPO-DA (S)	79.7	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C3-PFBS (S)	74.6	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C3-PFHXS (S)	72.9	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C4-PFBA (S)	75.9	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C4-PFHPA (S)	74.3	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C5-PFHXA (S)	76.9	50-150		%	12/19/19	12/28/19

Quant Method:
Run #: 191227B20
Instrument: Saphira
Sequence: 191227
Dilution Factor: 1
Initials: HHE

Printed: 12/30/19 5:32:09 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 537-M PFAS IN WASTEWATER

Tulare Co RMA-Solid Waste Div.
5955 S. Mooney Blvd.
Visalia, CA 93277

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Jonah Trevino

Project: E94401.02

ARF: 90936

Sample ID: M-16B FRB

APPL ID: BA04117

Sample Collection Date: 12/05/19

QCG: #537WM-191219A1-248728

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 537m	SURROGATE: 13C5-PFPEA (S)	75.9	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C6-PFDA (S)	75.0	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C7-PFUDA (S)	79.4	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C8-PFOA (S)	73.9	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C8-PFOS (S)	70.7	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C8-PFOSA (S)	76.7	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: 13C9-PFNA (S)	71.7	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: D3-NMEFOSAA (S)	68.8	50-150		%	12/19/19	12/28/19
EPA 537m	SURROGATE: D5-NETFOSAA (S)	75.2	50-150		%	12/19/19	12/28/19

Quant Method:
Run #: 191227B20
Instrument: Saphira
Sequence: 191227
Dilution Factor: 1
Initials: HHE

Printed: 12/30/19 5:32:09 PM
APPL-F1-SC-NoMC-REG MDLs

Method Blank
EPA 537-M PFAS IN WASTEWATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **191219W-04110 - 248728**
Batch ID: #537WM-191219A1

Sample Type	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
BLANK	11-CL-PF3OUDS	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
BLANK	FTS 4:2	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
BLANK	FTS 6:2	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
BLANK	FTS 8:2	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
BLANK	N-ETFOSAA	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
BLANK	N-MEFOSAA	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
BLANK	PFBA	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
BLANK	PFBS	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
BLANK	PFDA	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
BLANK	PFDOA	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
BLANK	PFDS	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
BLANK	PFHPA	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
BLANK	PFHPS	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
BLANK	PFHXA	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
BLANK	PFHXS	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
BLANK	PFNA	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
BLANK	PFOA	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
BLANK	PFOS	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
BLANK	PFOSA	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
BLANK	PFPEA	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
BLANK	PFPES	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
BLANK	PFTEDA	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
BLANK	PFTRDA	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
BLANK	PFUDA	Not detected	10.0	2.00	ng/L	12/19/19	12/27/19
BLANK	SURROGATE: 13C2-4:2FTS (S)	75.1	50-150		%	12/19/19	12/27/19
BLANK	SURROGATE: 13C2-6:2FTS (S)	74.6	50-150		%	12/19/19	12/27/19
BLANK	SURROGATE: 13C2-8:2FTS (S)	73.2	50-150		%	12/19/19	12/27/19
BLANK	SURROGATE: 13C2-PFDOA (S)	66.9	50-150		%	12/19/19	12/27/19
BLANK	SURROGATE: 13C2-PFTEDA (S)	69.8	50-150		%	12/19/19	12/27/19
BLANK	SURROGATE: 13C3-HFPO-DA (S)	71.7	50-150		%	12/19/19	12/27/19
BLANK	SURROGATE: 13C3-PFBS (S)	68.7	50-150		%	12/19/19	12/27/19
BLANK	SURROGATE: 13C3-PFHXS (S)	67.2	50-150		%	12/19/19	12/27/19
BLANK	SURROGATE: 13C4-PFBA (S)	71.5	50-150		%	12/19/19	12/27/19
BLANK	SURROGATE: 13C4-PFHPA (S)	72.1	50-150		%	12/19/19	12/27/19

Quant Method:
Run #: 191227B2
Instrument: Saphira
Sequence: 191227
Initials: HHE

GC SC-Blank-REG MDLs
Printed: 12/30/19 5:32:09 PM

Method Blank
EPA 537-M PFAS IN WASTEWATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **191219W-04110 - 248728**
Batch ID: #537WM-191219A1

Sample Type	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
BLANK	SURROGATE: 13C5-PFHXA (S)	71.8	50-150		%	12/19/19	12/27/19
BLANK	SURROGATE: 13C5-PFPEA (S)	71.2	50-150		%	12/19/19	12/27/19
BLANK	SURROGATE: 13C6-PFDA (S)	73.6	50-150		%	12/19/19	12/27/19
BLANK	SURROGATE: 13C7-PFUDA (S)	70.2	50-150		%	12/19/19	12/27/19
BLANK	SURROGATE: 13C8-PFOA (S)	72.5	50-150		%	12/19/19	12/27/19
BLANK	SURROGATE: 13C8-PFOS (S)	66.2	50-150		%	12/19/19	12/27/19
BLANK	SURROGATE: 13C8-PFOSA (S)	74.1	50-150		%	12/19/19	12/27/19
BLANK	SURROGATE: 13C9-PFNA (S)	69.1	50-150		%	12/19/19	12/27/19
BLANK	SURROGATE: D3-NMEFOSAA (S)	61.2	50-150		%	12/19/19	12/27/19
BLANK	SURROGATE: D5-NETFOSAA (S)	63.1	50-150		%	12/19/19	12/27/19

Quant Method:
Run #: 191227B2
Instrument: Saphira
Sequence: 191227
Initials: HHE

GC SC-Blank-REG MDLs
Printed: 12/30/19 5:32:09 PM

Laboratory Control Spike Recoveries
EPA 537-M PFAS IN WASTEWATER

APPL ID: **191219W-04110 LCS - 248728**
Batch ID: #537WM-191219A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ng/L	SPK Result ng/L	DUP Result ng/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
11-CL-PF3OUDS	9.42	8.84	7.99	93.8	84.8	70-130	10.1	30
FTS 4:2	9.35	11.3	9.56	121	102	70-130	16.7	30
FTS 6:2	9.50	11.9	10.4	125	109	70-130	13.5	30
FTS 8:2	9.60	8.36	9.47	87.1	98.6	70-130	12.5	30
N-ETFOSAA	10.00	9.22	7.88	92.2	78.8	70-130	15.7	30
N-MEFOSAA	10.00	8.91	7.92	89.1	79.2	70-130	11.8	30
PFBA	10.00	8.33	8.41	83.3	84.1	70-130	0.96	30
PFBS	8.85	8.17	7.80	92.3	88.1	70-130	4.6	30
PFDA	10.00	8.03	9.61	80.3	96.1	70-130	17.9	30
PFDOA	10.00	8.94	9.38	89.4	93.8	70-130	4.8	30
PFDS	9.65	8.71	8.52	90.3	88.3	70-130	2.2	30
PFHPA	10.00	8.44	8.73	84.4	87.3	70-130	3.4	30
PFHPS	9.50	9.27	8.55	97.6	90.0	70-130	8.1	30
PFHXA	10.00	8.47	7.94	84.7	79.4	70-130	6.5	30
PFHXS	9.12	8.06	7.81	88.4	85.6	70-130	3.2	30
PFNA	10.00	8.02	7.56	80.2	75.6	70-130	5.9	30
PFOA	10.00	9.28	7.93	92.8	79.3	70-130	15.7	30
PFOS	9.26	7.92	7.96	85.5	86.0	70-130	0.50	30
PFOSA	10.00	10.3	9.62	103	96.2	70-130	6.8	30
PFPEA	10.00	9.68	9.11	96.8	91.1	70-130	6.1	30
PFPES	9.40	8.81	8.00	93.7	85.1	70-130	9.6	30
PFTEDA	10.00	8.57	9.12	85.7	91.2	70-130	6.2	30
PFTRDA	10.00	8.73	8.62	87.3	86.2	70-130	1.3	30
PFUDA	10.00	8.40	7.88	84.0	78.8	70-130	6.4	30

Comments:

Primary	SPK	DUP
Quant Method :		
Extraction Date :	12/19/19	12/19/19
Analysis Date :	12/27/19	12/27/19
Instrument :	Saphira	Saphira
Run :	191227B3	191227B4
Initials :	HHE	

Printed: 12/30/19 5:32:15 PM
APPL Standard LCSD

Laboratory Control Spike Recoveries
EPA 537-M PFAS IN WASTEWATER

APPL ID: **191219W-04110 LCS - 248728**
Batch ID: #537WM-191219A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ng/L	SPK Result ng/L	DUP Result ng/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
SURROGATE: 13C2-4:2FTS (S)	100	73.0	71.4	73.0	71.4	50-150		
SURROGATE: 13C2-6:2FTS (S)	100	75.2	78.9	75.2	78.9	50-150		
SURROGATE: 13C2-8:2FTS (S)	100	70.1	69.0	70.1	69.0	50-150		
SURROGATE: 13C2-PFDOA (S)	100	69.4	70.7	69.4	70.7	50-150		
SURROGATE: 13C2-PFTEDA (S)	100	70.9	66.8	70.9	66.8	50-150		
SURROGATE: 13C3-HFPO-DA (S)	100	76.1	71.7	76.1	71.7	50-150		
SURROGATE: 13C3-PFBS (S)	100	70.8	69.8	70.8	69.8	50-150		
SURROGATE: 13C3-PFHXS (S)	100	69.4	70.8	69.4	70.8	50-150		
SURROGATE: 13C4-PFBA (S)	100	73.9	72.5	73.9	72.5	50-150		
SURROGATE: 13C4-PFHPA (S)	100	68.9	71.7	68.9	71.7	50-150		
SURROGATE: 13C5-PFHXA (S)	100	70.7	75.3	70.7	75.3	50-150		
SURROGATE: 13C5-PFPEA (S)	100	73.3	73.5	73.3	73.5	50-150		
SURROGATE: 13C6-PFDA (S)	100	74.5	73.7	74.5	73.7	50-150		
SURROGATE: 13C7-PFUDA (S)	100	73.7	70.5	73.7	70.5	50-150		
SURROGATE: 13C8-PFOA (S)	100	72.3	74.3	72.3	74.3	50-150		
SURROGATE: 13C8-PFOS (S)	100	67.5	66.7	67.5	66.7	50-150		
SURROGATE: 13C8-PFOSA (S)	100	70.5	74.0	70.5	74.0	50-150		
SURROGATE: 13C9-PFNA (S)	100	70.3	70.1	70.3	70.1	50-150		
SURROGATE: D3-NMEFOSAA (S)	100	65.6	60.7	65.6	60.7	50-150		
SURROGATE: D5-NETFOSAA (S)	100	68.8	65.3	68.8	65.3	50-150		

Comments:

Primary	SPK	DUP
Quant Method :		
Extraction Date :	12/19/19	12/19/19
Analysis Date :	12/27/19	12/27/19
Instrument :	Saphira	Saphira
Run :	191227B3	191227B4
Initials :	HHE	

Printed: 12/30/19 5:32:15 PM
APPL Standard LCSD

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

90936

C.O.C. 57737

Report to: PLEASE PRINT

Company Name: County of Tulare Phone: 559-624-7197
Address: 5955 S. Mooney Blvd
Visalia, CA 93277 Fax: 559-740-4448
Attn: Jonah Trevino
Email: JTrevino@co.tulare.ca.us

Invoice to: PLEASE PRINT

Company Name: Phone:
Address: SAME Fax:
Attn:
Email:

Project Name/Number: E94401.02
Sampler (Print): Joe Clark
Purchase Order Number:
Sampler (Signature):

Date Shipped:
Carrier:
Waybill No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil		Analysis Requested/Method Number: DOD QSM Version 5.1
M-1B (Pump)	Teapot Dome	12/5/19	1013		2	X				X
M-1B (Pump) FRB			1013		1					X
M-1B (bailer)			1029		2					X
M-1B (bailer) FRB			1029		1					X
M-11C			1130 ~~1230~~		2					X
M-11C FRB			1130 ~~1230~~		1					X
M-16B			1221		2					X
M-16B FRB			1221		1					X

Shuttle Temperature: IR@ 11.7 / 11.8°C

Turnaround Requested: Check one
☒ Standard 2-3 wk ☐ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other:

Sample Disposal:
☐ Return to client ☐ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
	12/5/19	1425					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					12/5/19	1425	

White: Return to client with report Yellow: Laboratory Copy See reverse side for Container Preservative and Sampling Information

APPENDIX B

Field Sheets and Notes -PFAS Sampling Event

Field Work Summary

Project:	County of Tulare Solid Waste Department
Site:	Teapot Dome
Description:	2019 PFAS Sampling
Sampling Event Date(s):	12/05/19
Monitoring Wells:	29
Monitoring Wells Sampled:	3
Chemistry Work Order Number(s):	N/A
Is this sampling event complete?:	Yes

Notes:

- Per Tulare County request, an additional PFAS sample was collected from M-1B via PFAS free disposable bailer after a sample was collected through the dedicated pump and tubing.

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C. 57737

Report to: PLEASE PRINT

Company Name: County of Tulare Phone: 559-624-7197
Address: 5955 S. Mooney Blvd
Visalia, CA 93277 Fax: 559-740-4448
Attn: Jonah Trevino
Email: JTrevino@co.tulare.ca.us

Invoice to: PLEASE PRINT

Company Name: SAME Phone:
Address: Fax:
Attn:
Email:

Project Name/Number: E94401.02
Sampler (Print): Joe Clark
Purchase Order Number:
Sampler (Signature):

Date Shipped:
Carrier:
Waybill No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil		Analysis Requested/Method Number: POV GSM Version 5.1											
M-1B (Pump)	Teapot Dome	12/5/19	1013		2	X				X											
M-1B (Pump) FRB			1013		1					X											
M-1B (bailer)			1029		2					X											
M-1B (bailer) FRB			1029		1					X											
M-11C			1130 ~~1230~~		2					X											
M-11C FRB			1130 ~~1230~~		1					X											
M-16B			1221		2					X											
M-16B FRB			1221		1					X											

Shuttle Temperature:

Turnaround Requested: Check one
☑ Standard 2-3 wk ☐ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other:

Sample Disposal:
☐ Return to client ☐ Disposal by Lab (30-day retention)

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Sampler	12/5/19	1425					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					12/5/19	1425	

White: Return to client with report Yellow: Laboratory Copy See reverse side for Container Preservative and Sampling Information

FIELD RECORD OF WATER SAMPLING

Low Flow Purging and Sampling

Project Name: Teapot Dome - WDR Order No. R5-2014-0021

Sampling Event: 2019 PFAS Sampling

Well Identification No.: M-13 | Sampler's Name: Joe Clark

Sampling Date: 12/5/2019 | Moore Twining Project No.: E94401.02

Depth to Water (ft - well guard): 128.16 | Casing Diameter (in): 4" | Pump Tubing (I.D. - in): 3/8"

Depth of Well (ft): 160.52 | Pump Location (ft): 158.52 | Pump Tubing Vol. (L): 3.48

Time	Depth to Water (ft)	Purge Volume (Liters)	Temp (°C)	pH	ORP (mV)	EC (µS/cm)	DO (mg/L)	Turbidity (NTU)	Comments (appearance, odor...)
0955	128.16	0							start purge
1003	128.17	3	19.59	7.55	116	1010	8.41	1.32	Clear no Odor
1005		4	19.58	7.47	129	1060	7.78	1.66	
1008		5	19.64	7.46	138	1090	7.52	0.72	
1011		6	19.64	7.45	143	1090	7.34	0.67	
1013		7	19.63	7.43	147	1090	7.38	0.61	
Stabilization Criteria	<0.30 feet	<0.5 L/min or 0.13 gal/min	+/- 3%	+/- 0.1 pH units	+/- 10 mV	+/- 3%	+/- 10% or less than 0.5 mg/L	+/- 10% or less than 5 NTUs	

Total Purge Volume (L): 7 | Total Purge Time (min.): 18 | Purge Rate (L/Min.): 389 mL/min

Pump Settings:

pressure (PSI): ~~120~~ 90 | discharge (seconds): ~~30~~ 20 | fill (seconds): ~~30~~ 40

Sample Containers: ~~1 - 1L non preserve~~

~~1 - 1L NaOH/ZnAc~~

~~1 - 250ml non preserve~~

~~1 - 125ml NaOH~~

~~3 - VOA HCl + 1 VOA HCl (for Field Blank)~~

~~3 - VOA H_3PO_4~~

PFAS bottles

Conversion Factors:

1/4 in = 0.010 L/ft | 2 in = 0.618 L/ft

3/8 in = 0.022 L/ft | 4 in = 2.471 L/ft

1/2 in = 0.039 L/ft | 1 gal = 3.785 L

% difference = ((value at time *b* / value at time *a*) -1) x 100

Measured Parameter	Instrument Used	Notes
Water Level	Solonist	
Water Quality	Horiba - U51	
Turbidity	Lamotte 2020	

Purge Equipment	Equipment Used	Notes
Pump Controller	Micro Purge MP-10	
Air Source	nitrogen	

If water level draw down exceeds 0.30 ft, use the following formula to calculate additional purge volume:

(initial water lavel - stable water level) x conversion factor for well casing diameter _____

pump tubing volume + _____

total additional purge volume after water level stabilization = _____

Notes: _____

FIELD RECORD OF WATER SAMPLING

Low Flow Purging and Sampling

Project Name: Teapot Dome - WDR Order No. R5-2014-0021

Sampling Event: 2019 PFAS Sampling

Well Identification No.: M-11C

Sampler's Name: Joe Clark

Sampling Date: 12/5/2019

Moore Twining Project No.: E94401.02

Depth to Water (ft - well guard): 145.20

Casing Diameter (in): 4

Pump Tubing (I.D. - in): 3/8"

Depth of Well (ft): 207.30

Pump Location (ft): 205.30

Pump Tubing Vol. (L): 4.52

Time	Depth to Water (ft)	Purge Volume (Liters)	Temp (°C)	pH	ORP (mV)	EC (µS/cm)	DO (mg/L)	Turbidity (NTU)	Comments (appearance, odor...)
1058	145.20	0							start purge
1102	145.25	water	reached		surface				
1114		4	20.47	7.62	161	1030	7.04	0.42	Clear no odor
1117		5	20.45	7.54	163	1030	6.51	0.90	
1120		6	20.45	7.63	163	1030	6.12	1.14	
1123		7	20.46	7.64	164	1030	7.68	1.76	
1127		8	20.45	7.82	165	1030	7.50	0.81	
1130		9	20.45	7.79	166	1020	7.21	0.46	
Stabilization Criteria	<0.30 feet	<0.5 L/min or 0.13 gal/min	+/- 3%	+/- 0.1 pH units	+/- 10 mV	+/- 3%	+/- 10% or less than 0.5 mg/L	+/- 10% or less than 5 NTUs	

Total Purge Volume (L): 9

Total Purge Time (min.): 32

Purge Rate (L/Min.): 281 mL/min

Pump Settings:

pressure (PSI): 110

discharge (seconds): 15

fill (seconds): 45

Sample Containers:

~~1 - 1L non preserve~~

~~1 - 1L NaOH/ZnAc~~

~~1 - 250ml non preserve~~

~~1 - 125ml NaOH~~

~~3 - VOA HCl + 1 VOA HCl (for Field Blank)~~

~~3 - VOA H_3PO_4~~

PFAS bottles

Conversion Factors:

1/4 in = 0.010 L/ft

3/8 in = 0.022 L/ft

1/2 in = 0.039 L/ft

2 in = 0.618 L/ft

4 in = 2.471 L/ft

1 gal = 3.785 L

% difference =

((value at time *b* / value at time *a*) -1) x 100

Measured Parameter	Instrument Used	Notes
Water Level	Solonist	
Water Quality	Horiba - U51	
Turbidity	Lamotte 2020	

Purge Equipment	Equipment Used	Notes
Pump Controller	Micro Purge MP-10	
Air Source	nitrogen	

If water level draw down exceeds 0.30 ft, use the following formula to calculate additional purge volume:

(initial water lavel - stable water level) x conversion factor for well casing diameter _____

pump tubing volume + _____

total additional purge volume after water level stabilization = _____

Notes:

FIELD RECORD OF WATER SAMPLING

Low Flow Purging and Sampling

Project Name: Teapot Dome - WDR Order No. R5-2014-0021

Sampling Event: 2019 PFAS Sampling

Well Identification No.: M-1613 | Sampler's Name: Joe Clark

Sampling Date: 12/5/2019 | Moore Twining Project No.: E94401.02

Depth to Water (ft - well guard): 143.81 | Casing Diameter (in): 4" | Pump Tubing (I.D. - in): 3/8"

Depth of Well (ft): 179.86 | Pump Location (ft): 177.86 | Pump Tubing Vol. (L): 3.91

Time	Depth to Water (ft)	Purge Volume (Liters)	Temp (°C)	pH	ORP (mV)	EC (µS/cm)	DO (mg/L)	Turbidity (NTU)	Comments (appearance, odor...)
1158	143.18	0							start purge
1208		water reached surface							
1218		4	21.26	7.71	150	955	6.11	3.60	Clear no odor
1219		5	21.16	7.68	153	960	6.00	3.77	
1221		6	21.14	7.65	156	962	6.04	2.65	
Stabilization Criteria	<0.30 feet	<0.5 L/min or 0.13 gal/min	+/- 3%	+/- 0.1 pH units	+/- 10 mV	+/- 3%	+/- 10% or less than 0.5 mg/L	+/- 10% or less than 5 NTUs	

Total Purge Volume (L): 6 | Total Purge Time (min.): 13 | Purge Rate (L/Min.): 462 mL/min

Pump Settings:

pressure (PSI): 90 | discharge (seconds): 10 | fill (seconds): 20

Sample Containers: ~~1 - 1L non preserve~~

~~1 - 1L NaOH/ZnAc~~

~~1 - 250ml non preserve~~

~~1 - 125ml NaOH~~

~~3 - VOA HCl + 1 VOA HCl (for Field Blank)~~

~~3 - VOA H_3PO_4~~

PFAS bottles

Conversion Factors:

1/4 in = 0.010 L/ft | 2 in = 0.618 L/ft

3/8 in = 0.022 L/ft | 4 in = 2.471 L/ft

1/2 in = 0.039 L/ft | 1 gal = 3.785 L

% difference =

((value at time *b* / value at time *a*) -1) x 100

Measured Parameter	Instrument Used	Notes
Water Level	Solonist	
Water Quality	Horiba - U51	
Turbidity	Lamotte 2020	

Purge Equipment	Equipment Used	Notes
Pump Controller	Micro Purge MP-10	
Air Source	nitrogen	

If water level draw down exceeds 0.30 ft, use the following formula to calculate additional purge volume:

(initial water lavel - stable water level) x conversion factor for well casing diameter _____

pump tubing volume + _____

total additional purge volume after water level stabilization = _____

Notes:

Jared Blumenfeld
Secretary for
Environmental Protection

Department of Toxic Substances Control

Meredith Williams, Ph.D., Director
1001 "I" Street
P.O. Box 806
Sacramento, California 95812-0806

Gavin Newsom
Governor

Facility Search Results

Selection Criteria:

Facility:	
Search on:	Physical Address
Street:	12891 Road 208
City:	Porterville
Zip:	93257
County:	TULARE
Status:	Active and Inactive
Sort Direction:	asc
Sorted By:	EPA ID
Records Found:	0

The Department of Toxics Substances Control (DTSC) takes every precaution to ensure the accuracy of data in the Hazardous Waste Tracking System (HWTS). However, because of the large number of manifests handled, inaccuracies in the submitted data, limitations of the manifest system and the technical limitations of the database, DTSC cannot guarantee that the data accurately reflect what was actually transported or produced.

Report Generation Date: 08/20/2020

ANALYTICAL REPORT

August 31, 2020

CBRE, Inc. - NC

Sample Delivery Group:	L1251443
Samples Received:	08/18/2020
Project Number:	PC00864273
Description:	Road 208 & Avenue 128
Report To:	Frans Lowman 201 S. College St, Ste 1700 Charlotte, NC 28244

Entire Report Reviewed By:

Heather J Wagner
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

TABLE OF CONTENTS

Cp: Cover Page 1

Tc: Table of Contents 2

Ss: Sample Summary 3

Cn: Case Narrative 4

Sr: Sample Results 5

- IW-1 L1251443-01 5
- TRIPBLANK L1251443-02 9

Qc: Quality Control Summary 11

- Wet Chemistry by Method 420.4 11
- Wet Chemistry by Method 4500CN E-2011 12
- Wet Chemistry by Method 7196A 13
- Mercury by Method 7470A 14
- Metals (ICP) by Method 6010C 15
- Volatile Organic Compounds (GC/MS) by Method 8260D 17
- Pesticides (GC) by Method 8081 21
- Polychlorinated Biphenyls (GC) by Method 8082 23
- Semi Volatile Organic Compounds (GC/MS) by Method 8270C 24

Gl: Glossary of Terms 29

Al: Accreditations & Locations 30

Sc: Sample Chain of Custody 31

IW-1 L1251443-01 GW

Collected by	Collected date/time	Received date/time
	08/17/20 11:44	08/18/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 420.4	WG1529989	1	08/23/20 20:02	08/24/20 17:31	JER	Mt. Juliet, TN
Wet Chemistry by Method 4500CN E-2011	WG1529987	1	08/21/20 09:17	08/22/20 14:39	SDL	Mt. Juliet, TN
Wet Chemistry by Method 7196A	WG1527821	1	08/18/20 11:21	08/18/20 11:21	KEG	Mt. Juliet, TN
Mercury by Method 7470A	WG1528181	1	08/18/20 19:58	08/19/20 09:29	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG1529064	1	08/21/20 00:22	08/21/20 09:45	TRB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1529321	1	08/20/20 19:21	08/20/20 19:21	ACG	Mt. Juliet, TN
Pesticides (GC) by Method 8081	WG1529095	1	08/20/20 07:10	08/20/20 13:55	KLM	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method 8082	WG1529095	1	08/20/20 07:10	08/25/20 12:05	MTJ	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG1528291	1	08/19/20 23:49	08/20/20 23:12	JNJ	Mt. Juliet, TN

TRIPBLANK L1251443-02 GW

Collected by	Collected date/time	Received date/time
	08/17/20 00:00	08/18/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1529321	1	08/20/20 13:10	08/20/20 13:10	ACG	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Heather J Wagner
Project Manager

Wet Chemistry by Method 420.4

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Total Phenol by 4AAP	ND		40.0	1	08/24/2020 17:31	WG1529989

Wet Chemistry by Method 4500CN E-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Cyanide	ND		5.00	1	08/22/2020 14:39	WG1529987

Wet Chemistry by Method 7196A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		10.0	1	08/18/2020 11:21	WG1527821

Mercury by Method 7470A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	08/19/2020 09:29	WG1528181

Metals (ICP) by Method 6010C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Antimony	ND		10.0	1	08/21/2020 09:45	WG1529064
Arsenic	ND		10.0	1	08/21/2020 09:45	WG1529064
Beryllium	ND		2.00	1	08/21/2020 09:45	WG1529064
Cadmium	ND		2.00	1	08/21/2020 09:45	WG1529064
Chromium	ND		10.0	1	08/21/2020 09:45	WG1529064
Copper	ND		10.0	1	08/21/2020 09:45	WG1529064
Lead	ND		6.00	1	08/21/2020 09:45	WG1529064
Nickel	ND		10.0	1	08/21/2020 09:45	WG1529064
Selenium	ND		10.0	1	08/21/2020 09:45	WG1529064
Silver	ND		5.00	1	08/21/2020 09:45	WG1529064
Thallium	ND		10.0	1	08/21/2020 09:45	WG1529064
Zinc	ND		50.0	1	08/21/2020 09:45	WG1529064

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	08/20/2020 19:21	WG1529321
Acrolein	ND	J0	50.0	1	08/20/2020 19:21	WG1529321
Acrylonitrile	ND		10.0	1	08/20/2020 19:21	WG1529321
Benzene	ND		1.00	1	08/20/2020 19:21	WG1529321
Bromobenzene	ND		1.00	1	08/20/2020 19:21	WG1529321
Bromodichloromethane	ND		1.00	1	08/20/2020 19:21	WG1529321
Bromoform	ND		1.00	1	08/20/2020 19:21	WG1529321
Bromomethane	ND		5.00	1	08/20/2020 19:21	WG1529321
n-Butylbenzene	ND		1.00	1	08/20/2020 19:21	WG1529321
sec-Butylbenzene	ND		1.00	1	08/20/2020 19:21	WG1529321
tert-Butylbenzene	ND		1.00	1	08/20/2020 19:21	WG1529321
Carbon tetrachloride	ND		1.00	1	08/20/2020 19:21	WG1529321
Chlorobenzene	ND		1.00	1	08/20/2020 19:21	WG1529321
Chlorodibromomethane	ND		1.00	1	08/20/2020 19:21	WG1529321
Chloroethane	ND	J0	5.00	1	08/20/2020 19:21	WG1529321
2-Chloroethyl vinyl ether	ND		50.0	1	08/20/2020 19:21	WG1529321
Chloroform	ND		5.00	1	08/20/2020 19:21	WG1529321

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloromethane	ND		2.50	1	08/20/2020 19:21	WG1529321
2-Chlorotoluene	ND		1.00	1	08/20/2020 19:21	WG1529321
4-Chlorotoluene	ND		1.00	1	08/20/2020 19:21	WG1529321
1,2-Dibromo-3-Chloropropane	ND		5.00	1	08/20/2020 19:21	WG1529321
1,2-Dibromoethane	ND		1.00	1	08/20/2020 19:21	WG1529321
Dibromomethane	ND		1.00	1	08/20/2020 19:21	WG1529321
1,2-Dichlorobenzene	ND		1.00	1	08/20/2020 19:21	WG1529321
1,3-Dichlorobenzene	ND		1.00	1	08/20/2020 19:21	WG1529321
1,4-Dichlorobenzene	ND		1.00	1	08/20/2020 19:21	WG1529321
Dichlorodifluoromethane	ND		5.00	1	08/20/2020 19:21	WG1529321
1,1-Dichloroethane	ND		1.00	1	08/20/2020 19:21	WG1529321
1,2-Dichloroethane	ND		1.00	1	08/20/2020 19:21	WG1529321
1,1-Dichloroethene	ND	J4	1.00	1	08/20/2020 19:21	WG1529321
cis-1,2-Dichloroethene	ND		1.00	1	08/20/2020 19:21	WG1529321
trans-1,2-Dichloroethene	ND		1.00	1	08/20/2020 19:21	WG1529321
1,2-Dichloropropane	ND		1.00	1	08/20/2020 19:21	WG1529321
1,1-Dichloropropene	ND		1.00	1	08/20/2020 19:21	WG1529321
1,3-Dichloropropane	ND		1.00	1	08/20/2020 19:21	WG1529321
cis-1,3-Dichloropropene	ND		1.00	1	08/20/2020 19:21	WG1529321
trans-1,3-Dichloropropene	ND		1.00	1	08/20/2020 19:21	WG1529321
2,2-Dichloropropane	ND		1.00	1	08/20/2020 19:21	WG1529321
Di-isopropyl ether	ND		1.00	1	08/20/2020 19:21	WG1529321
Ethylbenzene	ND		1.00	1	08/20/2020 19:21	WG1529321
Hexachloro-1,3-butadiene	ND	J4	1.00	1	08/20/2020 19:21	WG1529321
Isopropylbenzene	ND		1.00	1	08/20/2020 19:21	WG1529321
p-Isopropyltoluene	ND		1.00	1	08/20/2020 19:21	WG1529321
2-Butanone (MEK)	ND		10.0	1	08/20/2020 19:21	WG1529321
Methylene Chloride	ND		5.00	1	08/20/2020 19:21	WG1529321
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	08/20/2020 19:21	WG1529321
Methyl tert-butyl ether	ND		1.00	1	08/20/2020 19:21	WG1529321
Naphthalene	ND		5.00	1	08/20/2020 19:21	WG1529321
n-Propylbenzene	ND		1.00	1	08/20/2020 19:21	WG1529321
Styrene	ND		1.00	1	08/20/2020 19:21	WG1529321
1,1,1,2-Tetrachloroethane	ND		1.00	1	08/20/2020 19:21	WG1529321
1,1,2,2-Tetrachloroethane	ND		1.00	1	08/20/2020 19:21	WG1529321
1,1,2-Trichlorotrifluoroethane	ND	J4	1.00	1	08/20/2020 19:21	WG1529321
Tetrachloroethene	ND		1.00	1	08/20/2020 19:21	WG1529321
Toluene	ND		1.00	1	08/20/2020 19:21	WG1529321
1,2,3-Trichlorobenzene	ND		1.00	1	08/20/2020 19:21	WG1529321
1,2,4-Trichlorobenzene	ND		1.00	1	08/20/2020 19:21	WG1529321
1,1,1-Trichloroethane	ND		1.00	1	08/20/2020 19:21	WG1529321
1,1,2-Trichloroethane	ND		1.00	1	08/20/2020 19:21	WG1529321
Trichloroethene	ND		1.00	1	08/20/2020 19:21	WG1529321
Trichlorofluoromethane	ND		5.00	1	08/20/2020 19:21	WG1529321
1,2,3-Trichloropropane	ND		2.50	1	08/20/2020 19:21	WG1529321
1,2,4-Trimethylbenzene	ND		1.00	1	08/20/2020 19:21	WG1529321
1,2,3-Trimethylbenzene	ND		1.00	1	08/20/2020 19:21	WG1529321
1,3,5-Trimethylbenzene	ND		1.00	1	08/20/2020 19:21	WG1529321
Vinyl chloride	ND		1.00	1	08/20/2020 19:21	WG1529321
Xylenes, Total	ND		3.00	1	08/20/2020 19:21	WG1529321
(S) Toluene-d8	*103*		*80.0-120*		*08/20/2020 19:21*	WG1529321
(S) 4-Bromofluorobenzene	*101*		*77.0-126*		*08/20/2020 19:21*	WG1529321
(S) 1,2-Dichloroethane-d4	*99.4*		*70.0-130*		*08/20/2020 19:21*	WG1529321

Pesticides (GC) by Method 8081

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Aldrin	ND		0.0500	1	08/20/2020 13:55	WG1529095
Alpha BHC	ND		0.0500	1	08/20/2020 13:55	WG1529095
Beta BHC	ND		0.0500	1	08/20/2020 13:55	WG1529095
Delta BHC	ND		0.0500	1	08/20/2020 13:55	WG1529095
Gamma BHC	ND		0.0500	1	08/20/2020 13:55	WG1529095
Chlordane	ND		5.00	1	08/20/2020 13:55	WG1529095
4,4-DDD	ND		0.0500	1	08/20/2020 13:55	WG1529095
4,4-DDE	ND		0.0500	1	08/20/2020 13:55	WG1529095
4,4-DDT	ND		0.0500	1	08/20/2020 13:55	WG1529095
Dieldrin	ND		0.0500	1	08/20/2020 13:55	WG1529095
Endosulfan I	ND		0.0500	1	08/20/2020 13:55	WG1529095
Endosulfan II	ND		0.0500	1	08/20/2020 13:55	WG1529095
Endosulfan sulfate	ND		0.0500	1	08/20/2020 13:55	WG1529095
Endrin	ND		0.0500	1	08/20/2020 13:55	WG1529095
Endrin aldehyde	ND		0.0500	1	08/20/2020 13:55	WG1529095
Endrin ketone	ND		0.0500	1	08/20/2020 13:55	WG1529095
Heptachlor	ND		0.0500	1	08/20/2020 13:55	WG1529095
Heptachlor epoxide	ND		0.0500	1	08/20/2020 13:55	WG1529095
Hexachlorobenzene	ND		0.0500	1	08/20/2020 13:55	WG1529095
Methoxychlor	ND		0.0500	1	08/20/2020 13:55	WG1529095
Toxaphene	ND		0.500	1	08/20/2020 13:55	WG1529095
(S) Decachlorobiphenyl	*103*		*10.0-128*		*08/20/2020 13:55*	WG1529095
(S) Tetrachloro-m-xylene	*63.6*		*10.0-127*		*08/20/2020 13:55*	WG1529095

Polychlorinated Biphenyls (GC) by Method 8082

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
PCB 1016	ND		0.500	1	08/25/2020 12:05	WG1529095
PCB 1221	ND		0.500	1	08/25/2020 12:05	WG1529095
PCB 1232	ND		0.500	1	08/25/2020 12:05	WG1529095
PCB 1242	ND		0.500	1	08/25/2020 12:05	WG1529095
PCB 1248	ND		0.500	1	08/25/2020 12:05	WG1529095
PCB 1254	ND		0.500	1	08/25/2020 12:05	WG1529095
PCB 1260	ND		0.500	1	08/25/2020 12:05	WG1529095
(S) Decachlorobiphenyl	*91.1*		*10.0-128*		*08/25/2020 12:05*	WG1529095
(S) Tetrachloro-m-xylene	*58.4*		*10.0-127*		*08/25/2020 12:05*	WG1529095

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acenaphthene	ND		1.00	1	08/20/2020 23:12	WG1528291
Acenaphthylene	ND		1.00	1	08/20/2020 23:12	WG1528291
Anthracene	ND		1.00	1	08/20/2020 23:12	WG1528291
Benzidine	ND		10.0	1	08/20/2020 23:12	WG1528291
Benzo(a)anthracene	ND		1.00	1	08/20/2020 23:12	WG1528291
Benzo(b)fluoranthene	ND		1.00	1	08/20/2020 23:12	WG1528291
Benzo(k)fluoranthene	ND		1.00	1	08/20/2020 23:12	WG1528291
Benzo(g,h,i)perylene	ND		1.00	1	08/20/2020 23:12	WG1528291
Benzo(a)pyrene	ND		1.00	1	08/20/2020 23:12	WG1528291
Bis(2-chlorethoxy)methane	ND		10.0	1	08/20/2020 23:12	WG1528291
Bis(2-chloroethyl)ether	ND		10.0	1	08/20/2020 23:12	WG1528291
2,2-Oxybis(1-Chloropropane)	ND		10.0	1	08/20/2020 23:12	WG1528291
4-Bromophenyl-phenylether	ND		10.0	1	08/20/2020 23:12	WG1528291
2-Chloronaphthalene	ND		1.00	1	08/20/2020 23:12	WG1528291
4-Chlorophenyl-phenylether	ND		10.0	1	08/20/2020 23:12	WG1528291

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chrysene	ND		1.00	1	08/20/2020 23:12	WG1528291
Dibenz(a,h)anthracene	ND		1.00	1	08/20/2020 23:12	WG1528291
1,2-Dichlorobenzene	ND		10.0	1	08/20/2020 23:12	WG1528291
1,3-Dichlorobenzene	ND		10.0	1	08/20/2020 23:12	WG1528291
1,4-Dichlorobenzene	ND		10.0	1	08/20/2020 23:12	WG1528291
3,3-Dichlorobenzidine	ND		10.0	1	08/20/2020 23:12	WG1528291
2,4-Dinitrotoluene	ND		10.0	1	08/20/2020 23:12	WG1528291
2,6-Dinitrotoluene	ND		10.0	1	08/20/2020 23:12	WG1528291
Fluoranthene	ND		1.00	1	08/20/2020 23:12	WG1528291
Fluorene	ND		1.00	1	08/20/2020 23:12	WG1528291
Hexachlorobenzene	ND		1.00	1	08/20/2020 23:12	WG1528291
Hexachloro-1,3-butadiene	ND		10.0	1	08/20/2020 23:12	WG1528291
Hexachlorocyclopentadiene	ND		10.0	1	08/20/2020 23:12	WG1528291
Hexachloroethane	ND		10.0	1	08/20/2020 23:12	WG1528291
Indeno(1,2,3-cd)pyrene	ND		1.00	1	08/20/2020 23:12	WG1528291
Isophorone	ND		10.0	1	08/20/2020 23:12	WG1528291
Naphthalene	ND		1.00	1	08/20/2020 23:12	WG1528291
Nitrobenzene	ND		10.0	1	08/20/2020 23:12	WG1528291
n-Nitrosodimethylamine	ND		10.0	1	08/20/2020 23:12	WG1528291
n-Nitrosodiphenylamine	ND		10.0	1	08/20/2020 23:12	WG1528291
n-Nitrosodi-n-propylamine	ND		10.0	1	08/20/2020 23:12	WG1528291
Phenanthrene	ND		1.00	1	08/20/2020 23:12	WG1528291
Benzylbutyl phthalate	ND		3.00	1	08/20/2020 23:12	WG1528291
Bis(2-ethylhexyl)phthalate	ND		3.00	1	08/20/2020 23:12	WG1528291
Di-n-butyl phthalate	ND		3.00	1	08/20/2020 23:12	WG1528291
Diethyl phthalate	ND		3.00	1	08/20/2020 23:12	WG1528291
Dimethyl phthalate	ND		3.00	1	08/20/2020 23:12	WG1528291
Di-n-octyl phthalate	ND		3.00	1	08/20/2020 23:12	WG1528291
Pyrene	ND		1.00	1	08/20/2020 23:12	WG1528291
1,2,4-Trichlorobenzene	ND		10.0	1	08/20/2020 23:12	WG1528291
4-Chloro-3-methylphenol	ND		10.0	1	08/20/2020 23:12	WG1528291
2-Chlorophenol	ND		10.0	1	08/20/2020 23:12	WG1528291
2,4-Dichlorophenol	ND		10.0	1	08/20/2020 23:12	WG1528291
2,4-Dimethylphenol	ND		10.0	1	08/20/2020 23:12	WG1528291
4,6-Dinitro-2-methylphenol	ND		10.0	1	08/20/2020 23:12	WG1528291
2,4-Dinitrophenol	ND		10.0	1	08/20/2020 23:12	WG1528291
2-Nitrophenol	ND		10.0	1	08/20/2020 23:12	WG1528291
4-Nitrophenol	ND		10.0	1	08/20/2020 23:12	WG1528291
Pentachlorophenol	ND		10.0	1	08/20/2020 23:12	WG1528291
Phenol	ND		10.0	1	08/20/2020 23:12	WG1528291
2,4,6-Trichlorophenol	ND		10.0	1	08/20/2020 23:12	WG1528291
(S) 2-Fluorophenol	*34.7*		*10.0-120*		*08/20/2020 23:12*	WG1528291
(S) Phenol-d5	*20.9*		*10.0-120*		*08/20/2020 23:12*	WG1528291
(S) Nitrobenzene-d5	*48.6*		*10.0-127*		*08/20/2020 23:12*	WG1528291
(S) 2-Fluorobiphenyl	*69.8*		*10.0-130*		*08/20/2020 23:12*	WG1528291
(S) 2,4,6-Tribromophenol	*78.0*		*10.0-155*		*08/20/2020 23:12*	WG1528291
(S) p-Terphenyl-d14	*79.1*		*10.0-128*		*08/20/2020 23:12*	WG1528291

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	08/20/2020 13:10	WG1529321
Acrolein	ND	J0	50.0	1	08/20/2020 13:10	WG1529321
Acrylonitrile	ND		10.0	1	08/20/2020 13:10	WG1529321
Benzene	ND		1.00	1	08/20/2020 13:10	WG1529321
Bromobenzene	ND		1.00	1	08/20/2020 13:10	WG1529321
Bromodichloromethane	ND		1.00	1	08/20/2020 13:10	WG1529321
Bromoform	ND		1.00	1	08/20/2020 13:10	WG1529321
Bromomethane	ND		5.00	1	08/20/2020 13:10	WG1529321
n-Butylbenzene	ND		1.00	1	08/20/2020 13:10	WG1529321
sec-Butylbenzene	ND		1.00	1	08/20/2020 13:10	WG1529321
tert-Butylbenzene	ND		1.00	1	08/20/2020 13:10	WG1529321
Carbon tetrachloride	ND		1.00	1	08/20/2020 13:10	WG1529321
Chlorobenzene	ND		1.00	1	08/20/2020 13:10	WG1529321
Chlorodibromomethane	ND		1.00	1	08/20/2020 13:10	WG1529321
Chloroethane	ND		5.00	1	08/20/2020 13:10	WG1529321
2-Chloroethyl vinyl ether	ND		50.0	1	08/20/2020 13:10	WG1529321
Chloroform	ND		5.00	1	08/20/2020 13:10	WG1529321
Chloromethane	ND		2.50	1	08/20/2020 13:10	WG1529321
2-Chlorotoluene	ND		1.00	1	08/20/2020 13:10	WG1529321
4-Chlorotoluene	ND		1.00	1	08/20/2020 13:10	WG1529321
1,2-Dibromo-3-Chloropropane	ND		5.00	1	08/20/2020 13:10	WG1529321
1,2-Dibromoethane	ND		1.00	1	08/20/2020 13:10	WG1529321
Dibromomethane	ND		1.00	1	08/20/2020 13:10	WG1529321
1,2-Dichlorobenzene	ND		1.00	1	08/20/2020 13:10	WG1529321
1,3-Dichlorobenzene	ND		1.00	1	08/20/2020 13:10	WG1529321
1,4-Dichlorobenzene	ND		1.00	1	08/20/2020 13:10	WG1529321
Dichlorodifluoromethane	ND		5.00	1	08/20/2020 13:10	WG1529321
1,1-Dichloroethane	ND		1.00	1	08/20/2020 13:10	WG1529321
1,2-Dichloroethane	ND		1.00	1	08/20/2020 13:10	WG1529321
1,1-Dichloroethene	ND	J4	1.00	1	08/20/2020 13:10	WG1529321
cis-1,2-Dichloroethene	ND		1.00	1	08/20/2020 13:10	WG1529321
trans-1,2-Dichloroethene	ND		1.00	1	08/20/2020 13:10	WG1529321
1,2-Dichloropropane	ND		1.00	1	08/20/2020 13:10	WG1529321
1,1-Dichloropropene	ND		1.00	1	08/20/2020 13:10	WG1529321
1,3-Dichloropropane	ND		1.00	1	08/20/2020 13:10	WG1529321
cis-1,3-Dichloropropene	ND		1.00	1	08/20/2020 13:10	WG1529321
trans-1,3-Dichloropropene	ND		1.00	1	08/20/2020 13:10	WG1529321
2,2-Dichloropropane	ND		1.00	1	08/20/2020 13:10	WG1529321
Di-isopropyl ether	ND		1.00	1	08/20/2020 13:10	WG1529321
Ethylbenzene	ND		1.00	1	08/20/2020 13:10	WG1529321
Hexachloro-1,3-butadiene	ND	J4	1.00	1	08/20/2020 13:10	WG1529321
Isopropylbenzene	ND		1.00	1	08/20/2020 13:10	WG1529321
p-Isopropyltoluene	ND		1.00	1	08/20/2020 13:10	WG1529321
2-Butanone (MEK)	ND		10.0	1	08/20/2020 13:10	WG1529321
Methylene Chloride	ND		5.00	1	08/20/2020 13:10	WG1529321
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	08/20/2020 13:10	WG1529321
Methyl tert-butyl ether	ND		1.00	1	08/20/2020 13:10	WG1529321
Naphthalene	ND		5.00	1	08/20/2020 13:10	WG1529321
n-Propylbenzene	ND		1.00	1	08/20/2020 13:10	WG1529321
Styrene	ND		1.00	1	08/20/2020 13:10	WG1529321
1,1,1,2-Tetrachloroethane	ND		1.00	1	08/20/2020 13:10	WG1529321
1,1,2,2-Tetrachloroethane	ND		1.00	1	08/20/2020 13:10	WG1529321
1,1,2-Trichlorotrifluoroethane	ND	J4	1.00	1	08/20/2020 13:10	WG1529321
Tetrachloroethene	ND		1.00	1	08/20/2020 13:10	WG1529321
Toluene	ND		1.00	1	08/20/2020 13:10	WG1529321
1,2,3-Trichlorobenzene	ND		1.00	1	08/20/2020 13:10	WG1529321

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	ND		1.00	1	08/20/2020 13:10	WG1529321
1,1,1-Trichloroethane	ND		1.00	1	08/20/2020 13:10	WG1529321
1,1,2-Trichloroethane	ND		1.00	1	08/20/2020 13:10	WG1529321
Trichloroethene	ND		1.00	1	08/20/2020 13:10	WG1529321
Trichlorofluoromethane	ND		5.00	1	08/20/2020 13:10	WG1529321
1,2,3-Trichloropropane	ND		2.50	1	08/20/2020 13:10	WG1529321
1,2,4-Trimethylbenzene	ND		1.00	1	08/20/2020 13:10	WG1529321
1,2,3-Trimethylbenzene	ND		1.00	1	08/20/2020 13:10	WG1529321
1,3,5-Trimethylbenzene	ND		1.00	1	08/20/2020 13:10	WG1529321
Vinyl chloride	ND		1.00	1	08/20/2020 13:10	WG1529321
Xylenes, Total	ND		3.00	1	08/20/2020 13:10	WG1529321
(S) Toluene-d8	*102*		*80.0-120*		*08/20/2020 13:10*	WG1529321
(S) 4-Bromofluorobenzene	*99.2*		*77.0-126*		*08/20/2020 13:10*	WG1529321
(S) 1,2-Dichloroethane-d4	*97.9*		*70.0-130*		*08/20/2020 13:10*	WG1529321

Method Blank (MB)

(MB) R3563280-1 08/24/20 16:46

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Total Phenol by 4AAP	U		8.30	40.0

L1250078-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1250078-02 08/24/20 16:49 • (DUP) R3563280-3 08/24/20 16:49

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Phenol by 4AAP	ND	ND	1	0.000		20

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3563280-6 08/24/20 17:27

Analyte	Original Result	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Phenol by 4AAP		ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3563280-2 08/24/20 16:47

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Phenol by 4AAP	500	547	109	90.0-110	

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) • (MS) R3563280-4 08/24/20 16:52 • (MSD) R3563280-5 08/24/20 16:53

Analyte	Spike Amount ug/l	Original Result	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Total Phenol by 4AAP	1000		911	953	91.1	95.3	1	90.0-110			4.52	20

L1251443-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1251443-01 08/24/20 17:31 • (MS) R3563280-7 08/24/20 17:33

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Total Phenol by 4AAP	1000	ND	967	96.7	1	90.0-110	

Method Blank (MB)

(MB) R3562664-1 08/22/20 14:24

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Cyanide	U		1.80	5.00

L1249330-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1249330-02 08/22/20 14:29 • (DUP) R3562664-3 08/22/20 14:30

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Cyanide	ND	ND	1	0.000		20

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3562664-6 08/22/20 14:52

Analyte	Original Result	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Cyanide		ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3562664-2 08/22/20 14:25

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Cyanide	100	97.6	97.6	90.0-110	

L1251443-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1251443-01 08/22/20 14:39 • (MS) R3562664-4 08/22/20 14:40 • (MSD) R3562664-5 08/22/20 14:41

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Cyanide	100	ND	89.6	90.3	89.6	90.3	1	75.0-125			0.778	20

L1251697-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1251697-02 08/22/20 14:54 • (MS) R3562664-7 08/22/20 14:55 • (MSD) R3562664-8 08/22/20 14:56

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Cyanide	100	ND	82.1	74.1	82.1	74.1	1	75.0-125		J6	10.2	20

Method Blank (MB)

(MB) R3560990-1 08/18/20 11:20

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chromium,Hexavalent	U		3.00	10.0

L1251443-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1251443-01 08/18/20 11:21 • (DUP) R3560990-3 08/18/20 11:21

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chromium,Hexavalent	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3560990-2 08/18/20 11:21

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chromium,Hexavalent	500	514	103	80.0-120	

L1251443-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1251443-01 08/18/20 11:21 • (MS) R3560990-4 08/18/20 11:22 • (MSD) R3560990-5 08/18/20 11:22

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chromium,Hexavalent	500	ND	500	492	100	98.4	1	85.0-115			1.61	20

Method Blank (MB)

(MB) R3561387-1 08/19/20 09:07

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Mercury	U		0.100	0.200

Laboratory Control Sample (LCS)

(LCS) R3561387-2 08/19/20 09:09

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	3.00	2.70	90.1	80.0-120	

L1251657-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1251657-05 08/19/20 09:11 • (MS) R3561387-3 08/19/20 09:13 • (MSD) R3561387-4 08/19/20 09:15

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	3.00	ND	2.67	2.54	88.9	84.6	1	75.0-125			5.03	20

Method Blank (MB)

(MB) R3562417-1 08/21/20 09:40

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Antimony	U		4.30	10.0
Arsenic	U		4.40	10.0
Beryllium	U		0.460	2.00
Cadmium	U		0.563	2.00
Chromium	U		5.00	10.0
Copper	U		4.69	10.0
Lead	U		2.95	6.00
Nickel	U		2.98	10.0
Selenium	U		7.35	10.0
Silver	U		1.91	5.00
Thallium	U		4.31	10.0
Zinc	U		9.16	50.0

Laboratory Control Sample (LCS)

(LCS) R3562417-2 08/21/20 09:42

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Antimony	1000	982	98.2	80.0-120	
Arsenic	1000	943	94.3	80.0-120	
Beryllium	1000	954	95.4	80.0-120	
Cadmium	1000	967	96.7	80.0-120	
Chromium	1000	992	99.2	80.0-120	
Copper	1000	963	96.3	80.0-120	
Lead	1000	949	94.9	80.0-120	
Nickel	1000	971	97.1	80.0-120	
Selenium	1000	957	95.7	80.0-120	
Silver	200	174	87.2	80.0-120	
Thallium	1000	953	95.3	80.0-120	
Zinc	1000	950	95.0	80.0-120	

L1251443-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1251443-01 08/21/20 09:45 • (MS) R3562417-4 08/21/20 09:50 • (MSD) R3562417-5 08/21/20 09:52

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	1000	ND	1010	1020	101	102	1	75.0-125			0.499	20
Arsenic	1000	ND	975	981	97.5	98.1	1	75.0-125			0.539	20
Beryllium	1000	ND	966	963	96.6	96.3	1	75.0-125			0.319	20

L1251443-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1251443-01 08/21/20 09:45 • (MS) R3562417-4 08/21/20 09:50 • (MSD) R3562417-5 08/21/20 09:52

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Cadmium	1000	ND	989	994	98.9	99.4	1	75.0-125			0.475	20
Chromium	1000	ND	997	1000	99.7	100	1	75.0-125			0.402	20
Copper	1000	ND	975	981	97.5	98.1	1	75.0-125			0.641	20
Lead	1000	ND	960	968	96.0	96.8	1	75.0-125			0.790	20
Nickel	1000	ND	991	995	99.1	99.5	1	75.0-125			0.482	20
Selenium	1000	ND	991	991	99.1	99.1	1	75.0-125			0.00713	20
Silver	200	ND	177	177	88.3	88.4	1	75.0-125			0.0732	20
Thallium	1000	ND	959	964	95.9	96.4	1	75.0-125			0.586	20
Zinc	1000	ND	950	957	95.0	95.7	1	75.0-125			0.722	20

Method Blank (MB)

(MB) R3561978-3 08/20/20 11:16

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		11.3	50.0
Acrolein	U		2.54	50.0
Acrylonitrile	U		0.671	10.0
Benzene	U		0.0941	1.00
Bromobenzene	U		0.118	1.00
Bromodichloromethane	U		0.136	1.00
Bromoform	U		0.129	1.00
Bromomethane	U		0.605	5.00
n-Butylbenzene	U		0.157	1.00
sec-Butylbenzene	U		0.125	1.00
tert-Butylbenzene	U		0.127	1.00
Carbon tetrachloride	U		0.128	1.00
Chlorobenzene	U		0.116	1.00
Chlorodibromomethane	U		0.140	1.00
Chloroethane	U		0.192	5.00
2-Chloroethyl vinyl ether	U		0.575	50.0
Chloroform	U		0.111	5.00
Chloromethane	U		0.960	2.50
2-Chlorotoluene	U		0.106	1.00
4-Chlorotoluene	U		0.114	1.00
1,2-Dibromo-3-Chloropropane	U		0.276	5.00
1,2-Dibromoethane	U		0.126	1.00
Dibromomethane	U		0.122	1.00
1,2-Dichlorobenzene	U		0.107	1.00
1,3-Dichlorobenzene	U		0.110	1.00
1,4-Dichlorobenzene	U		0.120	1.00
Dichlorodifluoromethane	U		0.374	5.00
1,1-Dichloroethane	U		0.100	1.00
1,2-Dichloroethane	U		0.0819	1.00
1,1-Dichloroethene	U		0.188	1.00
cis-1,2-Dichloroethene	U		0.126	1.00
trans-1,2-Dichloroethene	U		0.149	1.00
1,2-Dichloropropane	U		0.149	1.00
1,1-Dichloropropene	U		0.142	1.00
1,3-Dichloropropane	U		0.110	1.00
cis-1,3-Dichloropropene	U		0.111	1.00
trans-1,3-Dichloropropene	U		0.118	1.00
2,2-Dichloropropane	U		0.161	1.00
Di-isopropyl ether	U		0.105	1.00
Ethylbenzene	U		0.137	1.00

Method Blank (MB)

(MB) R3561978-3 08/20/20 11:16

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Hexachloro-1,3-butadiene	U		0.337	1.00
Isopropylbenzene	U		0.105	1.00
p-Isopropyltoluene	U		0.120	1.00
2-Butanone (MEK)	U		1.19	10.0
Methylene Chloride	U		0.430	5.00
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0
Methyl tert-butyl ether	U		0.101	1.00
Naphthalene	U		1.00	5.00
n-Propylbenzene	U		0.0993	1.00
Styrene	U		0.118	1.00
1,1,1,2-Tetrachloroethane	U		0.147	1.00
1,1,2,2-Tetrachloroethane	U		0.133	1.00
Tetrachloroethene	U		0.300	1.00
Toluene	U		0.278	1.00
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00
1,2,3-Trichlorobenzene	U		0.230	1.00
1,2,4-Trichlorobenzene	U		0.481	1.00
1,1,1-Trichloroethane	U		0.149	1.00
1,1,2-Trichloroethane	U		0.158	1.00
Trichloroethene	U		0.190	1.00
Trichlorofluoromethane	U		0.160	5.00
1,2,3-Trichloropropane	U		0.237	2.50
1,2,3-Trimethylbenzene	U		0.104	1.00
1,2,4-Trimethylbenzene	U		0.322	1.00
1,3,5-Trimethylbenzene	U		0.104	1.00
Vinyl chloride	U		0.234	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	*104*			*80.0-120*
(S) 4-Bromofluorobenzene	*99.0*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*97.9*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3561978-1 08/20/20 10:15 • (LCSD) R3561978-2 08/20/20 10:35

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	25.0	36.7	31.4	147	126	19.0-160			15.6	27
Acrolein	25.0	5.49	5.96	22.0	23.8	10.0-160			8.21	26
Acrylonitrile	25.0	30.6	30.0	122	120	55.0-149			1.98	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3561978-1 08/20/20 10:15 • (LCSD) R3561978-2 08/20/20 10:35

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	5.00	4.89	5.23	97.8	105	70.0-123			6.72	20
Bromobenzene	5.00	4.02	4.12	80.4	82.4	73.0-121			2.46	20
Bromodichloromethane	5.00	4.61	4.91	92.2	98.2	75.0-120			6.30	20
Bromoform	5.00	5.78	5.96	116	119	68.0-132			3.07	20
Bromomethane	5.00	4.06	4.28	81.2	85.6	10.0-160			5.28	25
n-Butylbenzene	5.00	4.42	4.35	88.4	87.0	73.0-125			1.60	20
sec-Butylbenzene	5.00	4.45	4.64	89.0	92.8	75.0-125			4.18	20
tert-Butylbenzene	5.00	4.61	4.70	92.2	94.0	76.0-124			1.93	20
Carbon tetrachloride	5.00	5.60	5.95	112	119	68.0-126			6.06	20
Chlorobenzene	5.00	5.23	5.39	105	108	80.0-121			3.01	20
Chlorodibromomethane	5.00	4.98	5.24	99.6	105	77.0-125			5.09	20
Chloroethane	5.00	3.94	4.40	78.8	88.0	47.0-150			11.0	20
2-Chloroethyl vinyl ether	25.0	23.4	24.2	93.6	96.8	51.0-160			3.36	20
Chloroform	5.00	5.32	5.50	106	110	73.0-120			3.33	20
Chloromethane	5.00	4.22	4.82	84.4	96.4	41.0-142			13.3	20
2-Chlorotoluene	5.00	4.48	4.52	89.6	90.4	76.0-123			0.889	20
4-Chlorotoluene	5.00	4.25	4.25	85.0	85.0	75.0-122			0.000	20
1,2-Dibromo-3-Chloropropane	5.00	4.75	4.41	95.0	88.2	58.0-134			7.42	20
1,2-Dibromoethane	5.00	5.56	5.59	111	112	80.0-122			0.538	20
Dibromomethane	5.00	5.33	5.66	107	113	80.0-120			6.01	20
1,2-Dichlorobenzene	5.00	4.85	4.84	97.0	96.8	79.0-121			0.206	20
1,3-Dichlorobenzene	5.00	4.87	5.00	97.4	100	79.0-120			2.63	20
1,4-Dichlorobenzene	5.00	4.68	4.79	93.6	95.8	79.0-120			2.32	20
Dichlorodifluoromethane	5.00	5.97	7.03	119	141	51.0-149			16.3	20
1,1-Dichloroethane	5.00	4.81	5.02	96.2	100	70.0-126			4.27	20
1,2-Dichloroethane	5.00	4.60	4.87	92.0	97.4	70.0-128			5.70	20
1,1-Dichloroethene	5.00	5.82	6.28	116	126	71.0-124		J4	7.60	20
cis-1,2-Dichloroethene	5.00	5.07	5.28	101	106	73.0-120			4.06	20
trans-1,2-Dichloroethene	5.00	5.24	5.90	105	118	73.0-120			11.8	20
1,2-Dichloropropane	5.00	5.05	5.28	101	106	77.0-125			4.45	20
1,1-Dichloropropene	5.00	4.79	5.20	95.8	104	74.0-126			8.21	20
1,3-Dichloropropane	5.00	5.08	5.21	102	104	80.0-120			2.53	20
cis-1,3-Dichloropropene	5.00	4.50	4.77	90.0	95.4	80.0-123			5.83	20
trans-1,3-Dichloropropene	5.00	4.23	4.48	84.6	89.6	78.0-124			5.74	20
2,2-Dichloropropane	5.00	4.98	5.44	99.6	109	58.0-130			8.83	20
Di-isopropyl ether	5.00	4.31	4.59	86.2	91.8	58.0-138			6.29	20
Ethylbenzene	5.00	5.14	5.15	103	103	79.0-123			0.194	20
Hexachloro-1,3-butadiene	5.00	6.58	7.71	132	154	54.0-138		J4	15.8	20
Isopropylbenzene	5.00	5.03	5.29	101	106	76.0-127			5.04	20
p-Isopropyltoluene	5.00	4.49	4.47	89.8	89.4	76.0-125			0.446	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3561978-1 08/20/20 10:15 • (LCSD) R3561978-2 08/20/20 10:35

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2-Butanone (MEK)	25.0	26.6	26.0	106	104	44.0-160			2.28	20
Methylene Chloride	5.00	5.36	5.60	107	112	67.0-120			4.38	20
4-Methyl-2-pentanone (MIBK)	25.0	23.9	24.0	95.6	96.0	68.0-142			0.418	20
Methyl tert-butyl ether	5.00	5.18	5.44	104	109	68.0-125			4.90	20
Naphthalene	5.00	4.73	4.87	94.6	97.4	54.0-135			2.92	20
n-Propylbenzene	5.00	4.37	4.45	87.4	89.0	77.0-124			1.81	20
Styrene	5.00	4.81	4.68	96.2	93.6	73.0-130			2.74	20
1,1,1,2-Tetrachloroethane	5.00	5.53	5.75	111	115	75.0-125			3.90	20
1,1,2,2-Tetrachloroethane	5.00	4.63	4.52	92.6	90.4	65.0-130			2.40	20
Tetrachloroethene	5.00	6.01	6.23	120	125	72.0-132			3.59	20
Toluene	5.00	4.80	5.05	96.0	101	79.0-120			5.08	20
1,1,2-Trichlorotrifluoroethane	5.00	6.08	6.75	122	135	69.0-132		J4	10.4	20
1,2,3-Trichlorobenzene	5.00	6.13	6.74	123	135	50.0-138			9.48	20
1,2,4-Trichlorobenzene	5.00	6.11	6.19	122	124	57.0-137			1.30	20
1,1,1-Trichloroethane	5.00	4.99	5.52	99.8	110	73.0-124			10.1	20
1,1,2-Trichloroethane	5.00	5.46	5.71	109	114	80.0-120			4.48	20
Trichloroethene	5.00	5.43	5.81	109	116	78.0-124			6.76	20
Trichlorofluoromethane	5.00	4.22	4.64	84.4	92.8	59.0-147			9.48	20
1,2,3-Trichloropropane	5.00	4.66	4.71	93.2	94.2	73.0-130			1.07	20
1,2,3-Trimethylbenzene	5.00	4.26	4.44	85.2	88.8	77.0-120			4.14	20
1,2,4-Trimethylbenzene	5.00	4.31	4.41	86.2	88.2	76.0-121			2.29	20
1,3,5-Trimethylbenzene	5.00	4.59	4.64	91.8	92.8	76.0-122			1.08	20
Vinyl chloride	5.00	4.54	5.11	90.8	102	67.0-131			11.8	20
Xylenes, Total	15.0	15.4	15.6	103	104	79.0-123			1.29	20
(S) Toluene-d8				*103*	*103*	*80.0-120*				
(S) 4-Bromofluorobenzene				*103*	*102*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*97.4*	*96.0*	*70.0-130*				

Method Blank (MB)

(MB) R3562208-1 08/20/20 13:06

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Aldrin	U		0.0198	0.0500
Alpha BHC	U		0.0172	0.0500
Beta BHC	U		0.0208	0.0500
Delta BHC	U		0.0150	0.0500
Gamma BHC	U		0.0209	0.0500
4,4-DDD	U		0.0177	0.0500
4,4-DDE	U		0.0154	0.0500
4,4-DDT	U		0.0198	0.0500
Dieldrin	U		0.0162	0.0500
Endosulfan I	U		0.0160	0.0500
Endosulfan II	U		0.0164	0.0500
Endosulfan sulfate	U		0.0217	0.0500
Endrin	U		0.0161	0.0500
Endrin aldehyde	U		0.0237	0.0500
Endrin ketone	U		0.0219	0.0500
Heptachlor	U		0.0148	0.0500
Heptachlor epoxide	U		0.0183	0.0500
Hexachlorobenzene	U		0.0176	0.0500
Methoxychlor	U		0.0193	0.0500
Chlordane	U		0.0198	5.00
Toxaphene	U		0.168	0.500
(S) Decachlorobiphenyl	*80.4*			*10.0-128*
(S) Tetrachloro-m-xylene	*74.8*			*10.0-127*

Laboratory Control Sample (LCS)

(LCS) R3562208-2 08/20/20 13:18

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Aldrin	1.00	0.699	69.9	22.0-124	
Alpha BHC	1.00	0.933	93.3	54.0-130	
Beta BHC	1.00	0.938	93.8	53.0-136	
Delta BHC	1.00	0.963	96.3	54.0-133	
Gamma BHC	1.00	0.947	94.7	55.0-129	
4,4-DDD	1.00	1.02	102	56.0-140	
4,4-DDE	1.00	0.886	88.6	52.0-128	
4,4-DDT	1.00	0.865	86.5	50.0-141	
Dieldrin	1.00	0.929	92.9	59.0-133	
Endosulfan I	1.00	0.941	94.1	57.0-131	

Laboratory Control Sample (LCS)

(LCS) R3562208-2 08/20/20 13:18

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Endosulfan II	1.00	0.942	94.2	58.0-133	
Endosulfan sulfate	1.00	0.938	93.8	58.0-133	
Endrin	1.00	0.938	93.8	57.0-134	
Endrin aldehyde	1.00	0.884	88.4	53.0-129	
Endrin ketone	1.00	0.981	98.1	60.0-145	
Heptachlor	1.00	0.747	74.7	27.0-132	
Heptachlor epoxide	1.00	0.938	93.8	57.0-130	
Hexachlorobenzene	1.00	0.815	81.5	30.0-114	
Methoxychlor	1.00	0.986	98.6	54.0-155	
(S) Decachlorobiphenyl			*108*	*10.0-128*	
(S) Tetrachloro-m-xylene			*60.9*	*10.0-127*	

L1252168-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1252168-01 08/20/20 14:20 • (MS) R3562208-3 08/20/20 14:33 • (MSD) R3562208-4 08/20/20 14:45

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aldrin	0.910	ND	0.585	0.727	64.3	72.7	1	10.0-141			21.6	40
Alpha BHC	0.910	ND	0.821	0.948	90.2	94.8	1	10.0-145			14.4	40
Beta BHC	0.910	ND	0.827	0.959	90.9	95.9	1	14.0-146			14.8	35
Delta BHC	0.910	ND	0.848	0.959	93.2	95.9	1	17.0-143			12.3	38
Gamma BHC	0.910	ND	0.835	0.954	91.8	95.4	1	14.0-141			13.3	40
4,4-DDD	0.910	ND	0.920	1.05	101	105	1	10.0-160			13.2	38
4,4-DDE	0.910	ND	0.780	0.911	85.7	91.1	1	10.0-159			15.5	35
4,4-DDT	0.910	ND	0.806	0.903	88.6	90.3	1	10.0-160			11.4	38
Dieldrin	0.910	ND	0.817	0.963	89.8	96.3	1	10.0-158			16.4	38
Endosulfan I	0.910	ND	0.815	0.953	89.6	95.3	1	10.0-153			15.6	36
Endosulfan II	0.910	ND	0.827	0.931	90.9	93.1	1	10.0-159			11.8	39
Endosulfan sulfate	0.910	ND	0.856	0.938	94.1	93.8	1	23.0-147			9.14	35
Endrin	0.910	ND	0.875	1.01	96.2	101	1	10.0-160			14.3	39
Endrin aldehyde	0.910	ND	0.771	0.903	84.7	90.3	1	10.0-148			15.8	38
Endrin ketone	0.910	ND	0.865	0.975	95.1	97.5	1	10.0-160			12.0	40
Heptachlor	0.910	ND	0.658	0.793	72.3	79.3	1	16.0-136			18.6	40
Heptachlor epoxide	0.910	ND	0.823	0.945	90.4	94.5	1	10.0-160			13.8	36
Hexachlorobenzene	0.910	ND	0.714	0.872	78.5	87.2	1	10.0-130			19.9	40
Methoxychlor	0.910	ND	0.930	1.01	102	101	1	10.0-160			8.25	34
(S) Decachlorobiphenyl					*90.0*	*94.3*		*10.0-128*				
(S) Tetrachloro-m-xylene					*64.9*	*73.3*		*10.0-127*				

Method Blank (MB)

(MB) R3561994-1 08/20/20 12:33

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
PCB 1260	U		0.173	0.500
PCB 1016	U		0.270	0.500
PCB 1221	U		0.270	0.500
PCB 1232	U		0.270	0.500
PCB 1242	U		0.270	0.500
PCB 1248	U		0.173	0.500
PCB 1254	U		0.173	0.500
(S) Decachlorobiphenyl	*65.1*			*10.0-128*
(S) Tetrachloro-m-xylene	*76.4*			*10.0-127*

Laboratory Control Sample (LCS)

(LCS) R3561994-2 08/20/20 12:46

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
PCB 1260	2.50	2.24	89.6	42.0-131	
PCB 1016	2.50	2.26	90.4	36.0-135	
(S) Decachlorobiphenyl			*82.9*	*10.0-128*	
(S) Tetrachloro-m-xylene			*73.6*	*10.0-127*	

L1252168-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1252168-01 08/20/20 20:58 • (MS) R3561994-3 08/20/20 21:10 • (MSD) R3561994-4 08/20/20 21:23

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
PCB 1260	2.50	ND	2.07	2.11	82.8	84.4	1	20.0-142			1.91	27
PCB 1016	2.50	ND	2.26	2.21	90.4	88.4	1	11.0-160			2.24	38
(S) Decachlorobiphenyl					*75.5*	*80.7*		*10.0-128*				
(S) Tetrachloro-m-xylene					*79.9*	*79.7*		*10.0-127*				

Method Blank (MB)

(MB) R3562103-2 08/20/20 09:22

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acenaphthene	U		0.0886	1.00
Acenaphthylene	U		0.0921	1.00
Anthracene	U		0.0804	1.00
Benzidine	U		3.74	10.0
Benzo(a)anthracene	U		0.199	1.00
Benzo(b)fluoranthene	U		0.130	1.00
Benzo(k)fluoranthene	U		0.120	1.00
Benzo(g,h,i)perylene	U		0.121	1.00
Benzo(a)pyrene	U		0.0381	1.00
Bis(2-chlorethoxy)methane	U		0.116	10.0
Bis(2-chloroethyl)ether	U		0.137	10.0
2,2-oxybis(1-chloropropane)	U		0.210	10.0
4-Bromophenyl-phenylether	U		0.0877	10.0
2-Chloronaphthalene	U		0.0648	1.00
4-Chlorophenyl-phenylether	U		0.0926	10.0
Chrysene	U		0.130	1.00
Dibenz(a,h)anthracene	U		0.0644	1.00
1,2-Dichlorobenzene	U		0.0713	10.0
1,3-Dichlorobenzene	U		0.132	10.0
1,4-Dichlorobenzene	U		0.0942	10.0
3,3-Dichlorobenzidine	U		0.212	10.0
2,4-Dinitrotoluene	U		0.0983	10.0
2,6-Dinitrotoluene	U		0.250	10.0
Fluoranthene	U		0.102	1.00
Fluorene	U		0.0844	1.00
Hexachlorobenzene	U		0.0755	1.00
Hexachloro-1,3-butadiene	U		0.0968	10.0
Hexachlorocyclopentadiene	U		0.0598	10.0
Hexachloroethane	U		0.127	10.0
Indeno(1,2,3-cd)pyrene	U		0.279	1.00
Isophorone	U		0.143	10.0
Naphthalene	U		0.159	1.00
Nitrobenzene	U		0.297	10.0
n-Nitrosodimethylamine	U		0.998	10.0
n-Nitrosodiphenylamine	U		2.37	10.0
n-Nitrosodi-n-propylamine	U		0.261	10.0
Phenanthrene	U		0.112	1.00
Benzylbutyl phthalate	U		0.765	3.00
Bis(2-ethylhexyl)phthalate	U		0.895	3.00
Di-n-butyl phthalate	U		0.453	3.00

Method Blank (MB)

(MB) R3562103-2 08/20/20 09:22

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diethyl phthalate	U		0.287	3.00
Dimethyl phthalate	U		0.260	3.00
Di-n-octyl phthalate	U		0.932	3.00
Pyrene	U		0.107	1.00
1,2,4-Trichlorobenzene	U		0.0698	10.0
4-Chloro-3-methylphenol	U		0.131	10.0
2-Chlorophenol	U		0.133	10.0
2-Nitrophenol	U		0.117	10.0
4-Nitrophenol	U		0.143	10.0
Pentachlorophenol	U		0.313	10.0
Phenol	U		4.33	10.0
2,4,6-Trichlorophenol	U		0.100	10.0
2,4-Dichlorophenol	U		0.102	10.0
2,4-Dimethylphenol	U		0.0636	10.0
4,6-Dinitro-2-methylphenol	U		1.12	10.0
2,4-Dinitrophenol	U		5.93	10.0
(S) Nitrobenzene-d5	*71.8*			*10.0-127*
(S) 2-Fluorobiphenyl	*65.7*			*10.0-130*
(S) p-Terphenyl-d14	*74.3*			*10.0-128*
(S) Phenol-d5	*25.1*			*10.0-120*
(S) 2-Fluorophenol	*49.2*			*10.0-120*
(S) 2,4,6-Tribromophenol	*55.5*			*10.0-155*

Laboratory Control Sample (LCS)

(LCS) R3562103-1 08/20/20 09:01

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	50.0	29.5	59.0	41.0-120	
Acenaphthylene	50.0	31.7	63.4	43.0-120	
Anthracene	50.0	31.2	62.4	45.0-120	
Benzidine	100	43.3	43.3	10.0-120	
Benzo(a)anthracene	50.0	38.1	76.2	47.0-120	
Benzo(b)fluoranthene	50.0	35.3	70.6	46.0-120	
Benzo(k)fluoranthene	50.0	35.9	71.8	46.0-120	
Benzo(g,h,i)perylene	50.0	38.4	76.8	48.0-121	
Benzo(a)pyrene	50.0	38.4	76.8	47.0-120	
Bis(2-chlorethoxy)methane	50.0	31.5	63.0	33.0-120	
Bis(2-chloroethyl)ether	50.0	43.1	86.2	23.0-120	

Laboratory Control Sample (LCS)

(LCS) R3562103-1 08/20/20 09:01

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
2,2-oxybis(1-chloropropane)	50.0	35.9	71.8	28.0-120	
4-Bromophenyl-phenylether	50.0	32.2	64.4	45.0-120	
2-Chloronaphthalene	50.0	32.0	64.0	37.0-120	
4-Chlorophenyl-phenylether	50.0	32.4	64.8	44.0-120	
Chrysene	50.0	35.1	70.2	48.0-120	
Dibenz(a,h)anthracene	50.0	38.8	77.6	47.0-120	
3,3-Dichlorobenzidine	100	75.8	75.8	44.0-120	
2,4-Dinitrotoluene	50.0	35.4	70.8	49.0-124	
2,6-Dinitrotoluene	50.0	33.1	66.2	46.0-120	
Fluoranthene	50.0	33.5	67.0	51.0-120	
Fluorene	50.0	32.0	64.0	47.0-120	
Hexachlorobenzene	50.0	32.3	64.6	44.0-120	
Hexachloro-1,3-butadiene	50.0	29.1	58.2	19.0-120	
Hexachlorocyclopentadiene	50.0	25.1	50.2	15.0-120	
Hexachloroethane	50.0	29.6	59.2	15.0-120	
Indeno(1,2,3-cd)pyrene	50.0	38.1	76.2	49.0-122	
Isophorone	50.0	27.7	55.4	36.0-120	
Naphthalene	50.0	27.6	55.2	27.0-120	
Nitrobenzene	50.0	33.0	66.0	27.0-120	
n-Nitrosodimethylamine	50.0	20.1	40.2	10.0-120	
n-Nitrosodiphenylamine	50.0	32.4	64.8	47.0-120	
n-Nitrosodi-n-propylamine	50.0	34.8	69.6	31.0-120	
Phenanthrene	50.0	30.8	61.6	46.0-120	
Benzylbutyl phthalate	50.0	37.8	75.6	43.0-121	
Bis(2-ethylhexyl)phthalate	50.0	37.5	75.0	43.0-122	
Di-n-butyl phthalate	50.0	34.3	68.6	49.0-121	
Diethyl phthalate	50.0	31.8	63.6	48.0-122	
Dimethyl phthalate	50.0	33.5	67.0	48.0-120	
Di-n-octyl phthalate	50.0	38.1	76.2	42.0-125	
Pyrene	50.0	35.2	70.4	47.0-120	
1,2,4-Trichlorobenzene	50.0	26.5	53.0	24.0-120	
4-Chloro-3-methylphenol	50.0	25.5	51.0	40.0-120	
2-Chlorophenol	50.0	29.6	59.2	25.0-120	
2,4-Dichlorophenol	50.0	29.6	59.2	36.0-120	
2,4-Dimethylphenol	50.0	28.9	57.8	33.0-120	
4,6-Dinitro-2-methylphenol	50.0	35.5	71.0	38.0-138	
2,4-Dinitrophenol	50.0	35.1	70.2	10.0-120	
2-Nitrophenol	50.0	33.9	67.8	31.0-120	
4-Nitrophenol	50.0	12.0	24.0	10.0-120	
Pentachlorophenol	50.0	27.5	55.0	23.0-120	

Laboratory Control Sample (LCS)

(LCS) R3562103-1 08/20/20 09:01

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Phenol	50.0	12.8	25.6	10.0-120	
2,4,6-Trichlorophenol	50.0	33.7	67.4	42.0-120	
1,2-Dichlorobenzene	50.0	30.2	60.4	20.0-120	
1,3-Dichlorobenzene	50.0	28.2	56.4	17.0-120	
1,4-Dichlorobenzene	50.0	28.6	57.2	18.0-120	
(S) Nitrobenzene-d5			*62.2*	*10.0-127*	
(S) 2-Fluorobiphenyl			*62.9*	*10.0-130*	
(S) p-Terphenyl-d14			*69.8*	*10.0-128*	
(S) Phenol-d5			*25.2*	*10.0-120*	
(S) 2-Fluorophenol			*37.8*	*10.0-120*	
(S) 2,4,6-Tribromophenol			*64.5*	*10.0-155*	

L1250724-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1250724-06 08/21/20 15:44 • (MS) R3562496-1 08/21/20 15:01 • (MSD) R3562496-2 08/21/20 15:23

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	50.0	1.02	18.2	26.3	34.4	49.6	1	28.0-120		J3	36.4	25
Acenaphthylene	50.0	ND	19.1	27.8	38.2	54.5	1	31.0-121		J3	37.1	25
Anthracene	50.0	ND	19.7	28.3	39.4	55.5	1	36.0-120		J3	35.8	23
Benzidine	100	ND	ND	ND	0.000	0.000	1	10.0-120	J6	J6	0.000	37
Benzo(a)anthracene	50.0	ND	25.1	35.3	50.2	69.2	1	39.0-120		J3	33.8	23
Benzo(b)fluoranthene	50.0	ND	23.7	32.5	47.4	63.7	1	37.0-120		J3	31.3	23
Benzo(k)fluoranthene	50.0	ND	22.9	33.3	45.8	65.3	1	37.0-120		J3	37.0	26
Benzo(g,h,i)perylene	50.0	ND	24.7	34.2	49.4	67.1	1	37.0-123		J3	32.3	25
Benzo(a)pyrene	50.0	ND	25.9	36.1	51.8	70.8	1	37.0-120		J3	32.9	24
Bis(2-chlorethoxy)methane	50.0	ND	19.9	27.7	39.8	54.3	1	17.0-120		J3	32.8	31
Bis(2-chloroethyl)ether	50.0	ND	21.5	33.5	43.0	65.7	1	14.0-120		J3	43.6	33
2,2-oxybis(1-chloropropane)	50.0	ND	19.6	29.9	39.2	58.6	1	18.0-120		J3	41.6	34
4-Bromophenyl-phenylether	50.0	ND	20.6	29.5	41.2	57.8	1	37.0-120		J3	35.5	24
2-Chloronaphthalene	50.0	ND	19.9	28.8	39.8	56.5	1	29.0-120		J3	36.6	28
4-Chlorophenyl-phenylether	50.0	ND	20.2	29.2	40.4	57.3	1	36.0-120		J3	36.4	23
Chrysene	50.0	ND	23.7	32.3	47.4	63.3	1	38.0-120		J3	30.7	23
Dibenz(a,h)anthracene	50.0	ND	24.7	36.7	49.4	72.0	1	36.0-121		J3	39.1	24
3,3-Dichlorobenzidine	100	ND	ND	ND	1.71	0.000	1	10.0-134	J6	J3 J6	200	30
2,4-Dinitrotoluene	50.0	ND	22.3	32.3	44.6	63.3	1	39.0-125		J3	36.6	25
2,6-Dinitrotoluene	50.0	ND	22.1	30.5	44.2	59.8	1	36.0-120		J3	31.9	27
Fluoranthene	50.0	ND	20.6	29.3	41.2	57.5	1	41.0-121		J3	34.9	22
Fluorene	50.0	ND	20.0	28.0	40.0	54.9	1	37.0-120		J3	33.3	24

L1250724-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1250724-06 08/21/20 15:44 • (MS) R3562496-1 08/21/20 15:01 • (MSD) R3562496-2 08/21/20 15:23

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexachlorobenzene	50.0	ND	20.5	29.9	41.0	58.6	1	35.0-122		J3	37.3	24
Hexachloro-1,3-butadiene	50.0	ND	18.5	26.2	37.0	51.4	1	12.0-120		J3	34.5	34
Hexachlorocyclopentadiene	50.0	ND	18.0	27.2	36.0	53.3	1	10.0-120		J3	40.7	33
Hexachloroethane	50.0	ND	18.0	27.1	36.0	53.1	1	10.0-120		J3	40.4	40
Indeno(1,2,3-cd)pyrene	50.0	ND	25.3	35.6	50.6	69.8	1	38.0-125		J3	33.8	24
Isophorone	50.0	ND	18.8	26.0	37.6	51.0	1	21.0-120		J3	32.1	27
Naphthalene	50.0	ND	16.7	23.7	33.4	46.5	1	10.0-120		J3	34.7	31
Nitrobenzene	50.0	ND	19.2	27.7	38.4	54.3	1	12.0-120		J3	36.2	30
n-Nitrosodimethylamine	50.0	ND	14.4	18.1	28.8	35.5	1	10.0-120			22.8	40
n-Nitrosodiphenylamine	50.0	ND	19.2	27.9	38.4	54.7	1	37.0-120		J3	36.9	24
n-Nitrosodi-n-propylamine	50.0	ND	22.7	32.2	45.4	63.1	1	16.0-120		J3	34.6	30
Phenanthrene	50.0	ND	19.0	27.3	38.0	53.5	1	33.0-120		J3	35.9	22
Benzylbutyl phthalate	50.0	ND	26.6	36.7	53.2	72.0	1	34.0-126		J3	31.9	24
Bis(2-ethylhexyl)phthalate	50.0	ND	26.5	37.2	53.0	72.9	1	33.0-126		J3	33.6	25
Di-n-butyl phthalate	50.0	ND	21.4	30.9	42.8	60.6	1	35.0-128		J3	36.3	23
Diethyl phthalate	50.0	ND	20.3	30.0	40.6	58.8	1	39.0-125		J3	38.6	24
Dimethyl phthalate	50.0	ND	20.5	29.7	41.0	58.2	1	37.0-120		J3	36.7	24
Di-n-octyl phthalate	50.0	ND	27.5	38.7	55.0	75.9	1	25.0-135		J3	33.8	26
Pyrene	50.0	ND	23.3	32.9	46.6	64.5	1	39.0-120		J3	34.2	22
1,2,4-Trichlorobenzene	50.0	ND	16.3	23.4	32.6	45.9	1	15.0-120		J3	35.8	31
4-Chloro-3-methylphenol	50.0	ND	19.1	24.0	38.2	47.1	1	26.0-120			22.7	27
2-Chlorophenol	50.0	ND	17.4	24.5	34.8	48.0	1	18.0-120			33.9	34
2,4-Dichlorophenol	50.0	ND	19.9	27.0	39.8	52.9	1	19.0-120		J3	30.3	27
2,4-Dimethylphenol	50.0	ND	20.7	26.6	41.4	52.2	1	15.0-120			24.9	28
4,6-Dinitro-2-methylphenol	50.0	ND	24.8	34.7	49.6	68.0	1	10.0-144			33.3	39
2,4-Dinitrophenol	50.0	ND	27.9	38.8	55.8	76.1	1	10.0-120			32.7	40
1,2-Dichlorobenzene	50.0	ND	17.0	25.6	34.0	50.2	1	18.0-120		J3	40.4	40
1,3-Dichlorobenzene	50.0	ND	16.1	24.0	32.2	47.1	1	15.0-120			39.4	40
1,4-Dichlorobenzene	50.0	ND	16.4	24.5	32.8	48.0	1	17.0-120			39.6	40
2-Nitrophenol	50.0	ND	21.8	29.7	43.6	58.2	1	20.0-120		J3	30.7	30
4-Nitrophenol	50.0	ND	13.7	15.0	27.4	29.4	1	10.0-120			9.06	40
Pentachlorophenol	50.0	ND	21.5	31.6	43.0	62.0	1	10.0-128		J3	38.0	37
Phenol	50.0	ND	ND	11.6	18.2	22.7	1	10.0-120			23.9	40
2,4,6-Trichlorophenol	50.0	ND	21.0	32.0	42.0	62.7	1	26.0-120		J3	41.5	31
(S) Nitrobenzene-d5					*36.2*	*52.5*		*10.0-127*				
(S) 2-Fluorobiphenyl					*38.5*	*55.1*		*10.0-130*				
(S) p-Terphenyl-d14					*46.9*	*66.4*		*10.0-128*				
(S) Phenol-d5					*17.0*	*21.3*		*10.0-120*				
(S) 2-Fluorophenol					*22.8*	*28.4*		*10.0-120*				
(S) 2,4,6-Tribromophenol					*44.0*	*63.2*		*10.0-155*				

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J0	J0: The identification of the analyte is acceptable, but the reported concentration is an estimate. The calibration met method criteria.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

ACCREDITATIONS & LOCATIONS

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

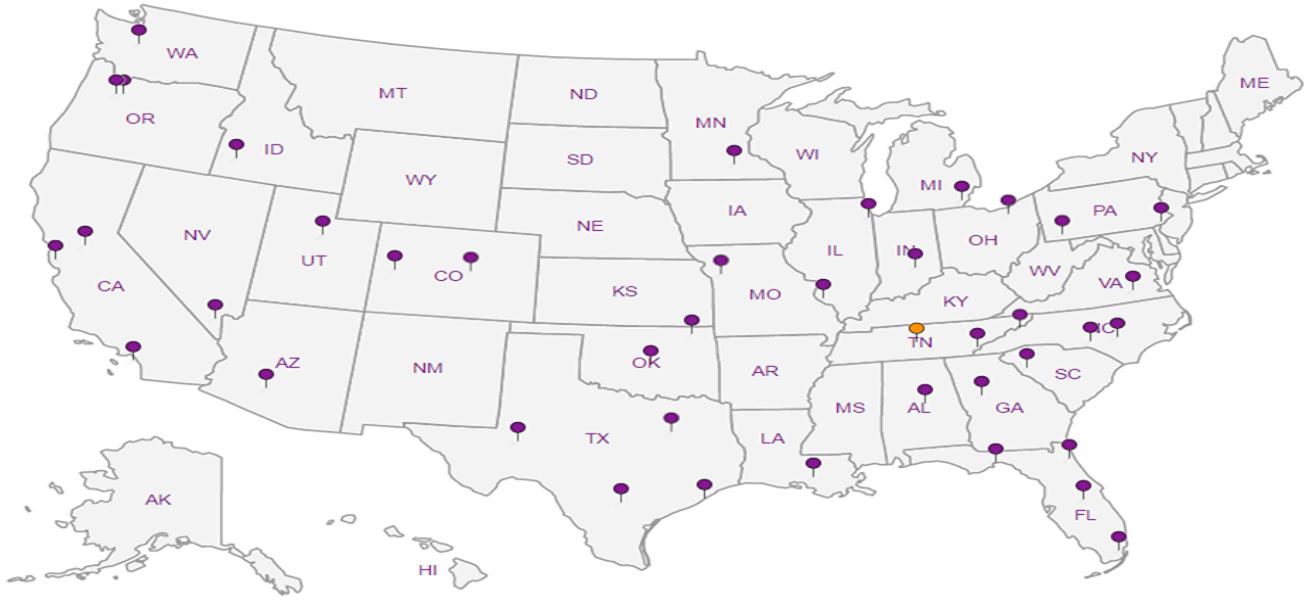
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



CBRE, Inc. - NC

201 S. College St, Ste 1700
Charlotte, NC 28244

Billing Information:
Project Manager
201 S. College St, Ste 1700
Charlotte, NC 28244

Report to:
Frans Lowman

Email To: **frans.lowman@cbre.com** and Brian.kum1@cbre.com

Project Description: Road 208 & Avenue 128

City/State Collected: Tulare, CA 93257

Please Circle: PT MT CT ET

Phone: **704-331-1295**

Client Project # PC008642 73

Lab Project # **CBRECNC-CA**

Collected by (print):

Site/Facility ID #

P.O. #

Collected by (signature): Brian

Immediately Packed on Ice N ____ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed: Standard TAT

Quote #

Analysis / Container / Preservative

Pres Chk: <2, RCV >12, <2

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	6010 PP Metals 250mlHDPE-HNO3	8081 100ml Amb NoPres	8082 100ml Amb-NoPres	8270 100ml Amb NoPres	CN 250mlHDPEAmb-NaOH	CR6 250mlHDPE-NoPres	PFAS 250mlHDPE-NoPres	PHT 250mlAmb-H2SO4	V8260 40mlAmb-HCl		Remarks	Sample # (lab only)
IW-1		GW		8/17/2020	11:44	15	X	X	X	X	X	X	X	X	X			-01
		GW				15	X	X	X	X	X	X	X	X	X			
		GW				15	X	X	X	X	X	X	X	X	X			
		GW				15	X	X	X	X	X	X	X	X	X			
		GW				15	X	X	X	X	X	X	X	X	X			
		GW				15	X	X	X	X	X	X	X	X	X			
		GW				15	X	X	X	X	X	X	X	X	X			
		GW				15	X	X	X	X	X	X	X	X	X			
		GW				15	X	X	X	X	X	X	X	X	X			
		GW				15	X	X	X	X	X	X	X	X	X			

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:PFAS - sub to Pace SC
1 x Field Blank & 1 x Trip Blank

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking # 7910 7390 1570

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR
Brian Kum	8/17/2020	1:00pm		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 5.5-.3=5.2 °C Bottles Received: 16
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) B. Banas	Date: 8-18-20 Time: 0930

Hold:

If preservation required by Login: Date/Time

Condition: NCF / OK

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: __Y __N

Chain of Custody Page ___ of ___

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L1251443

Table A187

Acctnum: **CBRECNC**
Template: **T172457**
Prelogin: **P790758**
PM: **873 - Heather J Wagner**
PB:
Shipped Via: **Client**

ANALYTICAL REPORT

September 02, 2020

CBRE, Inc. - NC

Sample Delivery Group:	L1251445
Samples Received:	08/18/2020
Project Number:	PC00864273
Description:	Road 208 & Avenue 128
Report To:	Frans Lowman 201 S. College St, Ste 1700 Charlotte, NC 28244

Entire Report Reviewed By:

Heather J Wagner
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

TABLE OF CONTENTS

Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	4
Gl: Glossary of Terms	5
Al: Accreditations & Locations	6
Sc: Sample Chain of Custody	7

IW-1 L1251445-01 GW

Collected by	Collected date/time	Received date/time
	08/17/20 11:44	08/18/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1528090	1	09/02/20 00:00	09/02/20 00:00	-	Subcontract

FIELD BLANK L1251445-02 GW

Collected by	Collected date/time	Received date/time
	08/17/20 11:44	08/18/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1528090	1	09/02/20 00:00	09/02/20 00:00	-	Subcontract

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Heather J Wagner
Project Manager

Project Narrative

L1251445 -01, -02 contains subout data that is included after the chain of custody.

1 Cp
2 Tc
3 Ss
4 Cn
5 Gl
6 Al
7 Sc

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

SDG	Sample Delivery Group.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
	The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

ACCREDITATIONS & LOCATIONS

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

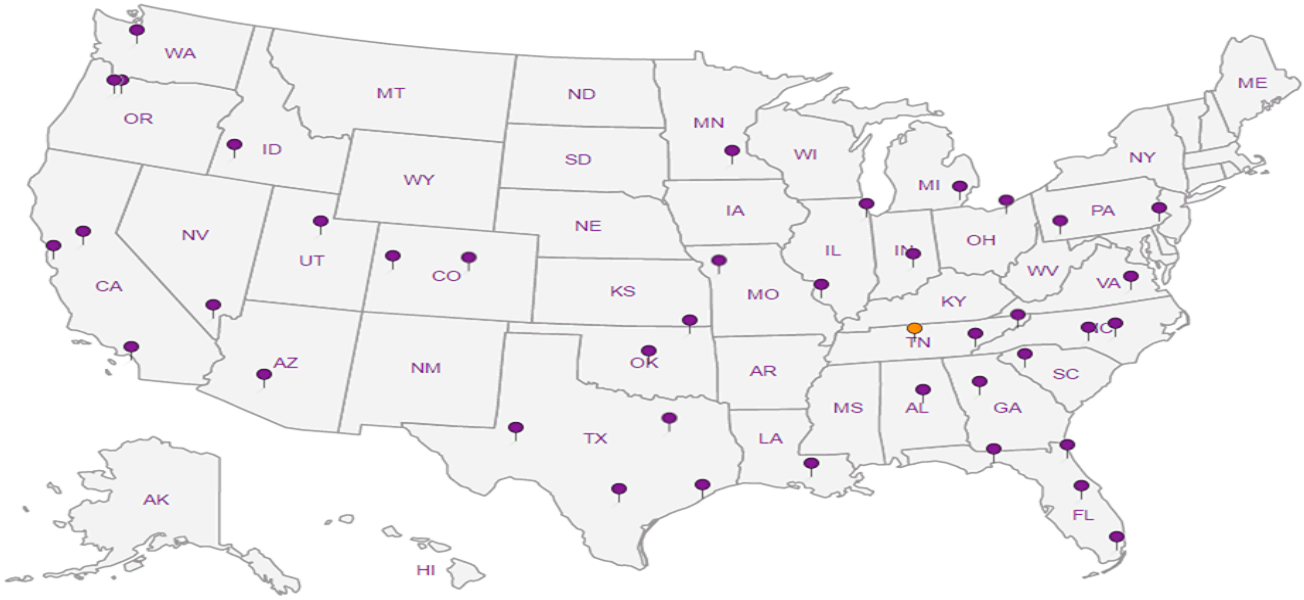
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



CBRE, Inc. - NC

201 S. College St, Ste 1700
Charlotte, NC 28244

Billing Information:
~~Project Manager~~
201 S. College St, Ste 1700
Charlotte, NC 28244

Report to:
Frans Lowman

Email To: frans.lowman@cbre.com and Brian.kim1@cbre.com

Project Description: Road 208 & Avenue 128

City/State Collected: Tulare, CA 93257

Please Circle: PT MT CT ET

Phone: 704-331-1295

Client Project # PC008642273

Lab Project # CBRECNC-CA

Collected by (print):

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ____ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day standard TAT

Quote #

Date Results Needed

Pres Chk: <3, RCV >12, <2

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	6010 PP Metals 250mlHDPE-HNO3	8081 100ml Amb NoPres	8082 100ml Amb-NoPres	8270 100ml Amb NoPres	CN 250mlHDPEAmb-NaOH	CR6 250mlHDPE-NoPres	PFAS 250mlHDPE-NoPres	PHT 250mlAmb-H2SO4	V8260 40mlAmb-HCl		Remarks	Sample # (lab only)
IW-1		GW		8/17/2020	11:44	15	X	X	X	X	X	X	X	X	X			-01
		GW				15	X	X	X	X	X	X	X	X	X			
		GW				15	X	X	X	X	X	X	X	X	X			
		GW				15	X	X	X	X	X	X	X	X	X			
		GW				15	X	X	X	X	X	X	X	X	X			
		GW				15	X	X	X	X	X	X	X	X	X			
		GW				15	X	X	X	X	X	X	X	X	X			
		GW				15	X	X	X	X	X	X	X	X	X			
		GW				15	X	X	X	X	X	X	X	X	X			
		GW				15	X	X	X	X	X	X	X	X	X			

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:PFAS - sub to Pace SC
1 x Field Blank & 1 x Trip Blank

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking # 7910 7390 1570

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Brian Kim	8/17/2020	1:00pm	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			B. Banas

Trip Blank Received: Yes / No
HCl / MeoH
TBR

Temp: 55.3 = 5.2 °C

Bottles Received: 16

Date: 8-18-20 Time: 0930

Chain of Custody Page ___ of ___

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L1251945

A187

Table

Acctnum: CBRECNC
Template: T172457
Prelogin: P790758
PM: 873 - Heather J Wagner
PB:
Shipped Via: Client

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: __Y __N

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Troy Dunlap

Pace Analytical®
National Center for Testing & Innovation

Login #: L1251445	Client: CBRENC	Date: 8/18/20	Evaluated by: Troy Dunlap

Non-Conformance (check applicable items)

	Sample Integrity		Chain of Custody Clarification		
	Parameter(s) past holding time	X	Login Clarification Needed		**If Broken Container:**
	Temperature not in range		Chain of custody is incomplete		Insufficient packing material around container
	Improper container type		Please specify Metals requested.		Insufficient packing material inside cooler
	pH not in range.		Please specify TCLP requested.		Improper handling by carrier (FedEx / UPS / Cour
	Insufficient sample volume.		Received additional samples not listed on coc.		Sample was frozen
	Sample is biphasic.		Sample ids on containers do not match ids on coc		Container lid not intact
	Vials received with headspace.		Trip Blank not received.		**If no Chain of Custody:**
	Broken container		Client did not "X" analysis.		Received by:
	Broken container:		Chain of Custody is missing		Date/Time:
	Sufficient sample remains				Temp./Cont. Rec./pH:
					Carrier:
					Tracking#

Login Comments: FIELD BLANK is listed in the remarks but no analys is listed. Received one 250ml-Noprres container.

Client informed by:		Call		Email		Voice Mail		Date:	Time:
TSR Initials:	Client Contact:								

Login Instructions: **Field blank should be analyzed for PFAS**

Report of Analysis

Pace Analytical LLC
12065 Lebanon Rd.
Mt. Juliet, TN 37122
Attention: Jimmy Huckaba

Project Name: Road 208 & Ave.128-PC00864273

Project Number: WG1528090

Lot Number:**VH19035**

Date Completed:08/31/2020

09/01/2020 10:46 PM
Approved and released by:
Project Manager II: **Cathy S. Dover**

The electronic signature above is the equivalent of a handwritten signature.
This report shall not be reproduced, except in its entirety, without the written approval of Pace Analytical Services, LLC.

Pace Analytical Services, LLC (*formerly Shealy Environmental Services, Inc.*)
106 Vantage Point Drive West Columbia, SC 29172
Tel: 803-791-9700 Fax: 803-791-9111 www.pacelabs.com

Case Narrative
Pace Analytical LLC
Lot Number: VH19035

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the Pace Analytical Services, LLC ("Pace") Quality Assurance Management Plan (QAMP), applicable Pace standard operating procedures (SOPs), the 2003 NELAC standard, and Pace policies. Additionally, the DoD QSM version 5.3 has been followed for these samples, and specifically Table B-15 was followed for all PFAS samples. Any exceptions to the QAMP, SOPs, NELAC standards, the DoD QSM, or policies are qualified on the results page or discussed below.

PFAS 537 ID
Insufficient sample volume was provided to perform matrix spike/matrix spike duplicate (MS/MSD) for prep batch 64563. An LCS/LCSD was run in lieu of an MS/MSD.

Samples VH19035-001(IW-1) and VH19035-002 (FIELD BLANK) were collected in client provided HDPE bottle. While this is method compliant, the sample bottles were not provided by the laboratory.

If you have any questions regarding this report please contact the Pace Project Manager listed on the cover page.

Sample Summary

Pace Analytical LLC

Lot Number: VH19035

Project Name: Road 208 & Ave.128-PC00864273

Project Number: WG1528090

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	IW-1	Aqueous	08/17/2020 1144	08/19/2020
002	FIELD BLANK	Aqueous	08/17/2020 1144	08/19/2020

(2 samples)

Detection Summary
Pace Analytical LLC
Lot Number: VH19035
Project Name: Road 208 & Ave.128-PC00864273
Project Number: WG1528090

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	IW-1	Aqueous	PFBS	PFAS by ID	2.0	J	ng/L	5
001	IW-1	Aqueous	PFHxS	PFAS by ID	1.7	J	ng/L	5
001	IW-1	Aqueous	PFBA	PFAS by ID	1.8	J	ng/L	5
001	IW-1	Aqueous	PFHpA	PFAS by ID	1.6	J	ng/L	5
001	IW-1	Aqueous	PFHxA	PFAS by ID	4.4		ng/L	5
001	IW-1	Aqueous	PFOA	PFAS by ID	4.4		ng/L	5
001	IW-1	Aqueous	PFPeA	PFAS by ID	3.0	J	ng/L	5

(7 detections)

PFAS by LC/MS/MS

Client: **Pace Analytical LLC**		Laboratory ID: **VH19035-001**	
Description: **IW-1**		Matrix: **Aqueous**	
Date Sampled: **08/17/2020 1144**	Project Name: **Road 208 & Ave.128-**		
Date Received: **08/19/2020**	Project Number: **WG1528090**		

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	08/26/2020 1340	MMM	08/25/2020 1134	64563

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
Perfluoro-1-butanesulfonic acid (PFBS)	**375-73-5**	**PFAS by ID SOP**	**2.0**	**J**	**3.6**	**0.90**	**ng/L**	**1**
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.6	0.90	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.6	0.90	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.6	0.90	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.6	0.90	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.6	0.90	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	**355-46-4**	**PFAS by ID SOP**	**1.7**	**J**	**3.6**	**0.90**	**ng/L**	**1**
Perfluoro-n-butanoic acid (PFBA)	**375-22-4**	**PFAS by ID SOP**	**1.8**	**J**	**3.6**	**0.90**	**ng/L**	**1**
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.6	0.90	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.6	0.90	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	**375-85-9**	**PFAS by ID SOP**	**1.6**	**J**	**3.6**	**0.90**	**ng/L**	**1**
Perfluoro-n-hexanoic acid (PFHxA)	**307-24-4**	**PFAS by ID SOP**	**4.4**		**3.6**	**0.90**	**ng/L**	**1**
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.6	0.90	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	**335-67-1**	**PFAS by ID SOP**	**4.4**		**3.6**	**0.90**	**ng/L**	**1**
Perfluoro-n-pentanoic acid (PFPeA)	**2706-90-3**	**PFAS by ID SOP**	**3.0**	**J**	**3.6**	**0.90**	**ng/L**	**1**
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.6	0.90	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.6	0.90	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.6	0.90	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		3.6	0.90	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		92	25-150
13C2_6:2FTS		97	25-150
13C2_8:2FTS		100	25-150
13C2_PFDoA		91	25-150
13C2_PFTeDA		94	25-150
13C3_PFBS		98	25-150
13C3_PFHxS		97	25-150
13C3-HFPO-DA		93	25-150
13C4_PFBA		101	25-150
13C4_PFHpA		98	25-150
13C5_PFHxA		98	25-150
13C5_PFPeA		103	25-150
13C6_PFDA		100	25-150
13C7_PFUdA		92	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

Pace Analytical Services, LLC *(formerly Shealy Environmental Services, Inc.)*
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

PFAS by LC/MS/MS

Client: **Pace Analytical LLC**		Laboratory ID: **VH19035-001**	
Description: **IW-1**		Matrix: **Aqueous**	
Date Sampled: **08/17/2020 1144**	Project Name: **Road 208 & Ave.128-**		
Date Received: **08/19/2020**	Project Number: **WG1528090**		

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C8_PFOA		97	25-150
13C8_PFOS		98	25-150
13C8_PFOSA		102	10-150
13C9_PFNA		94	25-150
d5-EtFOSAA		88	25-150
d3-MeFOSAA		96	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

Pace Analytical Services, LLC *(formerly Shealy Environmental Services, Inc.)*
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

PFAS by LC/MS/MS

Client: **Pace Analytical LLC**		Laboratory ID: **VH19035-002**	
Description: **FIELD BLANK**		Matrix: **Aqueous**	
Date Sampled: **08/17/2020 1144**	Project Name: **Road 208 & Ave.128-**		
Date Received: **08/19/2020**	Project Number: **WG1528090**		

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	08/26/2020 1351	MMM	08/25/2020 1134	64563

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-1-butanesulfonic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		91	25-150
13C2_6:2FTS		101	25-150
13C2_8:2FTS		92	25-150
13C2_PFDoA		94	25-150
13C2_PFTeDA		95	25-150
13C3_PFBS		100	25-150
13C3_PFHxS		101	25-150
13C3-HFPO-DA		94	25-150
13C4_PFBA		104	25-150
13C4_PFHpA		104	25-150
13C5_PFHxA		100	25-150
13C5_PFPeA		103	25-150
13C6_PFDA		101	25-150
13C7_PFUdA		100	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

Pace Analytical Services, LLC *(formerly Shealy Environmental Services, Inc.)*
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

PFAS by LC/MS/MS

Client: **Pace Analytical LLC**		Laboratory ID: **VH19035-002**	
Description: **FIELD BLANK**		Matrix: **Aqueous**	
Date Sampled: **08/17/2020 1144**	Project Name: **Road 208 & Ave.128-**		
Date Received: **08/19/2020**	Project Number: **WG1528090**		

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C8_PFOA		98	25-150
13C8_PFOS		100	25-150
13C8_PFOSA		100	10-150
13C9_PFNA		104	25-150
d5-EtFOSAA		97	25-150
d3-MeFOSAA		97	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

Pace Analytical Services, LLC *(formerly Shealy Environmental Services, Inc.)*
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

QC Summary

PFAS by LC/MS/MS - MB

Sample ID: VQ64563-001
Batch: 64563
Analytical Method: PFAS by ID SOP

Matrix: Aqueous
Prep Method: SOP SPE
Prep Date: 08/25/2020 1134

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
9Cl-PF3ONS	ND		1	8.0	2.0	ng/L	08/26/2020 1110
11Cl-PF3OUdS	ND		1	8.0	2.0	ng/L	08/26/2020 1110
8:2 FTS	ND		1	8.0	2.0	ng/L	08/26/2020 1110
6:2 FTS	ND		1	8.0	2.0	ng/L	08/26/2020 1110
4:2 FTS	ND		1	8.0	2.0	ng/L	08/26/2020 1110
GenX	ND		1	8.0	2.0	ng/L	08/26/2020 1110
ADONA	ND		1	8.0	2.0	ng/L	08/26/2020 1110
EtFOSAA	ND		1	8.0	2.0	ng/L	08/26/2020 1110
MeFOSAA	ND		1	8.0	2.0	ng/L	08/26/2020 1110
PFBS	ND		1	4.0	1.0	ng/L	08/26/2020 1110
PFDS	ND		1	4.0	1.0	ng/L	08/26/2020 1110
PFHpS	ND		1	4.0	1.0	ng/L	08/26/2020 1110
PFNS	ND		1	4.0	1.0	ng/L	08/26/2020 1110
PFOSA	ND		1	4.0	1.0	ng/L	08/26/2020 1110
PFPeS	ND		1	4.0	1.0	ng/L	08/26/2020 1110
PFHxS	ND		1	4.0	1.0	ng/L	08/26/2020 1110
PFBA	ND		1	4.0	1.0	ng/L	08/26/2020 1110
PFDA	ND		1	4.0	1.0	ng/L	08/26/2020 1110
PFDoA	ND		1	4.0	1.0	ng/L	08/26/2020 1110
PFHpA	ND		1	4.0	1.0	ng/L	08/26/2020 1110
PFHxA	ND		1	4.0	1.0	ng/L	08/26/2020 1110
PFNA	ND		1	4.0	1.0	ng/L	08/26/2020 1110
PFOA	ND		1	4.0	1.0	ng/L	08/26/2020 1110
PFPeA	ND		1	4.0	1.0	ng/L	08/26/2020 1110
PFTeDA	ND		1	4.0	1.0	ng/L	08/26/2020 1110
PFTrDA	ND		1	4.0	1.0	ng/L	08/26/2020 1110
PFUdA	ND		1	4.0	1.0	ng/L	08/26/2020 1110
PFOS	ND		1	4.0	1.0	ng/L	08/26/2020 1110

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		101	25-150
13C2_6:2FTS		99	25-150
13C2_8:2FTS		90	25-150
13C2_PFDoA		90	25-150
13C2_PFTeDA		88	25-150
13C3_PFBS		96	25-150
13C3_PFHxS		94	25-150
13C3-HFPO-DA		91	25-150
13C4_PFBA		94	25-150
13C4_PFHpA		92	25-150
13C5_PFHxA		91	25-150
13C5_PFPeA		95	25-150

LOQ = Limit of Quantitation
DL = Detection Limit
ND = Not detected at or above the DL
J = Estimated result < LOQ and ≥ DL
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

PFAS by LC/MS/MS - MB

Sample ID: VQ64563-001
Batch: 64563
Analytical Method: PFAS by ID SOP

Matrix: Aqueous
Prep Method: SOP SPE
Prep Date: 08/25/2020 1134

Surrogate	Q	% Rec	Acceptance Limit
13C6_PFDA		98	25-150
13C7_PFUdA		92	25-150
13C8_PFOA		99	25-150
13C8_PFOS		93	25-150
13C8_PFOSA		91	10-150
13C9_PFNA		95	25-150
d5-EtFOSAA		86	25-150
d3-MeFOSAA		94	25-150

LOQ = Limit of Quantitation
DL = Detection Limit
ND = Not detected at or above the DL
J = Estimated result < LOQ and ≥ DL
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

PFAS by LC/MS/MS - LCS

Sample ID: VQ64563-002
Batch: 64563
Analytical Method: PFAS by ID SOP

Matrix: Aqueous
Prep Method: SOP SPE
Prep Date: 08/25/2020 1134

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
9Cl-PF3ONS	15	15		1	104	50-150	08/26/2020 1121
11Cl-PF3OUdS	15	15		1	100	50-150	08/26/2020 1121
8:2 FTS	15	15		1	95	50-150	08/26/2020 1121
6:2 FTS	15	17		1	114	50-150	08/26/2020 1121
4:2 FTS	15	17		1	112	50-150	08/26/2020 1121
GenX	32	35		1	109	50-150	08/26/2020 1121
ADONA	15	17		1	112	50-150	08/26/2020 1121
EtFOSAA	16	18		1	113	50-150	08/26/2020 1121
MeFOSAA	16	17		1	108	50-150	08/26/2020 1121
PFBS	14	15		1	105	50-150	08/26/2020 1121
PFDS	15	14		1	91	50-150	08/26/2020 1121
PFHpS	15	17		1	110	50-150	08/26/2020 1121
PFNS	15	16		1	107	50-150	08/26/2020 1121
PFOSA	16	17		1	106	50-150	08/26/2020 1121
PFPeS	15	16		1	108	50-150	08/26/2020 1121
PFHxS	15	15		1	105	50-150	08/26/2020 1121
PFBA	16	17		1	106	50-150	08/26/2020 1121
PFDA	16	17		1	108	50-150	08/26/2020 1121
PFDoA	16	17		1	104	50-150	08/26/2020 1121
PFHpA	16	17		1	107	50-150	08/26/2020 1121
PFHxA	16	17		1	109	50-150	08/26/2020 1121
PFNA	16	17		1	105	50-150	08/26/2020 1121
PFOA	16	17		1	109	50-150	08/26/2020 1121
PFPeA	16	17		1	104	50-150	08/26/2020 1121
PFTeDA	16	16		1	102	50-150	08/26/2020 1121
PFTrDA	16	18		1	113	50-150	08/26/2020 1121
PFUdA	16	17		1	105	50-150	08/26/2020 1121
PFOS	15	15		1	102	50-150	08/26/2020 1121

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		95	25-150
13C2_6:2FTS		91	25-150
13C2_8:2FTS		96	25-150
13C2_PFDoA		84	25-150
13C2_PFTeDA		90	25-150
13C3_PFBS		92	25-150
13C3_PFHxS		89	25-150
13C3-HFPO-DA		89	25-150
13C4_PFBA		92	25-150
13C4_PFHpA		90	25-150
13C5_PFHxA		94	25-150
13C5_PFPeA		96	25-150

LOQ = Limit of Quantitation
DL = Detection Limit
ND = Not detected at or above the DL
J = Estimated result < LOQ and ≥ DL
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

PFAS by LC/MS/MS - LCS

Sample ID: VQ64563-002
Batch: 64563
Analytical Method: PFAS by ID SOP

Matrix: Aqueous
Prep Method: SOP SPE
Prep Date: 08/25/2020 1134

Surrogate	Q	% Rec	Acceptance Limit
13C6_PFDA		95	25-150
13C7_PFUdA		91	25-150
13C8_PFOA		95	25-150
13C8_PFOS		91	25-150
13C8_PFOSA		94	10-150
13C9_PFNA		97	25-150
d5-EtFOSAA		87	25-150
d3-MeFOSAA		95	25-150

LOQ = Limit of Quantitation
DL = Detection Limit
ND = Not detected at or above the DL
J = Estimated result < LOQ and ≥ DL
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

PFAS by LC/MS/MS - LCSD

Sample ID: VQ64563-003
Batch: 64563
Analytical Method: PFAS by ID SOP

Matrix: Aqueous
Prep Method: SOP SPE
Prep Date: 08/25/2020 1134

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
9Cl-PF3ONS	15	15		1	102	1.7	50-150	30	08/26/2020 1132
11Cl-PF3OUdS	15	16		1	103	3.1	50-150	30	08/26/2020 1132
8:2 FTS	15	16		1	105	9.8	50-150	30	08/26/2020 1132
6:2 FTS	15	16		1	102	11	50-150	30	08/26/2020 1132
4:2 FTS	15	16		1	107	4.3	50-150	30	08/26/2020 1132
GenX	32	31		1	97	12	50-150	30	08/26/2020 1132
ADONA	15	17		1	114	1.9	50-150	30	08/26/2020 1132
EtFOSAA	16	17		1	107	5.3	50-150	30	08/26/2020 1132
MeFOSAA	16	18		1	110	1.2	50-150	30	08/26/2020 1132
PFBS	14	14		1	102	2.9	50-150	30	08/26/2020 1132
PFDS	15	15		1	96	5.0	50-150	30	08/26/2020 1132
PFHpS	15	16		1	108	1.9	50-150	30	08/26/2020 1132
PFNS	15	15		1	100	6.5	50-150	30	08/26/2020 1132
PFOSA	16	16		1	103	2.5	50-150	30	08/26/2020 1132
PFPeS	15	14		1	94	14	50-150	30	08/26/2020 1132
PFHxS	15	16		1	109	4.0	50-150	30	08/26/2020 1132
PFBA	16	16		1	102	4.2	50-150	30	08/26/2020 1132
PFDA	16	16		1	99	8.4	50-150	30	08/26/2020 1132
PFDoA	16	17		1	103	1.2	50-150	30	08/26/2020 1132
PFHpA	16	15		1	97	10	50-150	30	08/26/2020 1132
PFHxA	16	16		1	101	8.1	50-150	30	08/26/2020 1132
PFNA	16	17		1	107	1.6	50-150	30	08/26/2020 1132
PFOA	16	16		1	103	5.7	50-150	30	08/26/2020 1132
PFPeA	16	17		1	109	4.1	50-150	30	08/26/2020 1132
PFTeDA	16	16		1	99	3.5	50-150	30	08/26/2020 1132
PFTrDA	16	17		1	105	7.1	50-150	30	08/26/2020 1132
PFUdA	16	17		1	104	0.97	50-150	30	08/26/2020 1132
PFOS	15	14		1	95	7.4	50-150	30	08/26/2020 1132

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		93	25-150
13C2_6:2FTS		100	25-150
13C2_8:2FTS		86	25-150
13C2_PFDoA		88	25-150
13C2_PFTeDA		89	25-150
13C3_PFBS		92	25-150
13C3_PFHxS		87	25-150
13C3-HFPO-DA		96	25-150
13C4_PFBA		93	25-150
13C4_PFHpA		92	25-150
13C5_PFHxA		96	25-150
13C5_PFPeA		96	25-150

LOQ = Limit of Quantitation
DL = Detection Limit
ND = Not detected at or above the DL
J = Estimated result < LOQ and ≥ DL
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

PFAS by LC/MS/MS - LCSD

Sample ID: VQ64563-003
Batch: 64563
Analytical Method: PFAS by ID SOP

Matrix: Aqueous
Prep Method: SOP SPE
Prep Date: 08/25/2020 1134

Surrogate	Q	% Rec	Acceptance Limit
13C6_PFDA		95	25-150
13C7_PFUdA		90	25-150
13C8_PFOA		99	25-150
13C8_PFOS		88	25-150
13C8_PFOSA		89	10-150
13C9_PFNA		91	25-150
d5-EtFOSAA		88	25-150
d3-MeFOSAA		90	25-150

LOQ = Limit of Quantitation
DL = Detection Limit
ND = Not detected at or above the DL
J = Estimated result < LOQ and ≥ DL
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Chain of Custody
and
Miscellaneous Documents

PACE ANALYTICAL SERVICES, LLC

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

VH19035

Section A — Required Client Information:

Company: Pace Analytical National
Address: 12065 Lebanon Road
Mount Juliet, TN 37122
Email: SubCoTeam@pacenational.com
Phone: (615)773-9755 Fax: (615)758-5859
Requested Due Date: 1-Eco

Section B — Required Project Information:

Report To: Pace Analytical National Subcot Team
Copy To:
Purchase Order #: L1251445
Project Name: Road 208 & Avenue 128
Project #: PCO0604273

Section C — Invoice Information:

Attention: Frank Leaman
Company Name:
Address:
Pace Quote:
Pace Project Manager: Noreen Sakaly
Pace Profile #: 39976

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analysis Test (Y/N)	PFAS by 537M	Residual Chlorine (Y/N)	
1	IW-1	WT				17-Aug	11:44		2	2									X		PFAS compounds: Groundwate
2	FIELD BLANK	WT				17-Aug	11:44		1	1									X		PFAS compounds: Groundwate
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					T-4.4C

Preservatives

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	James C Huckeba	18-Aug	1536				
Pace Analytical National Batch: WG1528090							
Pace Analytical National SDGs: L1251445							
Location: West Columbia, SC 29172	FED EX	8/19/20	1034	[signature]	8/19/20	1034	

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER:
SIGNATURE of SAMPLER: DATE Signed:

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Shealy Environmental Services, Inc.
Document Number: ME001SC-14

Page 1 of 1
Effective Date: 8/2/2018

Sample Receipt Checklist (SRC)

Client: PACE

Cooler Inspected by/date: BMG / 8/19/2020 Lot #: VH19635

Means of receipt: ☐ SESI ☐ Client ☐ UPS ☒ FedEx ☐ Other:

☒ Yes	☐ No		1. Were custody seals present on the cooler?
☒ Yes	☐ No	☐ NA	2. If custody seals were present, were they intact and unbroken?

pH Strip ID: ____ Chlorine Strip ID: ____ Tested by: ____

Original temperature upon receipt / Derived (Corrected) temperature upon receipt %Solid Snap-Cup ID: ____

4.4 / 4.4 °C / °C / °C / °C

Method: ☒ Temperature Blank ☐ Against Bottles IR Gun ID: 5 IR Gun Correction Factor: 0 °C

Method of coolant: ☒ Wet Ice ☐ Ice Packs ☐ Dry Ice ☐ None

☐ Yes	☐ No	☒ NA	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
☒ Yes	☐ No	☐ NA	4. Is the commercial courier's packing slip attached to this form?
☒ Yes	☐ No		5. Were proper custody procedures (relinquished/received) followed?
☒ Yes	☐ No		6. Were sample IDs listed on the COC?
☒ Yes	☐ No		7. Were sample IDs listed on all sample containers?
☒ Yes	☐ No		8. Was collection date & time listed on the COC?
☒ Yes	☐ No		9. Was collection date & time listed on all sample containers?
☒ Yes	☐ No		10. Did all container label information (ID, date, time) agree with the COC?
☒ Yes	☐ No		11. Were tests to be performed listed on the COC?
☒ Yes	☐ No		12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
☒ Yes	☐ No		13. Was adequate sample volume available?
☒ Yes	☐ No		14. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
☐ Yes	☒ No		15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
☐ Yes	☐ No	☒ NA	16. For VOA and RSK-175 samples, were bubbles present >"pea-size" (¼"or 6mm in diameter) in any of the VOA vials?
☐ Yes	☐ No	☒ NA	17. Were all DRO/metals/nutrient samples received at a pH of < 2?
☐ Yes	☐ No	☒ NA	18. Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?
☐ Yes	☐ No	☒ NA	19. Were all applicable NH_3/TKN/cyanide/phenol/625 (< 0.5mg/L) samples free of residual chlorine?
☐ Yes	☐ No	☒ NA	20. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc…) correctly transcribed from the COC into the comment section in LIMS?
☐ Yes	☒ No		21. Was the quote number listed on the container label? If yes, Quote # ____

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) ____ were received incorrectly preserved and were adjusted accordingly in sample receiving with ____ mL of circle one: H2SO4, HNO3, HCl, NaOH using SR # ____.
Time of preservation ____. If more than one preservative is needed, please note in the comments below.

Sample(s) ____ were received with bubbles >6 mm in diameter.

Samples(s) ____ were received with TRC > 0.5 mg/L (If #19 is *no*) and were adjusted accordingly in sample receiving with sodium thiosulfate ($Na_2S_2O_3$) with Shealy ID: ____.

SR barcode labels applied by: BMG Date: 8/19/20

Comments:

USER AND PRE-SURVEY QUESTIONNAIRES

USER AND AAI QUESTIONNAIRE

The User did not provide a completed User Questionnaire.

In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfield's Revitalization Act of 2001 (the "*Brownfield's Amendments*"), the user must conduct the following inquiries required by 40 CFR 312.25, 312.28, 312.29, 312.30 and 312.31. These inquiries must also be conducted by EPA Brownfield Assessment and Characterization grantees. The *user* should provide the following information to the *environmental professional*. Failure to conduct these inquiries could result in a determination that "*all appropriate inquiries*" is not complete.

PREPARER & SITE INFORMATION

Name	Project Name
Title	Project Address
Signature	City, State
Telephone Number	

USER AND AAI QUESTIONS

1. Did a search of recorded land title records (or judicial records where Appropriate, See Note 1 below) identify any environmental liens filed or recorded against the property under federal, tribal, state or local law? **Yes** ☐ **No** ☐ **NA** ☐

Note 1 – In certain jurisdictions, federal, tribal, state or local statutes, or regulations specify that environmental liens and Activity and Use Limitations (AULs) be filed in judicial records rather than in land title records. In such cases, judicial records must be searched for environmental liens and AULs.

2. Did a search of recorded land title records (or judicial records where appropriate, see Note 1 above) identify any AULs, such as engineering controls, land use restrictions or institutional controls that are in place at the property and/or have been filed or recorded against the property under federal, tribal, state or local law? **Yes** ☐ **No** ☐ **NA** ☐

3. 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? **Yes** ☐ **No** ☐ **NA** ☐

4. Does the purchase price paid for this property reasonably reflect the fair market value of the property? **Yes** ☐ **No** ☐ **NA** ☐

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? **Yes** ☐ **No** ☐ **NA** ☐

5. Are you aware of commonly known or reasonably ascertainable information about the properly that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example:

(a.) Do you know the past uses of the property? **Yes** ☐ **No** ☐ **NA** ☐

(b.) Do you know of specific chemicals that are present or once were present at the property? **Yes** ☐ **No** ☐ **NA** ☐

(c.) Do you know of spills or other chemical releases that have taken place at the property? **Yes** ☐ **No** ☐ **NA** ☐

(d.) Do you know of any environmental cleanups that have taken place at the property? **Yes** ☐ **No** ☐ **NA** ☐

6. Based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of releases at the property? **Yes** ☐ **No** ☐ **NA** ☐

7. Do any of the following documents exist and, if so, can and will a copy be provided to CBRE provided that it falls within reasonable time and cost constraints: (If yes to any, please indicate which below) **Yes** ☐ **No** ☐ **NA** ☐

- Environment site assessment reports ☐
- Environment compliance audit reports ☐
- Environment permits (for example, solid waste disposal permits, hazardous waste disposal permits, wastewater permits, NPDES permits, underground injection permits) ☐
- Registrations for underground and above-ground storage tanks ☐
- Registrations for underground injection systems ☐
- Material safety data sheets ☐
- Community right-to-know plan ☐
- Safety plans; preparedness and prevention plans; spill prevention, countermeasure and control plans; etc. ☐
- Reports regarding hydrogeologic conditions on the property or surrounding area ☐
- Notices or other correspondence from any government agency relating to past or current violations of environmental laws with respect to the property or relating to environmental liens encumbering the property ☐
- Hazardous waste generator notices or reports ☐
- Geotechnical studies ☐
- Risk assessments ☐
- Recorded Activity and Use Limitations (AUL) ☐

QUALIFICATIONS

Paul Hitchings

Sr Environment Site Assessment Director, Tampa, FL

CBRE

T 813 273 8402
M 214 893 2804
paul.hitchings@cbre.com

101 E Kennedy Blvd
Suite 1500
Tampa, FL 33602

Experience

Mr. Hitchings has over 12 years of consulting experience in the environmental industry. His wide-ranging experience has been gained via the completion of third-party environmental risk reviews as well as the completion and management of thousands of Phase I and II Environmental Site Assessments (ESAs) and compliance reviews, including large portfolio projects, on a large variety of retail, mid and high-rise professional office building, industrial, large-scale agricultural, and multi-family properties throughout the United States.

Mr. Hitchings has completed and managed thousands of third-party environmental risk reviews as well as Phase I and II ESAs for a wide range of local and national clients, including lending institutions, real estate owners, real estate investment trusts (REITs), private equity investment firms, and retail firms, in accordance with the applicable American Society for Testing and Materials (ASTM) Standards and Guidelines, United States Environmental Protection Agency (EPA) All Appropriate Inquiry (AAI) rules, Fannie Mae Delegated Underwriting Standards, Freddie Mac guidelines, Housing and Urban Development (HUD) Multifamily Accelerated Processing (MAP) guidelines and other client specific scopes of work. He is a qualified Environmental Professional (EP) under ASTM E 1527-13.

Mr. Hitchings' environmental background includes a detailed understanding of the risks and compliance needs associated with hazardous and regulated materials storage, use, generation and disposal, aboveground and underground storage tanks (ASTs and USTs), polychlorinated biphenyls (PCBs), asbestos-containing materials (ACM), lead-based paint (LBP), mold, and radon. He is skilled in the research requirements necessary for the preparation of Phase I ESAs including historical land use, regulatory, physical, and geological sources, and governmental research, including title as well as activity and use limitation (AUL) requirements. Mr. Hitchings has also conducted and managed over 100 Phase II subsurface investigations to assess the horizontal and vertical extent of soil, groundwater and soil vapor contamination at underground storage tank sites as well as industrial facilities, including dry cleaners and industrial manufacturers.

Professional Affiliations / Accreditations

Mr. Hitchings is a member of the Environmental Bankers Association (EBA) as well as the Tampa Bay Association of Environmental Professionals (TBAEPs). He also maintains his OSHA 40 Hour HAZWOPER certification and has completed the following specialized training courses: ASTM 1527 Phase I ESA Online Course (EDR) and Wetland Delineations (Freese and Nichols University)

Education

- Real Estate, University of Texas at Dallas, Texas, M.B.A. Finance
- Natural Sciences, University of Texas at Austin, Texas, B.S. Biology

Appendix E

Facility Report

OLD DEER CREEK WATER BANK

Banking Project Facility Report

October 2021

Capinero Creek LLC

Introduction

Capinero Creek LLC (Capinero) is a under contract to purchase land in Saucelito Irrigation District (SID or District, Figure 1). Capinero desires to develop a project in which it will build surface water delivery and recharge facilities that will be operated in compliance with the SID "*Policy Principles for Saucelito Irrigation District Groundwater Banking Program*" (adopted on June 14, 2018, Banking Policy). The facilities will be designed, constructed, operated, and monitored in accordance with a water banking agreement between Capinero and SID (Capinero – SID Banking Agreement) as required by the Banking Policy (Project). In addition, the Project will be operated in compliance with the Eastern Tule Groundwater Sustainability Agency (ETGSA) Groundwater Sustainability Plan (GSP), ETGSA Land Subsidence and Management Plan (Subsidence Plan), and other rules and regulations set for by the ETGSA, Tule Subbasin, and/or SGMA legislation.

Figures 2, 3, and 4 (for Phases I, II, III, respectively) depict the proposed Project facilities. The Project will comprise of a three-phased approach to the construction of approximately 50 acres of recharge basins and associated delivery facilities to the Old Deer Creek property. These three phases allow Project development to slowly move closer to the neighboring Teapot Dome Landfill (Landfill) if unacceptable water quality or water level impacts do not occur. The Project will include three existing and nine new monitoring wells to monitor impacts to groundwater quality and levels between the Project and the Landfill. The Project will bank water from the Friant-Kern Canal and possibly other sources. Banked water will be transferred in-ground to others in accordance with the cited policies, rules, and plans. This facility does not include recovery wells, banking partners will be utilizing their existing facilities to recover banked water. The purpose of this report is to provide SID with information about the proposed Project in accordance with requirements of the Banking Policy.

Project Purpose

The Project will primarily bank water that is periodically available above current needs from the Friant Division of the Central Valley Project (Friant). The Project might also bank water from other systems, but separate approvals specific to those other systems will be required. As required by the Banking Policy, 10% to 30% of the recharged water will be allocated to SID's storage account depending on the source. Recovered water will be delivered to lawful recipients within the allowed Places of Use of the banked water. Project objectives will be as follows:

- Increase water supply: The Project will increase supplies available to SID, Capinero and other participants.
- Improve groundwater conditions: The Project will reduce aquifer overdraft in SID, the ETGSA, the Tule Subbasin and in other areas that receive recovered water.
- Reduce costs to produce groundwater: The Project will cause water levels to rise, thus reducing groundwater pumping costs.
- Increase diversification and availability of water supplies: The Project will increase the diversity of water supplies available to SID, its landowners, and other participants.
- Facilitate compliance with the Sustainable Groundwater Management Act (SGMA): The Project will significantly advance SID's efforts to comply with SGMA.
- Subsidence reduction: The Project will help to reduce ground subsidence by accruing more water to the local aquifer system and by reducing groundwater pumping in the places of use.

Project Location

The Project is located in Tulare County, California, approximately 220 miles southeast of Sacramento and 45 miles northwest of Bakersfield (Figure 1). The proposed site of the Project is located approximately six miles southwest of the City of Porterville on Assessor's Parcel Number (APN) 302-020-013.

Additionally, the Project will lay pipeline extending south from the recharge basin crossing various APNs in one of the four following alignment options:

Alignment Option 1 – 302-410-011, 302-410-012, 302-430-008, 302-430-010, 302-430-011

Alignment Option 2 – 302-130-001
Alignment Option 3 – 302-410-011, 302-410-012, 302-430-008
Alignment Option 4 – 302-410-016, 302-410-010, 302-430-001

The proposed placement of the basins and all potential pipeline alignments are shown in Figures 2, 3, and 4.

The Project recharge basins will be located immediately northwest of the Landfill which is under Central Valley Regional Water Quality Control Board Order R5-2014-0021 regarding releases of contaminants to groundwater (Appendix A), with corrective action monitoring for Volatile Organic Compounds (VOCs). While VOCs have not been detected beneath the Project property (Appendix B), there are concerns that recharge at this facility could exacerbate groundwater contamination in three ways:

- Recharge might raise groundwater levels into the vadose zone and remobilize contaminants that are currently immobilized above the water table;
- Recharge might raise groundwater levels up into the buried waste of the Landfill and mobilize new contaminants into groundwater; and
- Recharge could alter the directions of groundwater flow and cause contaminants to move in new directions.

These potential impacts will be avoided by constructing the Project in highly monitored phases. Monitoring Committee authorization will be required before each additional phase can be operated.

Table 1: Estimated Project Capacities for each phase of the Project

RECHARGE CAPACITIES PHASE I								
Facility	**Gross Acres**	**Recharge Acres**	**Est. Peak Recharge Rate**	**Est. Long-Term Recharge Rate**	**Est. Long-Term Recharge**	**Anticipated Avg. Recharge Window**	**Anticipated Avg. Annual Recharge Capacity**	**Maximum Est. Annual Recharge Capacity**
	ac	***ac***	***ft/day***	***ft/day***	***AF/month***	***months***	***AF/year***	***AF/year***
Old Deer Creek Property	10	9	1.0	1.0	270	4	1,080	3,240

RECHARGE CAPACITIES PHASE II								
Facility	**Gross Acres**	**Recharge Acres**	**Est. Peak Recharge Rate**	**Est. Long-Term Recharge Rate**	**Est. Long-Term Recharge**	**Anticipated Avg. Recharge Window**	**Anticipated Avg. Annual Recharge Capacity**	**Maximum Est. Annual Recharge Capacity**
	ac	***ac***	***ft/day***	***ft/day***	***AF/month***	***months***	***AF/year***	***AF/year***
Old Deer Creek Property	30	27	1.0	1.0	810	4	3,240	9,720

RECHARGE CAPACITIES PHASE III								
Facility	**Gross Acres**	**Recharge Acres**	**Est. Peak Recharge Rate**	**Est. Long-Term Recharge Rate**	**Est. Long-Term Recharge**	**Anticipated Avg. Recharge Window**	**Anticipated Avg. Annual Recharge Capacity**	**Maximum Est. Annual Recharge Capacity**
	ac	***ac***	***ft/day***	***ft/day***	***AF/month***	***months***	***AF/year***	***AF/year***
Old Deer Creek Property	50	45	1.0	1.0	1,350	4	5,400	16,200

Notes

All operations are to be monitored and if necessary constrained in accordance with an SID approved MOCP and the Capinero-SID Banking Agreement

Project Capacities

Table 1 summarizes the estimated Project recharge capacities for each phase of the proposed Project. The maximum estimated annual capacities were computed based on 12 months of operation. However, as indicated, it is anticipated that recharge operations will average 4 months in wet years. In all circumstances, the Project will be operated in compliance with a Monitoring and Operational Constraint Plan (MOCP) (see details further in this report) to ensure that the beneficial effects of the Project are maximized while preventing significant unacceptable impacts to the aquifer, groundwater levels, groundwater quality, the FKC, or adjacent landowners relative to conditions that would have occurred absent the Project.

Project Facilities

This Project will be constructed in 3 phases, with each phase adding recharge acreage as follows:

- **Phase I Construction**
  - Removal of approximately 10 acres of walnut trees on the southwest corner of the property;
  - Construction of a 10-acre recharge basin (See Figure 2);
  - Up to a 12-inch diameter, 2,200-foot-long temporary pipeline will be constructed to supply water to the basin. The pipeline will tie into the existing SID A-0.01N-1.01 turnout; and
  - Nine monitoring wells will be constructed as part of this Project to supplement the existing three well monitoring system.
- **Phase II Construction**
  Note: Phase II will be constructed if the Monitoring Committee concludes that Phase I operations have not caused significant unacceptable impacts to groundwater levels or quality.
  - Removal of approximately 20 acres of walnut trees due east of Phase I;
  - Construction of a 20-acre recharge basin to provide a total of 30 acres of recharge basins. The basins will be graded so that Phase I and the western Phase II basins fill first;
  - Construction of a pipeline from District Lateral A-0.01N to the eastern edge of the Phase II recharge basins. Four pipeline options have been analyzed, and it is unknown which alignment will be selected. The locations of these alignment are depicted both in Figure 3 and Figure 4 (representing Phases II and III). Under all scenarios, the pump station at Avenue 120 and Road 208 may need to be upsized. Outlined below are the four pipeline options:
    - Alignment Option 1: Up to a 48-inch diameter pipeline will be constructed along the west side of Road 208, parallel to existing District Lateral A-0.01N on the east side of Road 208. This pipeline will be supplied by an existing SID pipeline running west along Avenue 120;
    - Alignment Option 2 (preferred option): Existing District Lateral A-0.01N along the east side of Road 208 will be replaced by a 15-inch to 24-inch diameter pipeline;
    - Alignment Option 3: Up to a 48-inch diameter pipeline running north to the proposed basins will be constructed 1/8 mile west of Road 208. This pipeline will be supplied by an existing SID pipeline running west along Avenue 120;
    - Alignment Option 4 (least preferred option): This alignment is the farthest west from Road 208. Up to a 48-inch diameter pipeline running north to the proposed basins will be constructed 1/4 mile west of Road 208. This pipeline will be supplied by an existing SID pipeline running west along Avenue 120.
- **Phase III Construction**
  - Removal of approximately 20 acres of walnut trees due east of Phase II;
  - Construction of a 20-acre recharge basin, supplementing Phase I and Phase II to provide a total of 50 acres of recharge basins. The basins will be graded so that Phase I and Phase II basins fill first.
- **Optional Dry Well Installation**

- As detailed in future sections, there is a concern that Project recharge water could perch on fine grained layers and that this perched water might migrate beneath the Landfill (see hydrogeologic studies in Appendix C and Appendix D). If Project monitoring indicates that unacceptable mounding is occurring, Capinero may elect to install dry wells within the Project recharge basins to drain perched water down to the upper unconfined aquifer. Dry wells will likely consist of 18-inch diameter casing with perforations extending from above the perching layer to below the perching layer (likely screened from 15 to 40 and 55 to 80 feet below the land surface). These wells will be permitted and completed in accordance with Tulare County Environmental Health Division requirements.

Recharge Operations

It is anticipated that the Project will primarily bank Friant water. It is possible that the Project might bank water from other systems, but separate approvals specific to the other systems will be required. As required by the Banking Policy, 10% to 30% of the recharged water will be allocated to SID's storage account. As depicted on Figures 2, 3, and 4, all phases of the Project will convey and bank water from the FKC through SID's turnout from the FKC through the existing pump station and be pumped through the new (or improved) pipeline facility to the recharge basin site. In all cases the Capinero's ability to divert and convey water will be contingent on approval from SID to ensure that Capinero's operations do not impair District operations and comply with District policies, rules and regulations.

Recovery Operations

The Project will not include construction of recovery wells, banking partners will recover banked water through their existing facilities. All banked water recovery will take place through in-ground transfers as described below:

Recovery within SID: Banked water may be recovered from wells in SID for use in SID in accordance with the Banking Policy. This mode of recovery will not be used for wells within 1 mile of the FKC until the management portion of the Subsidence Plan has been adopted. Thereafter, this potential operation would be performed in compliance with requirements of the Subsidence Plan.

Recovery within the ETGSA: Banked water may be recovered from wells in the ETGSA that are outside of SID in accordance with applicable rules (if any) of the surface water entity as well as within ETGSA rules and regulations. This mode of recovery will not be used for wells within 1 mile of the FKC until the management portion of the Subsidence Plan has been adopted. Thereafter, this potential operation would be performed in compliance with requirements of the Subsidence Plan.

Recovery to Pixley ID: Banked water may be recovered from wells in Pixley ID in accordance with applicable rules (if any) of the surface water entity as well as within both ETGSA and Pixley ID GSA rules and regulations.

Recovery within LTRID: Banked water may be recovered from wells in LTRID in accordance with applicable rules (if any) of the surface water entity as well as within both ETGSA and LTRID GSA rules and regulations. This mode of recovery will not be used for wells within 1 mile of the FKC until the management portion of the Subsidence Plan has been adopted. Thereafter, this potential operation would be performed in compliance with requirements of the Subsidence Plan.

Operational Exchanges: As detailed above, ETGSA districts, Pixley ID and LTRID may receive banked water through in-ground transfers. In accordance with applicable rules (if any) of the surface water entity and contingent on the receiving district's approval, this banked water may be exchanged for water in Millerton Reservoir, the FKC or in San Luis Reservoir. The exchanged water will then be delivered to the legal places of use contingent on receiving all required approvals.

Operation and Maintenance

The Project will be operated and maintained by Capinero in coordination with SID. The Capinero – SID Banking Agreement will detail the conditions under which SID facilities might be used and how the District will be reimbursed for the costs they incur in supporting the Project.

The Project recharge basins will be maintained using normal farming and irrigation district practices. The Project's operational goals are 1) to maintain a safe, reliable, and productive facility, 2) to prevent the long-term establishment of undesirable invasive plants in the Project and/or their migration onto adjacent farms, and 3) to prevent berm erosion/destabilization and/or rodent infestation through standard farming and water industry practices. During operation: the basin water surface level will be maintained at or below two (2) feet of freeboard; twice daily, in-person inspections are performed between the hours of 7am and 5pm. A water operations manager or basin operator is on-call 24 hours a day, 7 days a week, to respond quickly if an inspection or any of the automatic monitors indicate a spill risk, pump issues, or imminent berm failures.

Monitoring and Operational Constraint Plan (MOCP)

The Project will be designed, operated, and monitored in a manner to ensure that the beneficial effects of the Project are maximized while preventing significant unacceptable impacts to the aquifer, groundwater levels, groundwater quality, the FKC, or adjacent landowners relative to conditions that would have occurred absent the Project. A Monitoring Committee will be formed to ensure that district interests, adjacent landowners and FKC interests are protected. The 5-member Monitoring Committee is anticipated to be composed as follows:

- 1 seat for a Capinero representative;
- 1 seat for an SID director (potentially the General Manger if desired by the SID Board);
- 1 seat for an adjacent landowner;
- 1 seat for a Friant Water Authority (FWA) representative; and
- 1 seat for a Tulare County Landfill representative.

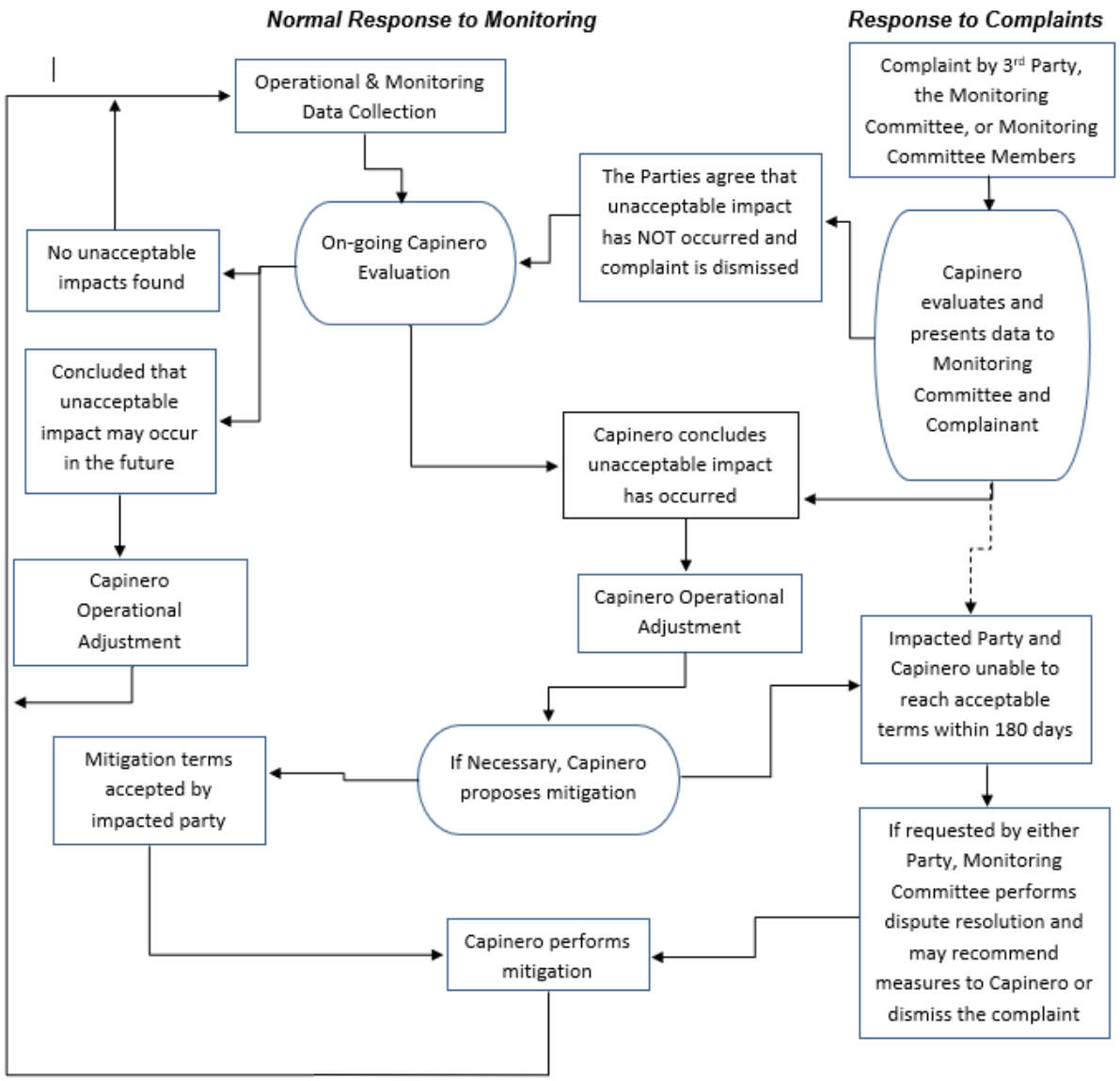
The Monitoring Committee will oversee Capinero's implementation of this MOCP. Chart 1 depicts the process by which Capinero will evaluate data, respond to complaints, and perform operational adjustments or mitigation. The Monitoring Committee will be responsible for:

- Resolution of disputes in which Capinero and a 3rd party are unable to reach agreement on appropriate responses to complaints.
- Review of monitoring reports to:
  - Determine whether operations have caused significant unacceptable impacts to groundwater levels or quality; and
  - Determine whether Capinero can proceed with construction and operation of the next Phase.

Capinero will be responsible for collecting and evaluating data to:

- Estimate if unacceptable impacts to 3rd parties have occurred or may occur in the future as a result of Project operations when compared to conditions that would have occurred absent the Project;
- Adjust Project operations to avoid or minimize unacceptable impacts to 3rd parties; and
- Respond to reasonable complaints of unacceptable impacts as a result of Project operations.

Chart 1: MOCP Implementation Process



As outlined above, Capinero may make operational adjustments in response to data evaluations, complaints by 3rd parties or recommendations from the Monitoring Committee. Examples of potential operational adjustments may include, but are not limited to:

- Shifting the schedules and rates at which recharge is performed;
- Reimbursement for higher pumping costs;
- Well rehabilitation;
- Lowering a pump further down a well;
- Reimbursement for treatment costs;
- Installation of treatment systems;
- Providing and alternate water supply; and
- Installation of a new well.

All water level, water quality, and subsidence monitoring reports will be reported to the Monitoring Committee. The Project will comply with requirements of the Subsidence Plan, once adopted.

Ground Water Monitoring

Water Level Monitoring

Hydrogeologic studies performed for Capinero (Appendix C and Appendix D) indicate that while the upper 40 to 50 feet of the subsurface consists of very permeable sands and gravels, they are underlain by a thin (maximum 10 feet in thickness), but generally continuous, layer of finer-grained material. This fine-grained layer is underlain by extensive sands and gravels, which constitute the upper unconfined aquifer with the water table located between about 100 and 110 feet below the land surface. The upper unconfined aquifer has a relatively thin saturated thickness of 10 to 20 feet and is underlain by approximately 40 feet of silts and clays which separate the upper aquifer from the underlying semi-confined aquifer (details of the semi-confining layer and the semi-confined aquifer come from the 2020 Second Semi-Annual and Annual Monitoring Report for Tea Pot Dome Landfill, attached in Appendix E). Figure 5 provides a cross-section of this hydrogeologic framework from the Project property to the Landfill.

It is possible that recharged water could perch on top of the upper fine-grained layer. If sufficient perching occurs, it is possible that this water could migrate beneath the Landfill and cause unacceptable impacts. Therefore, the Project will include installation of piezometers screened immediately above the fine-grained layer. Furthermore, the project will include the installed of deeper monitoring wells screened across the upper unconfined aquifer water table and at the top of the semi-confined aquifer. These wells will be in addition to the three existing monitoring wells screened in the upper unconfined aquifer (MW-1, MW-2, MW-3) and the irrigation well screened in the semi-confined aquifer (IW-1).

Figures 2, 3, and 4 depict the locations of existing and planned monitoring well and piezometer clusters that will be used to assess Project impacts on groundwater levels and quality. The final locations of new monitoring wells and piezometers may be guided by geophysical surveys to map the top and thickness of the fine-grained layers. Each monitoring well and piezometer will be equipped with a water level data logger. As depicted in Figure 5, this system will provide a west-to-east transect from the Project towards the Landfill so that the potential migration of perched water and the rise of water levels in the underlying aquifers can be observed real-time while recharge is occurring.

Baseline Water Quality Sampling

Prior to commencement of recharge all Project monitoring wells and operable irrigation and domestic wells that are immediately adjacent to the Project property will be initially sampled for the General Analytical Suite outlined in Table 2 (contingent on approval from each well owner). If practical, baseline sampling will be timed to occur at the same time that Landfill monitoring wells are being sampled. For the purpose of this Project, immediately adjacent means all wells on parcels that are immediately adjacent to the Project property or the nearest well on the next parcel over if the nearest parcel does not have a well(s), going out to a maximum distance of ¼ mile.

Phase I Monitoring and Response

The Phase 1 recharge basin will be located at the southwestern corner of the Project property, approximately 3,500 feet from the Landfill (Figure 2). The following monitoring will be performed during Phase 1 recharge operations:

- Instantaneous and totalized volumes of water delivered into the recharge basin will be measured at least daily (make and type of flow meter subject to SID approval);
- Surface water levels in the recharge basin will be measured by continuously-logged pressure transducers and by hand at least daily;
- Groundwater levels will be continuously logged in each Project monitoring well and piezometer, with data downloaded and reviewed at least monthly;
- On a monthly basis during recharge operations, Project monitoring wells will be sampled for the following analytes of primary concern at the Landfill:

- Piezometers (if there is sufficient water): cis-1,2-dichloroethene (cis-1,2-DCE), tetrachloroethylene (PCE), 1,1-dichloroethane (1,1-DCA), bis(2-ethylexyl) phthalate, and methylene chloride (Unconfined Aquifer Suite, Table 3);
- Upper unconfined aquifer wells: Unconfined Aquifer Suite; and
- Semi-confined aquifer wells: chloroform, 1,1-DCA, cis-1,2-DCE, 1,2-dibromo-3-chloropropane, bromoform, bromodichloromethane, Dibromochloromethane, chlorobenzene, methylene chloride, PCE, and trichloroethene (Semi-Confined Aquifer Suite, Table 3).

Capinero will report Phase I data to the Monitoring Committee on a monthly basis. The following operational constraints will be followed by Capinero:

- If at any point during Phase I recharge, extrapolated groundwater levels in any of the three monitored zones show the potential to rise above 340 ft msl at the eastern side of the Project property, Phase I recharge will cease. This elevation is the "trigger" elevation specified in the 2020 Second Semi-Annual and Annual Monitoring Report for Tea Pot Dome Landfill (Appendix E). Recharge will not be re-started until Capinero has implemented measures to prevent this impact from occurring, potentially including installation of dry wells.
- If at any point during Phase I recharge, water levels in perimeter Project monitoring wells and third party wells, known to be influenced by the Project operations, rise to within 15 feet of the ground surface, operations will be constrained or shut down until water levels have fallen below 15 feet below the ground surface. This measure is intended to protect the root zones of adjacent farming operations.

Phase II Monitoring and Response

Operation of Phase II will only proceed following a Monitoring Committee finding that Phase I operations did not cause significant unacceptable impacts. Figure 3 depicts the locations of the Phase II recharge basins, which will be operated together with the Phase I basin. The following monitoring will be performed during the Phase II recharge operations:

- Instantaneous and totalized volumes of water delivered into each recharge basin will be measured at least daily (make and types of flow meters subject to SID approval);
- Surface water levels in the recharge basin will be measured by continuously-logged pressure transducers and by hand at least daily;
- Groundwater levels will be continuously logged in each Project monitoring well and piezometer, with data downloaded and reviewed at least monthly;
- On a monthly basis during recharge operations, Project monitoring wells will be sampled for the following analytes of primary concern at the Landfill:
  - Piezometers (if there is sufficient water): Unconfined Aquifer Suite (Table 3);
  - Upper unconfined aquifer wells: Unconfined Aquifer Suite; and
  - Semi-confined aquifer wells: Semi-Confined Aquifer Suite.

Capinero will report Phase II data to the Monitoring Committee on a monthly basis. The following operational constraints will be followed by Capinero:

- If at any point during Phase II recharge, extrapolated groundwater levels in any of the three monitored zones show the potential to rise above 340 ft msl at the eastern side of the Project property, Phase II recharge will cease. This elevation is the "trigger" elevation specified the 2020 Second Semi-Annual and Annual Monitoring Report for Tea Pot Dome Landfill (Appendix E). Recharge will not be re-started until Capinero has implemented measures to prevent this impact from occurring, potentially including installation of dry wells.
- If at any point during Phase II recharge, water levels in perimeter Project monitoring wells and third party wells, known to be influenced by the Project operations, rise to within 15 feet of the ground surface, operations will be constrained or shut down until water levels have fallen below 15 feet below the ground surface. This measure is intended to protect the root zones of adjacent farming operations.

Phase III Monitoring and Response

Operation of Phase III will only proceed following a Monitoring Committee finding that Phase II operations did not cause significant unacceptable impacts. Figure 4 depicts the locations of the Phase III recharge basins, which will be operated together with the Phases I and II. The following monitoring will be performed during Phase III recharge operations:

- Instantaneous and totalized volumes of water delivered into each recharge basin will be measured at least daily (make and type of flow meters subject to SID approval);
- Surface water levels in the recharge basin will be measured by continuously-logged pressure transducers and by hand at least daily;
- Groundwater levels will be continuously logged in each Project monitoring well and piezometer, with data downloaded and reviewed at least monthly;
- On a monthly basis during recharge operations for the first year of Phase III, and on a quarterly basis for every year thereafter, Project monitoring wells will be sampled for the following analytes of primary concern at the Landfill:
    - Piezometers (if there is sufficient water): Unconfined Aquifer Suite;
    - Upper unconfined aquifer wells: Unconfined Aquifer Suite; and
    - Semi-confined aquifer wells: Semi-Confined Aquifer Suite.

Capinero will report Phase III data to the Monitoring Committee on a monthly basis during the first year of recharge operations, and on a quarterly basis for every year thereafter. The following operational constraints will be followed by Capinero:

- If at any point during Phase III recharge, extrapolated groundwater levels in any of the three monitored zones show the potential to rise above 340 ft msl at the eastern side of the Project property, Phase III recharge will cease. This elevation is the "trigger "elevation specified the 2020 Second Semi-Annual and Annual Monitoring Report for Tea Pot Dome Landfill (Appendix E). Recharge will not be re-started until Capinero has implemented measures to prevent this impact from occurring, potentially including installation of dry wells.
- If at any point during Phase III recharge, water levels in perimeter Project monitoring wells and third party wells, known to be influenced by the Project operations, rise to within 15 feet of the ground surface, operations will be constrained or shut down until water levels have fallen below 15 feet below the ground surface. This measure is intended to protect the root zones of adjacent farming operations.

Annual Monitoring

Project monitoring wells will be sampled on an annual basis (regardless of operating status) as follows:

- Piezometers (if water is present) and upper unconfined aquifer monitoring wells will be sampled for the Unconfined Aquifer Suite (Table 3) and the General Analytes Suite (Table 2).
- Semi-confined aquifer monitoring wells will be sampled for the Semi-Confined Aquifer Suite (Table 3) and the General Analytes Suite (Table 2).

Capinero will collaborate with the Landfill operator to incorporate sampling data into Project reporting (and vice versa).

Table 2: General Analytes Suite

Parameter	Analytical Method
Aluminum	EPA 200.7
Antimony	EPA 200.7
Arsenic	EPA 200.8
Asbestos	EPA Method 100 (TEM)
Barium	EPA 200.7
Beryllium	EPA 200.8
Boron	EPA 200.7
Cadmium	EPA 200.7

Calcium	EPA 200.7
Carbonates + bicarbonates	EPA 310.1
Chloride	SM 4500
Chromium	EPA 200.7
Color	EPA 110.2
Copper	EPA 200.7
Cyanide	EPA 335.2
1,2-Dibromo-3-Chloropropane (DBCP)	EPA 504.1
Ethylene Dibromide (Dibromoethane, EDB)	EPA 504.1
Fecal coliform	SM 9221E or 9223B
Fluoride	EPA 340.1
Foaming agents (MBAS)	EPA 425.1
Gross alpha	SM 7110C EPA 900.0
Iron	EPA 200.7
Magnesium	EPA 200.7
Manganese	EPA 200.7
Mercury	EPA 245.1
Methyl tert-butyl ether (MTBE)	EPA 8260B
Nickel	EPA 200.7
Nitrate as NO3	EPA 300
Nitrate + nitrite	EPA 335.3
Nitrite as N	SM 4500
Odor threshold	EPA 140.1
Perchlorate	EPA 314.0
Potassium	EPA 200.7
pH (Field)	EPA 150.1
Phosphorous	EPA 365.2
Selenium	EPA 200.8
Silver	EPA 200.7
Sodium	EPA 200.7
Sodium absorption ratio (SAR)	Calculated
Specific conductance (Field)	EPA 120.1
Sulfate	EPA 375.4
Temperature (Field)	EPA 170.1
Thallium	EPA 200.8
Thiobencarb	EPA 525/507 Full list
Total dissolved solids (TDS)	EPA 160.3
Turbidity (Field)	EPA 180.1
Uranium	EPA 908.0
Zinc	EPA 200.7

Table 3: Aquifer Zone Analytical Suites

Parameter	Analytical Method
Unconfined Zone Suite	
cis-1,2-Dichloroethene	EPA 8260B
Bis(2-ethylexyl) phthalate	EPA 8270D
Semi-Confined Zone Suite	
1,1-Dichloroethene	EPA 8260B
1,2-Dibromo-3-chloropropane	EPA 8260B
Chloroform	EPA 8260B
cis-1,2-Dichloroethene	EPA 8260B
Methylene Chloride	EPA 8260B
Tetrachloroethene	EPA 8260B
Trichloroethene	EPA 8260B

**Constituent list stems from 2019 Annual Reporting for Teapot Dome Landfill*

Water Accounting and Monitoring

Data Collection: The Project will include the following data collection to ensure accurate measurement of recharged, evaporated, banked, and recovered water:

- Instantaneous and totalizing flow meters on each conveyance delivering water into recharge basin (make/type of each meter subject to approval from SID);
- Pressure transducer water level measurement and Capinero staff water level measurement; and
- Use of data from the nearest California Irrigation Management Information System (CIMIS) meteorological station to estimate evaporative loss of applied water before it percolates into the ground.

Each flow meter will be equipped with a data logger to ensure a continuous record of operations. Telemetry systems will have text and email alerts for the on-call operator and two alternate operators. In addition, instantaneous flow, AF totalizer, and water surface level readings will be manually recorded on a daily (24-hour) basis during operating periods. Each meter will be calibrated annually or as requested by SID. To the degree there is a discrepancy between Capinero data and District records that cannot be reconciled, the record will be modified to reflect whichever records the parties deem most reliable.

Banked Water Accounting: The amount of water applied to the Project will be computed on daily increments, based on continuously-logged flow meters. The volume of applied water lost to evaporation prior recharge will be estimated using data from the nearest CIMIS Station. The remaining volume after subtraction of evaporative losses will be reported to SID as the recharged volume.

Water Level Monitoring

The Project basins will be equipped with an automatic water level monitoring device (pressure transducer) that is set to contact the on-call operator (and 2 back-up operators) if the water level in the basin rises to within 1 foot of the basin berm crest. Capinero will have procedures to ensure that the alerted on-call operator adjusts or shuts off recharge operations to prevent basin spill.

Groundwater levels will be measured in the Project piezometers and monitoring wells continuously during recharge periods and twice a year at other times. Groundwater levels will be measured in the nearest 3rd party wells (both irrigation and domestic, contingent on well owner approval) monthly during recharge periods and twice a year at other times. Recharge operations will be constrained or shut down as outlined in the the monitoring and response plans for each project phase, detailed above.

Subsidence Monitoring

Significant subsidence (sinking of the ground surface) has occurred along the FKC to the south due to dewatering of silty and clayey formations by groundwater recovery from wells within the region. While the Project will leave behind 10% to 30% of all banked water as a net gain to the aquifer and will not include installation or operation of Project recovery wells, the potential impact of banked water recovery from other wells needs to be monitored. The Project will comply with requirements of the ETGSA rules and regulations, including the ETGSA Subsidence Plan, when fully adopted. In the interim, the Project will not allow recovery of banked water from wells that are within 1 mile of the FKC until the management portion of the Subsidence Plan has been adopted. Thereafter, this potential operation would be performed in compliance with requirements of the Subsidence Plan.

Reporting

During operating periods Capinero will submit monthly reports to SID which include the following information:

- The beginning volumes of water in the Capinero and SID banked water accounts;
- The sources of water sent to the Project turnout;

- Volumes of water discharged to recharge basins (daily basis);
- Percolation rates (daily basis);
- Losses to evaporation (daily basis);
- Net volumes of recharged water (daily basis);
- The volumes of recharged water allocated into the Capinero and SID accounts in accordance with the Banking Policy leave behind requirements;
- Volumes of Capinero's banked water transferred to others, including the places of use;
- The ending volumes of water in the Capinero and SID banked water accounts;
- Depth to water graphs for key wells approved by the District; and
- Collected analytical data during the reporting period.

During Phases I and II these reports will be submitted monthly. During Phase III, these reports will be submitted on a monthly basis for the first year of recharge, and on a quarterly basis for each year thereafter.

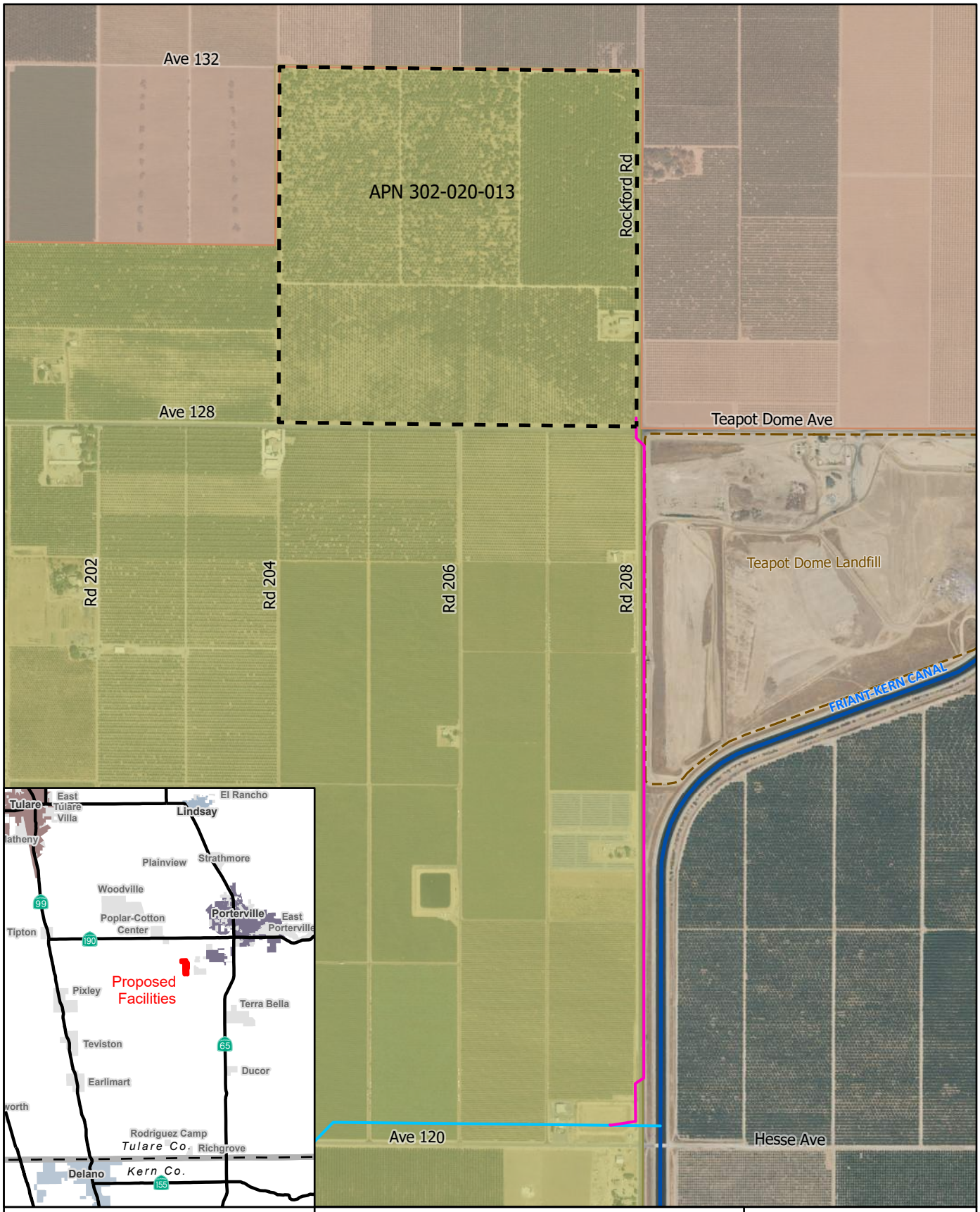
By January 15 of each year, regardless of whether there were any Project operations, Capinero will submit an annual report for the prior year running from October 1 through September 30. This report, submitted to SID and the Monitoring Committee, will include the annual totals for the information listed above and additionally will include the following information:

- A chronological summary of operations and response to Monitoring Committee issues, if any;
- Tabulations of all water level, water quality, water volumes and subsidence monitoring data;
- A map presenting the distributions of total dissolved solids in monitored wells;
- Activities performed to comply with the ETGSA Subsidence Plan;
- Maps presenting the spring and fall elevations of water levels in wells, including interpreted directions of groundwater flow; and
- Maps presenting the spring and fall depths to water in wells.

Limitations and Commitments

- Water will be banked, returned, exchanged, or transferred in compliance with all federal, state, local, and tribal laws, and requirements imposed for protection of the environment and Indian Trust Assets, including the Central Valley Project Improvement Act;
- The Project will not be used to place untilled or new lands into agricultural production, or to convert undeveloped land to other uses. Specifically, no native or untilled land (fallow for three consecutive years or more) will be cultivated with the water managed through this Project;
- Transfers and/or exchanges will be limited to existing supply and will not increase overall consumptive use;
- Operations to bank, return, transfer and/or exchange the water will not result in new Delta exports above those already scheduled for normal CVP or State Water Project (SWP) operations;
- The Project will not interfere with the normal CVP or SWP operations;
- Transfers and/or exchanges cannot alter the flow regime of natural water bodies such as rivers, streams, creeks, ponds, pools, wetlands, etc., so as to not have a detrimental effect on fish or wildlife, or their habitats; and
- The Project will be operated in compliance with the SID Banking Policy; the pending ETGSA GSP; and all applicable district policies, rules and regulations.

FIGURES



EST. 1968
PROVOST & PRITCHARD
CONSULTING GROUP
An Employee Owned Company

N

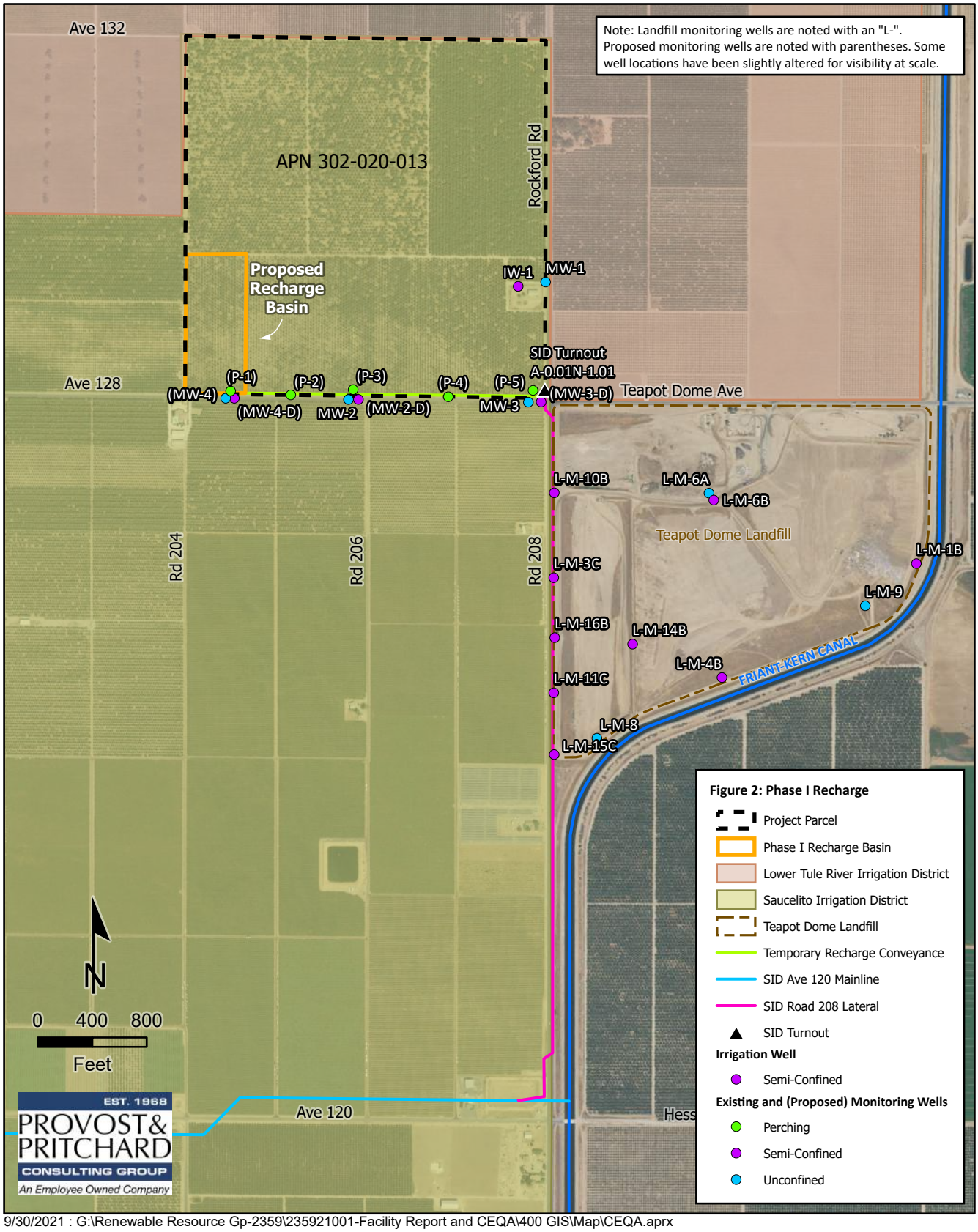
0 400 800
Feet

Project Parcel
Teapot Dome Landfill
Lower Tule River Irrigation District
Saucelito Irrigation District
SID Ave 120 Mainline
SID Road 208 Lateral

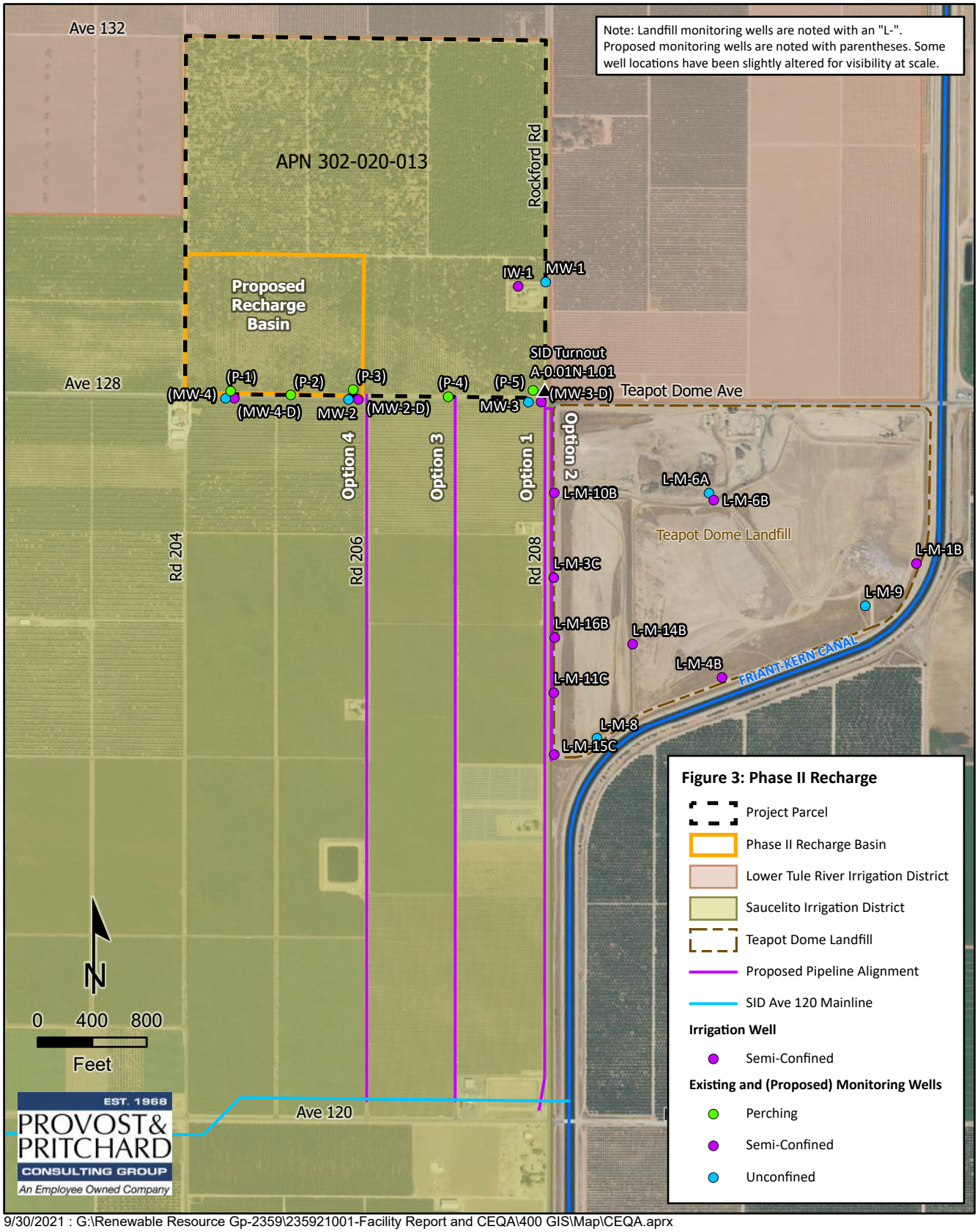
Figure 1

Old Deer Creek
Proposed Facilities Location

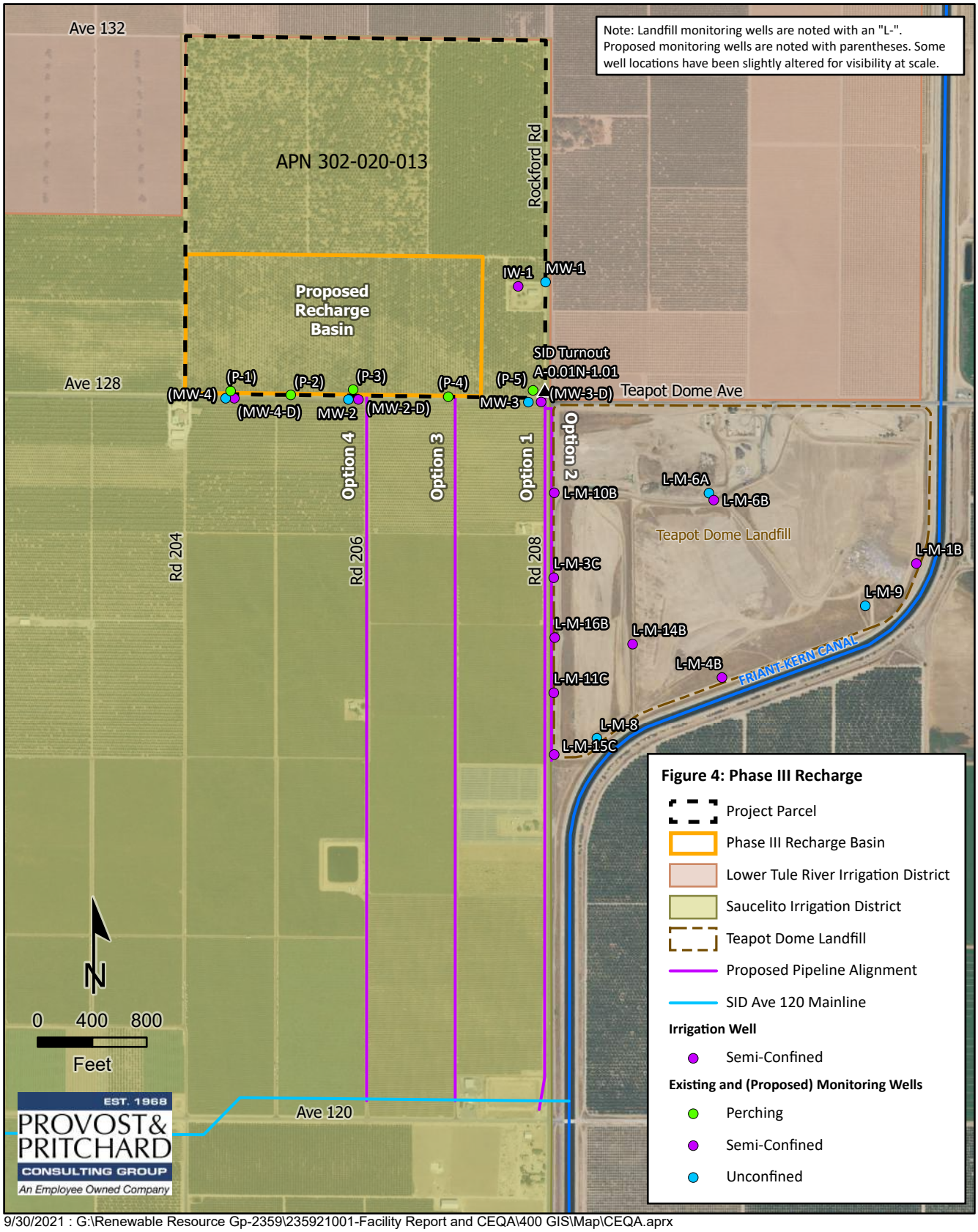
9/30/2021 : G:\Renewable Resource Gp-2359\235921001-Facility Report and CEQA\400 GIS\Map\Old_Deer_Creek_Facilities.aprx



9/30/2021 : G:\Renewable Resource Gp-2359\235921001-Facility Report and CEQA\400 GIS\Map\CEQA.aprx



9/30/2021 : G:\Renewable Resource Gp-2359\235921001-Facility Report and CEQA\400 GIS\Map\CEQA.aprx



9/30/2021 : G:\Renewable Resource Gp-2359\235921001-Facility Report and CEQA\400 GIS\Map\CEQA.aprx

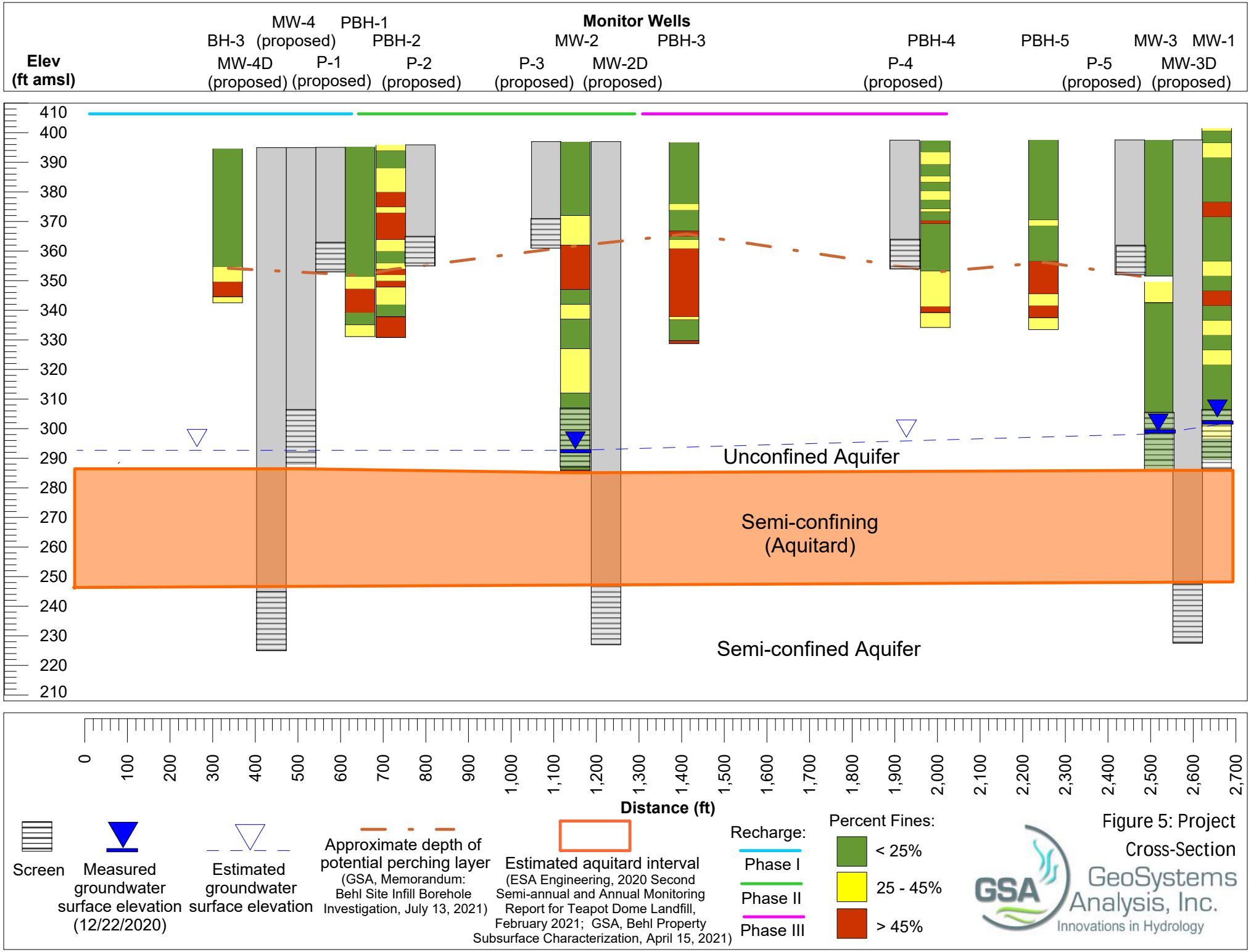


Figure 5: Project Cross-Section

APPENDIX

APPENDIX A

Regional Water Board Document

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2014-0021

WASTE DISCHARGE REQUIREMENTS FOR COUNTY OF TULARE FOR OPERATION AND CORRECTIVE ACTION TEAPOT DOME MUNICIPAL SOLID WASTE LANDFILL TULARE COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Central Valley Water Board) finds that:

1. The County of Tulare (hereinafter Discharger) owns and operates the Teapot Dome Municipal Solid Waste Landfill (facility) located in Section 18, T22S, R27E, MDB&M, at the intersection of Road 208 and Avenue 128, about four miles southwest of Porterville, as shown in Attachment A, which is incorporated herein and made part of this Order by reference. The facility is bounded on the east and south by the Friant-Kern Canal. The facility is a municipal solid waste (MSW) landfill regulated under authority given in the Water Code, section 13000 et seq.; California Code of Regulations, title 27, section 20005 et seq. (Title 27); and Code of Federal Regulations, title 40 section 258 (Subtitle D) in accordance with State Water Resources Control Board (State Water Board) Resolution 93-62.

2. The facility consists of one unlined landfill covering 71 acres. The existing permitted landfill area is shown in Attachment B, which is incorporated herein and made part of this Order by reference. The facility is comprised of Assessor's Parcel Numbers (APN) 302-130-01 and 302-130-02. The facility originally started as a burn dump in 1950 and was converted to a landfill in the early 1970's.

3. The Discharger submitted an amended Report of Waste Discharge (ROWD) to establish a corrective action program (CAP) for the landfill. The information in the ROWD has been used in revising these waste discharge requirements (WDRs). The ROWD contains the applicable information required in Title 27.

   On 11 July 2003, the Central Valley Water Board issued Order No. R5-2003-0115 in which the landfill waste management unit at the facility was classified as a Class III unit for the discharge of non-hazardous waste, municipal solid waste. This Order continues to classify the landfill unit as a Class III unit in accordance with Title 27. The existing and future landfill units authorized by this Order are described as follows:

Area	Liner/LCRS[1] Components	Unit Classification & Status
71 acres	unlined, no LCRS	Class III, active

[1] LCRS – Leachate Collection and Removal System

4. On-site facilities at the Teapot Dome Municipal Solid Waste Landfill include an active landfill gas extraction system and a landfill gas flare.

5. On 9 October 1991, the United States Environmental Protection Agency (USEPA) promulgated federal MSW regulations under the Resource Conservation and Recovery Act (RCRA), Subtitle D. These regulations are under 40 Code of Federal Regulations section 258, and are hereafter referred to as either "Subtitle D" in reference to the RCRA federal law that required the regulations or "40 C.F.R. section 258.XX". These regulations apply to all California Class II and Class III landfills that accept MSW. State Water Board Resolution 93-62 requires the Central Valley Water Board to implement in WDRs for MSW landfills the applicable provisions of the federal MSW regulations that are necessary to protect water quality, and in particular the containment provisions and the provisions that are either more stringent or that do not exist in Title 27.

6. This Order implements the applicable regulations for discharges of solid waste to land through Prohibitions, Specifications, Provisions, and monitoring and reporting requirements. Prohibitions, Specifications, and Provisions are listed in Sections A through I of these WDRs below, and in the Standard Provisions and Reporting Requirements for Nonhazardous Solid Waste Discharge regulated by Subtitle D and/or Title 27 (SPRRs) dated January 2012. Monitoring and reporting requirements are included in the Monitoring and Reporting Program (MRP) No. R5-2014-0021 and in the SPRRs. In general, requirements that are either in regulation or otherwise apply to all MSW landfills are considered to be "standard" and are therefore in the SPRRs. Any site-specific changes to a requirement in the SPRRs are included in the applicable section (A through I) of these WDRs, and the requirement in the WDRs supersedes the requirement in the SPRRs.

7. Title 27 contains regulatory standards for discharges of solid waste promulgated by the State Water Board and the California Department of Resources Recovery and Recycling (CalRecycle). In certain instances, this Order cites CalRecycle regulatory sections. Title 27, section 20012 allows the Central Valley Water Board to cite CalRecycle regulations from Title 27 where necessary to protect water quality provided it does not duplicate or conflict with actions taken by the Local Enforcement Agency in charge of implementing CalRecycle's regulations.

WASTE CLASSIFICATION AND UNIT CLASSIFICATION

8. The Discharger proposes to continue to discharge municipal solid waste to one unlined Class III landfill unit at the facility. These classified wastes may be discharged only in accordance with Title 27, Resolution 93-62, and Subtitle D as required by this Order.

9. The active unlined landfill unit at the facility is an "existing unit" under Title 27, as it was permitted before 27 November 1984, and may continue to accept waste in the "Existing Footprint" until ready for closure unless waste receipts do not meet the timeframes and amounts in Title 27, section 21110, or they are required to close sooner to address environmental impacts or other regulatory concerns. The "Existing Footprint" as defined

in Title 27, section 20164 is the area that was covered by waste as of the date that the landfill unit became subject to Subtitle D. The Existing Footprint for the active unlined areas of the landfill is shown on Attachment B.

10. Title 27, section 20690 allows the use of alternative daily cover (ADC) at MSW landfills upon approval by the Local Enforcement Agency (LEA) and concurrence from CalRecycle. Title 27, section 20705 provides the Water Board's regulations for all daily and intermediate cover including that it shall minimize the percolation of liquids through waste and that the cover shall consist of materials that meet the landfill unit classification (Class III). The regulations also require that for non-composite lined portions of the landfill, that any contaminants in the daily or intermediate cover are mobilized only at concentrations that would not adversely affect beneficial uses of waters of the state in the event of a release. For composite-lined portions of the landfill, the regulations require that constituents and breakdown products in the cover material are listed in the water quality protection standard.

11. The Discharger uses a fabrene membrane tarp or a 2.0 mil Enviro Cover plastic film as an ADC. These ADCs were approved by CalRecycle and the LEA prior to May 2005.

12. Landfills propose new ADC materials regularly in order to preserve landfill air space and to beneficially reuse waste materials. Title 27, section 20686 includes regulations for beneficial reuse, including use of ADC. Approval of ADC is primarily handled by the LEA and CalRecycle under Title 27, section 20690. This Order allows any ADC proposed for use at the facility after the adoption of this Order to be approved by Central Valley Water Board staff provided the Discharger has demonstrated it meets the requirements in Title 27, section 20705. The approved ADC materials should then be listed in the facility's WDRs during the next regular update or revision with information about the Discharger's demonstration. This Order also includes a requirement that ADC only be used in internal areas of the landfill unless the Discharger demonstrates that runoff from the particular ADC is not a threat to surface water quality. The demonstration can take sedimentation basins into account.

SITE DESCRIPTION

13. The facility is located on relatively flat terrain.

14. Land uses within one mile of the facility include agriculture and individual residences.

15. There are approximately 45 municipal, domestic, industrial, or agricultural groundwater supply wells within one mile of the facility.

16. The facility is located upon the westward dipping, eastern limb of the asymmetrical geosynclinal trough of the San Joaquin Valley. The facility overlies a basement complex of pre-Tertiary age metasediments, plutonics, and ultramafics. Sequentially overlying the basement complex are approximately 1,000 to 3,500 feet of consolidated and unconsolidated Tertiary marine deposits, continental deposits, and unconsolidated

Quaternary alluvium. The Quaternary age continental deposits and the older and younger alluviums are of significance to the site. The continental deposits are late Pliocene to early Pleistocene in age and consist of poorly permeable, oxidized sandy-silt and clay. Recent older alluvium overlies the continental deposits and consists of interbedded gravel, sand, silty-sand, and clay. The younger alluvium consists of moderately to highly permeable, interbedded fluvial deposits of gravelly-sand, silty-sand, silt, and clay.

17. The measured hydraulic conductivity of the native soils underlying the landfill unit ranges between 1×10^{-4} and 1.7×10^{-3} centimeters per second (cm/s).

18. Based on a site-specific seismic analysis, the controlling maximum probable earthquake (MPE) for the site is a moment of magnitude 6.7 event along the Coalinga Nose Fault at a closest rupture distance of 74 miles from the site. It is estimated that a MPE event would produce a peak ground acceleration of 0.03 g at the site.

19. The facility receives an average of 11.0 inches of precipitation per year as measured at the Porterville Station. The mean pan evaporation is 80.8 inches per year as measured at the Tulare Station.

20. The 100-year, 24-hour precipitation event for the facility is estimated to be 3.42 inches, based on the National Oceanic and Atmospheric Administration Atlas 14, Volume 6.

21. The waste management facility is not within a 100-year flood plain based on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map, Community-Panel Number 06107C1640E.

22. Storm water evaporation/percolation basins are located northwest of the landfill as shown on Attachment B. The storm water percolation/evaporation basins capture runoff from the facility and retain it on-site.

SURFACE WATER AND GROUNDWATER CONDITIONS

23. The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition* (hereafter Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin.

24. Surface drainage is toward the Tule River in the Tule Delta Hydrologic Area (558.20) of the Tulare Lake Hydrologic Basin.

25. The facility is in Detailed Analysis Unit (DAU) 243 of the Tulare Lake Basin Plan. The designated beneficial uses of the groundwater, as specified in the Basin Plan are municipal and domestic water supply, agricultural supply, industrial service supply, industrial process supply, and wildlife habitat.

26. Based upon the most recent monitoring report (1st Semiannual 2013), the first encountered groundwater ranges from about 75 feet to 98 feet below the native ground surface. Groundwater elevations range from about 278 feet MSL to 314 feet MSL. Three

groundwater zones have been identified beneath the facility. The uppermost zone is unconfined and extends vertically from the water table to about 110 feet below ground surface (bgs). This unconfined aquifer is underlain by a 40-foot thick leaky confining layer. Below the confining layer are the upper and lower semi-confined aquifers. The upper semi-confined aquifer extends below the confining layer to approximately 310 feet bgs. The lower semi-confined aquifer is located directly below the upper semi-confined aquifer and extends to over 400 feet bgs.

27. Monitoring data from the most recent monitoring report (1st Semiannual 2013) indicate background groundwater quality for first encountered groundwater has electrical conductivity (EC) ranging between 260 and 1,300 micromhos/cm, with total dissolved solids (TDS) ranging between 200 and 790 milligrams per liter (mg/L).

28. The direction of groundwater flow in the unconfined groundwater zone is generally toward the southwest and the direction of groundwater flow in the upper semi-confined zone is generally to the west. The estimated average groundwater gradient is approximately 0.007 feet per foot in the unconfined zone and 0.004 feet per foot in the upper semi-confined zone.

29. The facility is in Detailed Analysis Unit (DAU) 243 of the Tulare Lake Basin Plan. The designated beneficial uses of the groundwater, as specified in the Basin Plan are municipal and domestic water supply, agricultural supply, industrial service supply, industrial process supply, and wildlife habitat.

GROUNDWATER AND UNSATURATED ZONE MONITORING

30. The existing groundwater monitoring network for the facility consists of 29 wells (26 on-site and 3 off-site), some of which are seasonally dry. Background monitoring wells consist of M-1A, M-1B, M-1C, M-1S, M-5, M-13A, M-13B, and M-13C. Unconfined groundwater zone monitoring wells consist of M-1A, M-1S, M-2A, M-3A, M-4A, M-5, M-6, M-7, M-8, M-9, M-10A, M-11A, M-12A, M-13A, and M-14A. Upper semi-confined zone monitoring wells consist of M-1B, M-1C, M-3B, M-3C, M-4B, M-10B, M-10C, M-11C, M-13B, M-13C, M-14B, M-15C, and M-16B. There are no monitoring wells in the lower semi-confined zone. The following monitoring wells are also considered corrective action monitoring wells: M-3A, M-3B, M-3C, M-10A, M-10B, M-10C, M-11C, M-15C, and M-16B.

31. Previously, the Discharger conducted semiannual soil-pore gas monitoring from the unsaturated zone wells. Samples were analyzed for methane and volatile organic compounds (VOCs). Since: 1) it is infeasible to install soil-pore liquid sampling devices beneath the closed Unit; 2) the final cover over the Unit and an LFG extraction system will minimize the LFG migration of VOC constituents to groundwater; and 3) a corrective action monitoring program is in operation for VOCs, unsaturated zone detection monitoring is infeasible and unnecessary for the early detection of a release.

32. The Discharger's detection monitoring program for groundwater at the landfill satisfies the requirements contained in Title 27.

33. Volatile organic compounds (VOCs) are often detected in a release from a MSW landfill and are often associated with releases of landfill gas rather than leachate. Since volatile organic compounds are not naturally occurring and thus have no background value, they are not amenable to the statistical analysis procedures contained in Title 27 for the determination of a release of wastes from a landfill unit. Title 27, sections 20415(e)(8) and (9) allows the use of a non-statistical evaluation of monitoring data that will provide the best assurance of the earliest possible detection of a release from a landfill unit in accordance with Title 27, sections 20415(b)(1)(B)2.-4. However, Title 27 does not specify a specific method for non-statistical evaluation of monitoring data.

34. The Central Valley Water Board may specify a non-statistical data analysis method pursuant to Title 27, section 20080(a)(1). Water Code section 13360(a)(1) allows the Central Valley Water Board to specify requirements to protect groundwater or surface waters from leakage from a solid waste site, which includes a method to provide the best assurance of determining the earliest possible detection of a release.

35. In order to provide the best assurance of the earliest possible detection of a release of non-naturally occurring waste constituents from a landfill unit, the SPRRs specify a non-statistical method for the evaluation of monitoring data for non-naturally occurring compounds. The specified non-statistical method for evaluation of monitoring data provides two criteria (or triggers) for making the determination that there has been a release of non-naturally occurring waste constituents from a landfill unit. The presence of two non-naturally occurring waste constituents above their respective method detection limit (MDL), or one non-naturally occurring waste constituent detected above its practical quantitation limit (PQL) [a.k.a, laboratory reporting limit (RL)], indicates that a release of waste from a Unit has occurred. Following an indication of a release, verification testing must be conducted to determine whether there has been a release from the landfill unit or the detection was a false detection. The detection of two non-naturally occurring waste constituents above the MDL as a trigger is appropriate due to the higher risk of false-positive analytical results and the corresponding increase in sampling and analytical expenses from the use of one non-naturally occurring waste constituent above its MDL as a trigger.

36. For a naturally occurring constituent of concern, the Title 27 requires concentration limits for each constituent of concern be determined as follows:

    a. By calculation in accordance with a statistical method pursuant to Title 27, section 20415(e)(8); or

    b. By an alternate statistical method meeting the requirements of Title 27, section 20415(e)(8)(E).

37. The Discharger submitted a Water Quality Protection Standard (WQPS) report proposing statistical data analysis methods to calculate concentration limits for each monitored constituent in accordance with Title 27. The WQPS report proposed to use Interwell data

analysis to calculate prediction limits for the monitored constituents. The WQPS and approved data evaluation methods are included in MRP No. R5-2014-0021.

GROUNDWATER DEGRADATION AND CORRECTIVE ACTION

38. Detection monitoring of the first encountered groundwater zone has detected numerous VOCs along the Point of Compliance. The VOCs detected in groundwater at the Point of Compliance include: vinyl chloride; methylene chloride; tetrachloroethylene (PCE); 1,2-dichloroethylene (1,2-DCE); trichloroethylene (TCE); 1,2-dichloroethane (1,2-DCA); trichlorofluoromethane (CFC-11); dichlorodifluoromethane (CFC-12); 1,1-dichloroethane (1,1-DCA); chloroethane; 1,1,1-trichloroethane (1,1,1-TCA); 1,4-dichlorobenzene (1,4-DCB); 1,3-dichlorobenzene; bis(2-ethylhexyl) phthalate; di-n-butyl phthalate; chloroform; chlorobenzene; methyl chloride; xylenes; benzene; toluene; cis-1, 2- dichloroethylene; 1,1- dichloroethylene; dibromochloropropane (DBCP); chlorodifluoromethane (CFC-22); dichlorofluormethane (CFC-21); diethylether; 1,1-difluoroethane; methyl tert-butyl ether (MTBE); acetone; bromodichloromethane; methyl bromide; chloroprene; trans-1,2-DCE; 1,2-dichloropropane; vinyl acetate; and ethylbenzene. None of the VOCs detected during the First Semiannual 2013 monitoring period exceeded their respective Primary Maximum Contaminant Level (MCL).

39. Inorganic waste constituents (barium, cobalt, manganese, calcium, potassium, and bicarbonate) have previously been detected at concentrations that appeared to statistically exceed their respective background levels in groundwater samples. Statistical analyses of the monitoring results for groundwater samples collected and analyzed during the First Semi-Annual 2013 monitoring period indicate that arsenic; chromium; cobalt; and manganese statistically exceeded their respective background concentration limits in one or more detection monitoring wells. None of these constituents were detected at levels exceeding their respective Primary MCLs. However, manganese was detected at a level exceeding its Secondary MCL (SMCL).

40. Waste Discharge Requirements Order R5-2003-0115 directed the Discharger to complete an evaluation monitoring program (EMP) to adequately delineate the extent of the release and to characterize the release. The results of detection and evaluation monitoring indicate that the organic compound nature of the release consists predominantly of chlorinated volatile organic compounds including: PCE; TCE; cis-1,2-DCE; 1,1-DCE; 1,1-DCA; chloroethane; vinyl chloride; CFC-11; CFC-12; and CFC-22.

41. Trihalomethanes (chloroform; chloromethane; bromodichloromethane; dibromochloromethane; and iodomethane) were found in upgradient background wells and were determined to have originated from sources other than the Unit. The City of Porterville discharged sewage sludge and effluent from the City's waste water treatment plant to the property immediately east and hydraulically upgradient of the landfill and was identified as the source for the trihalomethanes. Discharge to the property ceased in June 2002. Dibromochloropropane was determined to be part of a regional plume and not from the Unit.

42. The final EMP report delineated the extent of impacted groundwater with a concentration of total chlorinated VOCs exceeding 1 µg/L and the magnitude of contamination near the Unit. The Discharger determined that the lateral extent of the VOC plume in the unconfined zone extended approximately 1.7 miles southwest of the point of compliance and approximately 1.1 miles west of the point of compliance. The lateral extent of the VOC plume in the upper semi-confined zone extended approximately 2.0 miles southwest of the point of compliance and approximately 1.1 miles west of the point of compliance. Sampling of the lower semi-confined zone was conducted using private off-site wells and chlorinated VOCs were detected in approximately one-third of the samples. It was determined that the VOC plume extends into some of the wells in the lower semi-confined zone. The lateral extent of the VOC plume in this zone was estimated to extend 1.4 miles to the southwest. Based on statistical analysis, the EMP determined that the plume of inorganic constituents (barium, cobalt, manganese, calcium, potassium, and bicarbonate) did not appear to extend laterally west of the facility boundary.

43. Following completion of the EMP, the Discharger submitted an Engineering Feasibility Study (EFS) for corrective action. Several other updated feasibility studies were subsequently submitted. Central Valley Water Board staff approved the final EFS to establish a corrective action program (CAP) on 6 September 2006.

44. Data in the EFS suggested that groundwater elevations along the eastern edge of the Unit were potentially affected by infiltration from the effluent from the City of Porterville's waste water treatment plant. Until June 2002, the City of Porterville discharged sewage sludge and effluent from the wastewater treatment plant to the property immediately east and hydraulically upgradient of the landfill. Subsequent to the EFS, Central Valley Water Board staff required that the Discharger submit a report verifying that the five-foot separation of groundwater from the base of the waste, as required by section 20240(c) of Title 27, was being maintained. It was determined that a portion of the buried waste had been historically impacted by groundwater but that the required groundwater-waste separation had been maintained since the first quarter of 2003.

45. The Discharger submitted a Groundwater-Waste Separation Mitigation Plan (GWSM Plan), which after subsequent addendums, was approved by Central Valley Water Board staff on 26 February 2008. The GWSM Plan established a groundwater elevation trigger of 340 feet MSL and identified proactive mitigation measures to be implemented in the event that groundwater levels exceed the trigger in monitoring wells M-1A, M-1S, or M-9.

46. Due to the low-levels and decreasing trend in VOCs, monitored natural attenuation (MNA) was approved as a CAP measure in lieu of a pump and treat system. This approval was conditioned on the requirement that the sum of total chlorinated VOCs, excluding trihalomethanes and dibromochloropropane, does not exceed 10 µg/L for two consecutive monitoring periods. The CAP also included the following measures: mitigation of groundwater-waste separation, destruction of the existing water supply well to prevent the ongoing downward movements of waste constituents by eliminating a vertical conduit between the unconfined zone and the upper semi-confined zone, MNA of chlorinated VOCs downgradient of the Unit, performance monitoring of affected downgradient water

supply wells, constructing a new landfill operations water supply well in a location within the plume and pumping the new operations well for use at the site. Water from the new supply well is not treated for use as dust control over the existing waste footprint because the chlorinated VOC concentrations are low (less than 10 micrograms per liter). However, any other use of the water requires treatment.

LANDFILL CLOSURE

47. The Discharger submitted a June 2010 *Preliminary Closure and Postclosure Maintenance Plan* for closure and post-closure maintenance of the unlined landfill unit at the facility.

LANDFILL POST-CLOSURE MAINTENANCE

48. The Discharger submitted a June 2010 *Preliminary Closure and Postclosure Maintenance Plan* for closure and post-closure maintenance of the unlined unit. The plan includes inspection, maintenance, and monitoring of the landfill during the post-closure maintenance period, and includes a post-closure maintenance cost estimate for the entire facility. Inspection and maintenance will include the condition of the final cover, drainage features, groundwater monitoring wells, access roads, landfill gas system, groundwater corrective action system, and site security. The plan will be implemented for a minimum period of 30 years or until the waste no longer poses a threat to environmental quality, whichever is greater.

FINANCIAL ASSURANCES

49. Title 27, sections 21820 and 22206 require a cost estimate for landfill closure. The cost estimate must be equal to the cost of closing the landfill at the point in its active life when the extent and manner of operation would make closure the most expensive. When closing units in phases, the estimate may account for closing only the maximum area or unit of a landfill open at any time. The lump sum estimate is for the cost to close largest future area needing closure at any one time. The total amount of the closure cost estimate in 2013 dollars is $2.43 million. This Order requires that the Discharger maintain financial assurance with the California Department of Resources Recycling and Recovery (CalRecycle) in at least the amount of the closure cost estimate. As of 2013, the balance of the closure fund was $2.43 million.

50. Title 27, sections 21840 and 22211 requires a cost estimate for landfill post-closure maintenance. The amount of the cost estimate for post-closure maintenance in 2013 dollars is $4.56 million. This Order requires that the Discharger maintain financial assurance with CalRecycle in at least the amount of the post-closure maintenance cost estimate adjusted annually for inflation. As of 2013, the balance of the post-closure maintenance fund was $3.95 million.

51. Title 27, section 22221 requires a cost estimate for corrective action of all known or reasonably foreseeable releases. The Discharger submitted a 22 August 2013 cost estimate of $0.69 million for corrective action of all known or reasonably foreseeable

releases. This Order requires that the Discharger maintain financial assurance with CalRecycle in at least the amount of the cost estimate adjusted annually for inflation. As of 2013, the balance of the corrective action fund was $0.69 million.

CEQA AND OTHER CONSIDERATIONS

52. The action to revise waste discharge requirements for this existing facility is exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resource Code section 21000, et seq., and the CEQA guidelines, in accordance with California Code of Regulations, title 14, section 15301.

53. This order implements:

    a. *The Water Quality Control Plan for the Tulare Lake Basin, Second Edition*;

    b. The prescriptive standards and performance goals of California Code of Regulations, title 27, section 20005 et seq., effective 18 July 1997, and subsequent revisions;

    c. State Water Board Resolution 93-62, *Policy for Regulation of Discharges of Municipal Solid Waste*, adopted 17 June 1993, and revised on 21 July 2005.

    d. The applicable provisions of Subtitle D federal regulations as required by State Water Board Resolution 93-62.

54. Based on the threat and complexity of the discharge, the facility is determined to be classified 1B as defined below: (choose one of each)

    a. Category 1 threat to water quality, defined as, “Those discharges of waste that could cause the long-term loss of a designated beneficial use of the receiving water. Examples of long-term loss of a beneficial use include the loss of drinking water supply, the closure of an area used for water contact recreation, or the posting of an area used for spawning or growth of aquatic resources, including shellfish and migratory fish.”

    b. Category B complexity, defined as, “Any discharger not included in Category A that has physical, chemical, or biological treatment systems (except for septic systems with subsurface disposal), or any Class 2 or Class 3 waste management units.”

55. Water Code section 13267(b) provides that: "In conducting an investigation specified in subdivision (a), the Regional Board may require that any person who has discharged, discharges, or is suspected of having discharge or discharging, or who proposed to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who had discharged, discharges, or is suspected of having discharged or discharging, or who proposed to discharge waste outside of its region that could affect the quality of the waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including

costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.

56. The technical reports required by this Order and the attached "Monitoring and Reporting Program No. R5-2014-0021" are necessary to assure compliance with these waste discharge requirements. The Discharger owns and operates the facility that discharges the waste subject to this Order.

PROCEDURAL REQUIREMENTS

57. All local agencies with jurisdiction to regulate land use, solid waste disposal, air pollution, and to protect public health have approved the use of this site for the discharges of waste to land stated herein.

58. The Central Valley Water Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

59. The Central Valley Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to California Water Code sections 13263 and 13267, that Order No. R5-2003-0115 is rescinded except for purposes of enforcement, and that the County of Tulare, its agents, successors, and assigns, in order to meet the provisions of Division 7 of the California Water Code and the regulations adopted thereunder, shall comply with the following:

A. PROHIBITIONS

1. The discharge of ‘hazardous waste’ or ‘designated waste’ is prohibited. For the purposes of this Order, the term ‘hazardous waste’ is as defined in California Code of Regulations, title 23, section 2510 et seq., and ‘designated waste’ is as defined in Title 27.

2. The Discharger shall comply with all Standard Prohibitions listed in Section C of the Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Nonhazardous Solid Waste Discharges Regulated by Subtitle D and/or Title 27 (SPRRs) dated January 2012, which are attached hereto and made part of this Order by reference.

B. DISCHARGE SPECIFICATIONS

1. The Discharger shall only discharge the wastes listed or allowed under the Waste Classification and Unit Classification section in the Findings of this Order.

2. The Discharger may not use any material as alternative daily cover (ADC) that is not listed as approved ADC in the Findings of these WDRs unless and until the Discharger has demonstrated it meets the requirements in Title 27, section 20705, and the Discharger has received approval that it may begin using the material as ADC.

3. The Discharger shall use approved ADC only in internal areas of the landfill that do not drain outside of the limits of the contiguous landfill units unless the Discharger demonstrates that runoff from the particular ADC is not a threat to surface water quality and the demonstration has been approved. This demonstration may take removal of sediment or suspended solids into account for landfills where surface water drains to a sedimentation basin.

4. The Discharger shall, in a timely manner, remove and relocate any wastes discharged at this facility in violation of this Order. If the Discharger is unable to remove and relocate the waste, the Discharger shall submit a report to the Central Valley Water Board explaining how the discharge occurred, why the waste cannot be removed, and any updates to the waste acceptance program necessary to prevent re-occurrence. If the waste is a hazardous waste, the Discharger shall immediately notify the Department of Toxic Substances Control.

5. The Discharger shall comply with all Standard Discharge Specifications listed in Section D of the SPRRs.

C. FACILITY SPECIFICATIONS

1. The Discharger shall comply with all Standard Facility Specifications listed in Section E of the SPRRs.

D. CONSTRUCTION SPECIFICATIONS

1. The Discharger shall comply with all Standard Construction Specifications listed in Section F of the SPRRs.

2. The Discharger shall comply with all Storm Water Provisions listed in Section L of the SPRRs.

E. CLOSURE AND POST-CLOSURE MAINTENANCE SPECIFICATIONS

1. The Discharger shall submit a final or partial final closure and post-closure maintenance plan at least two years prior to proposed closure of any portion of the landfill in accordance with requirements in Section G of the Standard Closure and Post-Closure Specifications in the SPRRs.

2. The Discharger shall obtain revised WDRs prior to closure.

3. The Discharger shall comply with all Standard Closure and Post-Closure Specifications listed in Section G and all Standard Construction Specifications that are applicable to closure in Section F of the SPRRs.

F. FINANCIAL ASSURANCE SPECIFICATIONS

1. The Discharger shall obtain and maintain assurances of financial responsibility with CalRecycle for closure and post-closure maintenance for the landfill in at least the amounts described in Findings 49 and 50, adjusted for inflation annually. A report regarding financial assurances for closure and post-closure maintenance shall be submitted to the Central Valley Water Board by **1 October of each year**. This may be the same report that is submitted to CalRecycle for this purpose. If CalRecycle determines that either the amount of coverage or the mechanism is inadequate, then within 90 days of notification, the Discharger shall submit an acceptable mechanism to CalRecycle and the Central Valley Water Board for at least the amount of the approved cost estimate.

2. The Discharger shall update the preliminary closure and post-closure maintenance plan (PCPCMP) any time there is a change that will increase the amount of the closure and/or post-closure maintenance cost estimate. The updated PCPCMP shall be submitted to the Central Valley Water Board, the Local Enforcement Agency, and CalRecycle. The PCPCMP shall meet the requirements of Title 27, section 21769(b), and include a lump sum estimate of the cost of carrying out all actions necessary to close each Unit, to prepare detailed design specifications, to develop the final closure and post-closure maintenance plan, and to carry out the first thirty years of post-closure maintenance. Reports regarding financial assurance required in F.1 above shall reflect the updated cost estimate.

3. The Discharger shall obtain and maintain assurances of financial responsibility with CalRecycle for initiating and completing corrective action for all known or reasonably foreseeable releases from the landfill in at least the amount of the annual inflation-adjusted cost estimate described in Finding 51. A report regarding financial assurances for corrective action shall be submitted to the Central Valley Water Board by **1 October of each year**. This may be the same report that is submitted to CalRecycle for this purpose. If CalRecycle determines that either the amount of coverage or the mechanism is inadequate, then within 90 days of notification, the Discharger shall submit an acceptable mechanism to CalRecycle and the Central Valley Water Board for at least the amount of the approved cost estimate.

4. The Discharger shall comply with all Standard Financial Assurance Specifications listed in Section H of the SPRRs.

G. MONITORING SPECIFICATIONS

1. The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater, surface water, and the unsaturated zone, and in accordance with Monitoring and Reporting Program (MRP) No. R5-2014-0021 and the Standard Monitoring Specifications listed in Section I of the SPRRs.

2. The Discharger shall, for any landfill unit in a corrective action monitoring program, comply with the corrective action monitoring program provisions of Title 27, MRP No. R5-2014-0021 and the Standard Monitoring Specifications listed in Section I of SPRRs.

3. The Discharger shall comply with the Water Quality Protection Standard as specified in this Order, MRP No. R5-2014-0021 and the SPRRs.

4. The concentrations of the constituents of concern in waters passing the Point of Compliance (defined pursuant to Title 27, section 20164 as a vertical surface located at the hydraulically downgradient limit of the landfill unit that extends through the uppermost aquifer underlying the unit) shall not exceed the concentration limits established pursuant to MRP No. R5-2014-0021.

5. For each monitoring event, the Discharger shall determine whether the landfill is in compliance with the Water Quality Protection Standard using procedures specified in MRP No. R5-2014-0021 and the Standard Monitoring Specifications in Section I of the SPRRs.

6. The Discharger shall comply with all Standard Monitoring Specifications and Response to a Release specifications listed in Sections I and J of the SPRRs.

H. CORRECTIVE ACTION SPECIFICATIONS

1. **By 15 June 2015**, the Discharger shall submit a CAP evaluation report that determines whether monitored natural attenuation is effective in reducing VOC concentrations in both the off-site wells and the point of compliance wells and should continue, or whether alternative/additional corrective action methods should be utilized.

2. **By 15 September 2015,** if the CAP evaluation report determines that natural attenuation is unsuccessful in remediating VOCs in groundwater (see Corrective Action Specification H.1), the Discharger shall submit an amended RWD for Executive Officer approval to make appropriate changes to the EFS for a CAP that includes a detailed work plan for the use of alternative/additional corrective action methods.

3. The Discharger shall sample the wells listed in the EFS on a semiannual basis for VOCs. The semiannual sampling results shall be reported and discussed in semi-annual monitoring reports. Sample collection and analysis shall coincide with Groundwater Detection Monitoring A.1 of MRP R5-2014-0021.

4. Corrective action measures may be terminated when the Discharger demonstrates to the satisfaction of the Executive Officer that the concentrations of VOCs are reduced to levels below their respective concentration limits throughout the entire zone affected by the release.

5. After suspending the corrective action measures, the Discharger shall demonstrate that the concentration of each VOCs in each sample from each monitoring point remained at or below its concentration limit for at least three consecutive years, beginning immediately after the suspension of corrective action measures.

6. Upon completion of corrective action, the Discharger shall certify, in writing, that corrective action has been completed in compliance with Title 27 and the WDRs. The certification shall be signed by a California Registered Civil Engineer or Professional Geologist.

7. If at any time, either the Discharger or the Executive Officer determines that natural attenuation is unsuccessful in remediating VOCs in groundwater, the Discharger shall, **within 90 days of making the determination**, **or of receiving written notification from the Executive Officer of such determination**, submit an amended RWD for Executive Officer approval, to make appropriate changes to the EFS for a CAP that includes a detailed work plan for the use of other alternative/additional correction action methods to remediate VOCs.

   At a minimum, a determination that the CAP is unsuccessful in remediating VOCs may result if one of the following conditions is met:

   a. Waste constituent concentrations in Point of Compliance groundwater monitoring wells exhibit an increasing trend not originally predicted after implementation of corrective action; or

   b. Point of Compliance groundwater monitoring wells exhibit significant waste constituent concentration increases indicative of a new or renewed release; or

   c. Significant waste constituent concentrations are identified in the monitored off-site wells; or

   d. Waste constituent concentrations are not decreasing at a sufficient rate to meet the remediation objectives.

   The amended RWD shall include the following:

   a. A discussion as to why existing corrective action measures have been ineffective or insufficient.

   b. A revised evaluation monitoring plan if necessary to further assess the nature and extent of the release.

c. A discussion of corrective action needs and alternatives.

d. Proposed alternative corrective action measures, as necessary, for:

1) Source control, and/or

2) Groundwater cleanup.

e. A plan to monitor the progress of corrective action measures consistent with MRP R5-2014-0021.

8. **Within one year** of Executive Officer approval of the amended RWD to make appropriate modifications to the EFS for the CAP or propose an alternate CAP, the Discharger shall implement the modified CAP or the proposed CAP to remediate VOCs.

I. PROVISIONS

The Discharger shall maintain a copy of this Order at the facility, including MRP No. R5-2014-0021 and the SPRRs, and make it available at all times to facility operating personnel, who shall be familiar with its contents, and to regulatory agency personnel.

7. The Discharger shall comply with all applicable provisions of Title 27 and Subtitle D that are not specifically referred to in this Order.

8. The Discharger shall comply with MRP No. R5-2014-0021, which is incorporated into and made part of this Order by reference.

9. The Discharger shall comply with the applicable portions of the Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Nonhazardous Solid Waste Discharges Regulated by Subtitle D and/or Title 27, dated January 2012, which are attached hereto and made part of this Order by reference.

10. If there is any conflicting or contradictory language between the WDRs, the MRP, or the SPRRs, then language in the WDRs shall supersede either the MRP or the SPRRs, and language in the MRP shall supersede the SPRRs.

11. All reports required by this Order shall be submitted pursuant to Water Code section 13267.

12. The Discharger shall complete the tasks contained in these waste discharge requirements in accordance with the following time schedule:

Task	Compliance Date
A. Corrective Action	
1. Submit a CAP evaluation report that determines whether monitored natural attenuation is effective in reducing VOC concentrations in both the off-site wells and the point of compliance wells and should continue, or whether corrective action methods should be utilized. (see Corrective Action Specification H.1)	**By 15 June 2015**
2. If the CAP evaluation report determines that natural attenuation is unsuccessful in remediating VOCs in groundwater (see Corrective Action Specification H.1), the Discharger shall submit an amended RWD for Executive Officer approval to make appropriate changes to the EFS for a CAP that includes a detailed work plan for the use of other corrective action methods. (see Corrective Action Specification H.2)	**By 15 September 2015**
3. Submit an amended RWD for Executive Officer approval, to make appropriate changes to the EFS for a CAP and/or propose alternative correction action methods to remediate VOCs, if it is determined by either the Discharger or the Executive Officer, that natural attenuation corrective action methods are unsuccessful. (see Corrective Action Specification H.7)	**Within 90 days of making a determination or of receiving written notification of such a determination**
4. Implement the modified CAP or alternative CAP to remediate VOCs. (see Corrective Action Specification H.8)	**Within one year of Executive Officer approval of the amended RWD to make appropriate changes to the EFS for a CAP**
B. Financial Assurance Review	
1. Annual Review of Financial Assurance for closure and post-closure maintenance. (see Financial Assurance Specification F.1)	**By 1 October of each year**

2. Annual Review of Financial Assurance for initiating and completing corrective action. (see Financial Assurance Specification F.3)	**By 1 October of each year**

13. The Discharger shall comply with all General Provisions listed in Section K of the SPRRs.

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order may result in the assessment of Administrative Civil Liability of up to $10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

http://www.waterboards.ca.gov/public_notices/petitions/water_quality

or will be provided upon request.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 7 February 2014.

Original signed by:

_____

PAMELA C. CREEDON, Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2014-0021
FOR
COUNTY OF TULARE
FOR
OPERATION AND CORRECTIVE ACTION
TEAPOT DOME MUNICIPAL SOLID WASTE LANDFILL
TULARE COUNTY

This monitoring and reporting program (MRP) is issued pursuant to California Water Code section 13267 and incorporates requirements for groundwater, surface water, and unsaturated zone monitoring and reporting; facility monitoring, maintenance, and reporting; and financial assurances reporting contained in California Code of Regulations, title 27, section 20005, et seq. (hereafter Title 27), Waste Discharge Requirements (WDRs) Order No. R5-2014-0021, and the Standard Provisions and Reporting Requirements (SPRRs) dated January 2012. Compliance with this MRP is ordered by the WDRs and the Discharger shall not implement any changes to this MRP unless a revised MRP is issued by the Central Valley Water Board or the Executive Officer.

A. MONITORING

The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater, in accordance with Standard Monitoring Specifications in Section I of the SPRRs and the Monitoring Specifications in Section G of the WDRs. All monitoring shall be conducted in accordance with the approved 2002 *Water Quality Protection Standard Report Update*, which includes quality assurance/quality control standards.

All compliance monitoring wells established for the detection monitoring program shall constitute the monitoring points for the groundwater Water Quality Protection Standard. All detection monitoring program groundwater monitoring wells shall be sampled and analyzed for monitoring parameters and constituents of concern (COCs) as indicated and listed in Tables I, III, and IV.

The Discharger may use alternative analytical test methods, including new USEPA approved methods, provided the methods have method detection limits equal to or lower than the analytical methods specified in this Monitoring and Reporting Program, and are identified in the approved Sample Collection and Analysis Plan.

The monitoring program of this MRP includes:

Section	Monitoring Program
A.1	Groundwater Monitoring
A.2	Seep Monitoring
A.3	Facility Monitoring
A.4	Corrective Action Monitoring

1. Groundwater Monitoring

The Discharger shall operate and maintain a groundwater detection monitoring system that complies with the applicable provisions of Title 27, sections 20415 and 20420. The detection monitoring system shall be certified by a California-licensed professional civil engineer or geologist as meeting the requirements of Title 27. The current groundwater detection monitoring system meets the applicable requirements of Title 27.

The current groundwater monitoring network shall consist of the following:

Well	Status	Zone
M-1A	Background	Unconfined
M-1B	Background	Upper Semi-Confined
M-1C	Background	Upper Semi-Confined
M-1S	Background	Unconfined
M-2A	Other	Unconfined
M-3A	Detection/Corrective Action	Unconfined
M-3B	Other	Upper Semi-Confined
M-3C	Corrective Action	Upper Semi-Confined
M-4A	Detection	Unconfined
M-4B	Detection	Upper Semi-Confined
M-5	Background	Unconfined
M-6	Detection	Unconfined
M-6B	Detection	Upper Semi-Confined
M-7	Detection	Unconfined
M-8	Detection	Unconfined
M-9	Other	Unconfined
M-10A	Corrective Action	Unconfined
M-10B	Corrective Action	Upper Semi-Confined
M-10C	Corrective Action	Upper Semi-Confined
M-11A	Other	Unconfined
M-11C	Corrective Action	Upper Semi-Confined
M-12A	Other	Unconfined
M-13A	Background	Unconfined
M-13B	Background	Upper Semi-Confined
M-13C	Background	Upper Semi-Confined

Well	Status	Zone
M-14A	Detection	Unconfined
M-14B	Detection	Upper Semi-Confined
M-15C	Corrective Action	Upper Semi-Confined
M-16B	Corrective Action	Upper Semi-Confined

Additionally, the following off-site domestic and agricultural wells shall be monitored in addition to the above wells as part of the corrective action program:

Well Address	Map Key Identifier	Status
12467 Road 206	4	Corrective Action
12012 Road 200	10	Corrective Action
12557 Road 200	11	Corrective Action
12651 Road 208	13	Corrective Action
12325 Road 208	15	Corrective Action
11959 Road 200	17	Corrective Action
11863 Road 200	18	Corrective Action
12528 Road 200	19	Corrective Action
20712 Avenue 120	22	Corrective Action
12599 Road 202	24	Corrective Action
11779 Road 200	37	Corrective Action
18688 A&B Avenue 112	68	Corrective Action
18778 Avenue 112	74	Corrective Action
18634 Avenue 112	80	Corrective Action
11480 Road 200	85	Corrective Action

Groundwater samples shall be collected from the background wells, detection monitoring wells, corrective action monitoring wells, and any additional wells added as part of the approved groundwater monitoring system. The collected samples shall be analyzed for the parameters and constituents listed in Table I or Table V, as applicable, in accordance with the specified methods and frequencies. The Discharger shall collect, preserve, and transport groundwater samples in accordance with the approved Sample Collection and Analysis Plan.

Once per quarter, the Discharger shall measure the groundwater elevation in each well (excluding the domestic and agricultural wells), determine groundwater flow direction, and estimate groundwater flow rates in the uppermost aquifer and in any zones of perched water and in any additional portions of the zone of saturation monitored. The results shall be reported semiannually, including the times of expected highest and lowest elevations of the water levels in the wells, pursuant to Title 27, section 20415(e)(15).

Samples collected for the COC monitoring specified in Table I shall be collected and analyzed in accordance with the methods listed in Table IV every five years. Five-year COCs were last monitored in 2009 and shall be monitored again in **2014**. The results shall be reported in the Annual Monitoring Report for the year in which the samples were collected.

2. Seep Monitoring

Leachate that seeps to the surface from a landfill unit (unit) shall be sampled and analyzed for the field and monitoring parameters listed in Table II upon detection. The quantity of leachate shall be estimated and reported as Leachate Flow Rate (in gallons/day). Reporting for leachate seeps shall be conducted as required in Section B.3 of this MRP, below.

3. Facility Monitoring

a. Annual Facility Inspection

Annually, prior to the anticipated rainy season, but no later than **30 September**, the Discharger shall conduct an inspection of the facility. The inspection shall assess repair and maintenance needed for drainage control systems, cover systems, and groundwater monitoring wells; and shall assess preparedness for winter conditions (including but not limited to erosion and sedimentation control). The Discharger shall take photos of any problems areas before and after repairs. Any necessary construction, maintenance, or repairs shall be completed by **31 October**. Annual facility inspection reporting shall be submitted as required in Section B.4 of this MRP.

b. Major Storm Events

The Discharger shall inspect all precipitation, diversion, and drainage facilities and all landfill side slopes for damage **within 7 days** following major storm events capable of causing damage or significant erosion. The Discharger shall take photos of any problems areas before and after repairs. Necessary repairs shall be completed **within 30 days** of the inspection. Notification and reporting requirements for major storm events shall be conducted as required in Section B.5 of this MRP.

c. Standard Observations

The Discharger shall conduct Standard Observations at the landfill in accordance with this section of the MRP. Standard observations shall be conducted in accordance with the following schedule:

Frequency	Season
Monthly	Wet: 1 October to 30 April
Quarterly	Dry: 1 May to 30 September

The Standard Observations shall include:

1) For the landfill units:

   a) Evidence of ponded water at any point on the landfill outside of any contact storm water/leachate diversions structures on the active face (show affected area on map); and

   b) Evidence of erosion and/or of day-lighted refuse.

2) Along the perimeter of the landfill units:

   a) Evidence of leachate seeps, estimated size of affected area, and flow rate (show affected area on map); and

   b) Evidence of erosion and/or of day-lighted refuse.

3) For receiving waters:

   a) Floating and suspended materials of waste origin - presence or absence, source, and size of affected area; and

   b) Discoloration and turbidity - description of color, source, and size of affected area.

Results of Standard Observations shall be submitted in the semiannual monitoring reports required in Section B.1 of this MRP.

4. Corrective Action Monitoring

The Discharger shall conduct corrective action monitoring to demonstrate the effectiveness of corrective action in accordance with Title 27, section 20430 and Table V of this MRP. Groundwater monitoring wells that are in a corrective action monitoring program shall be monitored in accordance with the groundwater monitoring requirements in parts A.1 of this MRP, except as modified in this part of the MRP for any additional constituents or modified monitored frequencies.

Corrective action monitoring data analysis shall include the following:

a. Nature and Extent:
   1) Comparisons with concentration limits to identify any new or previously undetected constituents at a monitoring point.
   2) The sum of total chlorinated VOCs, excluding trihalomethanes and dibromochloropropane.

b. Effectiveness of Corrective Action:
   1) Preparation of time series plots for representative waste constituents.
   2) Trend analysis for each waste constituent.
   3) The need for additional corrective action measures and/or monitoring wells.

The results of the above analysis, including a narrative discussion, shall be included in each semiannual monitoring report and summarized in the Annual Report, as specified under reporting Section B.1 and B.2 of this MRP below. The semiannual monitoring reports shall also include a discussion of the progress of corrective action toward returning to compliance with the WQPS, as specified in Section 20430(h) of Title 27.

B. REPORTING

The Discharger shall submit the following reports in accordance with the required schedule:

Reporting Schedule

Section	Report	End of Reporting Period	Due Date
B.1	Semiannual Monitoring Report	30 June, 31 December	**31 August, 28 February**
B.2	Annual Monitoring Report	31 December	**28 February**
B.3	Seep Reporting	Continuous	**Immediately & 7 Days**
B.4	Annual Facility Inspection Report	31 October	**15 November**
B.5	Major Storm Event Reporting	Continuous	**Immediately upon damage discovery & 14 days after repair completion**
B.6	Financial Assurances Report	31 December	**1 October**

Reporting Requirements

The Discharger shall submit monitoring reports **semiannually** with the data and information as required in this Monitoring and Reporting Program and as required in WDRs Order No. R5-2014-0021 and the Standard Provisions and Reporting Requirements (particularly Section I: "Standard Monitoring Specifications" and Section J: "Response to a Release"). In reporting the monitoring data required by this program, the Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. The data shall be summarized in such a manner so as to illustrate clearly the compliance with waste discharge requirements or the lack thereof. Data shall also be submitted in a digital format, such as a computer disk.

Field and laboratory tests shall be reported in each monitoring report. Semiannual and annual monitoring reports shall be submitted to the Central Valley Water Board in accordance with the above schedule for the calendar period in which samples were taken or observations made. In addition, the Discharger shall enter all monitoring data and monitoring reports into the online Geotracker database as required by Division 3 of Title 27.

The results of **all monitoring** conducted at the site shall be reported to the Central Valley Water Board in accordance with the reporting schedule above for the calendar period in which samples were taken or observations made.

The Discharger shall retain records of all monitoring information, including all calibration and maintenance records, all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records shall be maintained throughout the life of the facility including the post-closure period. Such records shall be legible and shall show the following for each sample:

a) Sample identification and the monitoring point or background monitoring point from which it was taken, along with the identity of the individual who obtained the sample;

b) Date, time, and manner of sampling;

c) Date and time that analyses were started and completed, and the name of the personnel and laboratory performing each analysis;

d) Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used;

e) Calculation of results; and

f) Results of analyses, and the MDL and PQL for each analysis. All peaks shall be reported.

Required Reports

1. **Semiannual Monitoring Report:** Monitoring reports shall be submitted semiannually and are due on **31 August** and **28 February**. Each semiannual monitoring report shall contain at least the following:

   a) For each groundwater monitoring point addressed by the report, a description of:

      1) The time of water level measurement;

      2) The type of pump - or other device - used for purging and the elevation of the pump intake relative to the elevation of the screened interval;

      3) The method of purging used to stabilize water in the well bore before the sample is taken including the pumping rate; the equipment and methods used to monitor field pH, temperature, and conductivity during purging; results of pH, temperature, conductivity, and turbidity testing; and the method of disposing of the purge water;

      4) The type of pump - or other device - used for sampling, if different than the pump or device used for purging; and

      5) A statement that the sampling procedure was conducted in accordance with the approved Sample Collection and Analysis Plan.

   b) A map or aerial photograph showing the locations of observation stations, monitoring points, and background monitoring points.

   c) The estimated quarterly groundwater flow rate and direction in the uppermost aquifer, in any zones of perched water, and in any additional zone of saturation monitored based upon water level elevations taken prior to the collection of the water quality data submitted in the report [Title 27, section 20415(e)(15)].

   d) Cumulative tabulated monitoring data for all monitoring points and constituents for groundwater. Concentrations below the laboratory reporting limit shall not be reported as “ND” unless the reporting limit is also given in the table. Otherwise they shall be reported “<” the reporting limit (e.g., <0.10). Units shall be as required in Tables I, II, and V unless specific justification is given to report in other units. Refer to the SPRRs Section I “Standard Monitoring Specifications” for requirements regarding MDLs and PQLs.

   e) Laboratory statements of results of all analyses evaluating compliance with requirements.

   f) An evaluation of the concentration of each monitoring parameter (or 5-year COC when five year COC sampling is conducted) as compared to the current

concentration limits, and the results of any required verification testing for constituents exceeding a concentration limit. Report any actions taken under SPRRS, Section J: Response to a Release for verified exceedances of a concentration limit.

g) A summary of all Standard Observations for the reporting period required in Section A.3.c of this MRP.

h) A summary of inspection, leak search, and repair of final covers on any closed landfill units in accordance with an approved final post-closure maintenance plan as required by Standard Closure and Post-Closure Maintenance Specifications G.26 through G.29 of the SPRRs.

2. **Annual Monitoring Report:** The Discharger shall submit an Annual Monitoring Report to the Central Valley Water Board by **28 February** covering the reporting period of the previous monitoring year. If desired, the Annual Monitoring Report may be combined with the second semiannual report, but if so, shall clearly state that it is both a semi-annual and annual monitoring report in its title. Each Annual Monitoring Report shall contain the following information:

a) All monitoring parameters shall be graphed to show historical trends at each monitoring point and background monitoring point, for all samples taken within at least the previous five calendar years. If a 5-year COC event was performed, than these parameters shall also be graphically presented. Each such graph shall plot the concentration of one or more constituents for the period of record for a given monitoring point or background monitoring point, at a scale appropriate to show trends or variations in water quality. The graphs shall plot each datum, rather than plotting mean values. Graphical analysis of monitoring data may be used to provide significant evidence of a release.

b) An evaluation of the monitoring parameters with regards to the cation/anion balance, and a graphical presentation using a Stiff diagram, a Piper graph, or a Schoeller plot.

c) All historical monitoring data for which there are detectable results, including data for the previous year, shall be submitted in tabular form in a digital file format such as a computer disk. The Central Valley Water Board regards the submittal of data in hard copy and in digital format as "...the form necessary for..." statistical analysis [Title 27, section 20420(h)], that facilitates periodic review by the Central Valley Water Board.

d) Hydrographs of each well showing the elevation of groundwater with respect to the elevations of the top and bottom of the screened interval and the elevation of the pump intake. Hydrographs of each well shall be prepared quarterly and submitted annually.

e) A comprehensive discussion of the compliance record, and the result of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements.

f) A map showing the area and elevations in which filling has been completed during the previous calendar year and a comparison to final closure design contours, and include a projection of the year in which each discrete landfill module will be filled.

g) A written summary of the monitoring results, indicating any changes made or observed since the previous Annual Monitoring Report.

h) Updated concentration limits for each monitoring parameter at each monitoring well based on the new data set.

i) A comprehensive discussion of any Corrective Action Program required by this MRP under Section A.4.

3. **Seep Reporting:** The Discharger shall report by telephone any seepage from the disposal area **immediately** after it is discovered. A written report shall be filed with the Central Valley Water Board **within seven days**, containing at least the following information:

   a) A map showing the location(s) of seepage;

   b) An estimate of the flow rate;

   c) A description of the nature of the discharge (e.g., all pertinent observations and analyses);

   d) Verification that samples have been submitted for analyses of the Field Parameters and Monitoring Parameters listed in Table II of this MRP, and an estimated date that the results will be submitted to the Central Valley Water Board; and

   e) Corrective measures underway or proposed, and corresponding time schedule.

4. **Annual Facility Inspection Reporting:** By **15 November** of each year, the Discharger shall submit a report describing the results of the inspection and the repair measures implemented, preparations for winter, and include photographs of any problem areas and the repairs. Refer to Section A.3.a of this MRP, above.

5. **Major Storm Event Reporting:** Following major storm events capable of causing damage or significant erosion, the Discharger **immediately** shall notify Central Valley Water Board staff of any damage or significant erosion upon discovery and report subsequent repairs within **14 days** of completion of the repairs, including photographs of the problem and the repairs. Refer to Section A.3.b of this MRP, above.

6. **Financial Assurances Report:** By **1 October** of each year, the Discharger shall submit a copy of the annual financial assurances report due to CalRecycle that updates the financial assurances for closure, post-closure maintenance, and corrective action. Refer to Financial Assurances Specifications F.1 through F.3 of the WDRs.

C. WATER QUALITY PROTECTION STANDARD AND COMPLIANCE PERIOD

1. Water Quality Protection Standard Report

For each waste management unit, the Water Quality Protection Standard shall consist of all COCs, the concentration limit for each constituent of concern, the verification retesting procedure to confirm measurably significant evidence of a release, the point of compliance, and all water quality monitoring points for each monitored medium.

The Water Quality Protection Standard for naturally occurring waste constituents consists of the COCs, the concentration limits, and the point of compliance and all monitoring points. Any proposed changes to the Water Quality Protection Standard other than annual update of the concentration limits shall be submitted in a report for review and approval.

The report shall:

a. Identify **all distinct bodies of surface and ground water** that could be affected in the event of a release from a waste management unit or portion of a unit. This list shall include at least the uppermost aquifer and any permanent or ephemeral zones of perched groundwater underlying the facility.

b. Include a map showing the monitoring points and background monitoring points for the surface water monitoring program, groundwater monitoring program, and the unsaturated zone monitoring program. The map shall include the point of compliance in accordance with Title 27, section 20405.

c. Evaluate the perennial direction(s) of groundwater movement within the uppermost groundwater zone(s).

d. Include a proposed statistical method for calculating concentration limits for monitoring parameters and constituents of concern that are detected in 10% or greater of the background data (naturally-occurring constituents) using a statistical procedure from Title 27, section 20415(e)(8)(A-D)] or section 20415(e)(8)(E).

e. Include a retesting procedure to confirm or deny measurably significant evidence of a release pursuant to Title 27, section 20415(e)(8)(E) and section 20420(j)(1-3).

The Water Quality Protection Standard shall be certified by a California-registered civil engineer or geologist as meeting the requirements of Title 27. If subsequent sampling of the background monitoring point(s) indicates significant water quality changes due to either seasonal fluctuations or other reasons unrelated to waste management activities at the site, the Discharger may request modification of the Water Quality Protection Standard.

The Discharger proposed the methods for calculating concentration limits in the 2002 *Water Quality Protection Standard Report Update*. Pursuant to Title 27 CCR Section 20415(e)(10)(B), for each naturally occurring inorganic COC, the concentration limit (applicable suite of background data) for that constituent shall be re-determined each semiannual monitoring period according to the following "moving window" formula, and the Discharger shall use the resulting concentration limit to apply the parametric Interwell Upper Prediction Limit analysis method featured in the Sanitas™ for Groundwater statistical software package, unless the software indicates that a different method (e.g., the nonparametric version of the same method) is more appropriate. Sanitas™ Batch Mode is performed on the entire monitoring well network for all constituents. Constituents that indicate an exceedence under Batch Mode are further analyzed under Sanitas™ Interactive Mode to verify or refute whether the prediction limit established for the constituent was appropriate for the background data set. For each reporting period subsequent to the initial reporting period, the Discharger shall create the new concentration limit, for that constituent, by taking the prior reporting period's background data, adding the newest datum, for that constituent, from background monitoring wells and removing the oldest datum. Monitoring wells M-1A, M-1B, M-1C, M-1S, M-5, M-13A, M-13B, and M-13C are currently being used for the collection of background data. The WQPS shall be updated, at a minimum, every five years; or as required by natural changes in background water quality.

2. Monitoring Parameters

Monitoring parameters are a select group of constituents that are monitored during each monitoring event that are the waste constituents, reaction products, hazardous constituents, and physical parameters that provide a reliable indication of a release from a waste management unit. The monitoring parameters for all waste management units are those listed in Tables I, II, III, and V for the specified monitored medium.

3. Constituents of Concern (COCs)

The COCs include a larger group of waste constituents, their reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the waste management unit, and are required to be monitored every five years [Title 27, sections 20395 and 20420(g)]. The COCs for all waste management units at the facility are those listed in Tables I and IV for the specified monitored medium. The Discharger shall monitor all COCs every five years, or more frequently as required in accordance with a Corrective Action Program. The last 5-year COC report was submitted to the Central Valley Water Board in the 2009 *Annual Monitoring Report*, and 5-year COCs are due to be monitored again in **2014**.

4. Concentration Limits

For a naturally occurring constituent of concern, the concentration limit for each constituent of concern shall be determined as follows:

a. By calculation in accordance with a statistical method pursuant to Title 27, section 20415(e)(8); or

b. By an alternate statistical method meeting the requirements of Title 27, section 20415(e)(8)(E).

5. Retesting Procedures for Confirming Evidence of a Release

If monitoring results indicate measurably significant evidence of a release, as described in Standard Monitoring Specification I.45 of the SPRRs, then:

a. For analytes that are detected in less than 10% of the background samples (such as non-naturally occurring constituents), the Discharger shall use the non-statistical retesting procedure required in Standard Monitoring Specification I.46 of the SPRRs.

b. For analytes that are detected in 10% or greater of the background samples (naturally occurring constituents), the Discharger shall use one of the statistical retesting procedure as required in Standard Monitoring Specification I.47 of the SPRRs.

6. Point of Compliance

The point of compliance for the water standard at each waste management unit is a vertical surface located at the hydraulically downgradient limit of the Unit that extends through the uppermost aquifer underlying the unit. The following are monitoring locations at the point of compliance:

Point of Compliance Monitoring Wells

M-3A
M-4A
M-4B
M-6
M-6B
M-7
M-8
M-14A
M-14B

7. Compliance Period

The compliance period for each waste management unit shall be the number of years equal to the active life of the unit plus the closure period. The compliance period is the minimum period during which the Discharger shall conduct a water quality monitoring program subsequent to a release from the waste management unit. The compliance period shall begin anew each time the Discharger initiates an evaluation monitoring program [Title 27, section 20410].

8. Monitoring Points

A monitoring point is a well, device, or location specified in the waste discharge requirements, which monitoring is conducted and at which the water quality protection standard applies. The monitoring points for each monitored medium are listed in Section A of this MRP.

D. TRANSMITTAL LETTER FOR ALL REPORTS

A transmittal letter explaining the essential points shall accompany each report. At a minimum, the transmittal letter shall identify any violations found since the last report was submitted, and if the violations were corrected. If no violations have occurred since the last submittal, this shall be stated in the transmittal letter. The transmittal letter shall also state that a discussion of any violations found since the last report was submitted, and a description of the actions taken or planned for correcting those violations, including any references to previously submitted time schedules, is contained in the accompanying report. The transmittal letter shall contain a statement by the discharger, or the discharger's authorized agent, under penalty of perjury, that to the best of the signer's knowledge the report is true, accurate, and complete.

The Discharger shall implement the above monitoring program on the effective date of this Program.

Original signed by:

Ordered by:_____

PAMELA C. CREEDON, Executive Officer

07 February 2014

_____

(Date)

TABLE I

GROUNDWATER DETECTION MONITORING PROGRAM

Parameter	Units	Sampling Frequency	Reporting Frequency
Field Parameters			
Groundwater Elevation	Ft. & 100ths, M.S.L.	Quarterly	Semiannual
Temperature	^{o}F	Semiannual	Semiannual
Electrical Conductivity	umhos/cm	Semiannual	Semiannual
pH	pH units	Semiannual	Semiannual
Turbidity	Turbidity units	Semiannual	Semiannual
Monitoring Parameters			
Total Dissolved Solids (TDS)	mg/L[1]	Semiannual	Semiannual
Chloride	mg/L	Semiannual	Semiannual
Carbonate	mg/L	Semiannual	Semiannual
Bicarbonate	mg/L	Semiannual	Semiannual
Nitrate - Nitrogen	mg/L	Semiannual	Semiannual
Sulfate	mg/L	Semiannual	Semiannual
Calcium	mg/L	Semiannual	Semiannual
Magnesium	mg/L	Semiannual	Semiannual
Potassium	mg/L	Semiannual	Semiannual
Sodium	mg/L	Semiannual	Semiannual
Volatile Organic Compounds (USEPA Method 8260B, short list, see Table III)	ug/L[2]	Semiannual	Semiannual
5-Year Constituents of Concern (see Table IV)			
Total Organic Carbon	mg/L	5 years	2014 and every
Inorganics (dissolved)	ug/L	5 years	5 years thereafter
Volatile Organic Compounds (USEPA Method 8260B, extended list)	ug/L	5 years	‘’ ‘’
Semi-Volatile Organic Compounds (USEPA Method 8270D)	ug/L	5 years	‘’ ‘’
Chlorophenoxy Herbicides (USEPA Method 8151A)	ug/L	5 years	‘’ ‘’
Organophosphorus Compounds (USEPA Method 8141B)	ug/L	5 years	‘’ ‘’

[1] Milligrams per liter
[2] Micrograms per liter

TABLE II

SEEP MONITORING [1]
(When a leachate seep has occurred)

Parameter	Units	Sampling Frequency	Reporting Frequency
Field Parameters			
Total Flow	Gallons	Monthly	Semiannual
Flow Rate	Gallons/Day	Monthly	Semiannual
Electrical Conductivity	umhos/cm	Quarterly	Semiannual
pH	pH units	Quarterly	Semiannual
Monitoring Parameters			
Total Dissolved Solids (TDS)	mg/L	Annually	Annually
Chloride	mg/L	Annually	Annually
Carbonate	mg/L	Annually	Annually
Bicarbonate	mg/L	Annually	Annually
Nitrate - Nitrogen	mg/L	Annually	Annually
Sulfate	mg/L	Annually	Annually
Calcium	mg/L	Annually	Annually
Magnesium	mg/L	Annually	Annually
Potassium	mg/L	Annually	Annually
Sodium	mg/L	Annually	Annually
Volatile Organic Compounds (USEPA Method 8260B, short list, see Table III)	ug/L	Annually	Annually

[1] Leachate seeps shall be sampled and analyzed for the Field and Monitoring Parameters in this table upon detection. The quantity of leachate shall be estimated and reported in gallons/day. Also, refer to Section B.3

.

TABLE III

MONITORING PARAMETERS FOR DETECTION MONITORING

Surrogates for Metallic Constituents:

pH
Total Dissolved Solids
Electrical Conductivity
Chloride
Sulfate
Nitrate nitrogen

Volatile Organic Compounds, short list:

USEPA Method 8260B
Acetone
Acrylonitrile
Benzene
Bromochloromethane
Bromodichloromethane
Bromoform (Tribromomethane)
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane (Ethyl chloride)
Chloroform (Trichloromethane)
Dibromochloromethane (Chlorodibromomethane)
1,2-Dibromo-3-chloropropane (DBCP)
1,2-Dibromoethane (Ethylene dibromide; EDB)
o-Dichlorobenzene (1,2-Dichlorobenzene)
m-Dichlorobenzene (1,3-Dichlorobenzene)
p-Dichlorobenzene (1,4-Dichlorobenzene)
trans- l ,4-Dichloro-2-butene
Dichlorodifluoromethane (CFC-12)
1,1-Dichloroethane (Ethylidene chloride)
1,2-Dichloroethane (Ethylene dichloride)
1,1 -Dichloroethylene (1,1 -Dichloroethene; Vinylidene chloride)
cis- 1,2-Dichloroethylene (cis- 1,2-Dichloroethene)
trans-1,2-Dichloroethylene (trans-1,2-Dichloroethene)
1,2-Dichloropropane (Propylene dichloride)
cis- 1,3-Dichloropropene
trans- 1,3-Dichloropropene
Di-isopropylether (DIPE)
Ethanol
Ethyltertiary butyl ether
Ethylbenzene
2-Hexanone (Methyl butyl ketone)
Hexachlorobutadiene
Methyl bromide (Bromomethene)
Methyl chloride (Chloromethane)

TABLE III

MONITORING PARAMETERS FOR DETECTION MONITORING

Continued

Methylene bromide (Dibromomethane)
Methylene chloride (Dichloromethane)
Methyl ethyl ketone (MEK: 2-Butanone)
Methyl iodide (Iodomethane)
Methyl t-butyl ether
4-Methyl-2-pentanone (Methyl isobutylketone)
Naphthalene
Styrene
Tertiary amyl methyl ether
Tertiary butyl alcohol
1,1,1,2-Tetrachloroethane
1,1.2,2-Tetrachloroethane
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene)
Toluene
1,2,4-Trichlorobenzene
1,1,1-Trichloroethane (Methylchloroform)
1,1,2-Trichloroethane
Trichloroethylene (Trichloroethene)
Trichlorofluoromethane (CFC- 11)
1,2,3-Trichloropropane
Vinyl acetate
Vinyl chloride
Xylenes

TABLE IV

5-YEAR COCs & APPROVED USEPA ANALYTICAL METHODS

Inorganics (dissolved):	**USEPA Method**
Aluminum	200.8
Antimony	200.8
Barium	200.8
Beryllium	200.8
Cadmium	200.8
Chromium	200.8
Cobalt	200.8
Copper	200.8
Silver	200.8
Tin	200.8
Vanadium	200.8
Zinc	200.8
Iron	200.8
Manganese	200.7
Arsenic	200.8
Lead	200.8
Mercury	254.1
Nickel	200.8
Selenium	200.8
Thallium	200.8
Cyanide	SM 4500-CN
Sulfide	SM 4500-SF

Volatile Organic Compounds, extended list:

USEPA Method 8260B

Acetone
Acetonitrile (Methyl cyanide)
Acrolein
Acrylonitrile
Allyl chloride (3-Chloropropene)
Benzene
Bromochloromethane (Chlorobromomethane)
Bromodichloromethane (Dibromochloromethane)
Bromoform (Tribromomethane)
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane (Ethyl chloride)
Chloroform (Trichloromethane)
Chloroprene
Dibromochloromethane (Chlorodibromomethane)
1,2-Dibromo-3-chloropropane (DBCP)
1,2-Dibromoethane (Ethylene dibromide; EDB)
o-Dichlorobenzene (1,2-Dichlorobenzene)

TABLE IV

5-YEAR COCs & APPROVED USEPA ANALYTICAL METHODS

Continued

m-Dichlorobenzene (1,3-Dichlorobenzene)
p-Dichlorobenzene (1,4-Dichlorobenzene)
trans- 1,4-Dichloro-2-butene
Dichlorodifluoromethane (CFC 12)
1,1 -Dichloroethane (Ethylidene chloride)
1,2-Dichloroethane (Ethylene dichloride)
1,1 -Dichloroethylene (1, l-Dichloroethene; Vinylidene chloride)
cis- l ,2-Dichloroethylene (cis- 1,2-Dichloroethene)
trans- l ,2-Dichloroethylene (trans- 1,2-Dichloroethene)
1,2-Dichloropropane (Propylene dichloride)
1,3-Dichloropropane (Trimethylene dichloride)
2,2-Dichloropropane (Isopropylidene chloride)
1,1 -Dichloropropene
cis- 1,3-Dichloropropene
trans- l ,3-Dichloropropene
Di-isopropylether (DIPE)
Ethanol
Ethyltertiary butyl ether
Ethylbenzene
Ethyl methacrylate
Hexachlorobutadiene
2-Hexanone (Methyl butyl ketone)
Isobutyl alcohol
Methacrylonitrile
Methyl bromide (Bromomethane)
Methyl chloride (Chloromethane)
Methyl ethyl ketone (MEK; 2-Butanone)
Methyl iodide (Iodomethane)
Methyl t-butyl ether
Methyl methacrylate
4-Methyl-2-pentanone (Methyl isobutyl ketone)
Methylene bromide (Dibromomethane)
Methylene chloride (Dichloromethane)
Naphthalene
Propionitrile (Ethyl cyanide)
Styrene
Tertiary amyl methyl ether
Tertiary butyl alcohol
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene; PCE)
Toluene
1,2,4-Trichlorobenzene
1,1,1 -Trichloroethane (Methylchloroform)

TABLE IV

5-YEAR COCs & APPROVED USEPA ANALYTICAL METHODS

Continued

1,1,2-Trichloroethane
Trichloroethylene (Trichloroethene; TCE)
Trichlorofluoromethane (CFC- 11)
1,2,3-Trichloropropane
Vinyl acetate
Vinyl chloride (Chloroethene)
Xylene (total)

Semi-Volatile Organic Compounds:

USEPA Method 8270D - base, neutral, & acid extractables

Acenaphthene
Acenaphthylene
Acetophenone
2-Acetylaminofluorene (2-AAF)
Aldrin
4-Aminobiphenyl
Anthracene
Benzo[a]anthracene (Benzanthracene)
Benzo[b]fluoranthene
Benzo[k]fluoranthene
Benzo[g,h,i]perylene
Benzo[a]pyrene
Benzyl alcohol
Bis(2-ethylhexyl) phthalate
alpha-BHC
beta-BHC
delta-BHC
gamma-BHC (Lindane)
Bis(2-chloroethoxy)methane
Bis(2-chloroethyl) ether (Dichloroethyl ether)
Bis(2-chloro-1-methyethyl) ether (Bis(2-chloroisopropyl) ether; DCIP)
4-Bromophenyl phenyl ether
Butyl benzyl phthalate (Benzyl butyl phthalate)
Chlordane
p-Chloroaniline
Chlorobenzilate
p-Chloro-m-cresol (4-Chloro-3-methylphenol)
2-Chloronaphthalene
2-Chlorophenol
4-Chlorophenyl phenyl ether
Chrysene
o-Cresol (2-methylphenol)
m-Cresol (3-methylphenol)
p-Cresol (4-methylphenol)
4,4'-DDD

TABLE IV

5-YEAR COCs & APPROVED USEPA ANALYTICAL METHODS

Continued

4,4'-DDE
4,4'-DDT
Diallate
Dibenz[a,h]anthracene
Dibenzofuran
Di-n-butyl phthalate
3,3'-Dichlorobenzidine
2,4-Dichlorophenol
2,6-Dichlorophenol
Dieldrin
Diethyl phthalate
p-(Dimethylamino)azobenzene
7,12-Dimethylbenz[a]anthracene
3,3'-Dimethylbenzidine
2,4-Dimehtylphenol (m-Xylenol)
Dimethyl phthalate
m-Dinitrobenzene
4,6-Dinitro-o-cresol (4,6-Dinitro-2-methylphenol)
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Di-n-octyl phthalate
Diphenylamine
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Ethyl methanesulfonate
Famphur
Fluoranthene
Fluorene
Heptachlor
Heptachlor epoxide
Hexachlorobenzene
Hexachlorocyclopentadiene
Hexachloroethane
Hexachloropropene
Indeno(1,2,3-c,d)pyrene
Isodrin
Isophorone
Isosafrole
Kepone
Methapyrilene
Methoxychlor
3-Methylcholanthrene
Methyl methanesulfonate

TABLE IV

5-YEAR COCs & APPROVED USEPA ANALYTICAL METHODS

Continued

2-Methylnaphthalene
1,4-Naphthoquinone
1-Naphthylamine
2-Naphthylamine
o-Nitroaniline (2-Nitroaniline)
m-Nitroaniline (3-Nitroaniline)
p-Nitroaniline (4-Nitroaniline)
Nitrobenzene
o-Nitrophenol (2-Nitrophenol)
p-Nitrophenol (4-Nitrophenol)
N-Nitrosodi-n-butylamine (Di-n-butylnitrosamine)
N-Nitrosodiethylamine (Diethylnitrosamine)
N-Nitrosodimethylamine (Dimethylnitrosamine)
N-Nitrosodiphenylamine (Diphenylnitrosamine)
N-Nitrosodipropylamine (N-Nitroso-N-dipropylamine; Di-n-propylnitrosamine)
N-Nitrosomethylethylamine (Methylethylnitrosamine)
N-Nitrosopiperidine
N-Nitrosospyrrolidine
5-Nitro-o-toluidine
Pentachlorobenzene
Pentachloronitrobenzene (PCNB)
Pentachlorophenol
Phenacetin
Phenanthrene
Phenol
p-Phenylenediamine
Polychlorinated biphenyls (PCBs; Aroclors)
Pronamide
Pyrene
Safrole
1,2,4,5-Tetrachlorobenzene
2,3,4,6-Tetrachlorophenol
o-Toluidine
Toxaphene
2,4,5-Trichlorophenol
0,0,0-Triethyl phosphorothioate
sym-Trinitrobenzene

TABLE IV

5-YEAR COCs & APPROVED USEPA ANALYTICAL METHODS

Continued

Chlorophenoxy Herbicides:

USEPA Method 8151A
2,4-D (2,4-Dichlorophenoxyacetic acid)
Dinoseb (DNBP; 2-sec-Butyl-4,6-dinitrophenol)
Silvex (2,4,5-Trichlorophenoxypropionic acid; 2,4,5-TP)
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)

Organophosphorus Compounds:

USEPA Method 8141B
Atrazine
Chlorpyrifos
0,0-Diethyl 0-2-pyrazinyl phosphorothioate (Thionazin)
Diazinon
Dimethoate
Disulfoton
Methyl parathion (Parathion methyl)
Parathion
Phorate
Simazine

TABLE V

CORRECTIVE ACTION MONITORING PROGRAM

Parameter	Units	Sampling Frequency	Report Frequency
Field Parameters			
Groundwater Elevation	Ft. & 100ths, M.S.L	Semiannual	Semiannual
Temperature	^{o}F	Semiannual	Semiannual
Electrical Conductivity	µmhos/cm	Semiannual	Semiannual
pH	pH units	Semiannual	Semiannual
Turbidity	Turbidity units	Semiannual	Semiannual
Monitoring Parameters			
Volatile Organic Compounds (USEPA Method 8260B, short list, see Table III)	µg/L[1]	Semiannual	Semiannual

[1] Micrograms per liter

INFORMATION SHEET

ORDER R5-2014-0021
COUNTY OF TULARE
OPERATIONS AND CORRECTIVE ACTION
TEAPOT DOME MUNICIPAL SOLID WASTE LANDFILL
TULARE COUNTY

The County of Tulare (hereafter Discharger) owns and operates an unlined, municipal solid waste landfill (facility) about four miles southwest of the City of Porterville in Tulare County. The California Regional Water Quality Control Board (Central Valley Water Board) adopted Waste Discharge Requirements (WDRs) Order No. R5-2003-0115 on 11 July 2003, which classified the waste management unit (Unit) as a Class III landfill as defined in title 27, California Code of Regulations, section 20005 et seq. (hereafter Title 27), that accepts or accepted municipal solid waste. The facility contains one unlined Unit that covers 71 acres. The Discharger does not propose expansion. The facility originally started as a burn dump in 1950 and was converted to a landfill in the early 1970's. The proposed Order revises the existing WDRs to implement a corrective action program.

The facility is underlain by unconsolidated geologic material comprised of younger alluvium of moderately to highly permeable, interbedded fluvial deposits of gravelly-sand, silty-sand, silt, and clay. The measured hydraulic conductivity of the native soils underlying the Unit ranges from approximately 1×10^{-4} cm/sec and 1.7×10^{-3} cm/sec.

There are three groundwater zones beneath the site – an unconfined zone, an upper semi-confined zone, and a lower semi-confined zone. A leaky confining layer (approximately 40 feet thick) separates the unconfined zone and the upper semi-confined zone. Groundwater depth ranges between 75 and 98 feet below ground surface (depending on location) and seasonally fluctuates approximately 5 to 10 feet. Background, detection, and corrective action groundwater monitoring wells are screened in the unconfined and the upper semi-confined groundwater zones.

Volatile organic compounds (VOCs) have been detected in all three groundwater zones. The results of detection and evaluation monitoring indicate that the nature of the release consists predominantly of low-concentrations of chlorinated VOCs including: tetrachloroethylene (PCE); trichloroethylene (TCE); cis-1,2- dichloroethylene (1,2-DCE); 1,1 -DCE; 1,1-dichloroethane (1,1-DCA); chloroethane; vinyl chloride; trichlorofluoromethane (CFC-11); dichlorodifluoromethane (CFC-12); and chlorodifluoromethane (CFC-22). Inorganic waste constituents (barium, cobalt, manganese, calcium, potassium, and bicarbonate) have also previously been detected at concentrations that appeared to statistically exceed their respective background levels in groundwater samples.

The Discharger submitted an Evaluation Monitoring Program (EMP) report that delineated the extent of impacted groundwater with a concentration of total chlorinated VOCs exceeding 1 µg/L and the magnitude of contamination near the Unit. The Discharger determined that the lateral extent of the VOC plume in the unconfined zone extended approximately 1.7 miles southwest of the point of compliance and approximately 1.1 miles west of the point of compliance. The lateral extent of the VOC plume in the upper semi-confined zone extended approximately 2.0 miles southwest of the point of compliance and approximately 1.1 miles west of the point of compliance. Sampling of the lower semi-confined zone was conducted using private off-site wells and chlorinated VOCs were detected in approximately one-third of the samples. The

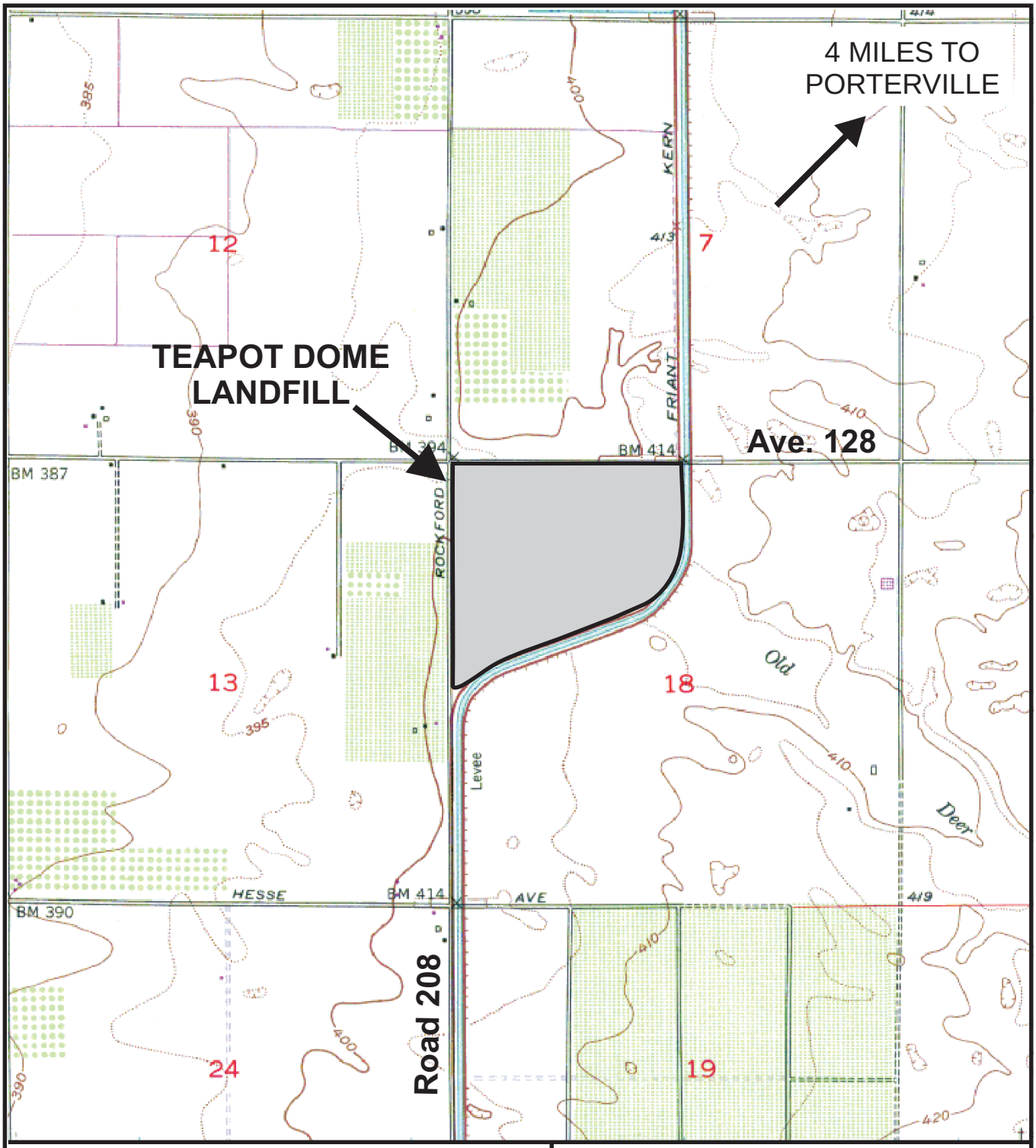
lateral extent of the VOC plume in this zone was estimated to extend 1.4 miles to the southwest. Trihalomethanes and dibromochloropropane were found in upgradient background wells and were determined to have originated from sources other than the Unit. Based on statistical analysis, the plume of inorganic constituents (barium, cobalt, manganese, calcium, potassium, and bicarbonate) did not appear to extend laterally west of the facility boundary.

Following completion of the EMP, the Discharger submitted an Engineering Feasibility Study (EFS) for corrective action. Several other updated feasibility studies were subsequently submitted. Central Valley Water Board staff approved the final EFS to establish a corrective action program (CAP) on 6 September 2006.

Data in the EFS suggested that groundwater elevations along the eastern edge of the Unit were potentially affected by infiltration from the effluent from the City of Porterville's waste water treatment plant. Until June 2002, the City of Porterville discharged sewage sludge and effluent from the wastewater treatment plant to the property immediately east and hydraulically upgradient of the landfill. Subsequent to the EFS, Central Valley Water Board staff required that the Discharger submit a report verifying that the five-foot separation of groundwater from the base of the waste, as required by Section 20240(c) of Title 27, was being maintained. It was determined that a portion of the buried waste had been historically impacted by groundwater but that the required groundwater-waste separation had been maintained since the first quarter of 2003.

The Discharger submitted a Groundwater-Waste Separation Mitigation Plan (GWSM Plan), which after subsequent addendums, was approved by Central Valley Water Board staff on 28 February 2008. The GWSM Plan established a groundwater elevation trigger of 340 feet MSL and identified proactive mitigation measures to be implemented in the event that groundwater levels exceed the trigger in monitoring wells M-1A, M-1S, or M-9.

Due to the low-levels and decreasing trend in VOC concentrations in groundwater, monitored natural attenuation (MNA) was approved as a CAP measure in lieu of a pump and treat system. This approval was conditioned on the requirement that the sum of total chlorinated VOCs, excluding trihalomethanes and dibromochloropropane, does not exceed 10 µg/L for two consecutive monitoring periods. The CAP also included the following measures: mitigation of groundwater-waste separation, destruction of the existing water supply well to prevent the ongoing downward movements of waste constituents by eliminating a vertical conduit between the unconfined zone and the upper semi-confined zone, MNA of chlorinated VOCs downgradient of the Unit, performance monitoring of affected downgradient water supply wells, relocating the onsite landfill water supply well to a location within the plume and pumping the new well for facility operations. Treatment of water from the new supply well is not provided prior to use as dust control over the existing waste footprint because the chlorinated VOC concentrations are low (less than 10 micrograms per liter). However, any other use of the water requires treatment.



LEGEND

FACILITY

N

0mi 1/3mi 2/3mi 1mi

Scale

MAP SOURCE: USGS 7.5' PORTERVILLE QUANDRANGLE

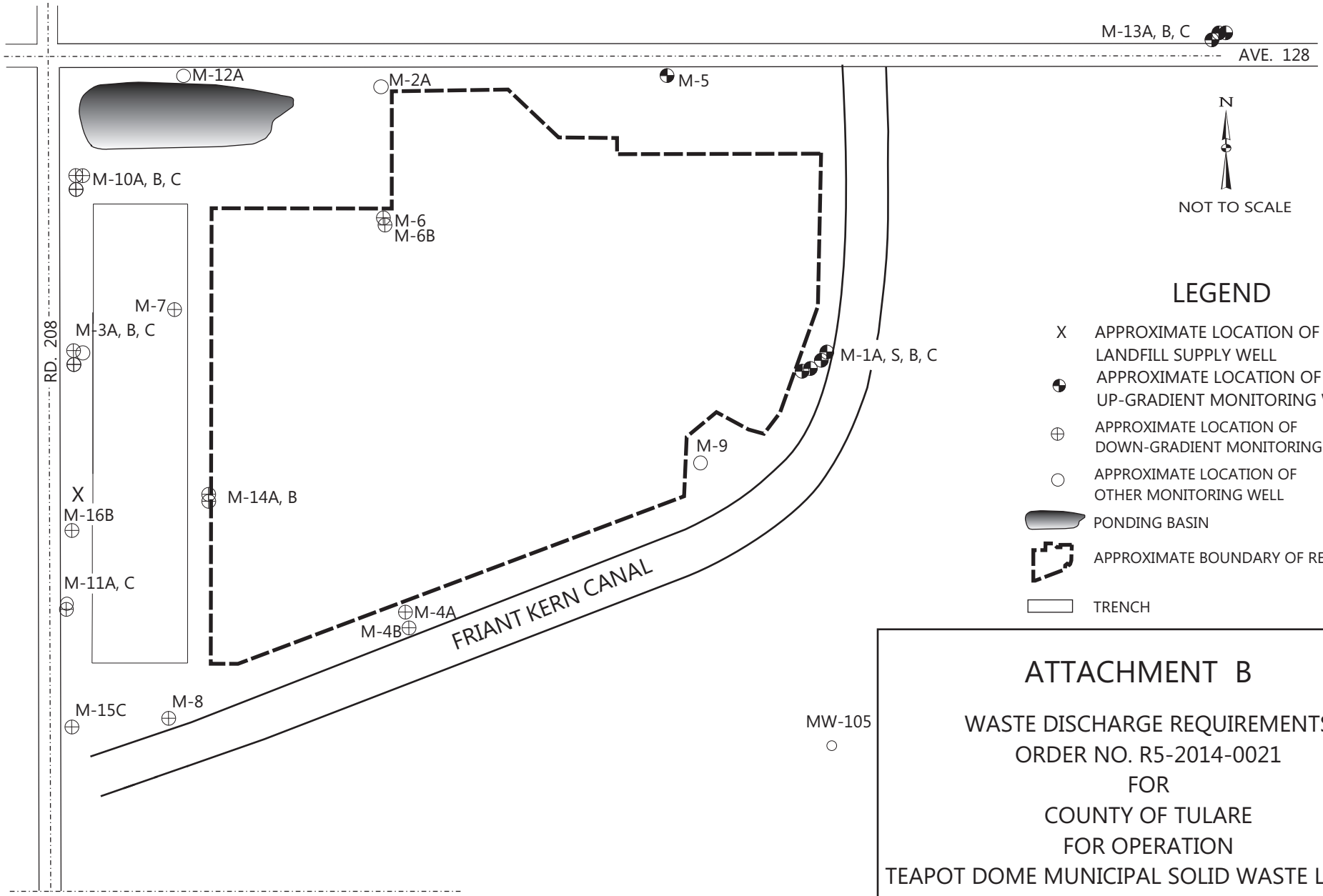
(04/19/00) (VSM)

ATTACHMENT A

ORDER NO. R5-2014-0021

WASTE DISCHARGE REQUIREMENTS
FOR
COUNTY OF TULARE
FOR OPERATION
TEAPOT DOME MUNICIPAL SOLID WASTE
LANDFILL, TULARE COUNTY

LOCATION MAP



(10/2/2013) (KSP)

ATTACHMENT B

WASTE DISCHARGE REQUIREMENTS
ORDER NO. R5-2014-0021
FOR
COUNTY OF TULARE
FOR OPERATION
TEAPOT DOME MUNICIPAL SOLID WASTE LANDFILL
TULARE COUNTY

SITE MAP

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

STANDARD PROVISIONS AND REPORTING REQUIREMENTS FOR WASTE DISCHARGE REQUIREMENTS FOR NONHAZARDOUS SOLID WASTE DISCHARGES REGULATED BY SUBTITLE D AND/OR TITLE 27

(40 C.F.R. section 258 and Title 27, § 20005 et seq.)

JANUARY 2012

TABLE OF CONTENTS

Section		Page
A.	APPLICABILITY	2
B.	TERMS AND CONDITIONS	2
C.	STANDARD PROHIBITIONS	4
D.	STANDARD DISCHARGE SPECIFICATIONS	5
E.	STANDARD FACILITY SPECIFICATIONS	6
F.	STANDARD CONSTRUCTION SPECIFICATIONS	8
G.	STANDARD CLOSURE AND POST-CLOSURE SPECIFICATIONS	11
H.	STANDARD FINANCIAL ASSURANCE PROVISIONS	15
I.	STANDARD MONITORING SPECIFICATIONS	15
J.	RESPONSE TO A RELEASE	25
K.	GENERAL PROVISIONS	27
L.	STORM WATER PROVISIONS	29

A. APPLICABILITY

1. These Standard Provisions and Reporting Requirements (SPRRs) are applicable to nonhazardous solid waste disposal sites that are regulated by the Central Valley Regional Water Quality Control Board (hereafter, Central Valley Water Board) pursuant to the provisions of California Code of Regulations, title 27 ("Title 27"), section 20005 et seq., and municipal solid waste (MSW) landfills that are subject to the Federal Subtitle D regulations contained in 40 Code of Federal Regulations section 258 (hereafter, "Subtitle D" or "40 C.F.R. § 258.XX") in accordance with State Water Resources Control Board (State Water Board) Resolution 93-62. The Subtitle D regulations are only applicable to MSW landfills and therefore any requirements in these SPRRs that are referenced as coming from Subtitle D are not applicable to non-MSW waste management units such as Class II surface impoundments, Class II waste piles, and non-MSW landfill units. All Subtitle D requirements in these SPRRs are referenced with "[40 C.F.R. § 258.XX]" after the requirement.

2. "Order," as used throughout this document, means the Waste Discharge Requirements (WDRs) to which these SPRRs are incorporated.

3. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, and do not protect the Discharger from liabilities under federal, state, or local laws. This Order does not convey any property rights or exclusive privileges.

4. The provisions of this Order are severable. If any provision of this Order is held invalid, the remainder of this Order shall not be affected.

5. If there is any conflicting or contradictory language between the WDRs, the Monitoring and Reporting Program (MRP), or the SPRRs, then language in the WDRs shall govern over either the MRP or the SPRRs, and language in the MRP shall govern over the SPRRs.

6. If there is a site-specific need to change a requirement in these SPRRs for a particular landfill facility, the altered requirement shall be placed in the appropriate section of the WDRs and will supersede the corresponding SPRRs requirement. These SPRRs are standard and cannot be changed as part of the permit writing process or in response to comments, but they will be periodically updated on an as-needed basis.

7. Unless otherwise stated, all terms are as defined in Water Code section 13050 and in Title 27, section 20164.

B. TERMS AND CONDITIONS

1. Failure to comply with any waste discharge requirement, monitoring and reporting requirement, or Standard Provisions and Reporting Requirement, or

other order or prohibition issued, reissued, or amended by the Central Valley Water Board or the State Water Board, or intentionally or negligently discharging waste, or causing or permitting waste to be deposited where it is discharged into the waters of the state and creates a condition of pollution or nuisance, is a violation of this Order and the Water Code, which can result in the imposition of civil monetary liability [Wat. Code, § 13350(a)]

2. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to [Wat. Code, § 13381]:

    a. Violation of any term or condition contained in this Order;

    b. Obtaining this Order by misrepresentation, or failure to disclose fully all relevant facts;

    c. A change in any condition that results in either a temporary or permanent need to reduce or eliminate the authorized discharge; or

    d. A material change in the character, location, or volume of discharge.

3. Before initiating a new discharge or making a material change in the character, location, or volume of an existing discharge, the Discharger shall file a new report of waste discharge (ROWD), or other appropriate joint technical document (JTD), with the Central Valley Water Board [Wat. Code, § 13260(c) and § 13264(a)]. A material change includes, but is not limited to, the following:

    a. An increase in area or depth to be used for solid waste disposal beyond that specified in waste discharge requirements;

    b. A significant change in disposal method, location, or volume (e.g., change from land disposal to land treatment);

    c. A change in the type of waste being accepted for disposal; or

    d. A change to previously-approved liner systems or final cover systems that would eliminate components or reduce the engineering properties of components.

4. Representatives of the Central Valley Water Board may inspect the facilities to ascertain compliance with the waste discharge requirements. The inspection shall be made with the consent of the owner or possessor of the facilities or, if the consent is refused, with a duly issued warrant. However, in the event of an emergency affecting the public health or safety, an inspection may be made without consent or the issuance of a warrant [Wat. Code, §13267(c)].

5. The Central Valley Water Board will review this Order periodically and will revise these waste discharge requirements when necessary [Wat. Code, § 13263(e) and Title 27, § 21720(b)].

6. Except for material determined to be confidential in accordance with California law and regulations, all reports prepared in accordance with terms of this Order shall be available for public inspection at the offices of the Central Valley Water Board [Wat. Code, § 13267(b)]. Data on waste discharges, water quality, geology, and hydrogeology shall not be considered confidential.

7. A discharge of waste into the waters of the state is a privilege, not a right. No discharge of waste into waters of the state, whether or not the discharge is made pursuant to waste discharge requirements, shall create a vested right to continue the discharge [Wat. Code, § 13263(g)].

8. Technical and monitoring reports specified in this Order are requested pursuant to the Water Code [§13267(b)]. Failure to furnish the reports by the specified deadlines or falsifying information in the reports, are misdemeanors that may be liable civilly in accordance with §13268(b) of the Water Code [Wat. Code, §13268(a)].

C. STANDARD PROHIBITIONS

1. The discharge of liquid or semi-solid waste (waste containing less than 50 percent solids) is prohibited, except for the following when proposed in the ROWD/JTD and approved by this Order:

   a. Dewatered sewage or water treatment sludge as described in Title 27, section 20220(c) provided it is discharged above a composite liner with a leachate collection and removal system (LCRS) [Title 27, § 20200(d)(3)].

   b. Leachate and/or landfill gas condensate that is returned to the composite-lined waste management unit (with an LCRS) from which it came [Title 27, § 20340(g) and 40 C.F.R. § 258.28].

2. The discharge of wastes which have the potential to reduce or impair the integrity of containment structures or which, if commingled with other wastes in the waste management unit, could produce violent reaction, heat or pressure, fire or explosion, toxic by-products, or reaction products, which, in turn:

   a. require a higher level of containment than provided by the unit; or
   b. are ‘restricted wastes’; or
   c. impair the integrity of containment structures;

   is prohibited [Title 27, § 20200(b)].

3. The discharge of wastes outside of a waste management unit or portions of a unit specifically designed for their containment is prohibited.

4. The discharge of solid waste containing free liquid or which may contain liquid in excess of the moisture holding capacity as a result of waste management operations, compaction or settlement is prohibited.

5. The discharge of waste to a closed landfill unit is prohibited.

6. The discharge of waste constituents to the unsaturated zone or to groundwater is prohibited.

7. The discharge of solid or liquid waste or leachate to surface waters, surface water drainage courses, or groundwater is prohibited.

D. STANDARD DISCHARGE SPECIFICATIONS

1. The Discharger is responsible for accurate characterization of wastes, including a determination of whether or not wastes will be compatible with containment features and other wastes at the waste management unit and whether or not the wastes are required to be managed as a hazardous waste [Title 27, § 20200(c)] or designated waste [Title 27, § 20210].

2. Leachate and landfill gas condensate collected from a waste management unit shall be discharged to the unit from which it came, or discharged to an appropriate waste management unit in accordance with Title 27 and in a manner consistent with the waste classification of the liquid [Title 27, § 20200(d) and § 20340(g)].

3. The discharge of leachate or landfill gas condensate is restricted to those portions of a waste management unit that has a composite liner system and LCRS meeting the Federal Subtitle D requirements [40 C.F.R. § 258.28].

4. Leachate and condensate returned to a composite-lined landfill unit (when approved by this Order) shall be discharged and managed such that it does not cause instability of the waste, does not cause leachate seeps, does not generate additional landfill gas that is not extracted from the landfill by an active landfill gas extraction system, does not cause contaminants to enter surface water runoff, and does not cause leachate volumes to exceed the maximum capacity of the LCRS.

5. Any discharge of waste outside the portion of the landfill that was already covered with waste as of the landfill unit's respective Federal Deadline constitutes a "lateral expansion" and requires the installation of an approved composite liner system and LCRS [40 C.F.R. § 258.40(b)].

6. Wastes shall be discharged only into waste management units specifically designed for their containment and/or treatment, as described in this Order.

7. The discharge shall remain within the designated disposal area at all times.

8. The discharge of waste shall not cause a nuisance condition [Wat. Code, § 13050(m)].

E. STANDARD FACILITY SPECIFICATIONS

1. All waste management units shall be designed, constructed, and operated to ensure that wastes, including leachate, will be a minimum of 5 feet above the highest anticipated elevation of underlying groundwater [Title 27, § 20240(c)], including the capillary fringe.

2. Surface and subsurface drainage from outside of a waste management unit shall be diverted from the unit [Title 27, § 20365(e)].

3. Interim cover is daily and intermediate cover [Title 27, § 20750(a)]. Interim cover over wastes discharged to a landfill shall be designed and constructed to minimize percolation of liquids through the wastes [Title 27, § 20705(b)].

4. Intermediate cover consisting of compacted earthen material of at least twelve (12) inches shall be placed on all surfaces of the fill where no additional solid waste will be deposited within **180 days** [Title 27, § 20700(a)].

5. During wet weather conditions, the facility shall be operated and graded to minimize leachate generation.

6. The Discharger shall **immediately** notify the Central Valley Water Board staff of any slope failure occurring at a waste management unit. Any failure which threatens the integrity of containment features or the waste management unit shall be promptly corrected in accordance with an approved method [Title 27, § 21710(c)(2)].

7. The Discharger shall **immediately** notify Central Valley Water Board staff of any flooding, unpermitted discharge of waste off-site or outside of waste management units, equipment failure, or other change in site conditions which could impair the integrity of waste or leachate containment facilities or precipitation and drainage control structures.

8. The Discharger shall limit water used for facility maintenance within landfill areas to the minimum amount necessary for dust control and construction.

9. The Discharger shall maintain in good working order any facility, control system, or monitoring device installed to achieve compliance with the waste discharge requirements.

10. The Discharger shall lock all groundwater monitoring wells with a lock on the well cap or monitoring well box. All monitoring devices shall be clearly labeled with their designation including all monitoring wells, LCRS risers, and lysimeter risers and shall be easily accessible for required monitoring by authorized personnel. Each monitoring device shall be clearly visible and be protected from damage by equipment or vehicles.

11. The Discharger shall ensure that methane and other landfill gases are adequately vented, removed from landfill units, or otherwise controlled to prevent the danger of adverse health effects, nuisance conditions, degradation, or the impairment of the beneficial uses of surface water or groundwater due to migration through the unsaturated zone.

12. The Discharger shall maintain the depth of the fluid in the sump of each landfill unit at the minimum needed for efficient pump operation (the depth at which the pump turns on given the pump intake height and maximum pump cycle frequency).

13. The depth of fluid on the landfill liner shall not exceed **30 centimeters** (cm) [40 C.F.R. § 258.40(a)(2)]. This regulation is interpreted by the Central Valley Water Board to exclude the leachate sump. The Discharger shall **immediately** notify the Central Valley Water Board staff by telephone, and follow up in writing within **seven** days if monitoring reveals that the depth of fluid on any portion of the liner (excluding the sump) exceeds 30 cm (approximately 12 inches). The written notification shall include a timetable for remedial or corrective action necessary to achieve compliance with the leachate depth limitation.

14. Each LCRS shall be tested at least annually to demonstrate proper operation. The results of the tests shall be compared with earlier tests made under comparable conditions [Title 27, § 20340(d)].

15. The Discharger shall maintain a *Storm Water Pollution Prevention Plan* and *Monitoring Program and Reporting Requirements* in accordance with State Water Board Order No. 97-03-DWQ (or most recent general industrial storm water permit), or retain all storm water on-site.

16. Internal site drainage from surface or subsurface sources shall not contact or percolate through wastes.

17. New MSW landfill units or lateral expansions of existing units shall not be sited in a “wetland” [as defined in 40 C.F.R. § 232.29(r)] unless there is no practical alternative; steps have been taken to assure no net loss of wetland; the landfill unit will not degrade the wetland; the unit will not jeopardize threatened or endangered species or produce adverse modification of a critical habitat or violate any requirement of the Marine Protection, Research, and Sanctuaries Act of 1972 [40 C.F.R. § 258.12].

F. STANDARD CONSTRUCTION SPECIFICATIONS

1. The Discharger shall submit for review and approval at least **90 days** prior to proposed construction, design plans and specifications for new landfill modules that include the following:

    a. Detailed construction drawings showing all required liner system components, the LCRS, leachate sump, unsaturated zone monitoring system, any proposed landfill gas monitoring and extraction points, and access to the LCRS for required annual testing.

    b. A Construction Quality Assurance (CQA) Plan prepared by a California-registered civil engineer or certified engineering geologist, and that meets the requirements of Title 27, section 20324.

    c. A geotechnical evaluation of the area soils, evaluating their use as the base layer or reference to the location of this information in the ROWD/JTD [Title 27, § 21750(f)(4)].

    d. Information about the seismic design of the proposed new module (or reference to the location of this information in the ROWD/JTD) in accordance with Title 27, section 20370.

    e. A revised water quality monitoring plan for groundwater detection monitoring (or information showing the existing plan is adequate) in accordance with Title 27, section 20415.

    f. An Operation Plan (or reference to the location of this information in the ROWD/JTD) meeting the requirements of Title 27, section 21760(b).

2. All containment structures shall be designed by, and construction shall be supervised by, a California registered civil engineer or a certified engineering geologist, and shall be certified by that individual as meeting the prescriptive standards, or approved engineered alternative design, in accordance with this Order prior to waste discharge.

3. The Discharger shall not proceed with construction until the construction plans, specifications, and all applicable construction quality assurance plans have been approved. Waste management units shall receive a final inspection and approval of the construction by Central Valley Water Board staff before use of the unit commences [Title 27, § 20310(e)].

4. Any report, or any amendment or revision of a report, that proposes a design or design change that might affect a waste management unit's containment features or monitoring systems shall be approved by a California registered civil engineer or a certified engineering geologist [Title 27, § 21710(d)].

5. Materials used in containment structures shall have appropriate chemical and physical properties to ensure that such structures do not fail to contain waste because of pressure gradients, physical contact with waste or leachate, chemical reactions with soil or rock, climatic conditions, the stress of installation, or because of the stress of daily operations [Title 27, § 20320(a)].

6. Waste management units and their respective containment structures shall be designed and constructed to limit, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, washout, and overtopping [Title 27, § 20365(a)].

7. The Discharger shall design storm water conveyance systems for Class III units for a 100-year, 24-hour storm event, and shall design storm water conveyance systems for Class II units for a 1,000-year, 24-hour storm event [Title 27, § 21750(e)(3)].

8. All Class III landfill units shall be designed to withstand the maximum probable earthquake and Class II waste management units shall be designed to withstand maximum credible earthquake without damage to the foundation or to the structures that control leachate, or surface drainage, or erosion, or gas [Title 27, § 20370(a)].

9. The Discharger shall perform stability analyses that include components to demonstrate the integrity of the landfill foundation, final slopes, and containment systems under both static and dynamic conditions throughout the landfill's life including the closure period and post-closure maintenance period [Title 27, § 21750(f)(5)].

10. New waste management units and expansions of existing units shall not be located on a known Holocene fault [Title 27, § 20260(d)].

11. Liners shall be designed and constructed to contain the fluid, including landfill gas, waste, and leachate [Title 27, § 20330(a)].

12. Hydraulic conductivities shall be determined primarily by appropriate field test methods in accordance with accepted civil engineering practice. The results of laboratory tests with both water and leachate, and field tests with water, shall be compared to evaluate how the field permeabilities will be affected by leachate. It is acceptable for the Discharger to use appropriate compaction tests in conjunction with laboratory hydraulic conductivity tests to determine field permeabilities as long as a reasonable number of field hydraulic conductivity tests are also conducted [Title 27, § 20320(c)].

13. Hydraulic conductivities specified for containment structures other than the final cover shall be relative to the fluids (leachate) to be contained. Hydraulic conductivities for the final cover shall be relative to water [Title 27, § 20320(b)].

14. A test pad for each barrier layer and final cover shall be constructed in a manner duplicating the field construction. Test pad construction methods, with the designated equipment, shall be used to determine if the specified density/moisture-content/hydraulic conductivity relationships determined in the laboratory can be achieved in the field with the compaction equipment to be used and at the specified lift thickness [Title 27, § 20324(g)(1)(A)].

15. Performance requirements for geosynthetic membranes shall include, but are not limited to, a need to limit infiltration of water, to the greatest extent possible; a need to control landfill gas emissions; mechanical compatibility with stresses caused by equipment traffic, and for final covers the result of differential settlement over time and durability throughout the post-closure maintenance period [Title 27, § 20324(i)(1)].

16. The Discharger shall ensure proper preparation of the subgrade for any liner system that includes a GCL so as to provide a smooth surface that is free from rocks, sticks, or other debris that could damage or otherwise limit the performance of the GCL.

17. The Discharger shall propose an electronic leak location survey of the top liner for any new landfill module in the construction quality assurance plan unless the Discharger demonstrates that a leak location survey is not needed.

18. Leachate collection and removal systems are required for Class II landfills and surface impoundments, MSW landfills, and for Class III landfills which have a liner or which accept sewage or water treatment sludge [Title 27, § 20340(a)].

19. All new landfill units or lateral expansions of existing units that require a LCRS shall have a blanket-type LCRS that covers the bottom of the unit and extends as far up the sides as possible. The LCRS shall be of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and by any equipment used at the unit [Title 27, § 20340(e)].

20. The LCRS shall be designed, constructed, maintained, and operated to collect and remove twice the maximum anticipated daily volume of leachate from the waste management unit [Title 27, § 20340(b)].

21. Leachate collection and removal systems shall be designed and operated to function without clogging through the scheduled closure of the landfill unit and during the post-closure maintenance period.

22. The LCRS shall be designed to maintain the depth of fluid over any portion of the LCRS of no greater than 30 cm [40 C.F.R. § 258.40(a)(2)], excluding the leachate sump. The leachate sump, leachate removal pump, and pump controls shall be designed and set to maintain a fluid depth no greater than the minimum needed for efficient pump operation [Title 27, § 20340(c)].

23. All construction of liner systems and final cover systems shall be performed in accordance with a Construction Quality Assurance Plan certified by a registered civil engineer or a certified engineering geologist [Title 27, § 20323].

24. The Construction Quality Assurance program shall be supervised by a registered civil engineer or a certified engineering geologist who shall be designated the CQA officer [Title 27, § 20324(b)(2)].

25. The Discharger shall ensure that a third party independent of both the Discharger and the construction contractor performs all of the construction quality assurance monitoring and testing during the construction of a liner system.

26. The Discharger shall notify Central Valley Water Board staff at least **14 days** prior to commencing field construction activities including construction of a new lined cell or module, construction of a final cover, or any other construction that requires Central Valley Water Board staff approval under this Order.

27. The Discharger shall submit for review and approval at least **60 days** prior to proposed discharge, final documentation required in Title 27 Section 20324(d)(1)(C) following the completion of construction of a new lined landfill module. The report shall be certified by a registered civil engineer or a certified engineering geologist and include a statement that the liner system was constructed in accordance with the approved design plans and specifications, the CQA Plan, the requirements of the WDRs, and that it meets the performance goals of Title 27. The report shall contain sufficient information and test results to verify that construction was in accordance with the design plans and specifications, the construction quality assurance plan, and the performance goals of Title 27.

28. The Discharger shall not discharge waste onto a newly constructed liner system until the final documentation report has been reviewed and an acceptance letter has been received.

29. Prior to placement of waste in a new landfill unit, the Discharger shall monitor any pan lysimeter for the unit that has received enough rainfall to flood the LCRS sump. If liquid is detected in the pan lysimeter, the Discharger shall verify that the liquid is not from a leak in the primary liner system before waste can be accepted to the new module.

G. STANDARD CLOSURE AND POST-CLOSURE SPECIFICATIONS

1. The Discharger shall submit a final or partial final closure and post-closure maintenance plan at least **two years** prior to the anticipated date of closure [Title 27, § 21780(d)(1)].

2. The Discharger shall notify the Central Valley Water Board in writing that a landfill unit or portion of a unit is to be closed either at the same time that the California Department of Resources Recycling and Recovery (CalRecycle) is notified or **180 days** prior to beginning any final closure activities, whichever is sooner [Title 27, § 21710(c)(5)(A)]. The notice shall include a statement that all closure activities will conform to the most recently approved final or partial final closure plan and that the plan provides for site closure in compliance with all applicable federal and state regulations [Title 27, § 21710(c)(5)(C)].

3. Initiation of closure activities shall begin within **30 days** of final waste receipt, or within **one year** of receipt of most recent waste if additional capacity remains [40 C.F.R. § 258.60(f)].

4. Closure activities shall be completed within **180 days** of the beginning of closure activities unless an extension is granted by the Executive Officer [40 C.F.R. § 258.60(g)].

5. The Discharger shall carry out both mandatory closure and normal closure of a waste management unit or a portion of a unit in accordance with a closure and post-closure maintenance plan approved by the Central Valley Water Board [Title 27, § 20950(a)(1)] through the issuance of closure waste discharge requirements.

6. The Discharger shall notify the Central Valley Water Board that a preliminary closure and post-closure maintenance plan has been prepared and placed in the operating record by the date of initial receipt of waste at any new MSW landfill unit or lateral expansion of any existing unit [40 C.F.R. § 258.60(d)]. This notification shall be included in the cover letter transmitting the preliminary closure and post-closure maintenance plan.

7. In addition to the applicable provisions of Title 27, the preliminary closure and/or the post-closure maintenance plans for MSW landfill units shall include the following:

    a. A description of the steps necessary to close all MSW landfill units at any point during their active life in accordance with the cover design requirements [40 C.F.R. § 258.60(c)];

    b. An estimate of the largest area of the landfill unit(s) ever requiring a final cover at any time during the active life of the unit(s) [40 C.F.R. § 258.60(c)(2)];

    c. An estimate of the maximum inventory of wastes ever on-site over the active life of the waste management facility [40 C.F.R. § 258.60(c)(3)]; and

    d. A schedule for completing all activities necessary to satisfy the closure criteria in 40 C.F.R. section 258.60 [40 C.F.R. § 258.60(c)(4)].

8. The final closure and post-closure maintenance plan for the waste management unit shall include at least the following: an itemized cost analysis, closure schedule, any proposed final treatment procedures, map, changes to the unit description presented in the most recent ROWD, federal requirements for a MSW facility, land use of the closed unit, and a construction quality assurance plan [Title 27, § 21769(c) & (d)].

9. Closure of each waste management unit shall be under the direct supervision of a registered civil engineer or certified engineering geologist [Title 27, § 20950(b)].

10. The final cover of closed landfills shall be designed, graded, and maintained to prevent ponding and soil erosion due to high run-off velocities [Title 27, § 21090(b)(1)(A)].

11. The final grading design shall be designed and approved by a registered civil engineer or certified engineering geologist [Title 27, § 21090(b)(1)(C)].

12. All final cover designs shall include a minimum 1-foot thick erosion resistant layer [Title 27, § 21090(a)(3)(A)].

13. The Discharger shall close the landfill with minimum 15-foot wide benches every 50 vertical feet [Title 27, § 21090(a)].

14. Final cover slopes shall not be steeper than a horizontal to vertical ratio of one and three quarters to one and designs having any slopes steeper than a horizontal to vertical ratio of three to one, or having a geosynthetic component, shall have these aspects of their design specifically supported in the slope stability report required in Title 27, section 21750(f)(5) [Title 27, § 21090(a)].

15. For any portions of the final cover installed after July 18, 1997, for which the Central Valley Water Board has not approved a slope and foundation stability report on or before that date, the Discharger shall meet the requirements of Title 27, section 21750(f)(5) [Title 27, § 21090(a)(6)].

16. Areas with slopes greater than ten percent, surface drainage courses, and areas subject to erosion by wind or water shall be designed and constructed to prevent such erosion [Title 27, § 21090(b)(2)].

17. The Discharger shall design storm water conveyance systems for closed Class III units for a 100-year, 24-hour storm event, and shall design storm water conveyance systems for closed Class II units for a 1,000-year, 24-hour storm event [Title 27, § 21750(e)(3)].

18. Closed landfill units shall be provided with at least two permanent surveying monuments, installed by a licensed land surveyor or by a registered civil engineer, from which the location and elevation of all wastes, containment

structures, and monitoring facilities can be determined throughout the post-closure maintenance period [Title 27, § 20950(d)].

19. Following closure of any MSW landfill units, the Discharger shall notify the Executive Officer that the deed to the landfill facility property, or some other instrument that is normally examined during a title search, has been recorded and a copy placed in the operating record. The notation on the deed shall in perpetuity notify any potential purchaser of the property that the land has been used as a landfill facility and that use of the land is restricted to the planned use described in the post-closure maintenance plan [Title 27, § 20515(a)(4) and §21170, and 40 C.F.R. § 258.60(i)].

20. Construction or repair of the final cover system's low-hydraulic conductivity layer is to be carried out in accordance with an approved construction quality assurance plan [Title 27, § 21090(b)(1)(E)].

21. The Discharger shall incorporate into the closure and post-closure maintenance plan a cover-integrity monitoring and maintenance program which includes at least the following: a periodic leak search, periodic identification of other problem areas, prompt cover repair, and vegetation maintenance [Title 27, § 21090(a)(4)].

22. The Discharger shall complete a final cover survey upon completion of closure activities for that portion of the landfill. The final cover surveys shall include an initial survey and map [Title 27, § 21090(e)(1). Every **five years**, the Discharger shall conduct a survey of the closed landfill cover and submit an iso-settlement map accurately depicting the estimated total change in elevation of each portion of the final cover's low-hydraulic-conductivity layer [Title 27, § 21090(e)(2)].

23. Within **30 days** of completion of <u>all</u> closure activities, the Discharger shall certify that all closure activities were performed in accordance with the most recently approved final closure plan and CQA Plan, and in accordance with all applicable regulations. The Discharger shall also certify that closed landfill units shall be maintained in accordance with and approved post-closure maintenance plan [Title 27, § 21710(c)(6)].

24. Within **180 days** of completion of closure construction activities, the Discharger shall submit final documentation of closure, including the Certification of Closure. The closure documents shall include a final construction quality assurance report and any other documents necessary to support the certification [Title 27, § 21880].

25. The post-closure maintenance period shall continue until the Central Valley Water Board determines that wastes remaining in the landfill unit(s) no longer pose a threat to water quality [Title 27, § 20950(a)(1)].

26. The Discharger shall conduct a periodic leak search to monitor of the integrity of the final cover in accordance with the schedule in the approved final post-closure maintenance plan [Title 27, § 21090(a)(4)(A)].

27. The Discharger shall periodically inspect and identify problems with the final cover including areas that require replanting, erosion, areas lacking free drainage, areas damaged by equipment operations, and localized areas identified in the required five-year iso-settlement survey [Title 27, § 21090(a)(4)(B)].

28. The Discharger shall repair the cover promptly in accordance with a cover repair plan to be included in the final post-closure maintenance plan [Title 27, § 21090(a)(4)(C)].

29. Throughout the post-closure maintenance period, the Discharger shall maintain the structural integrity and effectiveness of all containment structures, maintain the final cover as necessary to correct the effects of settlement and other adverse factors, continue to operate the LCRS as long as leachate is generated and detected, maintain the monitoring systems, prevent erosion and related damage of the final cover due to drainage, and protect and maintain surveyed monuments [Title 27, § 21090(c)].

30. Post-closure maintenance shall be conducted for a minimum period of **30 years** or until the waste no longer poses a threat to environmental quality, whichever is greater [Title 27, § 21180(a) and Title 27, § 21900(a)].

H. STANDARD FINANCIAL ASSURANCE PROVISIONS

1. The Discharger shall establish an irrevocable fund for closure and post-closure maintenance to ensure closure and post-closure maintenance of each classified unit in accordance with an approved closure and post-closure maintenance plan [Title 27, § 20950(f) and § 22207(a)].

2. The Discharger shall obtain and maintain assurances of financial responsibility for initiating and completing corrective action for all known and reasonably foreseeable releases from the waste management unit [Title 27, §20380(b), § 22221, and § 22222].

I. STANDARD MONITORING SPECIFICATIONS

1. The water quality monitoring program shall include appropriate and consistent sampling and analytical procedures and methods designed to ensure that monitoring results provide a reliable indication of water quality at all monitoring points and background monitoring points [Title 27, § 20415(e)(4) and 40 C.F.R. § 258.53(b)].

2. All monitoring systems shall be designed and certified by a registered geologist or a registered civil engineer [Title 27, § 20415(e)(1)].

3. All monitoring wells shall be cased and constructed in a manner that maintains the integrity of the monitoring well bore hole and prevents the bore hole from acting as a conduit for contaminant transport [Title 27, § 20415(b)(4)(A)].

4. All sample chemical analyses of any material shall be performed by a laboratory certified by the California Department of Health Services [Wat. Code, § 13176(a)].

5. A Detection Monitoring Program for a new landfill facility shall be installed, operational, and one year of monitoring data collected from background monitoring points prior to the discharge of wastes [Title 27, § 20415(e)(6)].

6. Background for water samples or soil-pore gas samples shall be represented by the data from all samples taken from applicable background monitoring points during that reporting period (at least one sample from each background monitoring point).

7. The Discharger shall submit for approval, establish, and maintain an approved Sample Collection and Analysis Plan. The Sample Collection and Analysis Plan shall at a minimum include:

   a. Sample collection procedures describing purging techniques, sampling equipment, and decontamination of sampling equipment;

   b. Sample preservation information and shipment procedures;

   c. Sample analytical methods and procedures;

   d. Sample quality assurance/quality control (QA/QC) procedures;

   e. Chain of Custody control; and

   f. Sample analysis information including sample preparation techniques to avoid matrix interferences, method detection limits (MDLs), practical quantitation limits (PQLs) and reporting limits (RLs), and procedures for reporting trace results between the MDL and PQL.

   If required by the Executive Officer, the Discharger shall modify the Sample Collection and Analysis Plan to conform with this Order.

8. For any given monitored medium, the samples taken from all monitoring points and background monitoring points to satisfy the data analysis requirements for a given reporting period shall all be taken **within a span not to exceed 30 days**, unless a longer time period is approved, and shall be taken in a manner that

ensures sample independence to the greatest extent feasible. Specific methods of collection and analysis must be identified. Sample collection, storage, and analysis shall be performed according to the most recent version of USEPA Methods, such as the latest editions, as applicable, of: (1) Methods for the Analysis of Organics in Water and Wastewater (USEPA 600 Series), (2) Test Methods for Evaluating Solid Waste (SW-846, latest edition), and (3) Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020), and in accordance with the approved Sample Collection and Analysis Plan. Appropriate sample preparation techniques shall be used to minimize matrix interferences.

9. If methods other than USEPA-approved methods or Standard Methods are used, or there is a proposed alternant USEPA method than the one listed in the MRP, the proposed methodology shall be submitted for review and approval prior to use, including information showing its equivalence to the required method.

10. The **methods of analysis and the detection limits** used must be appropriate for the expected concentrations. For the monitoring of any constituent or parameter that is found in concentrations which produce more than 90% non-numerical determinations (i.e., “trace” or “ND”) in data from background monitoring points for that medium, the analytical method having the lowest MDL shall be selected from among those methods which would provide valid results in light of any matrix effects or interferences.

11. The laboratory reporting limit (RL) for all reported monitoring data shall be set no greater than the practical quantitation limit (PQL).

12. **“Trace” results** - results falling between the MDL and the PQL - shall be reported as such, and shall be accompanied both by the estimated MDL and PQL values for that analytical run.

13. Laboratory data shall not be altered or revised by the Discharger. If the Discharger observes potential lab errors, it shall identify the issue in the monitoring report and shall describe steps that will be taken to prevent similar errors in the future.

14. **MDLs and PQLs** shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. These MDLs and PQLs shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the lab, rather than simply being quoted from USEPA analytical method manuals. In relatively interference-free water, laboratory-derived MDLs and PQLs are expected to closely agree with published USEPA MDLs and PQLs. MDLs and PQLs shall be reported.

15. If the laboratory suspects that, due to a change in matrix or other effects, the true detection limit or quantitation limit for a particular analytical run differs significantly from the laboratory-derived MDL/PQL values, the results shall be flagged in the laboratory report accordingly, along with estimates of the detection limit and quantitation limit actually achieved. The **MDL shall always be calculated such that it represents the lowest achievable concentration associated with a 99% reliability of a nonzero result**. The PQL shall always be calculated such that it represents the lowest constituent concentration at which a numerical value can be assigned with reasonable certainty that it represents the constituent's actual concentration in the sample. Normally, PQLs should be set equal to the concentration of the lowest standard used to calibrate the analytical procedure.

16. All **QA/QC data** shall be reported, along with the sample results to which they apply, including the method, equipment, analytical detection and quantitation limits, the percent recovery, an explanation for any recovery that falls outside the QC limits, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analysis, and the name and signature of a responsible person from the laboratory. **Sample results shall be reported unadjusted for blank results or spike recoveries**. In cases where contaminants are detected in QA/QC samples (i.e., field, trip, or lab blanks), the accompanying sample results shall be appropriately flagged, but the analytical results shall not be adjusted.

17. Unknown chromatographic peaks shall be reported, flagged, and tracked for potential comparison to subsequent unknown peaks that may be observed in future sampling events. Identification of unknown chromatographic peaks that recur in subsequent sampling events may be required.

18. The sampling interval of each monitoring well shall be appropriately screened and fitted with an appropriate filter pack to enable collection of representative groundwater samples [Title 27, § 20415(b)(4)(B)]. Groundwater samples shall not be field-filtered prior to laboratory analysis [40 C.F.R. § 258.53(b)]. Groundwater samples needing filtering (e.g., samples to be analyzed for dissolved metals) shall be filtered by the laboratory prior to analysis.

19. Groundwater elevations shall be measured in each well immediately prior to purging, each time groundwater is sampled. The owner or operator shall determine the rate and direction of groundwater flow each time groundwater is sampled. Groundwater elevations in wells which monitor the same waste management area shall be measured within a period of time short enough to avoid temporal variations in groundwater flow which could preclude accurate determination of groundwater flow rate and direction [40 C.F.R. § 258.53(d)].

20. Monitoring wells, piezometers, and other measurement, sampling, and analytical devices must be operated and maintained so that they perform to design

specifications throughout the life of the monitoring program [40 C.F.R. § 258.51(c)(2)]. Monitoring devices that cannot be operated and maintained to perform to design specifications shall be replaced after review and approval of a report (i.e., work plan) for the proposed replacement devices.

21. All borings are to be logged during drilling under the direct supervision of a registered geologist or registered civil engineer with expertise in stratigraphic well logging [Title 27, § 20415(e)(2)].

22. Soils are to be described according to the Unified Soil Classification System [Title 27, § 20415(e)(2)(A)]. Rock is to be described in a manner appropriate for the purpose of the investigation [Title 27, § 20415(e)(2)(B)].

23. The Discharger shall submit a work plan for review and approval at least **60 days** prior to installation or abandonment of groundwater monitoring wells.

24. The Discharger shall provide Central Valley Water Board staff a minimum of **one week** notification prior to commencing any field activities related to the installation or abandonment of monitoring devices.

25. The water quality protection standard shall consist of the constituents of concern (COC), concentration limits, and the point of compliance. The water quality protection standard shall apply during the active life of the waste management unit, closure period, post-closure maintenance period, and any compliance period under Title 27, section 20410 [Title 27, § 20390].

26. The point of compliance at which the water quality protection standard applies is a vertical surface located at the hydraulically downgradient limit of the waste management unit that extends through the uppermost aquifer underlying the unit [Title 27, § 20405).

27. The compliance period is the minimum period of time during which the Discharger shall conduct a water quality monitoring program and is the number of years equal to the active life of the waste management unit plus the closure period [Title 27, § 20410(a)].

28. The groundwater monitoring system shall include a sufficient number of monitoring points, installed at appropriate locations, to yield groundwater samples from the uppermost aquifer that represent the quality of groundwater that has not been affected by a release from the waste management unit [Title 27, § 20415(b)(1)(A)].

29. The Detection Monitoring Program shall include a sufficient number of monitoring points, installed at appropriate locations and depths to yield groundwater samples from the uppermost aquifer that represent the quality of

groundwater passing the point of compliance to allow the detection of a release from the waste management unit [Title 27, § 20415(b)(1)(B)1.].

30. Additional monitoring points shall be added as necessary to provide the best assurance of the **earliest possible detection** of a release from the waste management unit [Title 27, § 20415(b)(1)(B)2.].

31. The Detection Monitoring Program shall also include a sufficient number of monitoring points installed at appropriate depths and locations to yield groundwater samples from other aquifers or perched zones not already monitored to provide the **earliest possible detection** of a release from the waste management unit [Title 27, § 20415(b)(1)(B)3. and 4., and §20420(b)].

32. A surface water monitoring system shall be established to monitor each surface water body that could be affected by a release from the waste management unit [Title 27, § 20415(c)].

33. An unsaturated zone monitoring system shall be established for each waste management unit [Title 27, § 20415(d)].

34. The Discharger shall notify Central Valley Water Board staff within **seven days** if fluid is detected in a previously dry LCRS, unsaturated zone monitoring system, or if a progressive increase is detected in the volume of fluid in a LCRS [Title 27, § 21710(c)(3)].

35. Driller's logs for all monitoring wells shall to be submitted to the Central Valley Water Board and the Department of Water Resources [Wat. Code, § 13751 and Title 27, § 20415(b)(3)].

36. Groundwater elevation, temperature, electrical conductivity, turbidity, and pH are to be accurately measured at each well each time groundwater is sampled [Title 27, § 21415(e)(13)].

37. The groundwater flow rate and direction in the uppermost aquifer and in any zones of perched water and in any additional portions of the zone of saturation being monitored shall be determined at least quarterly [Title 27, § 20415(e)(15)].

38. The Discharger shall graph all analytical data from each monitoring point and background monitoring point and shall submit the graphs to the Central Valley Water Board annually [Title 27, § 20415(e)(14)].

39. For each waste management unit, the Discharger shall collect all data necessary for selecting appropriate data analysis methods for establishing background values for each constituent of concern and for each monitoring parameter [Title 27, § 20420(c)]. The Discharger shall propose a data analysis method that includes a detailed description of the criteria to be used for

determining "measurably significant" (as defined in Title 27, section 20164) evidence of a release from the waste management unit and determining compliance with the water quality protection standard [Title 27, § 20415(e)(6) and (7)].

40. For statistical analysis of data, the Discharger shall use one of the methods described in Title 27, section 20415(e)(8)(A)-(E). A non-statistical data analysis method can be used if the method can achieve the goal of the particular monitoring program at least as well as the most appropriate statistical method [Title 27, § 20415(e)(8)]. The Discharger shall use a statistical or nonstatistical data analysis method that complies with Title 27, section 20415(e)(7, 8, 9, and 10), to compare the concentration of each constituent of concern or monitoring parameter with its respective background concentration to determine whether there has been a measurably significant evidence of a release from the waste management unit. For any given monitoring point at which a given constituent has already exhibited a measurably significant indication of a release at that monitoring point, the Discharger may propose to monitor the constituent, at that well, using a concentration-versus-time plot.

41. The Discharger may propose an alternate statistical method [to the methods listed under Title 27, section 20415(e)(8)(A-D)] in accordance with Title 27, section 20415(e)(8)(E), for review and approval.

42. The statistical method shall account for data below the practical quantitation limit (PQL) with one or more statistical procedures that are protective of human health and the environment. Any PQL validated pursuant to Title 27, section 20415(e)(7) that is used in the statistical method shall be **the lowest concentration (or value) that can be reliably achieved** within limits of precision and accuracy specified in the WDRs or an approved Sample Collection and Analysis Plan for routine laboratory operating conditions that are available to the facility. The Discharger's technical report (Sample Collection and Analysis Plan and/or Water Quality Protection Standard Report), pursuant to Title 27, section 20415(e)(7), shall consider the PQLs listed in Appendix IX to Chapter 14 of Division 4.5 of Title 22, CCR, for guidance when specifying limits of precision and accuracy. For any given constituent monitored at a background or downgradient monitoring point, an indication that falls between the MDL and the PQL for that constituent (hereinafter called a "trace" detection) shall be identified and used in appropriate statistical or non-statistical tests. Nevertheless, for a statistical method that is compatible with the proportion of censored data (trace and ND indications) in the data set, the Discharger can use the laboratory's concentration estimates in the trace range (if available) for statistical analysis, in order to increase the statistical power by decreasing the number of "ties".

43. The water quality protection standard for organic compounds which are not naturally occurring and not detected in background groundwater samples shall

be taken as the detection limit of the analytical method used (e.g., USEPA methods 8260 and 8270).

44. Alternate statistical procedures may be used for determining the significance of analytical results for common laboratory contaminants (i.e., methylene chloride, acetone, diethylhexyl phthalate, and di-n-octyl phthalate) if part of an approved water quality protection standard. Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by Central Valley Water Board staff.

45. **Confirmation of Measurably Significant Evidence of a Release.** Whenever a constituent is detected at a detection monitoring point at a concentration that exceeds the concentration limit from the water quality protection standard, the Discharger shall conduct verification sampling to confirm if the exceedance is due to a release or if it is a false-positive (unless previous monitoring has already confirmed a release for that constituent at that monitoring point). An exceedance of the concentration limit from the water quality protection standard is considered measurably significant evidence of a release that must be either confirmed or denied. There are two separate verification testing procedures:

    a. Standard Monitoring Specification I.46 provides the procedure for analytes that are detected in less than 10% of the background samples such as non-naturally occurring constituents like volatile organic compounds; and

    b. Standard Monitoring Specification I.47 provides the procedure for analytes that are detected in 10% or greater of the background samples such as naturally occurring constituents like chloride.

46. **Verification Procedure for Analytes Detected in Less than 10% of Background Samples**. The Discharger shall use the following non-statistical method for all analytes that are detected in less than 10% of the background samples. The non-statistical method shall be implemented as follows:

    a. **Initial Determination of Measurably Significant Evidence of a Release**. Identify each analyte in the **current** detection monitoring point sample that exceeds either its respective MDL or PQL, and for which a release has not been previously confirmed. The Discharger shall conclude that the exceedance provides a preliminary indication of a release or a change in the nature or extent of the release, at that monitoring point, if ***either:***

        1) The data contains two or more analytes that equal or exceed their respective MDLs; or

        2) The data contains one or more analyte that equals or exceeds its PQL.

b. **Discrete Retest** [Title 27, § 20415(e)(8)(E) and § 20420(j)(1-3)]:

1) In the event that the Discharger or Central Valley Water Board staff concludes (pursuant to paragraph I.46.a., above) that there is a preliminary indication of a release, then the Discharger shall **immediately** notify Central Valley Water Board staff by phone or e-mail and, within **30 days** of such indication, shall collect two new (retest) samples from the monitoring point where the release is preliminarily indicated and analyze them for the constituents that caused the need for the retest.

2) **Confirmation of a Release**. As soon as the retest data are available, the Discharger shall conclude that measurably significant evidence of a release is confirmed if (not including the original sample) two or more analytes equal or exceed their respective MDLs or if one or more analyte equals or exceeds its PQL. The Discharger shall then:

a) **Immediately** verbally notify the Central Valley Water Board whether or not the retest confirmed measurably significant evidence of a release for the analyte at the monitoring point, and follow up with written notification submitted by certified mail **within seven days** of the verbal notification; and

b) Carry out the requirements of Section J, **RESPONSE TO A RELEASE** if a release has been confirmed.

c) Add any five-year analyte that is confirmed per this method to the monitoring parameter list such that it is monitored during each regular monitoring event.

47. **Verification Procedure for Analytes Detected in 10% or Greater of the Background Samples.** The Discharger shall use either a statistical or non-statistical method pursuant to Title 27, section 20415(e)(8)(E) for all analytes that are detected in 10% or greater of the background samples. The Discharger shall use one of the statistical methods required in Title 27, section 20415(e)(8)(E) unless another method has been proposed by the Discharger in a Water Quality Protection Standard Report (or equivalent report) and approved by the Central Valley Water Board in a Monitoring and Reporting Program pursuant to Title 27, section 20415(e)(8)(A-D)] or section 20415(e)(8)(E). The method shall be implemented as follows:

a. **Initial Determination of Measurably Significant Evidence of a Release**. The Discharger shall compare the value reported by the laboratory for each analyte to the statistically-derived concentration limit from the most recent report (Annual Monitoring Report or Water Quality Protection Standard Report) that uses the approved statistical procedure. If the value exceeds

the concentration limit for that constituent, the Discharger shall conclude that there in measurably significant evidence of a release [Title 27, § 20420(i)].

b. **Retest Method** [Title 27, § 20415(e)(8)(E) and § 20420(j)(1-3)].

1) In the event that the Discharger or Central Valley Water Board staff concludes (pursuant to paragraph I.47.a., above) that there is a preliminary indication of a release, then the Discharger shall **immediately** notify Central Valley Water Board staff by phone or e-mail and, within **30 days** [Title 27, § 20415(e)(3)] of such indication, the Discharger shall implement a verification procedure/retest option, in accordance with Title 27, sections 20415(e)(8)(E) and 20420(j)(2). The verification procedure shall include either a single "composite" retest (i.e., a statistical analysis that augments and reanalyzes the data from the monitoring point that indicated a release) or shall consist of at least two "discrete" retests (i.e., statistical analyses each of which analyzes only newly-acquired data from the monitoring point that indicated a release) [Title 27, § 20415(e)(8)(E)]. The Discharger may use an alternate method previously approved by the Central Valley Water Board and included in the Monitoring and Reporting Program. The verification procedure shall comply with the requirements of Title 27, section 20415(e)(8)(E) in addition to the performance standards of Title 27, section 20415(e)(9). The retest samples shall be collected from the monitoring point where the release is preliminarily indicated and shall be analyzed for the constituents that caused the need for the retest. For any indicated monitoring parameter or constituent of concern, if the retest results of one or more of the retest data suites confirm the original indication, the Discharger shall conclude that measurably significant evidence of a release has been confirmed.

2) **Confirmation of a Release**. As soon as the retest data are available, the Discharger shall evaluate the results pursuant to paragraph I.47.b.1, above and shall:

a) **Immediately** verbally notify the Central Valley Water Board whether or not the retest confirmed measurably significant evidence of a release for the analyte at the monitoring point, and follow up with written notification submitted by certified mail **within seven days** of the verbal notification; and

b) Carry out the requirements of Section J, **RESPONSE TO A RELEASE** if a release has been confirmed.

c) Add any five-year analyte that is confirmed per this method to the monitoring parameter list such that it is monitored during each regular monitoring event.

48. **Physical Evidence of a Release**. If the Discharger determines that there is a significant **physical** evidence of a release, the Discharger shall immediately verbally notify Central Valley Water Board staff and provide written notification **by certified mail within 7 days** of such determination, and within **90 days** shall submit an amended report of waste discharge to establish an Evaluation Monitoring Program [Title 27, § 20385(a)(3) and § 20420(l)(1) & (2)].

J. RESPONSE TO A RELEASE

1. **Measurably Significant Evidence of a Release Has Been Confirmed**. If the Discharger has confirmed that there is measurably significant evidence of a release from a waste management unit pursuant to Standard Monitoring Specification I.46 or I.47, then the Discharger shall:

   a. **Immediately** sample all monitoring points in the affected medium at that waste management unit and determine the concentration of all monitoring parameters and constituents of concern for comparison with established concentration limits. Because this constituent of concern scan does not involve statistical testing, the Discharger will need to collect and analyze only a single water sample from each monitoring point in the affected medium [Title 27, § 20420(k)(1)].

   b. **Within 14 days** of confirming measurably significant evidence of a release, the Discharger shall (for releases from MSW landfill units) notify all persons who own the land or reside on the land that directly overlies any portion of the plume of contamination if contaminants have migrated off-site if indicated by sampling of detection monitoring wells [40 C.F.R. § 258.55(g)(1)(iii)].

   c. **Within 90 days** of confirming measurably significant evidence of a release, the Discharger shall submit an amended report of waste discharge to establish an Evaluation Monitoring Program meeting the requirements of Title 27, sections 20420(k)(5)(A-D), including but not limited to the results of sampling pursuant to paragraph J.1.a, above. The Evaluation Monitoring Program shall be designed for the collection and analysis of all data necessary to assess the nature and extent of the release and to determine the spatial distribution and concentration of each constituent throughout the zone affected by the release [Title 27, § 20420(k)(5) and § 20425(b)]. For releases from MSW landfill units, the Evaluation Monitoring Program shall also include any additional proposals necessary to comply with 40 C.F.R. § 258.55, particularly the additional monitoring well required by 40 C.F.R. § 258.55(g)(1)(ii).

   d. **Within 180 days** of confirming measurably significant evidence of a release, the Discharger shall submit to the Central Valley Water Board an <u>initial</u> engineering feasibility study for a Corrective Action Program

necessary to meet the requirements of Title 27, section 20430. At a minimum, the initial engineering feasibility study shall contain a detailed description of the corrective action measures that could be taken to achieve background concentrations for all constituents of concern [Title 27, § 20420(k)(6)].

e. If the Discharger confirms that there is measurably significant evidence of a release from the waste management unit at any monitoring point, the Discharger may attempt to demonstrate that a source other than the waste management unit caused the evidence of a release or that the evidence is an artifact caused by an error in sampling, analysis, or statistical evaluation or by natural variation in groundwater, surface water, or the unsaturated zone. The Discharger may make a demonstration pursuant to Title 27, section 20420(k)(7) in addition to or in lieu of submitting both an amended report of waste discharge or an engineering feasibility study; however, the Discharger is not relieved of the requirements and due dates of Title 27, sections 20420(k)(6) & (7) unless Central Valley Water Board staff agree that the demonstration successfully shows that a source other than the waste management unit caused the evidence of a release or that the evidence resulted from error in sampling, analysis, or statistical evaluation or from natural variation in groundwater, surface water, or the unsaturated zone. In order to make this demonstration, the Discharger shall notify the Central Valley Water Board by certified mail of the intent to make the demonstration **within seven days** of determining measurably significant evidence of a release, and shall submit a report **within 90 days** of determining measurably significant evidence of a release [Title 27, § 20420(k)(7)].

f. **Within 90 days** of the date that the Evaluation Monitoring Program from paragraph J.1.c is approved (the date is it established), the Discharger shall complete and submit the following:

i) **Results and Assessment for the Evaluation Monitoring Program.** A report with the results and assessment based on the approved Evaluation Monitoring Program [Title 27, § 20425(b)].

ii) **Updated Engineering Feasibility Study.** An <u>updated</u> engineering feasibility study for corrective action based on the data collected to delineate the release and data from the ongoing monitoring program required under Title 27, section 20425(e) [Title 27, § 20425(c)].

iii) **Amended ROWD for a Corrective Action Program.** An amended report of waste discharge to establish a Corrective Action Program meeting the requirements of Title 27, section 20430 based on the data collected to delineate the release and based on the updated engineering feasibility study [Title 27, § 20425(d)].

g. The Discharger shall (for releases from MSW landfill units) discuss the results of the updated engineering feasibility study, prior to the final selection of a remedy, in a public meeting with interested and affected parties [40 C.F.R. § 258.56(d)].

K. GENERAL PROVISIONS

1. In the event the Discharger does not comply or will be unable to comply with any prohibition or limitation of this Order for any reason, the Discharger shall notify the appropriate Central Valley Water Board office by telephone **as soon as** it or its agents have knowledge of such noncompliance or potential for noncompliance, and shall confirm this notification in writing **within two weeks**. The written notification shall state the nature, time, and cause of noncompliance, and shall describe the measures being taken to prevent recurrences and shall include a timetable for corrective actions.

2. All reports and transmittal letters shall be signed by persons identified below:

   a. For a corporation: by a principal executive officer of at least the level of senior vice-president.

   b. For a partnership or sole proprietorship: by a general partner or the proprietor.

   c. For a municipality, state, federal or other public agency: by either a principal executive officer or ranking elected or appointed official.

   d. A duly authorized representative of a person designated in a, b or c above if:

      1) The authorization is made in writing by a person described in a, b, or c of this provision;

      2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a Unit, superintendent, or position of equivalent responsibility (a duly authorized representative may thus be either a named individual or any individual occupying a named position); and

      3) The written authorization is submitted to the Central Valley Water Board.

e. Any person signing a document under this Section shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

3. The Discharger shall take all reasonable steps to minimize any adverse impact to the waters of the State resulting from noncompliance with this Order. Such steps shall include accelerated or additional monitoring as necessary to determine the nature, extent, and impact of the noncompliance.

4. The owner of the waste management facility shall have the continuing responsibility to assure protection of waters of the state from discharged wastes and from gases and leachate generated by discharged waste during the active life, closure, and post-closure maintenance period of the waste management units and during subsequent use of the property for other purposes.

5. The fact that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this Order shall not be regarded as a defense for the Discharger's violations of this Order.

6. The Discharger shall notify the Central Valley Water Board of a material change in; the types, quantity, or concentrations of wastes discharged; site operations and features; or proposed closure procedures, including changes in cost estimates. This notification shall be given a reasonable time before the changes are made or become effective. No changes shall be made without Central Valley Water Board approval following authorization for closure pursuant to the site Notification of Closure [Title 27, § 21710(a)(4)].

7. The Discharger shall maintain legible records of the volume and type of each waste discharged at each waste management unit or portion of a unit, and the manner and location of discharge. Such records shall be maintained by the Discharger until the beginning of the post-closure maintenance period. These records shall be on forms approved by the State Water Board or Central Valley Water Board and shall be maintained at the waste management facility until the beginning of the post-closure maintenance period. These records shall be available for review by representatives of the State Water Board or Central Valley Water Board at any time during normal business hours. At the beginning of the post-closure maintenance period, copies of these records shall be sent to the Central Valley Water Board [Title 27, § 21720(f)].

8. In the event of any change in landowner or the operator of the waste management facility, the Discharger shall notify the succeeding owner or

operator in writing of the existence of this Order. A copy of that notification shall be sent to the Central Valley Water Board.

9. In the event of any change of ownership or responsibility for construction, operation, closure, or post-closure maintenance of the waste discharge facilities described in this Order, the Discharger shall notify the Central Valley Water Board prior to the effective date of the change and shall include a statement by the new Discharger that construction, operation, closure, or post-closure maintenance will be in compliance with this Order and any revisions thereof [Title 27, § 21710(c)(1)].

10. To assume ownership or operation under this Order, the succeeding owner or operator must apply in writing to the Central Valley Water Board requesting transfer of the Order within **14 days** of assuming ownership or operation of this facility. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory requirements contained in General Provision K.2 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. Transfer of this Order shall be approved or disapproved by the Central Valley Water Board.

L. STORM WATER PROVISIONS

1. New and existing Class III landfills shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return period [Title 27, § 20260(c)].

2. New and existing Class II landfills shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return period [Title 27, § 20250(c)].

3. The Discharger shall design storm water conveyance systems for Class III units for a 100-year, 24-hour storm event, and shall design storm water conveyance systems for Class II units for a 1,000-year, 24-hour storm event [Title 27, § 21750(e)(3)].

4. MSW landfills located in a 100-year floodplain shall demonstrate that the landfill unit will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health or the environment [40 C.F.R. § 258.11(a)].

5. Waste management units and their respective containment structures shall be designed and constructed to limit, to the greatest extent possible, ponding,

infiltration, inundation, erosion, slope failure, washout, and overtopping under the precipitation conditions for the unit [Title 27, § 20365(a)].

6. Precipitation on landfills or waste piles which is not diverted by covers or drainage control systems shall be collected and managed through the LCRS, which shall be designed and constructed to accommodate the precipitation conditions for each class unit [Title 27, § 20365(b)].

7. Diversion and drainage facilities shall be designed, constructed, and maintained to [Title 27, § 20365(c)]:

   a. accommodate the anticipated volume of precipitation and peak flows from surface runoff and under the precipitation conditions for the waste management unit:

   b. effectively divert sheet flow runoff laterally, via the shortest distance, into the drainage and collection facilities;

   c. prevent surface erosion;

   d. control and intercept run-on, in order to isolate uncontaminated surface waters from water that might have come into contact with waste;

   e. take into account:

      i) for closed waste management units and for closed portions of units, the expected final contours of the closed unit, including its planned drainage pattern;

      ii) for operating portions of waste management units other than surface impoundments, the unit's drainage pattern at any given time;

      iii) the possible effects of the waste management unit's drainage pattern on and by the regional watershed;

      iv) the design capacity of drainage systems of downstream and adjacent properties by providing for the gradual release of retained water downstream in a manner which does not exceed the expected peak flow rate at the point of discharge if there were no waste management facility; and

   f. preserve the system's function. The Discharger shall periodically remove accumulated sediment from the sedimentation or detention basins as needed to preserve the design capacity of the system.

8. Collection and holding facilities associated with precipitation and drainage control systems shall be emptied immediately following each storm or otherwise managed to maintain the design capacity of the system [Title 27, § 20365(d)].

9. Surface and subsurface drainage from outside of a waste management unit shall be diverted from the unit [Title 27, § 20365(e)].

10. Cover materials shall be graded to divert precipitation from the waste management unit, to prevent ponding of surface water over wastes, and to resist erosion as a result of precipitation [Title 27, § 20365(f)].

11. Any drainage layer in the final cover shall be designed and constructed to intersect with the final drainage system for the waste management unit in a manner promoting free drainage from all portions of the drainage layer [Title 27, §20365(f)].

APPENDIX B

December 2020 GW monitoring report by Partner

PARTNER
Engineering and Science, Inc.®

DECEMBER 2020
GROUNDWATER MONITORING REPORT

Behl Property
Northwestern Corner of Road 208 and Avenue 128
Porterville, California 93257

January 20, 2021
Partner Project Number: 20-302506.1

Prepared For:

RRG CAPITAL MANAGEMENT, LLC
113 South La Brea Avenue, 3rd Floor
Los Angeles, California 90036

Engineers who understand your business

PARTNER
Engineering and Science, Inc.

January 20, 2021

Mr. David Dorrance
RRG Capital Management, LLC
113 South La Brea Avenue, 3rd Floor
Los Angeles, California 90036

Subject: December 2020 Groundwater Monitoring Report
Behl Property
Northwestern Corner of Road 208 and Avenue 128
Porterville, California 93257
Partner Project Number: 20-302506.1

Dear Mr. Dorrance:

Partner Engineering and Science, Inc. (Partner) is pleased to provide the results of the assessment performed on the referenced property. The following report describes the field activities, methods, and findings of the Groundwater Monitoring conducted at the property.

This assessment was performed utilizing methods and procedures consistent with good commercial or customary practices designed to conform to acceptable industry standards. The independent conclusions represent Partner's best professional judgment based upon existing conditions and the information and data available to us during the course of this assignment.

We appreciate the opportunity to provide these services. If you have any questions concerning this report, or if we can assist you in any other matter, please contact Paul Hitchings at (813) 480-0231.

Sincerely,

Partner Engineering and Science, Inc.

Dave Hunter, PG
Technical Director

Joe Mangine, PG
Project Manager

PROFESSIONAL GEOLOGIST
JOSEPH C. MANGINE
No. 8423
STATE OF CALIFORNIA

Paul Hitchings
National Client Manager

Table of Contents

1.0 Introduction and Background 3
1.1 Introduction 3
1.2 Background 3
1.3 Discussion and Conceptual Model 4
2.0 Scope of Work 7
3.0 Discussion of Findings 9
4.0 Conclusions and Recommendations 11
5.0 Limitations 13
6.0 References 14

Attachments

Tables:
1. Summary of Groundwater Analytical Data

Figures:
1. Regional Location Map
2. Topographic Site Location
3. Site Map

Appendices:
A. Groundwater Well Development Field Sheets
B. Groundwater Well Sampling Narrative with Purge Records
C. Laboratory Reports and Chains-of-Custody

1.0 INTRODUCTION AND BACKGROUND

1.1 Introduction

RRG Capital Acquisitions, LLC (RRG) authorized Partner Engineering and Science, Inc. (Partner) to conduct an initial sampling event of three recently installed monitoring wells on the 158.58-acre Behl Property (subject property), located to the northwest of the intersection of Road 208 and Avenue 128 near the Town of Terra Bella, Tulare County, in California's Central Valley. The subject property is bounded by roadways in a predominantly agricultural part of Tulare County as shown on **Figure 1, Figure 2,** and **Figure 3**. The subject property is currently cultivated with almond trees for commercial production and is further improved with gravel access roads that traverse the subject property at regular intervals. The subject property also contains a one-acre agricultural yard with a 2,160-acre metal storage building and an irrigation supply well near the southeastern subject property boundary (along Road 208) and irrigation district water supply infrastructure with buried piping and risers adjacent to Road 208.

1.2 Background

Partner understands that RRG's planned potential subject property use is for aquifer recharge activities using excess surface water in a process known as water banking, in an effort to replenish the shallow Central Valley aquifer system with water that is available for later reuse and potentially to limit or reverse subsidence caused by regional groundwater overuse. Of note, lands used for infiltration in water banking needs to have conditions that pose low risk for effects from possible contaminants during the infiltration processes.

Two off-site risks, a potential upgradient municipal landfill (Teapot Dome Landfill) located immediately to the southeast of the subject property across an adjoining intersection and a municipal wastewater infiltration field located beyond the landfill, prompted RRG to conduct a Phase I Environmental Site Assessment (ESA) with irrigation supply well sampling in 2020. The primary risks as part of the Phase I ESA included possible chlorinated solvent impacts to subsurface media from the landfill and per- and polyfluoroalkyl substances (PFAS) impacts to subsurface media from wastewater infiltration. The concerns had been detected during the sampling of a network of landfill monitoring wells in 2019 and 2020 (Delmanowski and Durham, 2019 and Babcock, 2020).

The Phase I ESA with well sampling was completed by CBRE on September 10, 2020 and cited that the irrigation well monitoring found PFAS compounds that matched impacts known to be present within the boundaries of the Teapot Dome Landfill monitoring well network. The presence of the PFAS compounds was characterized as a business environmental risk (BER), as discussed below. The continued potential for chlorinated solvents impact from the landfill to be present on other parts of the subject property was considered to represent a recognized environmental condition (REC).

The individual PFAS compounds in the irrigation well sample had detected concentrations below 5 nanograms per liter (ng/L), which were below the applicable Target Reporting Limits (TRLs) for groundwater of 5.0 to 8.0 ng/L as adopted from the federal Department of Defense by the California State Water Resource Control Boards (DOD/CASWRCB) in October 2020. Further, the PFAS concentrations were also below the

California Division of Drinking Water (CADDW) Notification Levels (NLs), individually and in aggregate. The location of the sampled irrigation supply well was not at the subject property location closest to or most likely to be downgradient from the landfill; therefore, PFAS could exceed the California standards in another part of the subject property and represented a BER. Of note, the current absence of PFAS on federal hazardous substances listings prevents the detections from being considered a REC under the ASTM Standard for Phase I ESAs (ASTM E1527-13), while the PFAS risk of presence above state standards warrants characterization as a BER. No chlorinated solvents were detected in the previous monitoring of the irrigation supply well at the property; however, the irrigation supply well was not in the most likely downgradient location (near and to the west of the southeastern property corner).

The findings of the previous environmental due diligence at the subject property resulted in the additional installation of the monitoring well network by RRG and the subsequent publishing of this groundwater monitoring report.

1.3 Discussion and Conceptual Model

The 158.58-acre subject property is used for the commercial production of almonds within the southeastern portion of the San Joaquin Valley, which is part of the Central Valley of California. The subject property is further identified as being located with its southeastern corner at the intersection of Avenue 128 and Road 208, in central Tulare County, California. Along Road 208, approximately 200 yards north of the intersection is a one-acre agricultural yard surrounded by a chain-link fence and improved with a 2,160 square foot metal storage building and an adjacent water supply well that is used for property irrigation. The irrigation supply well has a 12-inch diameter steel casing and was camera-surveyed on September 15, 2020 to a total depth of approximately 260 feet below ground surface (ft bgs), with casing perforations (equivalent to screened interval) observed from approximately 122 to 260 ft bgs. The static water level was at approximately 138 ft bgs during the Well Survey (Well Spy, 2020).

Of importance, the subject property is located immediately northwest and diagonally adjacent, across the intersection of Road 208 and Avenue 128, from the Teapot Dome Landfill. Ongoing groundwater monitoring at the Teapot Dome Landfill has demonstrated that impacts to groundwater has occurred from the landfill, which is an unlined, Class III, waste management unit (WMU). According to information provided in the report *2019 Second Semi-Annual and Annual Monitoring Report for Teapot Dome Landfill*, by EBA Engineering (Delmanowski and Durham, 2020), two water-bearing zones beneath the landfill, the unconfined groundwater zone and the upper semi-confined groundwater zone have been impacted with various chemical compounds (as further cited above). The most significant impact at the Teapot Dome Landfill include chlorinated solvents that are documented to extend up to 1.7 miles to the southwest in the unconfined groundwater zone and one to two miles west and southwest in the upper semi-confined groundwater zone, according to the recent published reports.

Both groundwater zones are part of the Tulare Basin Aquifer System, which consists of mostly unconsolidated alluvial and fluvial sediments derived in the property vicinity from the nearby Sierra Nevada mountains to the east (Lofgren and Klausing, 1969). Farther to the west, the sediment is more likely to be from the Coast Ranges. The two water bearing zones that appear to have landfill impact near the property

likely have silt and sand mixtures with a minor amount of clay so that the hydraulic conductivities are relatively high in shallower zones. The water in the unconfined groundwater zone occurs in a classic water table condition, defined by the water elevation remaining at the depth where it was first encountered in a well or borehole. A zone of lower permeability due to higher clay and silt content, and often discussed as an aquitard or semi-confining layer, appears to be present between the two zones. In places the deeper zone may display somewhat confined conditions, and water in a borehole or a well installed through the aquitard may rise above the elevation where it was encountered. The term "semi-confined" indicates that the zone does not prevent hydraulic or geochemical connection between the two higher permeability zones, and that in this case, leakage between the two zones occurs.

In some cases, the leakage would result in gravity drainage from the overlying water table zone into the semiconfined zone. Conversely, in certain locations, higher hydraulic head in the deeper zone could result in semi-confined groundwater rising through the aquitard to enter the water table zone. Deeper zones of low and high permeability alternate in the Central Valley unconsolidated sediments to depths in the site vicinity of greater than thousand to several thousand feet below ground surface (ft bgs) , where basement rocks, likely of igneous or metamorphic origin, are encountered. In other parts of the basin, deeper, sometimes consolidated, sediments have marine origin.

At the landfill site, monitoring wells designated by the B and C labels are both within the upper semi-confined groundwater zone, with the B-designated wells being in the total depth range of 150 to 170 ft bgs, and the C-designated wells being in the total depth range of 185 to 210 ft bgs depth ranges. Both intervals have similar geochemistry and are mapped as being part of the same hydraulic pressure zone. The shallow unconsolidated zone is monitored by A-designated wells and is above the confining layer, which Babcock (2020) indicates is in the 110 to 130 ft bgs zone.

Groundwater monitoring results from the recent monitoring report indicate that the direction of groundwater flow in the shallow unconfined groundwater zone was west or south with variable gradients. The water table near the center of the landfill appears to have a feature that produces somewhat of a confluence toward the site center with flow outward to the west. The direction of groundwater flow in the upper semi-confined groundwater zone ranged from west-northwest in the western portion of the landfill, to north in the central and eastern parts of the landfill.

One of the nearer landfill groundwater monitoring wells to the subject property, M-10B (along the western boundary of the Teapot Dome Landfill), is in the upper semi-confined groundwater zone at a total depth of approximately 164 ft bgs and has a screened interval from approximately 154 to 164 ft bgs. Monitoring well M-10B groundwater contains a suite of chlorinated solvents, including tetrachloroethene (PCE), several PCE decomposition products, and other chlorinated volatile organic compounds (VOCs) at estimated concentrations slightly below 1 microgram per liter (ug/L). Upper semi-confined zone monitoring wells (M-3C, M-16B, M-11C, M-14B, M15C, and M-16B) along the western and west-central parts of the property also have PCE, its decomposition products, and other chlorinated VOCs dissolved in groundwater. **Figure 3** indicates locations of landfill wells near the Behl Property. In the central and southern parts of the site, similar compounds are present in the water table zone and the upper semi-confined zone. Limited

detections of other compounds and metals, potentially at concentrations above natural occurrence, also occur.

Based on information from the publicly available landfill files and the prior sampling of the subject property irrigation supply well, PFAS are present in the subject property groundwater and are derived from the nearby wastewater infiltration facility to southeast of the property beyond the landfill, on the opposite side of the Friant-Kern Canal. Additionally, landfill derived chlorinated solvents are present in the landfill monitoring well network and in irrigation supply wells to the west and southwest of the landfill at distances of greater than one mile.

2.0 SCOPE OF WORK

The previous due diligence completed at the subject property indicated elevated risks with a BER and a REC outlined in a Phase I ESA with the irrigation supply well monitoring event. The findings resulted in RRG authorizing the installation of three wells into the upper zone of the Central Valley shallow aquifer system and further authorizing Partner to conduct a groundwater monitoring event. The wells were installed in the unconfined water-bearing zone, which is the uppermost water bearing zone beneath the site, with 20 feet of screen at the base of the well casing. The following table outlines the analytical suite and provides generalized well information:

December 2020 Groundwater Monitoring Summary	
Gauging/Sampling Fieldwork Date(s):	December 21- 22, 2020
Analytes:	Per- and Polyfluoroalkyl Substances (PFAS), perchlorate, base/neutrals and acids, Title 22 metals, hexavalent chromium, anions + cations, total dissolved solids, asbestos, surfactants, extractable/purgeable petroleum hydrocarbons, VOCs, semi-volatile organic compounds (SVOCs), polychlorinated biphenyls, chlorinated herbicides, ethylene dibromide, and dibromochloropropane
Total Well Depth (ft bgs):	MW-1 – 114.5 MW-2 – 110.8 MW-3 – 113.7
Approximate Screened Interval (ft bgs):	MW-1 – 94.5 to 114.5 MW-2 – 90.8 to 110.8 MW-3 – 93.7 to 113.7
Depth to Groundwater (ft bgs):	MW-1 – 99.8 MW-2 – 103.7 MW-3 – 96.9

For the installation of the groundwater monitoring wells sampled by Partner, RRG contracted separately with a C-57-licensed California well driller, who used a Mobile F10 drill rig, with rotary hollow-stem augers to install the wells. The wells were installed roughly 10 to 15 feet into the water table and consisted of 2-inch inside-diameter Schedule 40 PVC riser with equivalent well-screen of 20 feet in length, with 0.020-inch factory slots, at the base of the boring. The borehole annulus surrounding the well screen was filled with #3 filter sand and topped with 3 feet of sodium bentonite seal surrounding the casing and slightly above the screen. The remainder of the annular space was filled with Bentonite Hydro Grout (30%) and cement additives. Surface finish consisted of a 6-inch square, locking steel riser box embedded within a three-foot square, concrete well pad (RRG, 2021).

After installation and prior to the Partner sampling event, RRG hired Blaine Technical Services to conduct well development, with field work occurring on December 3, 2020. The wells were developed by mechanical surging and overpumping using bladder pumps and bailers. **Appendix A** contains the development records, which show that 20 to 50 gallons of development water were removed from each of the wells. Partner's Brian Kim returned to the property on December 21, 2020 for purging and sampling, which was completed on December 22, 2020. **Appendix B** contains the purging and sampling records and a narrative regarding the well sampling event.

In preparation for the groundwater sampling, Partner field personnel adhered to published protocols for the avoidance of PFAS cross-contamination from typical human activities and commercial products. Additional standard protocol to reduce potential for sampling bias was practiced by the field sampler, including donning and changing of Nitrile gloves between tasks and locations.

During the sampling event, each sample aliquot was checked for proper labeling, entered into formal chain-of-custody, and packed on ice into a sample cooler. Upon sample completion, the coolers with the chains-of-custody and the samples were sealed and shipped by overnight carrier to California-accredited laboratories for analysis of the specified constituents in samples and in field and trip blanks

The laboratories ran surrogate samples, method blanks (MB), matrix spikes (MS), matrix spike duplicates (MSD), laboratory control spikes (LCS), laboratory control spike duplicates (LCSD), and/or continuing calibration verifications (CCV) as part of its quality assurance / quality control (QA/QC) program. The laboratory QA/QC data were within acceptable limits and/or did not affect data interpretation. **Appendix C** contains the laboratory reports and chains-of-custody.

3.0 DISCUSSION OF FINDINGS

The attached **Table 1** contains a summary of detected constituents for the subject property monitoring event, which was conducted on December 21 and 22, 2020. Results from the irrigation well (IW-1) sampling in 2020 are also included in **Table 1** for comparison. The groundwater sample results were compared to the applicable San Francisco Bay Regional Water Quality Control Board (RWQCB) Environmental Screening Levels (ESLs) (Direct Exposure – Human Health Risk Levels). Where ESLs were not available for select analytes, Partner compared to analytical results to the United States Environmental Protection Agency (EPA) Regional Screening Levels (RSLs) and applicable National Primary Drinking Water Regulations (NPDWR) or California Maximum Contaminant Levels (MCLs). The PFAS results were compared to TRLs adopted by the CASWRCB from the federal DOD. The TRLs are more stringent than the CADDW NLs and the interim ESLs for the individual PFOA and PFOS compounds, and the CASRWQCB TRLs are directly applicable to groundwater that is not used for drinking water.

For the following discussion, Partner uses the abbreviations for various PFAS compounds, and the definitions for the abbreviations are provided in the analytical report. The December 2020 monitoring event detected the following five PFAS compounds in MW-1 at estimated concentrations above the laboratory detection limits, and the concentrations ranged from 2.35 nanograms per liter (ng/L) to 4.42 ng/L: PFBS, PFBA, PFHxA, PFAS, and PFPeA. No PFAS compounds were detected above the laboratory reporting limit in monitoring MW-2. Eight PFAS compounds were detected in MW-3 in the range of 2.21 to 4.99 ng/L: PFBS, PFBA, PFHpA, PFHxS, PFHxA, PFOS, PFAS, and PFPeA. The detected concentrations did not exceed the published Direct Exposure ESLs.

Based on the potential for PFAS sampling-induced bias, a field blank and a trip blank were analyzed in addition to the groundwater samples. No PFAS were detected in the trip blank, and two compounds, 6:2 FTS and PFOS were detected in the field blank. We attribute the two detections in the blank to sampling bias. In particular, 6:2 FTS was not detected in any other sample, and PFOS was only detected in MW-3, at a similar estimated concentration as found in the blank. No other blanks or samples from the subject property, including the prior IW-1 sample and its associated blank, contained a detectable concentration of PFOS, and its presence in the December 2020 blank and MW-3 can be attributed to minor sampling bias.

No VOCs, including chlorinated solvents, or SVOCs were detected in the subject property monitoring well network. Diesel-range organics (DRO; Carbon Chain C13-C28) were detected at low concentrations in MW-1 and MW-2 and below their respective Direct Exposure ESL. The gasoline range organics (GRO; C6-C12) and motor oil range organics (MORO; C29-C40) were below detection limits in the samples.

Arsenic, barium, beryllium, chromium, cobalt, copper, lead, nickel, vanadium, and zinc were detected in varying concentrations in the Behl Property samples. Cobalt (total) exceeded the Direct Exposure ESL of 6.0 micrograms per liter (ug/L) in monitoring wells MW-2 and MW-3. The detections of cobalt in each sample and exceedances in monitoring wells MW-2 and MW-3 appear to be caused by sample turbidity and are not expected to represent the actual dissolved conditions at the subject property. The detection limit for thallium was slightly in excess of the ESL, with no thallium detected in the dataset. Hexavalent chromium was not detected in the dataset.

Other common mineral elements (cations) such as calcium, magnesium, potassium, and sodium were found at typical naturally occurring concentrations, and are not regulated. Major anions such as chloride, sulfate as SO_4, nitrate as NO_3, and nitrate as nitrogen (N) were detected at varying concentrations in the monitoring wells. The concentrations of nitrate as N exceed the federal MCL. Elevated nitrate in groundwater is attributed to local agricultural conditions and sample turbidity, but the unconfined aquifer at the site is not used for drinking water at the property, and the MCL is therefore not directly applicable to the monitor well samples. Total dissolved solids were detected, and probably exceed most normal groundwater conditions due to the currently elevated sediment load and related dissolution caused by recent well installation and limited development and purging.

No chlorinated herbicides, surfactants, asbestos, phenolics, or PCBs were detected in the Behl Property groundwater. The detection limit for the various types of PCBs (Aroclors) were slightly above the ESLs, but no indications of sources or prior detections of PCBs in the property or landfill dataset exist.

Perchlorate was detected in monitoring well MW-2 at a concentration of 2.3 ug/L during the December 2020 sampling event. This concentration is below the California MCL of 6.0 ug/L. Perchlorate is both naturally occurring and a man-made material, and most perchlorate is used as an oxidizer in solid fuel for rockets and in certain other explosives and fireworks applications. However, the only expected source for the detected perchlorate would be imported fertilizers, which often contain natural perchlorate (Susaria, et al, 1999). Any potential exceedance would be for drinking water, and the property groundwater is not used for drinking water.

4.0 CONCLUSIONS AND RECOMMENDATIONS

At the request of RRG, Partner conducted sampling and analysis of three, recently installed groundwater monitoring wells at the 158.58-acre subject property, located to the northwest of the intersection of Road 208 and Avenue 128 in Terra Bella, Tulare County, California. In expectation of water banking operations at the subject property, the wells were installed and monitored to evaluate potential groundwater impact from off-site facilities, which posed risk for migration of groundwater contaminants.

The adjoining Teapot Dome Landfill contributed to known chlorinated solvent impact in the shallow unconfined zone and in the deeper, upper semi-confined zone, as indicated by impact to landfill monitoring wells and downgradient irrigation supply wells. The landfill monitoring wells also detected impact from PFAS constituents, which likely sourced from the City of Porterville wastewater infiltration facility farther to the southeast of the Teapot Dome Landfill. Both facilities are potentially upgradient of the subject property, and earlier monitoring of a subject property irrigation well showed impact by PFAS constituents that were detected in landfill monitoring wells. Other constituents were also analyzed in the subject property groundwater monitoring network for a general geochemical baseline in accordance with RRG's typical suite of analytes for agricultural properties.

Partner concludes the following regarding the unconfined zone groundwater conditions found by monitoring the subject property well network:

- PFAS constituents, in MW-1 on the eastern side and MW-3 on the southeastern corner of the property, match individual compounds that were detected in monitoring wells that are expected to be upgradient on the landfill site with a source from the wastewater infiltration facility. No detected PFAS concentrations at the subject property exceed the TRLs established by the CASWRCB.
- No chlorinated solvents, other individual VOCs, or SVOCs were detected in the subject property groundwater monitoring well network.
- Diesel range organics were detected below the applicable ESL and do not represent an appreciable risk for planned property use. The source of the very minor DRO impact could be local site operations or roadside accumulation and leaching from airborne deposition of diesel exhaust fumes.
- A suite of Title 22 metals were detected in the property monitoring well network. With the exception of cobalt in MW-2 and MW-3, no metals exceeded the ESLs. Excess turbidity and field preservation likely caused the exceedance for cobalt rather than either natural occurrence or off-site sources of impact.
- Common groundwater inorganic ions did not exceed standards, with the exception of nitrate as nitrogen for drinking water, as a federal MCL exceedance. The elevated nitrogen is likely related to standard agricultural practices and does not affect the property for its intended use, because groundwater will not be used for drinking water. An additional constituent attributable to likely agricultural use is perchlorate, which was detected in one well at a concentration less than the CA MCL for drinking water and which can be a component of naturally occurring nitrates that are mined as fertilizer.

- Other analyzed constituents did not exceed the standards, including chlorinated herbicides, surfactants, asbestos, phenolics, or PCBs.
- The recently installed wells have terminal depths ranging from approximately 111 to 115 ft bgs, with static water levels from approximately 97 to 104 ft bgs, while the irrigation supply well has a screened interval from approximately 122 to 260 ft bgs and groundwater at 138 ft bgs. The site conditions indicate that the unconfined groundwater zone appears to be perched above the semi-confining layer. Based on similar PFAS geochemistry, the discussion as "semi-confining" appears to be accurate, because the overlying recharge through the layer contains PFAS that is detected in the upper semi-confined unit beneath the aquitard both at the Behl Property and the landfill. The PFAS reporting on behalf of the landfill (Babcock, 2020) indicates that the semi-confining zone is between 110 and 130 ft bgs. The landfill proximity and similar elevations indicates that the semi-confining zone would be at nearly equal depth at the property.

In summary, the subject property monitoring well network detected PFAS below regulatory standards. The PFAS occurs in specific locations, as specific individual compounds, and at concentrations that would be expected given the conceptual model and prior information, with the impact source likely being the municipal wastewater infiltration approximately ½ mile from the property. Chlorinated solvent impact from the adjoining landfill was not detected in the subject property monitoring well network. The lack of chlorinated solvent impact in the monitoring wells is supported by landfill specific groundwater flow conditions and distribution of chlorinated solvent impact to the southeast at the landfill and areas west of the landfill and south of the subject property. The off-site sources of the previously identified risk are therefore not currently affecting the property on a regulated basis. Additionally, water banking operations would contribute to groundwater mounding with dilution and dispersion of PFAS shunting the impact to the southwest or northeast from the property, and such mounding would increase gradient in relation to nearby chlorinated solvent impact with an impetus to move the impact southward to southwestward and to dilute the impact.

Inorganic constituents in groundwater had modestly higher concentrations than other nearby wells including most landfill monitoring wells and the subject property irrigation well. The elevated inorganic concentrations are attributed to sediment in samples. Prior to future groundwater monitoring events, additional monitoring well development and purging, followed by quiescence, low flow sampling, and unpreserved metals samples with split for filtration would be appropriate; otherwise, no additional environmental assessment activities are recommended at this time.

5.0 LIMITATIONS

This report presents a summary of work performed by Partner under the professional direction and review of the registered professional(s) listed. The work includes observations of site conditions encountered and the analytical results provided by independent third-party laboratories of samples collected during the course of the project. The number and location of samples were selected to provide the required information. However, it cannot be assumed that the limited available data are representative of subsurface conditions in areas not sampled.

The recommendations and/or conclusions provided in this report are based on observations, governing regulations, and/or available information from regulatory agencies; previous field investigations; and/or the results of laboratory analysis of soil, soil gas, and/or groundwater samples. Recommendations and/or conclusions beyond those stated and reported herein should not be inferred from this document.

Partner warrants that the environmental consulting services contained herein were performed in accordance with generally accepted practices in the environmental engineering and science, engineering geology, and hydrogeology fields that existed at the time and location of work. No other warranties are implied or expressed.

Reports, both verbal and written, as they pertain to the Site are for the sole use and benefit of the Client and/or SMU. This report has no other purpose and may not be relied upon by another person or entity without the written consent of Partner. Either verbally or in writing, third parties may come into possession of this report or all or part of the information generated as a result of this work. In the absence of a written agreement with Partner granting such rights, no third parties shall have rights of recourse or recovery whatsoever under any course of action against Partner, its officers, employees, vendors, successors, or assigns. Any such unauthorized user shall be responsible to protect, indemnify and hold Partner, Client, and their respective officers, employees, vendors, successors, and assigns harmless from any and all claims, damages, losses, liabilities, expenses (including reasonable attorneys' fees), and costs attributable to such Use. Unauthorized use of this report shall constitute acceptance of and commitment to these responsibilities, which shall be irrevocable and shall apply regardless of the cause of action or legal theory pled or asserted. Additional legal penalties may apply.

6.0 REFERENCES

American Society for Testing and Materials. 2013. *ASTM Standard Method (E1527-13) for Phase I Environmental Site Assessments*.

Babcock, J. W. 2020. *Per- and Polyfluoroalkyl Substances (PFAS) Sampling Report, Teapot Dome Landfill, Tulare County, California.* County of Tulare, Solid Waste Department, Visalia, California.

Delmanowski, M. and Durham, D. 2020. *2019 Second Semi-Annual and Annual Monitoring Report for Teapot Dome Landfill, Tulare County, California*. EBA Engineering, Santa Rosa, California.

Lofgren, B. E. and Klausing, R. L. 1969. *Ground-Water Withdrawal Tulare-Wasco Area California*. United States Geological Survey, Department of the Interior. Washington, DC.

Susaria, S., et al. 1999. *Perchlorate Identification in Fertilizers.* Environmental Science & Techology, Volume 33, No. 19, pg 3469-3472. American Chemical Society Publications.

RRG, 2021. *Intercompany communication with Partner Engineering and Science regarding Behl Property monitor well installation*.

Well Spy. 2020. *Wellbore Inspection Report (Downhole camera reconnaissance of Behl Property irrigation supply well).* Well Spy Water Well Surveys, Reedley, California

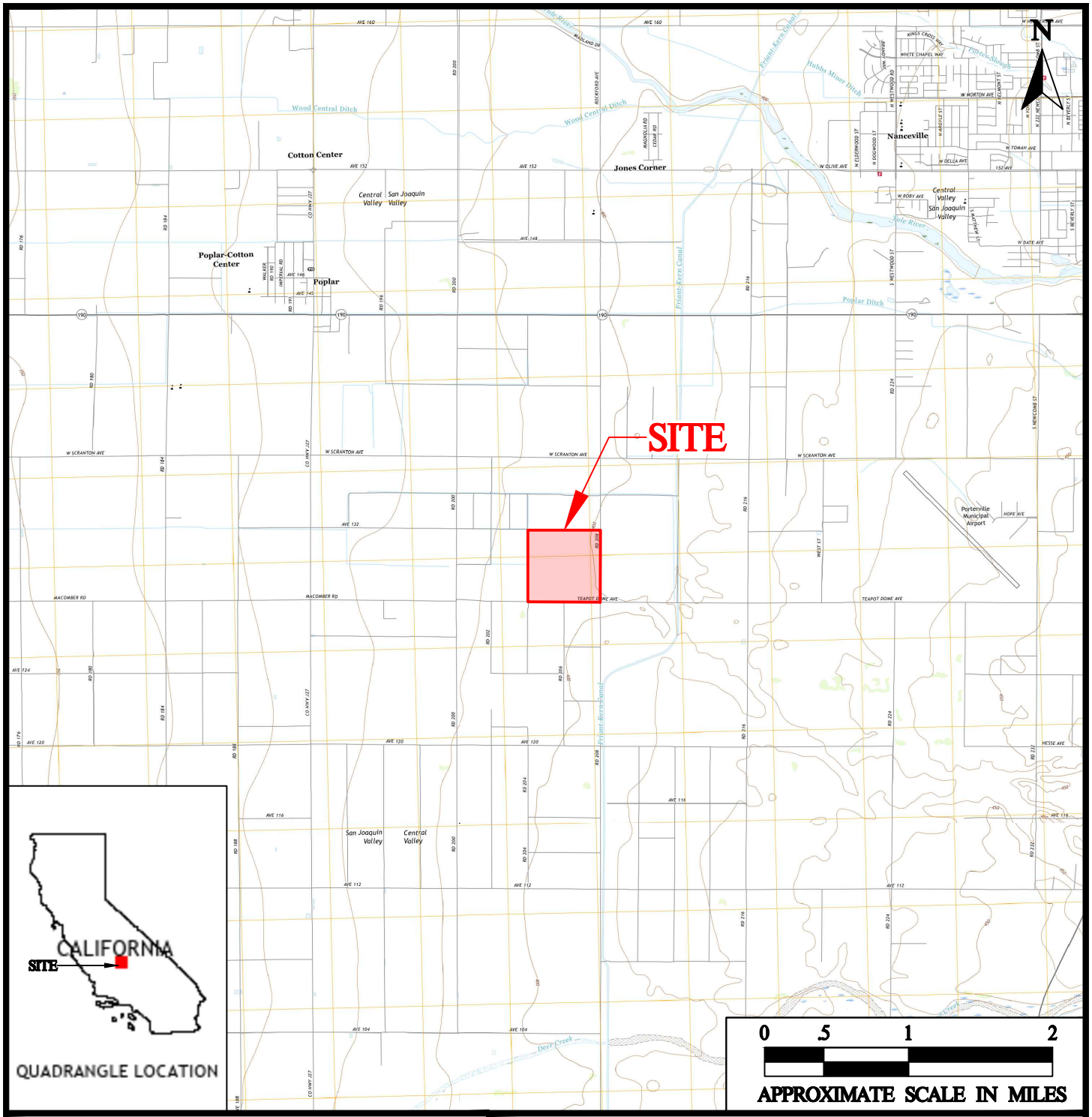
TABLE

Table 1
Summary of Groundwater Analytical Data
Behl Property
Terra Bella, Tulare County, California
Partner Project Number: 20-302506.1

	IW-1	MW-1	MW-2	MW-3	Field Blank	Trip Blank	Water Boards TRL
	Sample Date: 8/17/2020	Sample Date: 12/22/2020					
Analyte	**PFAS via EPA Method 537 Mod (ng/L)**						
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	<1.8	< 1.79	< 1.79	< 1.79	**3.81 J**	< 1.79	**8.0**
Perfluorobutanesulfonic acid (PFBS)	**2.0 J**	**4.42 J**	< 1.47	**2.95 J**	< 1.47	< 1.47	**5.0**
Perfluorobutanoic acid (PFBA)	**1.8 J**	**2.35 J**	< 2.13	**2.22 J**	< 2.13	< 2.13	**8.0**
Perfluoroheptanoic acid (PFHpA)	**1.6 J**	< 1.85	< 1.85	**2.21 J**	< 1.85	< 1.85	**5.0**
Perfluorohexanesulfonic acid (PFHxS)	**1.7 J**	< 1.64	< 1.64	**2.25 J**	< 1.64	< 1.64	**5.0**
Perfluorohexanoic acid (PFHxA)	**4.4**	**4.17 J**	< 1.94	**4.23 J**	< 1.94	< 1.94	**5.0**
Perfluorooctanesulfonic acid (PFOS)	<0.90	< 1.70	< 1.70	**2.40 J**	**1.73 J**	< 1.70	**5.0**
Perfluorooctanoic acid (PFOA)	**4.4**	**3.27 J**	< 1.80	**4.99 J**	< 1.80	< 1.80	**5.0**
Perfluoropentanoic acid (PFPeA)	**3.0 J**	**3.31 J**	< 2.35	**3.82 J**	< 2.35	< 2.35	**5.0**
Other PFAS Compounds	ND	ND	ND	ND	ND	ND	**N/A**
TPH-cc via 8015B (µg/L)					**Direct Exposure ESL or MCL**		
DRO	NA	**0.057**	**0.17**	< 50	**200**		
Metals via 200/7470/7471 (µg/L)							
Arsenic	<10.0	**4.4**	**5.0**	**7.8**	**10**		
Barium	NA	**380**	**300**	**870**	**1,000**		
Chromium	<10.0	**8.8**	**23**	**33**	**50**		
Cobalt	NA	**2.5**	**15**	**40**	**6.0**		
Copper	<10.0	**3.8**	**9.4**	**25**	**1,000**		
Lead	<6.00	**2.8**	**5.2**	**11**	**15**		
Nickel	<10.0	**4.8**	**11**	**22**	**100**		
Thallium	<10.0	< 2.5	< 2.5	< 2.5	**2.0**		
Vanadium	NA	**23**	**41**	**100**	**NE**		
Zinc	<50.0	**27**	**86**	**350**	**5,000**		
Metals via 6010B/C (µg/L)							
Calcium	NA	**127,000**	**74,200**	**93,600**	**NE**		
Magnesium	NA	**33,800**	**21,500**	**25,800**	**NE**		
Potassium	NA	**4,780**	**5,750**	**5,960**	**NE**		
Sodium	NA	**59,700**	**40,100**	**27,000**	**NE**		
Barium	NA	**547**	**383**	**298**	**1,000**		
Zinc	NA	**99.6**	**83**	**191**	**5,000**		
PCBs via 8082 (µg/L)							
PCB-1016	<0.500	< 0.55	< 0.55	< 0.55	**0.5**		
PCB-1221	<0.500	< 0.75	< 0.75	< 0.75	**0.5**		
PCB-1232	<0.500	< 0.75	< 0.75	< 0.75	**0.5**		
PCB-1242	<0.500	< 0.75	< 0.75	< 0.75	**0.5**		
PCB-1248	<0.500	< 0.75	< 0.75	< 0.75	**0.5**		
PCB-1254	<0.500	< 0.75	< 0.75	< 0.75	**0.5**		
PCB-1260	<0.500	< 0.75	< 0.75	< 0.75	**0.5**		
Chlorinated Hebicides via 8151A (µg/L)							
No Concentrations Detected					**N/A**		
VOCs via EPA Method 8260B (µg/L)							
No Concentrations Detected					**N/A**		
SVOCs via EPA Method 8270C (µg/L)							
No Concentrations Detected					**N/A**		
Hexavalent Chromium via EPA Method 7199 (µg/L)							
No Concentrations Detected					**N/A**		
Surfactants (MBAS) via EPA Method 5540C (µg/L)							
No Concentrations Detected					**N/A**		
Total Dissolved Solids via EPA Method SM2540C (mg/L)							
TDS	NA	**900**	**520**	**800**	**N/A**		
Anions via EPA Method 300.0 (mg/L)							
Chloride	NA	**36.5**	**36.7**	**33.5**	**N/A**		
Sulfate as SO4	NA	**180**	**47.5**	**38.9**	**N/A**		
Nitrate as NO3	NA	**153**	**88.8**	**184**	**N/A**		
Nitrate as N	NA	**34.5**	**20.0**	**41.5**	**10**		
Phenolics via EPA Method APHA/EPA/ASTM (µg/L)							
No Concentrations Detected					**N/A**		
Perchlorate via EPA Method 314.0 (µg/L)							
Perchlorate	NA	< 2.0	2.3	< 2.0	**6**		

Notes:
1. VOCs = volatile organic compounds
2. SVOCs = semi-volatile organic compounds
3. ng/L = nanograms per liter
4. µg/L = micrograms per liter
5. mg/L = milligrams per liter
6. J = Indicates concentration is an estimated concentration above laboratory method detection limit but below laboratory reporting limit and therefore an estimated concentration.
7. EPA = United States Environmental Protection Agency
8. ESL = Environmental Screening Level (California Water Quality Control Boards and/or San Fransiscio Water Quality Control Board), Direct Exposure Human Health Risk Screening Level, Final Maximum Contaminant Level Priority, Table GW-1
9. TRL = Target Reporting Limits (Adopted by the California Regional Water Quality Control Boards from the federal Department of Defense)
10. Values in **bold** exceed laboratory RL
11. MCL = Maximum Contaminant Level (CA or federal)
12. Concentrations highlighted in yellow exceed regulatory standard.
13. Detection limits in blue exceed the regulatory standards
14. NA = Not Analyzed
15. NE = Not Established
16. N/A = Not applicable to multiple constituents

FIGURES



EXPLANATION

Approximate Site Boundary

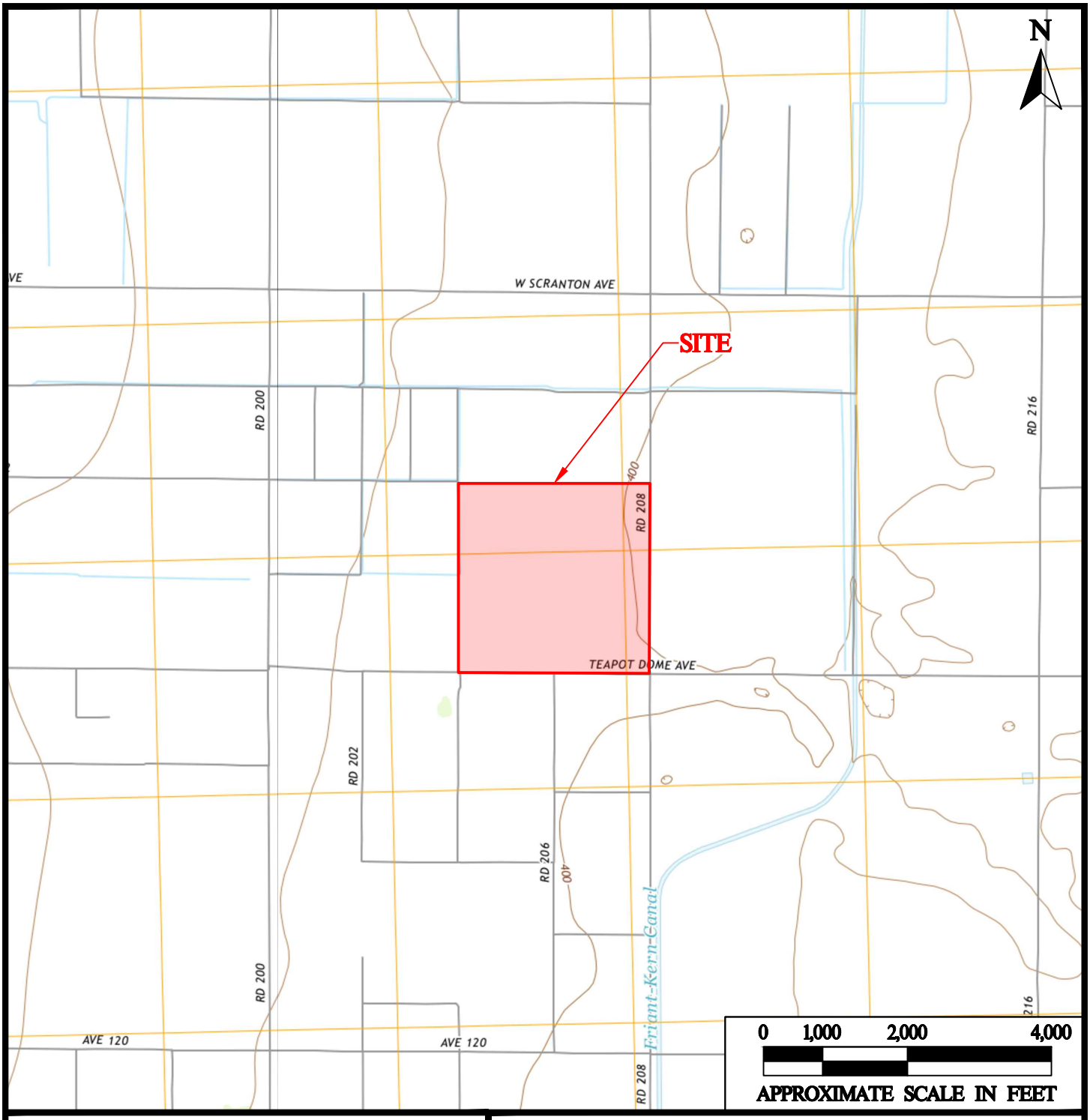
USGS Map Reference: 7.5-Minute Quadrangles Porterville (Site) & Woodville (West Adjacent Map), California. Dated 2018. Contour Interval 10 Feet.

PARTNER Engineering and Science, Inc.

2154 Torrance Boulevard, Suite 200
Torrance, California 90501

Tel.: 310.615.4500
Fax.: 310.615.4544
www.partneresi.com

Project: Behl Property, Terra Bella, Tulare County, California	Date 1.13.21		Project No. Job No.
	PM DH	Drafter AD	Reference Dwg. F1
Title: Figure 1 Regional Location Map	Designer AD	Checked By DH	Sketch No. 1



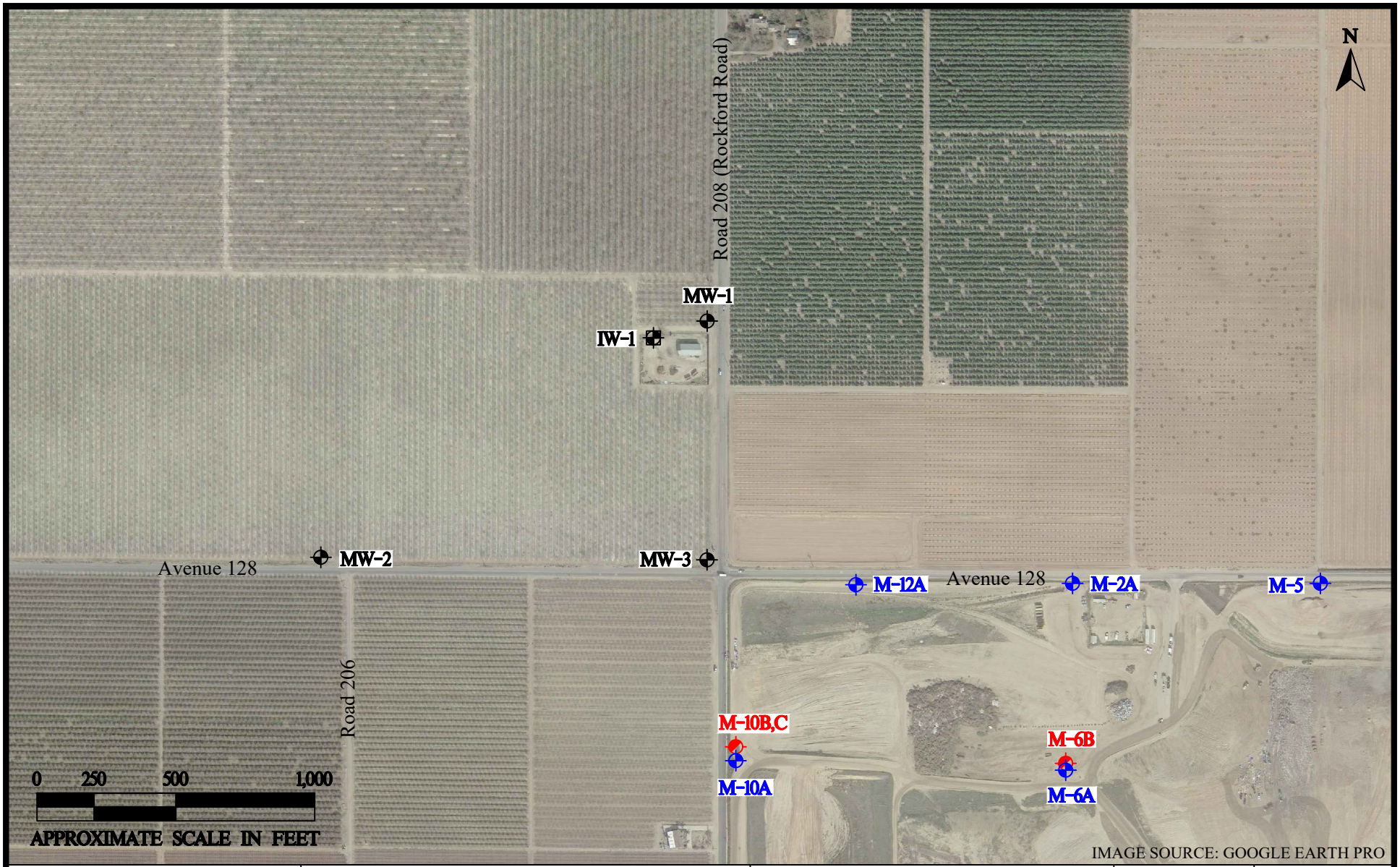
EXPLANATION

Approximate Site Boundary

USGS Map Reference: 7.5-Minute Quadrangles Porterville (Site) & Woodville (West Adjacent Map), California. Dated 2018. Contour Interval 10 Feet.

PARTNER
Engineering and Science, Inc.
2154 Torrance Boulevard, Suite 200
Torrance, California 90501
Tel.: 310.615.4500
Fax.: 310.615.4544
www.partneresi.com

Project: Behl Property, Terra Bella, Tulare County, California	Date 1.13.21		Project No. Job No.
	PM DH	Drafter AD	Reference Dwg. F2
Title: Figure 2 Topographic Site Location	Designer AD	Checked By DH	Sketch No. 2



EXPLANATION

- Unconfined Groundwater Zone Monitor Well (Site)
- Subject Property Irrigation Well
- Unconfined Groundwater Zone Monitor Well (Teapot Dome Landfill)
- Upper Semi-Confined Groundwater Zone Monitor Well (Teapot Dome Landfill)

PARTNER
Engineering and Science, Inc.

2154 Torrance Boulevard, Suite 200
Torrance, California 90501

Tel.: 310.615.4500
Fax.: 310.615.4544
www.partneresi.com

Project: Behl Property
Terra Bella, Tulare County, California

Title: Figure 3
Site Map

Date 1.13.21		Project No. Job No.
PM DH	Drafter AD	Reference Dwg. F3
Designer AD	Checked By DH	Sketch No. 3

APPENDIX A: GROUNDWATER WELL DEVELOPMENT FIELD SHEETS

WELL GAUGING DATA

Project #01203TD-1 Date 12/3/20 Client Renewable Group

Site Ave 128 & Rockford Rd Porterville

Well ID	Well Size (in.)	Time Gauged	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC
MW-1	2						102.95	118.09	↓
MW-2	2						107.45	113.65	↓
MW-3	2						101.54	115.98	↓

WELL DEVELOPMENT DATA SHEET

Project #: 201203TD-1	Client: Renewable Group
Developer: TS	Date Developed: 12-3-2020
Well I.D. MW-1	Well Diameter: (circle one) (2) 3 4 6 __
Total Well Depth: Before 118.09 After 118.12	Depth to Water: Before 102.95 After 103.30
Reason not developed: –	If Free Product, thickness: –
Additional Notations: swabbed for 15 minutes	

Volume Conversion Factor (VCF):	Well dia.		VCF
{12 x (d²/4) x π} / 231	2"	=	0.16
where	3"	=	0.37
12 = in / foot	4"	=	0.65
d = diameter (in.)	6"	=	1.47
π = 3.1416	10"	=	4.08
231 = in 3/gal	12"	=	6.87

2.5	X	~~8~~ 10		25
1 Case Volume		Specified Volumes	=	gallons

Purging Device:
- [x] Bailer
- [ ] Suction Pump
- [ ] Electric Submersible
- [x] Positive Air Displacement

Type of Installed Pump _____

Other equipment used _____

TIME	TEMP (F)	pH	Cond. (mS or (µS))	TURBIDITY (NTUs)	VOLUME REMOVED:	NOTATIONS:
1008	70.5	8.19	1056	>1000	2.5	
1019	68.4	8.25	1086	>1000	~~2.5~~ 5.0	
1045	66.7	7.15	1128	>1000	~~2.5~~ 7.5	
1051	67.1	7.36	1179	>1000	10.0	
1056	66.4	7.42	1172	>1000	12.5	
1100	66.8	7.37	~~107~~ 1179	>1000	15.0	
1104	65.1	7.38	1134	>1000	17.5	
1108	65.9	7.37	1179	>1000	20	
1113	65.8	7.38	1166	>1000	22.5	
1117	65.6	7.38	1159	>1000	25.0	PAD Pump clogged. Pulled
1214	65.2	7.42	1162	>1000	27.5	up pump to clean
1219	65.0	7.46	1164	>1000	30.0	
1223	65.5	7.53	1171	>1000	32.5	
Did Well Dewater? No		If yes, note above. –		Gallons Actually Evacuated:		50 gal

WELL DEVELOPMENT DATA SHEET

Well I.D. MW-1	PAGE 2 OF 2
Project #: 201203TP-1	Client: Renewable Group

TIME	TEMP (F)	pH	Cond. (mS or ~~µS~~)	TURBIDITY (NTUs)	VOLUME REMOVED:	NOTATIONS:
1227	66.0	7.58	1175	71000	35.0	
1231	66.2	7.56	1178	71000	37.5	
1235	66.5	7.60	1179	71000	40.0	
1239	66.8	7.65	1182	71000	42.5	
1243	67.2	7.68	1184	71000	45.0	
1247	67.4	7.69	1186	71000	47.5	
1251	67.2	7.68	1187	71000	50.0	

WELL DEVELOPMENT DATA SHEET

Project #: 201203JD-1	Client: Renewable Group
Developer: TS	Date Developed: 12-3-2020
Well I.D. MW-2	Well Diameter: (circle one) 2 3 4 6 __
Total Well Depth: Before 118.65 After 113.68	Depth to Water: Before 107.45 After 107.49
Reason not developed: —	If Free Product, thickness: —
Additional Notations: Swabbed for 15 minutes	

Volume Conversion Factor (VCF):
{12 x (d²/4) x π} /231
where
12 = in / foot
d = diameter (in.)
π = 3.1416
231 = in 3/gal

Well dia.		VCF
2"	=	0.16
3"	=	0.37
4"	=	0.65
6"	=	1.47
10"	=	4.08
12"	=	6.87

1.0	X	10		10
1 Case Volume		Specified Volumes	=	gallons

Purging Device:
- ☒ Bailer
- ☐ Suction Pump
- ☐ Electric Submersible
- ☒ Positive Air Displacement

Type of Installed Pump _____
Other equipment used _____

TIME	TEMP (F)	pH	Cond. (mS or µS)	TURBIDITY (NTUs)	VOLUME REMOVED:	NOTATIONS:
1149	68.2	8.39	732	>1000	1.0	Brown
1202	68.3	8.21	717	>1000	2.0	Brown
1211	68.3	8.20	715	>1000	3.0	"
1219	68.1	8.02	713	>1000	4.0	"
1230	68.0	7.80	711	>1000	5.0	"
1237	67.9	7.91	712	>1000	6.0	"
1243	67.8	7.97	716	>1000	7.0	"
1249	67.5	7.81	707	>1000	8.0	"
1256	67.9	7.83	707	>1000	9.0	"
1312	67.6	7.77	710	>1000	10.0	Switched from hand
1315	67.3	7.74	706	>1000	11.0	Bailing to PAD Pump
1318	67.0	7.72	710	>1000	12.0	
1321	67.2	7.70	708	>1000	13.0	
Did Well Dewater? No		If yes, note above.		Gallons Actually Evacuated:		20.0 gal

WELL DEVELOPMENT DATA SHEET

Well I.D. MW-2	PAGE 2 OF 2
Project #: 20120377-1	Client: Renewable Group

TIME	TEMP (F)	pH	Cond. (mS or µS)	TURBIDITY (NTUs)	VOLUME REMOVED:	NOTATIONS:
1324	67.3	7.71	711	71000	14.0	
1327	67.6	7.68	708	71000	15.0	
1330	67.8	7.64	704	71000	16.0	
1333	67.9	7.63	708	71000	17.0	
1336	67.6	7.61	706	71000	18.0	
1339	67.5	7.60	706	71000	19.0	
1342	67.6	7.60	707	71000	20.0	

WELL DEVELOPMENT DATA SHEET

Project #: 20120STP-1	Client: Renewable Group
Developer: TD	Date Developed: 12/3/2020
Well I.D. MW-3	Well Diameter: (circle one) (2) 3 4 6 __
Total Well Depth: Before 115.98 After 116.15	Depth to Water: Before 101.94 After 102.21
Reason not developed: —	If Free Product, thickness: —
Additional Notations: Swabbed well for 14 min prior to purge	

Volume Conversion Factor (VCF):
$\{12 \times (d^2/4) \times \pi\} / 231$
where
12 = in./foot
d = diameter (in.)
π = 3.1416
231 = in.3/gal

Well dia.		VCF
2"	=	0.16
3"	=	0.37
4"	=	0.65
6"	=	1.47
10"	=	4.08
12"	=	6.87

2.3	X	10		23.0
1 Case Volume		Specified Volumes	=	gallons

Purging Device:
- ☐ Bailer
- ☐ Suction Pump
- ☐ Electric Submersible
- ☒ Positive Air Displacement

Type of Installed Pump _____
Other equipment used _____

TIME	TEMP (F)	pH	Cond. (mS or (µS))	TURBIDITY (NTUs)	VOLUME REMOVED:	NOTATIONS:
0902	66.3	6.05	1348	71000	2.3	
0906	67.8	6.60	864	71000	4.6	
0910	67.8	6.81	797.7	>1000	6.9	
0914	67.8	6.92	781.3	>1000	9.2	
0917	68.0	6.96	779.6	>1000	11.5	
0920	68.1	7.03	776.5	>1000	13.8	
0924	67.9	7.09	778.5	>1000	16.1	
0928	68.4	7.14	779.0	>1000	18.4	
0932	68.5	7.14	775.1	>1000	20.7	
0936	68.3	7.21	777.5	>1000	23.0	
0940	68.8	7.25	776.0	>1000	25.3	
0944	68.8	7.24	776.3	>1000	27.6	
0948	69.1	7.32	775.5	>1000	29.3	
Did Well Dewater? No		If yes, note above. —		Gallons Actually Evacuated:		454 gal

WELL DEVELOPMENT DATA SHEET

Well I.D. MW-3	PAGE 2 OF 2
Project #: 2P120STD-1	Client: Renewable Group

TIME	TEMP (F)	pH	Cond. (mS or µS)	TURBIDITY (NTUs)	VOLUME REMOVED:	NOTATIONS:
0952 ~~0955~~	69.3	7.34	773.6	>1000	31.6	
0956	69.3	7.38	767.1	>1000	33.9	
1000	69.3	7.30	766.6	>1000	36.2	
1004	69.3	7.29	767.7	>1000	38.5	
1008	69.3	7.30	769.9	>1000	40.8	
1012	69.2	7.33	772.6	>1000	43.1	
1016	69.1	7.34	768.1	>1000	45.4	

WELLHEAD INSPECTION CHECKLIST

Client Renewable Group Date 12/3/20

Site Address Ave 128

Job Number 201203TD-1 Technician TD, TS

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)	Repair Order Submitted
Mw-1	X							
Mw-2	X							
Mw-3	X							

NOTES:

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME Renewable Group @ Portsville				PROJECT NUMBER 201203TD-1			
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP. F	INITIALS
YSI Pro Plus	14F101212	11-3-20 0810	pH: 4.00 7.00 10.00	4.00 7.00 10.00	✓ ✓ ✓	67.8	TS
✓	✓	✓	cond: 3900 uS/cm	3900	✓	68.0	TS

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME Renewable Group @ Porterville				PROJECT NUMBER 20120STD-1			
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP. °F	INITIALS
Myron L Ultrameter II	6242642	12/3/20 0830	pH 7 10 4	7.02 10.01 3.98	✓	45.7	TD
↓	↓	↓	Cond 3900	3899	✓	45.6	TD

APPENDIX B: GROUNDWATER WELL SAMPLING NARRATIVE WITH PURGE RECORDS

PARTNER

Groundwater Sampling Narrative

In preparation for the groundwater sampling, Partner field personnel adhered to published protocols for the avoidance of per- and polyfluoroalkyl Substances (PFAS) cross-contamination from typical human activities and commercial products. More specifically, Partner used standard field protocols for the avoidance of other sampling-related bias including performing PFAS sampling first and donning attire not treated with fabric softeners/protectors as well as the avoidance of the use of insect repellants, Tyvek-coated/Gore-Tex products, personal care products (i.e. cosmetics, hand creams, moisturizers, dental floss, plaque remover, sunscreens, and insect repellents), recycled/waterproof/treated paper, plastic clipboards, binders, markers, adhesive paper products (e.g. Post-It notes), food/beverage products that were previously in contact with pre-packaged containers, aluminum foil, and non-stick cookware/containers.

Groundwater sampling at MW-1 was completed on December 21 and 22, 2020, and sampling at MW-2 and MW-3 was completed on December 22, 2020. Sampling was initiated with the collection of a field reagent blank (FRB), for PFAS analysis, by opening a container of PFAS-grade reagent water and pouring the reagent water into a sample container, which was then sealed prior to the well sampling. Groundwater sample from each well was conveyed into two 125-milliliter (mL) polyethylene bottles, nine hydrochloric acid-preserved VOA vials, four 1-Liter unpreserved amber bottles, one 500-mL sulfuric acid-preserved amble bottle, five 250-mL and two 500-mL unpreserved polyethylene bottles, two 250-mL nitric acid-preserved polyethylene bottles, and one 250-mL sodium hydroxide-preserved polyethylene bottle. Each vial and bottle was filled with no observable headspace or air bubbles to minimize the potential for volatilization, labeled for identification, and stored in an iced cooler.

On December 21 and 22, 2020, Partner purged the three monitoring wells at the subject property using an electric variable-speed submersible pump for low-flow purging and sampling. However, due to equipment failure, well purging and sampling was completed using disposable polyethylene bailers. Groundwater from each well was measured for water depth, pH, temperature, and conductivity.

The monitoring well, MW-1, located on the eastern border of the subject property, approximately 870-feet north of Avenue 128 and Road 208 intersection was reportedly drilled to a terminal depth of approximately 115.2-feet bgs. The depth to water in MW-1 was approximately 100-feet bgs on December 21, 2020. Due to the slow recharge of groundwater in MW-1, approximately three casing volumes of groundwater (5.8-gallons) was purged from MW-1. The pH in groundwater from MW-1 ranged from 7.34 to 7.49, temperature ranged from 16.3°C to 17.1°C, and conductivity ranged from 1035 microSiemens per centimeter (µs/cm) to 1090 µs/cm.

The monitoring well, MW-2, located on the southern border of the subject property, approximately 1,411-feet west of the Avenue 128 and Road 208 intersection was reportedly drilled to a terminal depth of approximately 110.7-feet bgs. The depth to water in MW-2 was approximately 104-feet bgs on December 20, 2020. The pH in groundwater from MW-1 was measured to be 7.36, temperature at 17.7°C, and conductivity at 650 µs/cm. Based on prior development, similar pH and temperature, and lower conductivity, MW-2 sampling was conducted without prior purging.

The monitoring well, MW-3, located on the southeastern corner of the subject property, approximately 95-feet west of the Avenue 128 and Road 208 intersection was reportedly drilled to a terminal depth of approximately 111.4-feet bgs. The depth to water in MW-3 was approximately 97-feet bgs on December 21, 2020. Due to the slow recharge of groundwater in MW-3, 1.2 gallons was purged from MW-3. The pH in groundwater from MW-3 was measured to be 7.27, temperature at 17.9°C, and conductivity at 707 µs/cm. As with MW-2, because of the similar temperature and pH, with lower conductivity than MW-1, purging was discontinued after the approximately single casing volume of purging. Tabulation of the purge and sample information follows:

MW-1

12/21/2020

Top of Casing (TOC) to ground surface: 3.7 feet

Total Well Depth: 118.2 feet below TOC

Depth to Water: 103.5 feet below TOC

Purge volume: 5.8 gallons

Temperature	*pH*	*Conductivity*	*Total Dissolved Solids*
1) 16.3°C	7.49	1035 µS	528 ppm
2) 17.1°C	7.34	1047 µS	515 ppm
3) 16.6°C	7.34	1090 µS	547 ppm

MW-2

12/21/2020

TOC to ground surface: 3.5 feet

Total Well Depth: 114.3 feet below TOC

Depth to Water: 107.2 feet below TOC

Purge volume: 0.0 gallons

Temperature	*pH*	*Conductivity*	*Total Dissolved Solids*
1) 17.7°C	7.36	650 µS	334ppm

MW-3

12/21/2020

TOC to ground surface: 3.7 feet

Total Well Depth: 117.4 feet below TOC

Depth to Water: 100.6feet below TOC

Purge volume: 1.2 gallons

Temperature	*pH*	*Conductivity*	*Total Dissolved Solids*
1) 17.9°C	7.27	707 µS	350 ppm

Laboratory Analysis

Partner collected three (3) groundwater samples on December 21 and 22, 2020, which were transported in an iced cooler under chain-of-custody protocol to Pace Analytical (Pace) for PFAS and SunStar Laboratories, Inc. (SunStar) for the remaining analysis. The following analyses and their EPA Analytical Method designations are provided below.

Constituent	**Laboratory Analytical Method**
Per- and Polyfluoroalkyl Substances (PFAS)	EPA 537 Mod Isotope Dilution
Base/Neutrals and Acids	EPA Method 8270 or EPA Method 625.1
Title 22 Metals	EPA Method 6010B, 200.8, and 7470/7471
Hexavalent Chromium	EPA Method 7199
Anions and Cations	EPA Method 300.0
Volatile Organic Compounds (VOCs)	EPA Method 8260
Semivolatile Organic Compounds (SVOCs)	EPA Method 8270C
Dibromochloropropane	EPA Method 1699
Ethylene Dibromide (EDB)	EPA Method 8260 or EPA Method 8011
Extractable and Purgeable Petroleum Hydrocarbons	EPA Method 8015B
Polychlorinated Biphenyls (PCBs)	EPA Method 8082
Chlorinated Herbicides	EPA Method 8151A

Surfactants	SM 5540 C
Total Dissolved Solids (TDS)	SM2540C
Asbestos	EPA Method 100.1 and 100.2 or AWWA Method 2570
Perchlorate	EPA 420.4
Phenolics	EPA 314.0

APPENDIX C: LABORATORY REPORTS AND CHAINS-OF-CUSTODY

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

30 December 2020

Joe Mangine
Partner Engineering & Science, Inc.--Oakland
1017 22nd Ave. Suite 107
Oakland, CA 94606

RE: Behl Property, Porterville, CA

Enclosed are the results of analyses for samples received by the laboratory on 12/23/20 12:25. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Mike Jaroudi
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	T204346-01	Water	12/22/20 07:30	12/23/20 12:25
MW-2	T204346-02	Water	12/22/20 11:10	12/23/20 12:25
MW-3	T204346-03	Water	12/22/20 08:10	12/23/20 12:25

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

DETECTIONS SUMMARY

Sample ID: MW-1 **Laboratory ID:** T204346-01

Analyte	Result	Reporting Limit	Units	Method	Notes
C13-C28 (DRO)	**0.057**	0.050	mg/l	EPA 8015B	
Calcium	**127000**	500	ug/l	EPA 6010b	
Magnesium	**33800**	500	ug/l	EPA 6010b	
Potassium	**4780**	500	ug/l	EPA 6010b	
Sodium	**59700**	500	ug/l	EPA 6010b	
Barium	**547**	50.0	ug/l	EPA 6010b	
Zinc	**99.6**	50.0	ug/l	EPA 6010b	
Arsenic	**4.4**	2.5	ug/l	200.8	R-07
Barium	**380**	2.5	ug/l	200.8	R-07
Chromium	**8.8**	2.5	ug/l	200.8	R-07
Cobalt	**2.5**	2.5	ug/l	200.8	R-07
Copper	**3.8**	2.5	ug/l	200.8	R-07
Lead	**2.8**	2.5	ug/l	200.8	R-07
Nickel	**4.8**	2.5	ug/l	200.8	R-07
Vanadium	**23**	2.5	ug/l	200.8	R-07
Zinc	**27**	2.5	ug/l	200.8	R-07
Total Dissolved Solids	**900**	10	mg/l	TDS by SM2540C	
Chloride	**36.5**	5.00	mg/l	EPA 300.0	
Sulfate as SO4	**180**	50.0	mg/l	EPA 300.0	
Nitrate as NO3	**153**	5.00	mg/l	EPA 300.0	O-07
Nitrate as N	**34.5**	2.00	mg/l	EPA 300.0	O-07

Sample ID: MW-2 **Laboratory ID:** T204346-02

Analyte	Result	Reporting Limit	Units	Method	Notes
C13-C28 (DRO)	**0.17**	0.050	mg/l	EPA 8015B	
Calcium	**74200**	500	ug/l	EPA 6010b	
Magnesium	**21500**	500	ug/l	EPA 6010b	
Potassium	**5750**	500	ug/l	EPA 6010b	
Sodium	**40100**	500	ug/l	EPA 6010b	
Barium	**383**	50.0	ug/l	EPA 6010b	
Zinc	**83.0**	50.0	ug/l	EPA 6010b	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

Sample ID: MW-2 **Laboratory ID:** T204346-02

Analyte	Result	Reporting Limit	Units	Method	Notes
Arsenic	**5.0**	2.5	ug/l	200.8	R-07
Barium	**300**	2.5	ug/l	200.8	R-07
Chromium	**23**	2.5	ug/l	200.8	R-07
Cobalt	**15**	2.5	ug/l	200.8	R-07
Copper	**9.4**	2.5	ug/l	200.8	R-07
Lead	**5.2**	2.5	ug/l	200.8	R-07
Nickel	**11**	2.5	ug/l	200.8	R-07
Vanadium	**41**	2.5	ug/l	200.8	R-07
Zinc	**86**	2.5	ug/l	200.8	R-07
Total Dissolved Solids	**520**	10	mg/l	TDS by SM2540C	
Chloride	**36.7**	5.00	mg/l	EPA 300.0	
Sulfate as SO4	**47.5**	5.00	mg/l	EPA 300.0	
Nitrate as NO3	**88.8**	5.00	mg/l	EPA 300.0	O-07
Nitrate as N	**20.0**	2.00	mg/l	EPA 300.0	O-07

Sample ID: MW-3 **Laboratory ID:** T204346-03

Analyte	Result	Reporting Limit	Units	Method	Notes
Calcium	**93600**	500	ug/l	EPA 6010b	
Magnesium	**25800**	500	ug/l	EPA 6010b	
Potassium	**5960**	500	ug/l	EPA 6010b	
Sodium	**27000**	500	ug/l	EPA 6010b	
Barium	**298**	50.0	ug/l	EPA 6010b	
Zinc	**191**	50.0	ug/l	EPA 6010b	
Arsenic	**7.8**	2.5	ug/l	200.8	R-07
Barium	**870**	2.5	ug/l	200.8	R-07
Chromium	**33**	2.5	ug/l	200.8	R-07
Cobalt	**40**	2.5	ug/l	200.8	R-07
Copper	**25**	2.5	ug/l	200.8	R-07
Lead	**11**	2.5	ug/l	200.8	R-07
Nickel	**22**	2.5	ug/l	200.8	R-07
Vanadium	**100**	2.5	ug/l	200.8	R-07
Zinc	**350**	2.5	ug/l	200.8	R-07
Total Dissolved Solids	**800**	10	mg/l	TDS by SM2540C	
Chloride	**33.5**	5.00	mg/l	EPA 300.0	
Sulfate as SO4	**38.9**	5.00	mg/l	EPA 300.0	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

Sample ID: MW-3 **Laboratory ID:** T204346-03

Analyte	Result	Reporting Limit	Units	Method	Notes
Nitrate as NO3	**184**	5.00	mg/l	EPA 300.0	O-07
Nitrate as N	**41.5**	2.00	mg/l	EPA 300.0	O-07

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

MW-1

T204346-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Purgeable Petroleum Hydrocarbons by EPA 8015B									
C6-C12 (GRO)	ND	50	ug/l	1	0122932	12/29/20	12/29/20	EPA 8015B	
Surrogate: a,a,a-Trifluorotoluene		*76.6 %*	*65-135*		"	"	"	"	
Extractable Petroleum Hydrocarbons by 8015B									
C6-C12 (GRO)	ND	0.050	mg/l	1	0122336	12/23/20	12/28/20	EPA 8015B	
C13-C28 (DRO)	**0.057**	0.050	"	"	"	"	"	"	
C29-C40 (MORO)	ND	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*91.4 %*	*65-135*		"	"	"	"	
Metals by EPA 6010B									
Calcium	**127000**	500	ug/l	1	0122331	12/23/20	12/29/20	EPA 6010b	
Magnesium	**33800**	500	"	"	"	"	"	"	
Potassium	**4780**	500	"	"	"	"	"	"	
Sodium	**59700**	500	"	"	"	"	"	"	
Metals (Dissolved) by EPA 6010B									
Antimony	ND	50.0	ug/l	1	0122330	12/23/20	12/29/20	EPA 6010b	
Arsenic	ND	50.0	"	"	"	"	"	"	
Barium	**547**	50.0	"	"	"	"	"	"	
Beryllium	ND	50.0	"	"	"	"	12/29/20	"	
Cadmium	ND	50.0	"	"	"	"	12/29/20	"	
Chromium	ND	50.0	"	"	"	"	"	"	
Cobalt	ND	50.0	"	"	"	"	"	"	
Copper	ND	50.0	"	"	"	"	"	"	
Lead	ND	50.0	"	"	"	"	"	"	
Molybdenum	ND	50.0	"	"	"	"	"	"	
Nickel	ND	50.0	"	"	"	"	"	"	
Phosphorus	ND	50.0	"	"	"	"	"	"	
Selenium	ND	50.0	"	"	"	"	"	"	
Silver	ND	50.0	"	"	"	"	"	"	
Thallium	ND	50.0	"	"	"	"	"	"	
Vanadium	ND	50.0	"	"	"	"	"	"	
Zinc	**99.6**	50.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

MW-1

T204346-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 200 Series Methods									
Antimony	ND	2.5	ug/l	5	0122332	12/23/20	12/29/20	200.8	R-07
Arsenic	**4.4**	2.5	"	"	"	"	"	"	R-07
Barium	**380**	2.5	"	"	"	"	"	"	R-07
Beryllium	ND	2.5	"	"	"	"	"	"	R-07
Cadmium	ND	2.5	"	"	"	"	"	"	R-07
Chromium	**8.8**	2.5	"	"	"	"	"	"	R-07
Cobalt	**2.5**	2.5	"	"	"	"	"	"	R-07
Copper	**3.8**	2.5	"	"	"	"	"	"	R-07
Lead	**2.8**	2.5	"	"	"	"	"	"	R-07
Molybdenum	ND	2.5	"	"	"	"	"	"	R-07
Mercury	ND	2.5	"	"	"	"	"	"	R-07
Nickel	**4.8**	2.5	"	"	"	"	"	"	R-07
Selenium	ND	2.5	"	"	"	"	"	"	R-07
Silver	ND	2.5	"	"	"	"	"	"	R-07
Thallium	ND	2.5	"	"	"	"	"	"	R-07
Vanadium	**23**	2.5	"	"	"	"	"	"	R-07
Zinc	**27**	2.5	"	"	"	"	"	"	R-07
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.50	ug/l	1	0122335	12/23/20	12/30/20	EPA 7470A Water	
Polychlorinated Biphenyls by EPA Method 8082									
PCB-1016	ND	2.00	ug/l	1	0122337	12/23/20	12/29/20	EPA 8082	
PCB-1221	ND	2.00	"	"	"	"	"	"	
PCB-1232	ND	2.00	"	"	"	"	"	"	
PCB-1242	ND	2.00	"	"	"	"	"	"	
PCB-1248	ND	2.00	"	"	"	"	"	"	
PCB-1254	ND	2.00	"	"	"	"	"	"	
PCB-1260	ND	2.00	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*83.2 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*79.5 %*		*35-140*	"	"	"	"	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

MW-1

T204346-01 (Water)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chlorinated Herbicides by EPA Method 8151A									
2,4,5-T	ND	0.20	ug/l	1	0122340	12/28/20	12/30/20	8151	
2,4,5-TP (Silvex)	ND	0.20	"	"	"	"	"	"	
2,4-D	ND	0.50	"	"	"	"	"	"	
2,4-DB	ND	0.50	"	"	"	"	"	"	
3,5-Dichlorobenzoic acid	ND	0.20	"	"	"	"	"	"	
4-Nitrophenol	ND	0.50	"	"	"	"	"	"	
Acifluorfen	ND	0.20	"	"	"	"	"	"	
Bentazon	ND	1.00	"	"	"	"	"	"	
Chloramben	ND	0.50	"	"	"	"	"	"	
Dalapon	ND	1.00	"	"	"	"	"	"	
DCPA diacid	ND	0.20	"	"	"	"	"	"	
Dicamba	ND	0.20	"	"	"	"	"	"	
Dichloroprop	ND	0.50	"	"	"	"	"	"	
Dinoseb	ND	0.50	"	"	"	"	"	"	
Pentachlorophenol	ND	0.20	"	"	"	"	"	"	
Picloram	ND	1.00	"	"	"	"	"	"	
Surrogate: 2,4-DCAA		*40.6 %*	*35-150*		*"*	*"*	*"*	*"*	
Volatile Organic Compounds by EPA Method 8260B									
Bromobenzene	ND	1.0	ug/l	1	0122343	12/23/20	12/28/20	EPA 8260B	
Bromochloromethane	ND	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
Bromoform	ND	1.0	"	"	"	"	"	"	
Bromomethane	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	1.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	1.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	1.0	"	"	"	"	"	"	
Chloroethane	ND	1.0	"	"	"	"	"	"	
Chloroform	ND	1.0	"	"	"	"	"	"	
Chloromethane	ND	1.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

MW-1

T204346-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Volatile Organic Compounds by EPA Method 8260B									
2-Chlorotoluene	ND	1.0	ug/l	1	0122343	12/23/20	12/28/20	EPA 8260B	
4-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	"	"	"	"	"	"	
Dibromomethane	ND	1.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
Isopropylbenzene	ND	1.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
n-Propylbenzene	ND	1.0	"	"	"	"	"	"	
Styrene	ND	1.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	
Tetrachloroethene	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

MW-1

T204346-01 (Water)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA Method 8260B									
1,2,4-Trichlorobenzene	ND	1.0	ug/l	1	0122343	12/23/20	12/28/20	EPA 8260B	
1,1,2-Trichloroethane	ND	1.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	
Trichloroethene	ND	1.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
m,p-Xylene	ND	2.0	"	"	"	"	"	"	
o-Xylene	ND	0.50	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*97.4 %*	*76.7-116*		"	"	"	"	
Surrogate: Dibromofluoromethane		*127 %*	*49.2-135*		"	"	"	"	
Surrogate: Toluene-d8		*103 %*	*84.7-108*		"	"	"	"	
Semivolatile Organic Compounds by EPA Method 8270C									
Carbazole	ND	10	ug/l	1	0122339	12/23/20	12/29/20	EPA 8270C	
Aniline	ND	10	"	"	"	"	"	"	
Phenol	ND	10	"	"	"	"	"	"	
Acenaphthylene	ND	10	"	"	"	"	"	"	
2-Chlorophenol	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Anthracene	ND	10	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1-Methylnaphthalene	ND	10	"	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	10	"	"	"	"	"	"	
2-Methylnaphthalene	ND	20	"	"	"	"	"	"	
Benzo (a) anthracene	ND	10	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

MW-1

T204346-01 (Water)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	10	ug/l	1	0122339	12/23/20	12/29/20	EPA 8270C	
Benzo (b) fluoranthene	ND	10	"	"	"	"	"	"	
4-Nitrophenol	ND	10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	10	"	"	"	"	"	"	
2,4-Dinitrotoluene	ND	10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	20	"	"	"	"	"	"	
Pentachlorophenol	ND	10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	10	"	"	"	"	"	"	
Pyrene	ND	10	"	"	"	"	"	"	
Benzyl alcohol	ND	50	"	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	10	"	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	5.0	"	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	20	"	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	5.0	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	10	"	"	"	"	"	"	
4-Chloroaniline	ND	20	"	"	"	"	"	"	
2-Chloronaphthalene	ND	10	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	20	"	"	"	"	"	"	
Chrysene	ND	10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	10	"	"	"	"	"	"	
Dibenzofuran	ND	20	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	10	"	"	"	"	"	"	
Diethyl phthalate	ND	10	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	5.0	"	"	"	"	"	"	
Dimethyl phthalate	ND	10	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	5.0	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	10	"	"	"	"	"	"	
2,6-Dinitrotoluene	ND	20	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

MW-1

T204346-01 (Water)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Di-n-octyl phthalate	ND	10	ug/l	1	0122339	12/23/20	12/29/20	EPA 8270C	
Fluoranthene	ND	5.0	"	"	"	"	"	"	
Fluorene	ND	10	"	"	"	"	"	"	
Hexachlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	10	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	20	"	"	"	"	"	"	
Hexachloroethane	ND	5.0	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10	"	"	"	"	"	"	
Isophorone	ND	10	"	"	"	"	"	"	
2-Methylphenol	ND	10	"	"	"	"	"	"	
4-Methylphenol	ND	20	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
2-Nitroaniline	ND	10	"	"	"	"	"	"	
3-Nitroaniline	ND	10	"	"	"	"	"	"	
4-Nitroaniline	ND	20	"	"	"	"	"	"	
Nitrobenzene	ND	20	"	"	"	"	"	"	
2-Nitrophenol	ND	10	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	10	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	25	"	"	"	"	"	"	
Phenanthrene	ND	10	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	20	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	10	"	"	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	10	"	"	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	10	"	"	"	"	"	"	
1,4-Dinitrobenzene	ND	10	"	"	"	"	"	"	
Pyridine	ND	10	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol		*57.0 %*	*15-121*		"	"	"	"	
Surrogate: Phenol-d6		*47.2 %*	*24-113*		"	"	"	"	
Surrogate: Nitrobenzene-d5		*70.0 %*	*14.7-110*		"	"	"	"	
Surrogate: 2-Fluorobiphenyl		*74.7 %*	*33.3-110*		"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		*72.0 %*	*12.9-110*		"	"	"	"	
Surrogate: Terphenyl-dl4		*76.7 %*	*15.8-136*		"	"	"	"	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

MW-1

T204346-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Conventional Chemistry Parameters by APHA/EPA/ASTM Methods									
Hexavalent Chromium	ND	1.00	ug/l	1	0122326	12/29/20	12/23/20	EPA 7199	O-04
Surfactants	ND	0.050	mg/l	"	0122329	12/23/20	12/23/20	SM 5540 C	
Total Dissolved Solids	**900**	10	"	"	0122321	12/23/20	12/29/20	TDS by SM2540C	
Anions by EPA Method 300.0									
Fluoride	ND	0.500	mg/l	1	0122328	12/23/20	12/28/20	EPA 300.0	
Chloride	**36.5**	5.00	"	"	"	"	"	"	
Sulfate as SO4	**180**	50.0	"	10	"	"	12/28/20	"	
Bromide	ND	1.25	"	1	"	"	12/28/20	"	
Nitrite as NO2	ND	0.500	"	"	"	"	"	"	O-07
Nitrate as NO3	**153**	5.00	"	10	"	"	"	"	O-07
Phosphate, Total as Orthophosphate	ND	0.500	"	1	"	"	"	"	O-07
Nitrite as N	ND	0.200	"	"	"	"	"	"	O-07
Nitrate as N	**34.5**	2.00	"	10	"	"	"	"	O-07

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

MW-2

T204346-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Purgeable Petroleum Hydrocarbons by EPA 8015B									
C6-C12 (GRO)	ND	50	ug/l	1	0122932	12/29/20	12/29/20	EPA 8015B	
Surrogate: a,a,a-Trifluorotoluene		*82.1 %*	*65-135*		"	"	"	"	
Extractable Petroleum Hydrocarbons by 8015B									
C6-C12 (GRO)	ND	0.050	mg/l	1	0122336	12/23/20	12/28/20	EPA 8015B	
C13-C28 (DRO)	**0.17**	0.050	"	"	"	"	"	"	
C29-C40 (MORO)	ND	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*91.6 %*	*65-135*		"	"	"	"	
Metals by EPA 6010B									
Calcium	**74200**	500	ug/l	1	0122331	12/23/20	12/29/20	EPA 6010b	
Magnesium	**21500**	500	"	"	"	"	"	"	
Potassium	**5750**	500	"	"	"	"	"	"	
Sodium	**40100**	500	"	"	"	"	"	"	
Metals (Dissolved) by EPA 6010B									
Antimony	ND	50.0	ug/l	1	0122330	12/23/20	12/29/20	EPA 6010b	
Arsenic	ND	50.0	"	"	"	"	"	"	
Barium	**383**	50.0	"	"	"	"	"	"	
Beryllium	ND	50.0	"	"	"	"	"	"	
Cadmium	ND	50.0	"	"	"	"	"	"	
Chromium	ND	50.0	"	"	"	"	"	"	
Cobalt	ND	50.0	"	"	"	"	"	"	
Copper	ND	50.0	"	"	"	"	"	"	
Lead	ND	50.0	"	"	"	"	"	"	
Molybdenum	ND	50.0	"	"	"	"	"	"	
Nickel	ND	50.0	"	"	"	"	"	"	
Phosphorus	ND	50.0	"	"	"	"	"	"	
Selenium	ND	50.0	"	"	"	"	"	"	
Silver	ND	50.0	"	"	"	"	"	"	
Thallium	ND	50.0	"	"	"	"	"	"	
Vanadium	ND	50.0	"	"	"	"	"	"	
Zinc	**83.0**	50.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

MW-2

T204346-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 200 Series Methods									
Antimony	ND	2.5	ug/l	5	0122332	12/23/20	12/29/20	200.8	R-07
Arsenic	**5.0**	2.5	"	"	"	"	"	"	R-07
Barium	**300**	2.5	"	"	"	"	"	"	R-07
Beryllium	ND	2.5	"	"	"	"	"	"	R-07
Cadmium	ND	2.5	"	"	"	"	"	"	R-07
Chromium	**23**	2.5	"	"	"	"	"	"	R-07
Cobalt	**15**	2.5	"	"	"	"	"	"	R-07
Copper	**9.4**	2.5	"	"	"	"	"	"	R-07
Lead	**5.2**	2.5	"	"	"	"	"	"	R-07
Molybdenum	ND	2.5	"	"	"	"	"	"	R-07
Mercury	ND	2.5	"	"	"	"	"	"	R-07
Nickel	**11**	2.5	"	"	"	"	"	"	R-07
Selenium	ND	2.5	"	"	"	"	"	"	R-07
Silver	ND	2.5	"	"	"	"	"	"	R-07
Thallium	ND	2.5	"	"	"	"	"	"	R-07
Vanadium	**41**	2.5	"	"	"	"	"	"	R-07
Zinc	**86**	2.5	"	"	"	"	"	"	R-07
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.50	ug/l	1	0122335	12/23/20	12/30/20	EPA 7470A Water	
Polychlorinated Biphenyls by EPA Method 8082									
PCB-1016	ND	2.00	ug/l	1	0122337	12/23/20	12/29/20	EPA 8082	
PCB-1221	ND	2.00	"	"	"	"	"	"	
PCB-1232	ND	2.00	"	"	"	"	"	"	
PCB-1242	ND	2.00	"	"	"	"	"	"	
PCB-1248	ND	2.00	"	"	"	"	"	"	
PCB-1254	ND	2.00	"	"	"	"	"	"	
PCB-1260	ND	2.00	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*83.5 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*74.1 %*	*35-140*		"	"	"	"	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

MW-2

T204346-02 (Water)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chlorinated Herbicides by EPA Method 8151A									
2,4,5-T	ND	0.20	ug/l	1	0122340	12/28/20	12/30/20	8151	
2,4,5-TP (Silvex)	ND	0.20	"	"	"	"	"	"	
2,4-D	ND	0.50	"	"	"	"	"	"	
2,4-DB	ND	0.50	"	"	"	"	"	"	
3,5-Dichlorobenzoic acid	ND	0.20	"	"	"	"	"	"	
4-Nitrophenol	ND	0.50	"	"	"	"	"	"	
Acifluorfen	ND	0.20	"	"	"	"	"	"	
Bentazon	ND	1.00	"	"	"	"	"	"	
Chloramben	ND	0.50	"	"	"	"	"	"	
Dalapon	ND	1.00	"	"	"	"	"	"	
DCPA diacid	ND	0.20	"	"	"	"	"	"	
Dicamba	ND	0.20	"	"	"	"	"	"	
Dichloroprop	ND	0.50	"	"	"	"	"	"	
Dinoseb	ND	0.50	"	"	"	"	"	"	
Pentachlorophenol	ND	0.20	"	"	"	"	"	"	
Picloram	ND	1.00	"	"	"	"	"	"	
Surrogate: 2,4-DCAA		*28.9 %*	*35-150*		*"*	*"*	*"*	*"*	*S-03*
Volatile Organic Compounds by EPA Method 8260B									
Bromobenzene	ND	1.0	ug/l	1	0122343	12/23/20	12/28/20	EPA 8260B	
Bromochloromethane	ND	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
Bromoform	ND	1.0	"	"	"	"	"	"	
Bromomethane	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	1.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	1.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	1.0	"	"	"	"	"	"	
Chloroethane	ND	1.0	"	"	"	"	"	"	
Chloroform	ND	1.0	"	"	"	"	"	"	
Chloromethane	ND	1.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

MW-2

T204346-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Volatile Organic Compounds by EPA Method 8260B									
2-Chlorotoluene	ND	1.0	ug/l	1	0122343	12/23/20	12/28/20	EPA 8260B	
4-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	"	"	"	"	"	"	
Dibromomethane	ND	1.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
Isopropylbenzene	ND	1.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
n-Propylbenzene	ND	1.0	"	"	"	"	"	"	
Styrene	ND	1.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	
Tetrachloroethene	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

MW-2

T204346-02 (Water)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA Method 8260B									
1,2,4-Trichlorobenzene	ND	1.0	ug/l	1	0122343	12/23/20	12/28/20	EPA 8260B	
1,1,2-Trichloroethane	ND	1.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	
Trichloroethene	ND	1.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
m,p-Xylene	ND	2.0	"	"	"	"	"	"	
o-Xylene	ND	0.50	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*95.8 %*	*76.7-116*		"	"	"	"	
Surrogate: Dibromofluoromethane		*121 %*	*49.2-135*		"	"	"	"	
Surrogate: Toluene-d8		*103 %*	*84.7-108*		"	"	"	"	
Semivolatile Organic Compounds by EPA Method 8270C									
Carbazole	ND	10	ug/l	1	0122339	12/23/20	12/29/20	EPA 8270C	
Phenol	ND	10	"	"	"	"	"	"	
Aniline	ND	10	"	"	"	"	"	"	
2-Chlorophenol	ND	10	"	"	"	"	"	"	
Acenaphthylene	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	5.0	"	"	"	"	"	"	
Anthracene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1-Methylnaphthalene	ND	10	"	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	10	"	"	"	"	"	"	
2-Methylnaphthalene	ND	20	"	"	"	"	"	"	
Acenaphthene	ND	10	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

MW-2

T204346-02 (Water)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	10	ug/l	1	0122339	12/23/20	12/29/20	EPA 8270C	
Benzo (b) fluoranthene	ND	10	"	"	"	"	"	"	
4-Nitrophenol	ND	10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	10	"	"	"	"	"	"	
2,4-Dinitrotoluene	ND	10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	20	"	"	"	"	"	"	
Pentachlorophenol	ND	10	"	"	"	"	"	"	
Pyrene	ND	10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	10	"	"	"	"	"	"	
Benzyl alcohol	ND	50	"	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	10	"	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	5.0	"	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	20	"	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	5.0	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	10	"	"	"	"	"	"	
4-Chloroaniline	ND	20	"	"	"	"	"	"	
2-Chloronaphthalene	ND	10	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	20	"	"	"	"	"	"	
Chrysene	ND	10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	10	"	"	"	"	"	"	
Dibenzofuran	ND	20	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	10	"	"	"	"	"	"	
Diethyl phthalate	ND	10	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	5.0	"	"	"	"	"	"	
Dimethyl phthalate	ND	10	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	5.0	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	10	"	"	"	"	"	"	
2,6-Dinitrotoluene	ND	20	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

MW-2

T204346-02 (Water)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Di-n-octyl phthalate	ND	10	ug/l	1	0122339	12/23/20	12/29/20	EPA 8270C	
Fluoranthene	ND	5.0	"	"	"	"	"	"	
Fluorene	ND	10	"	"	"	"	"	"	
Hexachlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	10	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	20	"	"	"	"	"	"	
Hexachloroethane	ND	5.0	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10	"	"	"	"	"	"	
Isophorone	ND	10	"	"	"	"	"	"	
2-Methylphenol	ND	10	"	"	"	"	"	"	
4-Methylphenol	ND	20	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
2-Nitroaniline	ND	10	"	"	"	"	"	"	
3-Nitroaniline	ND	10	"	"	"	"	"	"	
4-Nitroaniline	ND	20	"	"	"	"	"	"	
Nitrobenzene	ND	20	"	"	"	"	"	"	
2-Nitrophenol	ND	10	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	10	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	25	"	"	"	"	"	"	
Phenanthrene	ND	10	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	20	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	10	"	"	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	10	"	"	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	10	"	"	"	"	"	"	
1,4-Dinitrobenzene	ND	10	"	"	"	"	"	"	
Pyridine	ND	10	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol		*60.8 %*	*15-121*		"	"	"	"	
Surrogate: Phenol-d6		*51.1 %*	*24-113*		"	"	"	"	
Surrogate: Nitrobenzene-d5		*71.3 %*	*14.7-110*		"	"	"	"	
Surrogate: 2-Fluorobiphenyl		*75.6 %*	*33.3-110*		"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		*72.3 %*	*12.9-110*		"	"	"	"	
Surrogate: Terphenyl-dl4		*76.3 %*	*15.8-136*		"	"	"	"	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

MW-2

T204346-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Conventional Chemistry Parameters by APHA/EPA/ASTM Methods									
Hexavalent Chromium	ND	1.00	ug/l	1	0122326	12/29/20	12/23/20	EPA 7199	O-04
Surfactants	ND	0.050	mg/l	"	0122329	12/23/20	12/23/20	SM 5540 C	
Total Dissolved Solids	**520**	10	"	"	0122321	12/23/20	12/29/20	TDS by SM2540C	
Anions by EPA Method 300.0									
Fluoride	ND	0.500	mg/l	1	0122328	12/23/20	12/28/20	EPA 300.0	
Chloride	**36.7**	5.00	"	"	"	"	"	"	
Sulfate as SO4	**47.5**	5.00	"	"	"	"	"	"	
Bromide	ND	1.25	"	"	"	"	"	"	
Nitrite as NO2	ND	0.500	"	"	"	"	"	"	O-07
Nitrate as NO3	**88.8**	5.00	"	10	"	"	12/28/20	"	O-07
Phosphate, Total as Orthophosphate	ND	0.500	"	1	"	"	12/28/20	"	O-07
Nitrite as N	ND	0.200	"	"	"	"	"	"	O-07
Nitrate as N	**20.0**	2.00	"	10	"	"	12/28/20	"	O-07

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

MW-3

T204346-03 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Purgeable Petroleum Hydrocarbons by EPA 8015B									
C6-C12 (GRO)	ND	50	ug/l	1	0122932	12/29/20	12/30/20	EPA 8015B	
Surrogate: a,a,a-Trifluorotoluene		*76.4 %*	*65-135*		"	"	"	"	
Extractable Petroleum Hydrocarbons by 8015B									
C6-C12 (GRO)	ND	0.050	mg/l	1	0122336	12/23/20	12/28/20	EPA 8015B	
C13-C28 (DRO)	ND	0.050	"	"	"	"	"	"	
C29-C40 (MORO)	ND	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*93.6 %*	*65-135*		"	"	"	"	
Metals by EPA 6010B									
Calcium	**93600**	500	ug/l	1	0122331	12/23/20	12/29/20	EPA 6010b	
Magnesium	**25800**	500	"	"	"	"	"	"	
Potassium	**5960**	500	"	"	"	"	"	"	
Sodium	**27000**	500	"	"	"	"	"	"	
Metals (Dissolved) by EPA 6010B									
Antimony	ND	50.0	ug/l	1	0122330	12/23/20	12/29/20	EPA 6010b	
Arsenic	ND	50.0	"	"	"	"	"	"	
Barium	**298**	50.0	"	"	"	"	"	"	
Beryllium	ND	50.0	"	"	"	"	12/29/20	"	
Cadmium	ND	50.0	"	"	"	"	12/29/20	"	
Chromium	ND	50.0	"	"	"	"	"	"	
Cobalt	ND	50.0	"	"	"	"	"	"	
Copper	ND	50.0	"	"	"	"	"	"	
Lead	ND	50.0	"	"	"	"	"	"	
Molybdenum	ND	50.0	"	"	"	"	"	"	
Nickel	ND	50.0	"	"	"	"	"	"	
Phosphorus	ND	50.0	"	"	"	"	"	"	
Selenium	ND	50.0	"	"	"	"	"	"	
Silver	ND	50.0	"	"	"	"	"	"	
Thallium	ND	50.0	"	"	"	"	"	"	
Vanadium	ND	50.0	"	"	"	"	"	"	
Zinc	**191**	50.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

MW-3

T204346-03 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 200 Series Methods									
Antimony	ND	2.5	ug/l	5	0122332	12/23/20	12/29/20	200.8	R-07
Arsenic	**7.8**	2.5	"	"	"	"	"	"	R-07
Barium	**870**	2.5	"	"	"	"	"	"	R-07
Beryllium	ND	2.5	"	"	"	"	"	"	R-07
Cadmium	ND	2.5	"	"	"	"	"	"	R-07
Chromium	**33**	2.5	"	"	"	"	"	"	R-07
Cobalt	**40**	2.5	"	"	"	"	"	"	R-07
Copper	**25**	2.5	"	"	"	"	"	"	R-07
Lead	**11**	2.5	"	"	"	"	"	"	R-07
Molybdenum	ND	2.5	"	"	"	"	"	"	R-07
Mercury	ND	2.5	"	"	"	"	"	"	R-07
Nickel	**22**	2.5	"	"	"	"	"	"	R-07
Selenium	ND	2.5	"	"	"	"	"	"	R-07
Silver	ND	2.5	"	"	"	"	"	"	R-07
Thallium	ND	2.5	"	"	"	"	"	"	R-07
Vanadium	**100**	2.5	"	"	"	"	"	"	R-07
Zinc	**350**	2.5	"	"	"	"	"	"	R-07
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.50	ug/l	1	0122335	12/23/20	12/30/20	EPA 7470A Water	
Polychlorinated Biphenyls by EPA Method 8082									
PCB-1016	ND	2.00	ug/l	1	0122337	12/23/20	12/29/20	EPA 8082	
PCB-1221	ND	2.00	"	"	"	"	"	"	
PCB-1232	ND	2.00	"	"	"	"	"	"	
PCB-1242	ND	2.00	"	"	"	"	"	"	
PCB-1248	ND	2.00	"	"	"	"	"	"	
PCB-1254	ND	2.00	"	"	"	"	"	"	
PCB-1260	ND	2.00	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*75.7 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*77.2 %*	*35-140*		"	"	"	"	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

MW-3

T204346-03 (Water)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chlorinated Herbicides by EPA Method 8151A									
2,4,5-T	ND	0.20	ug/l	1	0122340	12/28/20	12/30/20	8151	
2,4,5-TP (Silvex)	ND	0.20	"	"	"	"	"	"	
2,4-D	ND	0.50	"	"	"	"	"	"	
2,4-DB	ND	0.50	"	"	"	"	"	"	
3,5-Dichlorobenzoic acid	ND	0.20	"	"	"	"	"	"	
4-Nitrophenol	ND	0.50	"	"	"	"	"	"	
Acifluorfen	ND	0.20	"	"	"	"	"	"	
Bentazon	ND	1.00	"	"	"	"	"	"	
Chloramben	ND	0.50	"	"	"	"	"	"	
Dalapon	ND	1.00	"	"	"	"	"	"	
DCPA diacid	ND	0.20	"	"	"	"	"	"	
Dicamba	ND	0.20	"	"	"	"	"	"	
Dichloroprop	ND	0.50	"	"	"	"	"	"	
Dinoseb	ND	0.50	"	"	"	"	"	"	
Pentachlorophenol	ND	0.20	"	"	"	"	"	"	
Picloram	ND	1.00	"	"	"	"	"	"	
Surrogate: 2,4-DCAA		*36.1 %*	*35-150*		*"*	*"*	*"*	*"*	
Volatile Organic Compounds by EPA Method 8260B									
Bromobenzene	ND	1.0	ug/l	1	0122343	12/23/20	12/28/20	EPA 8260B	
Bromochloromethane	ND	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
Bromoform	ND	1.0	"	"	"	"	"	"	
Bromomethane	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	1.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	1.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	1.0	"	"	"	"	"	"	
Chloroethane	ND	1.0	"	"	"	"	"	"	
Chloroform	ND	1.0	"	"	"	"	"	"	
Chloromethane	ND	1.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

MW-3

T204346-03 (Water)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2-Chlorotoluene	ND	1.0	ug/l	1	0122343	12/23/20	12/28/20	EPA 8260B	
4-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	"	"	"	"	"	"	
Dibromomethane	ND	1.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
Isopropylbenzene	ND	1.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
n-Propylbenzene	ND	1.0	"	"	"	"	"	"	
Styrene	ND	1.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	
Tetrachloroethene	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

MW-3

T204346-03 (Water)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA Method 8260B									
1,2,4-Trichlorobenzene	ND	1.0	ug/l	1	0122343	12/23/20	12/28/20	EPA 8260B	
1,1,2-Trichloroethane	ND	1.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	
Trichloroethene	ND	1.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
m,p-Xylene	ND	2.0	"	"	"	"	"	"	
o-Xylene	ND	0.50	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*76.7-116*		"	"	"	"	
Surrogate: Dibromofluoromethane		*122 %*	*49.2-135*		"	"	"	"	
Surrogate: Toluene-d8		*104 %*	*84.7-108*		"	"	"	"	
Semivolatile Organic Compounds by EPA Method 8270C									
Carbazole	ND	10	ug/l	1	0122339	12/23/20	12/29/20	EPA 8270C	
Phenol	ND	10	"	"	"	"	"	"	
Aniline	ND	10	"	"	"	"	"	"	
Acenaphthylene	ND	10	"	"	"	"	"	"	
2-Chlorophenol	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Anthracene	ND	10	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1-Methylnaphthalene	ND	10	"	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	10	"	"	"	"	"	"	
2-Methylnaphthalene	ND	20	"	"	"	"	"	"	
Benzo (a) anthracene	ND	10	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

MW-3

T204346-03 (Water)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	10	ug/l	1	0122339	12/23/20	12/29/20	EPA 8270C	
Benzo (b) fluoranthene	ND	10	"	"	"	"	"	"	
4-Nitrophenol	ND	10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	10	"	"	"	"	"	"	
2,4-Dinitrotoluene	ND	10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	20	"	"	"	"	"	"	
Pentachlorophenol	ND	10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	10	"	"	"	"	"	"	
Pyrene	ND	10	"	"	"	"	"	"	
Benzyl alcohol	ND	50	"	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	10	"	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	5.0	"	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	20	"	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	5.0	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	10	"	"	"	"	"	"	
4-Chloroaniline	ND	20	"	"	"	"	"	"	
2-Chloronaphthalene	ND	10	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	20	"	"	"	"	"	"	
Chrysene	ND	10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	10	"	"	"	"	"	"	
Dibenzofuran	ND	20	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	10	"	"	"	"	"	"	
Diethyl phthalate	ND	10	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	5.0	"	"	"	"	"	"	
Dimethyl phthalate	ND	10	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	5.0	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	10	"	"	"	"	"	"	
2,6-Dinitrotoluene	ND	20	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

MW-3

T204346-03 (Water)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Di-n-octyl phthalate	ND	10	ug/l	1	0122339	12/23/20	12/29/20	EPA 8270C	
Fluoranthene	ND	5.0	"	"	"	"	"	"	
Fluorene	ND	10	"	"	"	"	"	"	
Hexachlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	10	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	20	"	"	"	"	"	"	
Hexachloroethane	ND	5.0	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10	"	"	"	"	"	"	
Isophorone	ND	10	"	"	"	"	"	"	
2-Methylphenol	ND	10	"	"	"	"	"	"	
4-Methylphenol	ND	20	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
2-Nitroaniline	ND	10	"	"	"	"	"	"	
3-Nitroaniline	ND	10	"	"	"	"	"	"	
4-Nitroaniline	ND	20	"	"	"	"	"	"	
Nitrobenzene	ND	20	"	"	"	"	"	"	
2-Nitrophenol	ND	10	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	10	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	25	"	"	"	"	"	"	
Phenanthrene	ND	10	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	20	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	10	"	"	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	10	"	"	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	10	"	"	"	"	"	"	
1,4-Dinitrobenzene	ND	10	"	"	"	"	"	"	
Pyridine	ND	10	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol		*59.2 %*	*15-121*		"	"	"	"	
Surrogate: Phenol-d6		*47.2 %*	*24-113*		"	"	"	"	
Surrogate: Nitrobenzene-d5		*69.5 %*	*14.7-110*		"	"	"	"	
Surrogate: 2-Fluorobiphenyl		*72.4 %*	*33.3-110*		"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		*69.3 %*	*12.9-110*		"	"	"	"	
Surrogate: Terphenyl-dl4		*75.0 %*	*15.8-136*		"	"	"	"	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

MW-3

T204346-03 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Conventional Chemistry Parameters by APHA/EPA/ASTM Methods									
Hexavalent Chromium	ND	1.00	ug/l	1	0122326	12/29/20	12/23/20	EPA 7199	O-04
Surfactants	ND	0.050	mg/l	"	0122329	12/23/20	12/23/20	SM 5540 C	
Total Dissolved Solids	**800**	10	"	"	0122321	12/23/20	12/29/20	TDS by SM2540C	
Anions by EPA Method 300.0									
Fluoride	ND	0.500	mg/l	1	0122328	12/23/20	12/28/20	EPA 300.0	
Chloride	**33.5**	5.00	"	"	"	"	"	"	
Sulfate as SO4	**38.9**	5.00	"	"	"	"	"	"	
Bromide	ND	1.25	"	"	"	"	"	"	
Nitrite as NO2	ND	0.500	"	"	"	"	"	"	O-07
Nitrate as NO3	**184**	5.00	"	10	"	"	12/28/20	"	O-07
Phosphate, Total as Orthophosphate	ND	0.500	"	1	"	"	12/28/20	"	O-07
Nitrite as N	ND	0.200	"	"	"	"	"	"	O-07
Nitrate as N	**41.5**	2.00	"	10	"	"	12/28/20	"	O-07

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

Purgeable Petroleum Hydrocarbons by EPA 8015B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0122932 - EPA 5030 GC										
Blank (0122932-BLK1)				Prepared & Analyzed: 12/29/20						
C6-C12 (GRO)	ND	50	ug/l							
Surrogate: a,a,a-Trifluorotoluene	*72.2*		*"*	*100*		*72.2*	*65-135*			
LCS (0122932-BS1)				Prepared & Analyzed: 12/29/20						
C6-C12 (GRO)	5090	50	ug/l	5500		92.5	75-125			
Surrogate: a,a,a-Trifluorotoluene	*84.4*		*"*	*100*		*84.4*	*65-135*			
LCS Dup (0122932-BSD1)				Prepared & Analyzed: 12/29/20						
C6-C12 (GRO)	4630	50	ug/l	5500		84.2	75-125	9.44	20	
Surrogate: a,a,a-Trifluorotoluene	*75.7*		*"*	*100*		*75.7*	*65-135*			

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

Extractable Petroleum Hydrocarbons by 8015B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0122336 - EPA 3510C GC										
Blank (0122336-BLK1)				Prepared: 12/23/20 Analyzed: 12/28/20						
C6-C12 (GRO)	ND	0.050	mg/l							
C13-C28 (DRO)	ND	0.050	"							
C29-C40 (MORO)	ND	0.10	"							
Surrogate: p-Terphenyl	*3.57*		*"*	*4.00*		*89.3*	*65-135*			
LCS (0122336-BS1)				Prepared: 12/23/20 Analyzed: 12/28/20						
C13-C28 (DRO)	18.7	0.050	mg/l	20.0		93.5	75-125			
Surrogate: p-Terphenyl	*3.64*		*"*	*4.00*		*91.0*	*65-135*			
LCS Dup (0122336-BSD1)				Prepared: 12/23/20 Analyzed: 12/28/20						
C13-C28 (DRO)	18.7	0.050	mg/l	20.0		93.4	75-125	0.126	20	
Surrogate: p-Terphenyl	*3.73*		*"*	*4.00*		*93.3*	*65-135*			

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0122331 - EPA 3010A										
Blank (0122331-BLK1)				Prepared: 12/23/20 Analyzed: 12/29/20						
Calcium	ND	500	ug/l							
Magnesium	ND	500	"							
Potassium	ND	500	"							
Sodium	ND	500	"							
LCS (0122331-BS1)				Prepared: 12/23/20 Analyzed: 12/29/20						
Calcium	459		ug/l	500		91.8	75-125			
Magnesium	492		"	500		98.4	75-125			
Potassium	499		"	500		99.8	75-125			
Sodium	536		"	500		107	75-125			
Matrix Spike (0122331-MS1)		**Source: T204346-01**		Prepared: 12/23/20 Analyzed: 12/29/20						
Calcium	129000		ug/l	500	127000	348	75-125			QM-05
Magnesium	33900		"	500	33800	20.8	75-125			QM-05
Potassium	5110		"	500	4780	65.4	75-125			QM-05
Sodium	60200		"	500	59700	100	75-125			
Matrix Spike Dup (0122331-MSD1)		**Source: T204346-01**		Prepared: 12/23/20 Analyzed: 12/29/20						
Calcium	129000		ug/l	500	127000	328	75-125	0.0775	20	QM-05
Magnesium	34500		"	500	33800	143	75-125	1.78	20	QM-05
Potassium	5080		"	500	4780	58.8	75-125	0.648	20	QM-05
Sodium	60400		"	500	59700	136	75-125	0.298	20	QM-05

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

Metals (Dissolved) by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0122330 - EPA 3010A										
Blank (0122330-BLK1)				Prepared: 12/23/20 Analyzed: 12/29/20						
Antimony	ND	50.0	ug/l							
Arsenic	ND	50.0	"							
Barium	ND	50.0	"							
Beryllium	ND	50.0	"							
Cadmium	ND	50.0	"							
Chromium	ND	50.0	"							
Cobalt	ND	50.0	"							
Copper	ND	50.0	"							
Lead	ND	50.0	"							
Molybdenum	ND	50.0	"							
Nickel	ND	50.0	"							
Selenium	ND	50.0	"							
Phosphorus	ND	50.0	"							
Silver	ND	50.0	"							
Thallium	ND	50.0	"							
Vanadium	ND	50.0	"							
Zinc	ND	50.0	"							
LCS (0122330-BS1)				Prepared: 12/23/20 Analyzed: 12/29/20						
Arsenic	488	50.0	ug/l	500		97.7	75-125			
Barium	491	50.0	"	500		98.1	75-125			
Cadmium	485	50.0	"	500		96.9	75-125			
Chromium	493	50.0	"	500		98.7	75-125			
Lead	497	50.0	"	500		99.4	75-125			
Phosphorus	502		"	500		100	75-125			
Matrix Spike (0122330-MS1)		**Source: T204346-01**		Prepared: 12/23/20 Analyzed: 12/29/20						
Arsenic	520	50.0	ug/l	500	ND	104	75-125			
Barium	730	50.0	"	500	547	36.6	75-125			QM-05
Cadmium	473	50.0	"	500	ND	94.5	75-125			
Chromium	480	50.0	"	500	ND	96.0	75-125			
Lead	458	50.0	"	500	ND	91.6	75-125			
Phosphorus	478		"	500	39.9	87.6	75-125			

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

Metals (Dissolved) by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0122330 - EPA 3010A										
Matrix Spike Dup (0122330-MSD1)		**Source: T204346-01**		Prepared: 12/23/20 Analyzed: 12/29/20						
Arsenic	515	50.0	ug/l	500	ND	103	75-125	0.949	20	
Barium	1010	50.0	"	500	547	93.4	75-125	32.5	20	QM-05
Cadmium	481	50.0	"	500	ND	96.3	75-125	1.82	20	
Chromium	488	50.0	"	500	ND	97.6	75-125	1.67	20	
Lead	460	50.0	"	500	ND	91.9	75-125	0.297	20	
Phosphorus	476		"	500	39.9	87.2	75-125	0.419	20	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

Metals by EPA 200 Series Methods - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0122332 - EPA 3010A										
Blank (0122332-BLK1)				Prepared: 12/23/20 Analyzed: 12/29/20						
Antimony	ND	0.50	ug/l							
Arsenic	ND	0.50	"							
Barium	ND	0.50	"							
Beryllium	ND	0.50	"							
Cadmium	ND	0.50	"							
Chromium	ND	0.50	"							
Cobalt	ND	0.50	"							
Copper	ND	0.50	"							
Lead	ND	0.50	"							
Molybdenum	ND	0.50	"							
Mercury	ND	0.50	"							
Nickel	ND	0.50	"							
Selenium	ND	0.50	"							
Silver	ND	0.50	"							
Thallium	ND	0.50	"							
Vanadium	ND	0.50	"							
Zinc	ND	0.50	"							
LCS (0122332-BS1)				Prepared: 12/23/20 Analyzed: 12/29/20						
Arsenic	52.2	0.50	ug/l	50.0		104	80-120			
Barium	51.6	0.50	"	50.0		103	80-120			
Cadmium	53.7	0.50	"	50.0		107	80-120			
Chromium	45.5	0.50	"	50.0		91.1	80-120			
Lead	49.9	0.50	"	50.0		99.9	80-120			
Matrix Spike (0122332-MS1)		**Source: T204346-01**		Prepared: 12/23/20 Analyzed: 12/29/20						
Arsenic	52.6	0.50	ug/l	50.0	4.35	96.5	75-125			
Barium	453	2.5	"	50.0	385	136	75-125			QM-05
Cadmium	49.8	0.50	"	50.0	0.800	98.0	75-125			
Chromium	56.6	0.50	"	50.0	8.85	95.4	75-125			
Lead	53.3	0.50	"	50.0	2.80	101	75-125			

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

Metals by EPA 200 Series Methods - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0122332 - EPA 3010A										
Matrix Spike Dup (0122332-MSD1)		**Source: T204346-01**		Prepared: 12/23/20 Analyzed: 12/29/20						
Arsenic	53.5	0.50	ug/l	50.0	4.35	98.3	75-125	1.68	20	
Barium	443	2.5	"	50.0	385	116	75-125	2.29	20	
Cadmium	50.9	0.50	"	50.0	0.800	100	75-125	2.22	20	
Chromium	55.0	0.50	"	50.0	8.85	92.3	75-125	2.76	20	
Lead	54.5	0.50	"	50.0	2.80	103	75-125	2.15	20	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

Cold Vapor Extraction EPA 7470/7471 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0122335 - EPA 7470A Water										
Blank (0122335-BLK1)				Prepared: 12/23/20 Analyzed: 12/30/20						
Mercury	ND	0.50	ug/l							
LCS (0122335-BS1)				Prepared: 12/23/20 Analyzed: 12/30/20						
Mercury	4.71	0.50	ug/l	5.00		94.2	80-120			
Matrix Spike (0122335-MS1)		**Source: T204346-01**		Prepared: 12/23/20 Analyzed: 12/30/20						
Mercury	3.85	0.50	ug/l	5.00	0.0240	76.6	75-125			
Matrix Spike Dup (0122335-MSD1)		**Source: T204346-01**		Prepared: 12/23/20 Analyzed: 12/30/20						
Mercury	3.90	0.50	ug/l	5.00	0.0240	77.4	75-125	1.14	20	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

Polychlorinated Biphenyls by EPA Method 8082 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0122337 - EPA 3510C GCMS/ECD										
Blank (0122337-BLK1)				Prepared: 12/23/20 Analyzed: 12/29/20						
PCB-1016	ND	2.00	ug/l							
PCB-1221	ND	2.00	"							
PCB-1232	ND	2.00	"							
PCB-1242	ND	2.00	"							
PCB-1248	ND	2.00	"							
PCB-1254	ND	2.00	"							
PCB-1260	ND	2.00	"							
Surrogate: Tetrachloro-meta-xylene	*0.787*		*"*	*1.00*		*78.7*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.720*		*"*	*1.00*		*72.0*	*35-140*			
LCS (0122337-BS1)				Prepared: 12/23/20 Analyzed: 12/29/20						
PCB-1016	7.96	2.00	ug/l	10.0		79.6	40-130			
PCB-1260	9.26	2.00	"	10.0		92.6	40-130			
Surrogate: Tetrachloro-meta-xylene	*0.835*		*"*	*1.00*		*83.5*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.731*		*"*	*1.00*		*73.1*	*35-140*			
LCS Dup (0122337-BSD1)				Prepared: 12/23/20 Analyzed: 12/29/20						
PCB-1016	8.27	2.00	ug/l	10.0		82.7	40-130	3.85	30	
PCB-1260	9.42	2.00	"	10.0		94.2	40-130	1.71	30	
Surrogate: Tetrachloro-meta-xylene	*0.888*		*"*	*1.00*		*88.8*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.832*		*"*	*1.00*		*83.2*	*35-140*			

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

Chlorinated Herbicides by EPA Method 8151A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0122340 - 8151 Prep										
Blank (0122340-BLK1)				Prepared: 12/28/20 Analyzed: 12/30/20						
2,4,5-T	ND	0.20	ug/l							
2,4,5-TP (Silvex)	ND	0.20	"							
2,4-D	ND	0.50	"							
2,4-DB	ND	0.50	"							
3,5-Dichlorobenzoic acid	ND	0.20	"							
4-Nitrophenol	ND	0.50	"							
Acifluorfen	ND	0.20	"							
Bentazon	ND	1.00	"							
Chloramben	ND	0.50	"							
Dalapon	ND	1.00	"							
DCPA diacid	ND	0.20	"							
Dicamba	ND	0.20	"							
Dichloroprop	ND	0.50	"							
Dinoseb	ND	0.50	"							
Pentachlorophenol	ND	0.20	"							
Picloram	ND	1.00	"							
Surrogate: 2,4-DCAA	*7.17*		*"*	*20.0*		*35.8*	*35-150*			
LCS (0122340-BS1)				Prepared: 12/28/20 Analyzed: 12/30/20						
2,4,5-TP (Silvex)	1.49	0.20	ug/l	5.00		29.7	20-150			
3,5-Dichlorobenzoic acid	3.04	0.20	"	5.00		60.9	20-150			
Dicamba	3.33	0.20	"	5.00		66.6	20-150			
Pentachlorophenol	3.46	0.20	"	5.00		69.3	20-150			
Surrogate: 2,4-DCAA	*10.2*		*"*	*20.0*		*50.9*	*35-150*			
LCS Dup (0122340-BSD1)				Prepared: 12/28/20 Analyzed: 12/30/20						
2,4,5-TP (Silvex)	1.48	0.20	ug/l	5.00		29.5	20-150	0.659	30	
3,5-Dichlorobenzoic acid	3.13	0.20	"	5.00		62.7	20-150	2.95	30	
Dicamba	3.42	0.20	"	5.00		68.4	20-150	2.72	30	
Pentachlorophenol	3.66	0.20	"	5.00		73.2	20-150	5.49	30	
Surrogate: 2,4-DCAA	*10.6*		*"*	*20.0*		*52.9*	*35-150*			

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0122343 - EPA 5030 GCMS										
Blank (0122343-BLK1)				Prepared: 12/23/20 Analyzed: 12/28/20						
Bromobenzene	ND	1.0	ug/l							
Bromochloromethane	ND	1.0	"							
Bromodichloromethane	ND	1.0	"							
Bromoform	ND	1.0	"							
Bromomethane	ND	1.0	"							
n-Butylbenzene	ND	1.0	"							
sec-Butylbenzene	ND	1.0	"							
tert-Butylbenzene	ND	1.0	"							
Carbon tetrachloride	ND	0.50	"							
Chlorobenzene	ND	1.0	"							
Chloroethane	ND	1.0	"							
Chloroform	ND	1.0	"							
Chloromethane	ND	1.0	"							
2-Chlorotoluene	ND	1.0	"							
4-Chlorotoluene	ND	1.0	"							
Dibromochloromethane	ND	1.0	"							
1,2-Dibromo-3-chloropropane	ND	2.0	"							
1,2-Dibromoethane (EDB)	ND	1.0	"							
Dibromomethane	ND	1.0	"							
1,2-Dichlorobenzene	ND	1.0	"							
1,3-Dichlorobenzene	ND	1.0	"							
1,4-Dichlorobenzene	ND	1.0	"							
Dichlorodifluoromethane	ND	0.50	"							
1,1-Dichloroethane	ND	1.0	"							
1,2-Dichloroethane	ND	0.50	"							
1,1-Dichloroethene	ND	1.0	"							
cis-1,2-Dichloroethene	ND	1.0	"							
trans-1,2-Dichloroethene	ND	1.0	"							
1,2-Dichloropropane	ND	1.0	"							
1,3-Dichloropropane	ND	1.0	"							
2,2-Dichloropropane	ND	1.0	"							
1,1-Dichloropropene	ND	1.0	"							
cis-1,3-Dichloropropene	ND	0.50	"							
trans-1,3-Dichloropropene	ND	0.50	"							
Hexachlorobutadiene	ND	1.0	"							
Isopropylbenzene	ND	1.0	"							

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0122343 - EPA 5030 GCMS										
Blank (0122343-BLK1)				Prepared: 12/23/20 Analyzed: 12/28/20						
p-Isopropyltoluene	ND	1.0	ug/l							
Methylene chloride	ND	5.0	"							
Naphthalene	ND	1.0	"							
n-Propylbenzene	ND	1.0	"							
Styrene	ND	1.0	"							
1,1,2,2-Tetrachloroethane	ND	1.0	"							
1,1,1,2-Tetrachloroethane	ND	1.0	"							
Tetrachloroethene	ND	1.0	"							
1,2,3-Trichlorobenzene	ND	1.0	"							
1,2,4-Trichlorobenzene	ND	1.0	"							
1,1,2-Trichloroethane	ND	1.0	"							
1,1,1-Trichloroethane	ND	1.0	"							
Trichloroethene	ND	1.0	"							
Trichlorofluoromethane	ND	1.0	"							
1,2,3-Trichloropropane	ND	1.0	"							
1,3,5-Trimethylbenzene	ND	1.0	"							
1,2,4-Trimethylbenzene	ND	1.0	"							
Vinyl chloride	ND	1.0	"							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
m,p-Xylene	ND	2.0	"							
o-Xylene	ND	0.50	"							
Surrogate: 4-Bromofluorobenzene	*19.8*		*"*	*20.0*		*99.2*	*76.7-116*			
Surrogate: Dibromofluoromethane	*23.3*		*"*	*20.0*		*116*	*49.2-135*			
Surrogate: Toluene-d8	*20.4*		*"*	*20.0*		*102*	*84.7-108*			
LCS (0122343-BS1)				Prepared: 12/23/20 Analyzed: 12/28/20						
Chlorobenzene	17.5	1.0	ug/l	20.0		87.3	81.1-121			
1,1-Dichloroethene	20.5	1.0	"	20.0		102	69.9-130			
Trichloroethene	20.6	1.0	"	20.0		103	84.9-120			
Benzene	20.0	0.50	"	20.0		99.8	78.1-123			
Toluene	18.5	0.50	"	20.0		92.7	79.6-123			
Surrogate: 4-Bromofluorobenzene	*19.7*		*"*	*20.0*		*98.7*	*76.7-116*			
Surrogate: Dibromofluoromethane	*21.9*		*"*	*20.0*		*110*	*49.2-135*			
Surrogate: Toluene-d8	*21.1*		*"*	*20.0*		*105*	*84.7-108*			

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0122343 - EPA 5030 GCMS										
LCS Dup (0122343-BSD1)				Prepared: 12/23/20 Analyzed: 12/28/20						
Chlorobenzene	17.8	1.0	ug/l	20.0		89.0	81.1-121	1.98	20	
1,1-Dichloroethene	20.4	1.0	"	20.0		102	69.9-130	0.490	20	
Trichloroethene	21.0	1.0	"	20.0		105	84.9-120	1.92	20	
Benzene	19.5	0.50	"	20.0		97.7	78.1-123	2.18	20	
Toluene	18.4	0.50	"	20.0		92.2	79.6-123	0.487	20	
Surrogate: 4-Bromofluorobenzene	*20.2*		*"*	*20.0*		*101*	*76.7-116*			
Surrogate: Dibromofluoromethane	*22.3*		*"*	*20.0*		*112*	*49.2-135*			
Surrogate: Toluene-d8	*20.2*		*"*	*20.0*		*101*	*84.7-108*			

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0122339 - EPA 3510C GCMS/ECD										
Blank (0122339-BLK1)				Prepared: 12/23/20 Analyzed: 12/29/20						
Carbazole	ND	10	ug/l							
Phenol	ND	10	"							
Aniline	ND	10	"							
2-Chlorophenol	ND	10	"							
Acenaphthylene	ND	10	"							
1,4-Dichlorobenzene	ND	10	"							
Anthracene	ND	10	"							
N-Nitrosodi-n-propylamine	ND	5.0	"							
1,2,4-Trichlorobenzene	ND	5.0	"							
2-Methylnaphthalene	ND	20	"							
1-Methylnaphthalene	ND	10	"							
4-Chloro-3-methylphenol	ND	10	"							
Benzo (a) anthracene	ND	10	"							
Acenaphthene	ND	10	"							
Benzo (b) fluoranthene	ND	10	"							
4-Nitrophenol	ND	10	"							
2,4-Dinitrotoluene	ND	10	"							
Benzo (k) fluoranthene	ND	10	"							
Pentachlorophenol	ND	10	"							
Benzo (g,h,i) perylene	ND	20	"							
Pyrene	ND	10	"							
Benzo (a) pyrene	ND	10	"							
Benzyl alcohol	ND	50	"							
Bis(2-chloroethoxy)methane	ND	10	"							
Bis(2-chloroethyl)ether	ND	5.0	"							
Bis(2-chloroisopropyl)ether	ND	20	"							
Bis(2-ethylhexyl)phthalate	ND	10	"							
4-Bromophenyl phenyl ether	ND	5.0	"							
Butyl benzyl phthalate	ND	10	"							
4-Chloroaniline	ND	20	"							
2-Chloronaphthalene	ND	10	"							
4-Chlorophenyl phenyl ether	ND	20	"							
Chrysene	ND	10	"							
Dibenz (a,h) anthracene	ND	10	"							
Dibenzofuran	ND	20	"							
Di-n-butyl phthalate	ND	5.0	"							

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0122339 - EPA 3510C GCMS/ECD										
Blank (0122339-BLK1)				Prepared: 12/23/20 Analyzed: 12/29/20						
1,2-Dichlorobenzene	ND	5.0	ug/l							
1,3-Dichlorobenzene	ND	5.0	"							
2,4-Dichlorophenol	ND	10	"							
Diethyl phthalate	ND	10	"							
2,4-Dimethylphenol	ND	5.0	"							
Dimethyl phthalate	ND	10	"							
4,6-Dinitro-2-methylphenol	ND	5.0	"							
2,4-Dinitrophenol	ND	10	"							
2,6-Dinitrotoluene	ND	20	"							
Di-n-octyl phthalate	ND	10	"							
Fluoranthene	ND	5.0	"							
Fluorene	ND	10	"							
Hexachlorobenzene	ND	20	"							
Hexachlorobutadiene	ND	10	"							
Hexachlorocyclopentadiene	ND	20	"							
Hexachloroethane	ND	5.0	"							
Indeno (1,2,3-cd) pyrene	ND	10	"							
Isophorone	ND	10	"							
2-Methylphenol	ND	10	"							
4-Methylphenol	ND	20	"							
Naphthalene	ND	5.0	"							
2-Nitroaniline	ND	10	"							
3-Nitroaniline	ND	10	"							
4-Nitroaniline	ND	20	"							
Nitrobenzene	ND	20	"							
2-Nitrophenol	ND	10	"							
N-Nitrosodiphenylamine	ND	10	"							
N-Nitrosodimethylamine	ND	25	"							
Phenanthrene	ND	10	"							
2,4,5-Trichlorophenol	ND	20	"							
2,4,6-Trichlorophenol	ND	10	"							
2,3,4,6-Tetrachlorophenol	ND	10	"							
2,3,5,6-Tetrachlorophenol	ND	10	"							
1,4-Dinitrobenzene	ND	10	"							
Pyridine	ND	10	"							

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0122339 - EPA 3510C GCMS/ECD										
Blank (0122339-BLK1)				Prepared: 12/23/20 Analyzed: 12/29/20						
Surrogate: 2-Fluorophenol	*108*		*ug/l*	*200*		*54.2*	*15-121*			
Surrogate: Phenol-d6	*87.1*		*"*	*200*		*43.5*	*24-113*			
Surrogate: Nitrobenzene-d5	*138*		*"*	*200*		*69.1*	*14.7-110*			
Surrogate: 2-Fluorobiphenyl	*142*		*"*	*200*		*71.2*	*33.3-110*			
Surrogate: 2,4,6-Tribromophenol	*136*		*"*	*200*		*68.0*	*12.9-110*			
Surrogate: Terphenyl-dl4	*158*		*"*	*200*		*79.1*	*15.8-136*			
LCS (0122339-BS1)				Prepared: 12/23/20 Analyzed: 12/29/20						
Phenol	95.8	10	ug/l	200		47.9	12-89			
2-Chlorophenol	132	10	"	200		65.8	40-120			
1,4-Dichlorobenzene	122	10	"	200		61.0	33-94			
N-Nitrosodi-n-propylamine	150	5.0	"	200		74.8	40-120			
1,2,4-Trichlorobenzene	124	5.0	"	200		62.0	40-120			
4-Chloro-3-methylphenol	153	10	"	200		76.5	50-130			
Acenaphthene	129	10	"	200		64.5	50-130			
4-Nitrophenol	97.0	10	"	200		48.5	10-80			
2,4-Dinitrotoluene	163	10	"	200		81.7	55.9-117			
Pentachlorophenol	138	10	"	200		69.1	50-130			
Pyrene	101	10	"	200		50.6	26-127			
Surrogate: 2-Fluorophenol	*116*		*"*	*200*		*58.2*	*15-121*			
Surrogate: Phenol-d6	*95.2*		*"*	*200*		*47.6*	*24-113*			
Surrogate: Nitrobenzene-d5	*145*		*"*	*200*		*72.6*	*14.7-110*			
Surrogate: 2-Fluorobiphenyl	*150*		*"*	*200*		*74.8*	*33.3-110*			
Surrogate: 2,4,6-Tribromophenol	*143*		*"*	*200*		*71.3*	*12.9-110*			
Surrogate: Terphenyl-dl4	*159*		*"*	*200*		*79.5*	*15.8-136*			
LCS Dup (0122339-BSD1)				Prepared: 12/23/20 Analyzed: 12/29/20						
Phenol	96.2	10	ug/l	200		48.1	12-89	0.438	42	
2-Chlorophenol	130	10	"	200		65.0	40-120	1.21	40	
1,4-Dichlorobenzene	120	10	"	200		59.8	33-94	1.92	28	
N-Nitrosodi-n-propylamine	142	5.0	"	200		71.0	40-120	5.16	38	
1,2,4-Trichlorobenzene	120	5.0	"	200		59.9	40-120	3.45	28	
4-Chloro-3-methylphenol	146	10	"	200		73.1	50-130	4.55	42	
Acenaphthene	125	10	"	200		62.7	50-130	2.91	31	
4-Nitrophenol	89.5	10	"	200		44.8	10-80	7.96	50	
2,4-Dinitrotoluene	154	10	"	200		77.0	55.9-117	5.95	30	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0122339 - EPA 3510C GCMS/ECD										
LCS Dup (0122339-BSD1)				Prepared: 12/23/20 Analyzed: 12/29/20						
Pentachlorophenol	132	10	ug/l	200		65.8	50-130	4.85	50	
Pyrene	99.1	10	"	200		49.6	26-127	2.14	31	
Surrogate: 2-Fluorophenol	*116*		*"*	*200*		*58.2*	*15-121*			
Surrogate: Phenol-d6	*94.7*		*"*	*200*		*47.3*	*24-113*			
Surrogate: Nitrobenzene-d5	*138*		*"*	*200*		*68.8*	*14.7-110*			
Surrogate: 2-Fluorobiphenyl	*144*		*"*	*200*		*71.9*	*33.3-110*			
Surrogate: 2,4,6-Tribromophenol	*136*		*"*	*200*		*68.1*	*12.9-110*			
Surrogate: Terphenyl-dl4	*154*		*"*	*200*		*76.8*	*15.8-136*			

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

Conventional Chemistry Parameters by APHA/EPA/ASTM Methods - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0122321 - General Preparation										
Blank (0122321-BLK1)				Prepared: 12/23/20 Analyzed: 12/29/20						
Total Dissolved Solids	ND	10	mg/l							
LCS (0122321-BS1)				Prepared: 12/23/20 Analyzed: 12/29/20						
Total Dissolved Solids	448	10	mg/l	500		89.6	80-120			
Duplicate (0122321-DUP1)		**Source: T204345-01**		Prepared: 12/23/20 Analyzed: 12/29/20						
Total Dissolved Solids	466	10	mg/l		522			11.3	20	
Batch 0122326 - General Preparation										
Blank (0122326-BLK1)				Prepared & Analyzed: 12/23/20						
Hexavalent Chromium	ND	1.00	ug/l							
LCS (0122326-BS1)				Prepared & Analyzed: 12/23/20						
Hexavalent Chromium	49.1	1.00	ug/l	50.0		98.1	80-120			
Matrix Spike (0122326-MS1)		**Source: T204346-01**		Prepared & Analyzed: 12/23/20						
Hexavalent Chromium	49.3	1.00	ug/l	50.0	0.664	97.2	75-125			O-04
Matrix Spike Dup (0122326-MSD1)		**Source: T204346-01**		Prepared & Analyzed: 12/23/20						
Hexavalent Chromium	49.6	1.00	ug/l	50.0	0.664	98.0	75-125	0.740	20	O-04
Batch 0122329 - General Preparation										
Blank (0122329-BLK1)				Prepared & Analyzed: 12/23/20						
Surfactants	ND	0.050	mg/l							

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

Conventional Chemistry Parameters by APHA/EPA/ASTM Methods - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0122329 - General Preparation										
LCS (0122329-BS1)				Prepared & Analyzed: 12/23/20						
Surfactants	0.245	0.050	mg/l	0.250		97.9	75-125			
LCS Dup (0122329-BSD1)				Prepared & Analyzed: 12/23/20						
Surfactants	0.245	0.050	mg/l	0.250		98.1	75-125	0.163	20	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

Anions by EPA Method 300.0 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0122328 - General Preparation										
Blank (0122328-BLK1)				Prepared: 12/23/20 Analyzed: 12/28/20						
Fluoride	ND	0.500	mg/l							
Chloride	ND	5.00	"							
Nitrite as NO2	ND	0.500	"							
Sulfate as SO4	ND	5.00	"							
Bromide	ND	1.25	"							
Nitrate as NO3	ND	0.500	"							
Phosphate, Total as Orthophosphate	ND	0.500	"							
Nitrite as N	ND	0.200	"							
Nitrate as N	ND	0.200	"							
LCS (0122328-BS1)				Prepared: 12/23/20 Analyzed: 12/28/20						
Fluoride	27.4	0.500	mg/l	25.0		110	75-125			
Chloride	26.3	5.00	"	25.0		105	75-125			
Nitrite as NO2	27.1	0.500	"	25.0		108	75-125			
Sulfate as SO4	26.8	5.00	"	25.0		107	75-125			
Bromide	26.3	1.25	"	25.0		105	75-125			
Nitrate as NO3	26.9	0.500	"	25.0		107	75-125			
Phosphate, Total as Orthophosphate	28.1	0.500	"	25.0		112	75-125			
Matrix Spike (0122328-MS1)	**Source: T204346-01**			Prepared: 12/23/20 Analyzed: 12/28/20						
Fluoride	26.5	0.500	mg/l	25.0	ND	106	75-125			
Chloride	67.7	50.0	"	25.0	36.5	125	75-125			
Nitrite as NO2	26.8	0.500	"	25.0	ND	107	75-125			
Sulfate as SO4	196	50.0	"	25.0	180	63.7	75-125			QM-05
Bromide	25.4	1.25	"	25.0	0.774	98.6	75-125			
Nitrate as NO3	171	5.00	"	25.0	153	71.2	75-125			QM-05
Phosphate, Total as Orthophosphate	27.2	0.500	"	25.0	0.130	108	75-125			

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

Anions by EPA Method 300.0 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0122328 - General Preparation										
Matrix Spike Dup (0122328-MSD1)		**Source: T204346-01**		Prepared: 12/23/20 Analyzed: 12/28/20						
Fluoride	26.8	0.500	mg/l	25.0	ND	107	75-125	1.18	20	
Chloride	67.4	50.0	"	25.0	36.5	123	75-125	0.474	20	
Nitrite as NO2	27.1	0.500	"	25.0	ND	109	75-125	1.37	20	
Sulfate as SO4	195	50.0	"	25.0	180	62.1	75-125	0.205	20	QM-05
Bromide	25.8	1.25	"	25.0	0.774	100	75-125	1.49	20	
Nitrate as NO3	167	5.00	"	25.0	153	58.8	75-125	1.83	20	QM-05
Phosphate, Total as Orthophosphate	27.5	0.500	"	25.0	0.130	109	75-125	0.985	20	

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Oakland	Project: Behl Property, Porterville, CA	
1017 22nd Ave. Suite 107	Project Number: 20-302506-1	**Reported:**
Oakland CA, 94606	Project Manager: Joe Mangine	12/30/20 15:32

Notes and Definitions

S-03	The surrogate recovery was below acceptance criteria in the sample because of a possible matrix effect. The surrogate recovery was within acceptance criteria in the method blank and LCS.
R-07	Reporting limit for this compound(s) has been raised to account for dilution necessary due to high levels of interfering compound(s) and/or matrix affect.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected.
O-07	The sample was analyzed outside the EPA recommended holding time of 48 hours.
O-04	This sample was received and analyzed outside the EPA recommended holding time.
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

SunStar Laboratories, Inc.

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.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE
25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: Partner Engineering & Science, Inc.
Address:
Phone: Fax:
Project Manager: Joe Magine / Brian Kim

Date: 12/21/2020 Page: 1 Of 1
Project Name: Behl Property, Porterville, CA
Collector: B. Kim Client Project #: 20-302506.1
Batch #: T204346 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	See Comments for analysis				Comments/Preservative	Total # of containers
01	MW-1	12/21/20	1:45pm	GW												X				1) Acid Extractables and Base Neutrals	
02	MW-1	12/22/20	7:30am	↓												X				2) Title 22 Metals (Filter at Lab)	
03	MW-2	12/22/20	8:10am	↓												X				3) Hexavalent Chromium	
04	MW-3	12/22/20	8:10am	↓												X				4) Major Cations	
																				5) Major Anions	
																				6) Nitrate, Nitrite as N, Nitrate + Nitrite	
																				7) Fluoride	
																				8) Phosphorus	
																				9) Perchlorate	
																				10) Total Dissolved Solids (TDS)	
																				11) Asbestos	
																				12) Foaming Agents (MBAS)	
																				13) TPH-GC	
																				14) MTBE	
																				15) SVOC's	
																				16) Total Phenols	
																				17) PCB's	
																				18) Chlorinated Herbicides	
																				19) 1,2-Dibromomethane (EDB)	
																				20) 1,2-Dibromo-3-chloropropane	

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	12/22/20 2:45pm		
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
Fed Ex	12-23-20 1225	[signature]	12-23-20 1225
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 1.7°C 1.7°C 1.4°C

Notes

Turn around time: 3-day

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: T204346

Client Name: Partner Engineering: Science Project: Behl Property, Porterville, CA

Delivered by: ☐ Client ☐ SunStar Courier ☐ GLS ☒ FedEx ☐ UPS

If Courier, Received by: _____ Date/Time Courier Received: _____

Lab Received by: Dan Date/Time Lab Received: 12/23/20 1225

Total number of coolers received: 3 Thermometer ID: _____SC-Gun_____ Calibration due 8-17-21

Temperature:	Cooler #1	1.4 °C +/- the CF (°C) =	1.2	°C corrected temperature
Temperature:	Cooler #2	1.9 °C +/- the CF (°C) =	1.7	°C corrected temperature
Temperature:	Cooler #3	1.6 °C +/- the CF (°C) =	1.4	°C corrected temperature

Temperature criteria = ≤ 6°C (no frozen containers)	Within criteria?	☒ **Yes** ☐ **No** ☐ **N/A**
If NO:		
Samples received on ice?	☐ Yes	☐ **No → Complete Non-Conformance Sheet**
If on ice, samples received same day collected?	☐ Yes → Acceptable	☐ **No → Complete Non-Conformance Sheet**

Custody seals intact on cooler/sample	☐ Yes	☐ No*	☒ N/A
Sample containers intact	☒ Yes	☐ No*	
Sample labels match Chain of Custody IDs	☒ Yes	☐ No*	
Total number of containers received match COC	☒ Yes	☐ No*	
Proper containers received for analyses requested on COC	☒ Yes	☐ No*	
Proper preservative indicated on COC/containers for analyses requested	☐ Yes	☐ No*	☒ N/A
Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times	☒ **Yes**	☐ **No***	

* Complete Non-Conformance Receiving Sheet if checked

Cooler/Sample Review - Initials and date: MW 12/23/20

Comments:

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

Printed: 12/28/2020 1:09:17PM

WORK ORDER

T204346

Client:	**Partner Engineering & Science, Inc.--Oakland**	**Project Manager:**	**Mike Jaroudi**
Project:	**Behl Property, Porterville, CA**	**Project Number:**	**20-302506-1**

Report To:

Partner Engineering & Science, Inc.--Oakland
Joe Mangine
1017 22nd Ave. Suite 107
Oakland, CA 94606

Date Due:	12/30/20 17:00 (3 day TAT)		
Received By:	Dan Marteski	Date Received:	12/23/20 12:25
Logged In By:	Mike Jaroudi	Date Logged In:	12/23/20 14:04

Samples Received at:	**1.2°C**		
Custody Seals	No	Received On Ice	Yes
Containers Intact	Yes		
COC/Labels Agree	Yes		
Preservation Confirme	Yes		

Analysis	Due	TAT	Expires	Comments
T204346-01 MW-1 [Water] Sampled 12/22/20 07:30 (GMT-08:00) Pacific Time (US &				
200.8	12/30/20 15:00	3	06/20/21 07:30	
300.0 - F, Cl, Br, SO4	12/30/20 15:00	3	01/19/21 07:30	
300.0 - NO2, NO3, PO4	12/30/20 15:00	3	12/24/20 07:30	
6010 Individual Metals	12/30/20 15:00	3	06/20/21 07:30	Cations (Ca, K, Mg, Na)
6010 Individual Metals, Dissolved	12/30/20 15:00	3	06/20/21 07:30	CAM 17 + Phosphorus
7470/71 Hg Dissolved	12/30/20 15:00	3	03/22/21 07:30	
8015 m Gas Purge	12/30/20 15:00	3	01/05/21 07:30	
8015 TPH-CC LLvL	12/30/20 15:00	3	01/05/21 07:30	
8081 Pesticides	12/30/20 15:00	3	12/29/20 07:30	
8082 PCB	12/30/20 15:00	3	12/29/20 07:30	
8151 Herbicides	12/30/20 15:00	3	12/29/20 07:30	
8260	12/30/20 15:00	3	01/05/21 07:30	
8270C	12/30/20 15:00	3	12/29/20 07:30	
Cr6-7196A	12/30/20 15:00	3	12/23/20 07:30	
Cyanide Total	12/30/20 15:00	3	01/05/21 07:30	
MBAS (Surfactants)	12/30/20 15:00	3	12/24/20 07:30	
TDS-160.1	12/30/20 15:00	3	12/29/20 07:30	

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

Printed: 12/28/2020 1:09:17PM

WORK ORDER

T204346

Client:	**Partner Engineering & Science, Inc.--Oakland**	**Project Manager:**	**Mike Jaroudi**
Project:	**Behl Property, Porterville, CA**	**Project Number:**	**20-302506-1**

Analysis	Due	TAT	Expires	Comments
T204346-02 MW-2 [Water] Sampled 12/22/20 11:10 (GMT-08:00) Pacific Time (US &				
200.8	12/30/20 15:00	3	06/20/21 11:10	
300.0 - F, Cl, Br, SO4	12/30/20 15:00	3	01/19/21 11:10	
300.0 - NO2, NO3, PO4	12/30/20 15:00	3	12/24/20 11:10	
6010 Individual Metals	12/30/20 15:00	3	06/20/21 11:10	Cations (Ca, K, Mg, Na)
6010 Individual Metals, Dissolved	12/30/20 15:00	3	06/20/21 11:10	CAM 17 + Phosphorus
7470/71 Hg Dissolved	12/30/20 15:00	3	03/22/21 11:10	
8015 m Gas Purge	12/30/20 15:00	3	01/05/21 11:10	
8015 TPH-CC LLvL	12/30/20 15:00	3	01/05/21 11:10	
8081 Pesticides	12/30/20 15:00	3	12/29/20 11:10	
8082 PCB	12/30/20 15:00	3	12/29/20 11:10	
8151 Herbicides	12/30/20 15:00	3	12/29/20 11:10	
8260	12/30/20 15:00	3	01/05/21 11:10	
8270C	12/30/20 15:00	3	12/29/20 11:10	
Cr6-7196A	12/30/20 15:00	3	12/23/20 11:10	
Cyanide Total	12/30/20 15:00	3	01/05/21 11:10	
MBAS (Surfactants)	12/30/20 15:00	3	12/24/20 11:10	
TDS-160.1	12/30/20 15:00	3	12/29/20 11:10	

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T204346

Client:	**Partner Engineering & Science, Inc.--Oakland**	**Project Manager:**	**Mike Jaroudi**
Project:	**Behl Property, Porterville, CA**	**Project Number:**	**20-302506-1**

Analysis	Due	TAT	Expires	Comments
T204346-03 MW-3 [Water] Sampled 12/22/20 08:10 (GMT-08:00) Pacific Time (US &				
200.8	12/30/20 15:00	3	06/20/21 08:10	
300.0 - F, Cl, Br, SO4	12/30/20 15:00	3	01/19/21 08:10	
300.0 - NO2, NO3, PO4	12/30/20 15:00	3	12/24/20 08:10	
6010 Individual Metals	12/30/20 15:00	3	06/20/21 08:10	Cations (Ca, K, Mg, Na)
6010 Individual Metals, Dissolved	12/30/20 15:00	3	06/20/21 08:10	CAM 17 + Phosphorus
7470/71 Hg Dissolved	12/30/20 15:00	3	03/22/21 08:10	
8015 m Gas Purge	12/30/20 15:00	3	01/05/21 08:10	
8015 TPH-CC LLvL	12/30/20 15:00	3	01/05/21 08:10	
8081 Pesticides	12/30/20 15:00	3	12/29/20 08:10	
8082 PCB	12/30/20 15:00	3	12/29/20 08:10	
8151 Herbicides	12/30/20 15:00	3	12/29/20 08:10	
8260	12/30/20 15:00	3	01/05/21 08:10	
8270C	12/30/20 15:00	3	12/29/20 08:10	
Cr6-7196A	12/30/20 15:00	3	12/23/20 08:10	
Cyanide Total	12/30/20 15:00	3	01/05/21 08:10	
MBAS (Surfactants)	12/30/20 15:00	3	12/24/20 08:10	
TDS-160.1	12/30/20 15:00	3	12/29/20 08:10	

MicroTest Laboratories

T204346-01 MW-1 [Water] Sampled 12/22/20 07:30 (GMT-08:00) Pacific Time (US &				
miscellaneous subcontract 2 (see notes)	12/30/20 15:00	3	06/20/21 07:30	PLM CARB 435 Level B (0.1% Sensitivity)
T204346-02 MW-2 [Water] Sampled 12/22/20 11:10 (GMT-08:00) Pacific Time (US &				
miscellaneous subcontract 2 (see notes)	12/30/20 15:00	3	06/20/21 11:10	PLM CARB 435 Level B (0.1% Sensitivity)
T204346-03 MW-3 [Water] Sampled 12/22/20 08:10 (GMT-08:00) Pacific Time (US &				
miscellaneous subcontract 2 (see notes)	12/30/20 15:00	3	06/20/21 08:10	PLM CARB 435 Level B (0.1% Sensitivity)

Weck Labs

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

Printed: 12/28/2020 1:09:17PM

WORK ORDER

T204346

Client:	**Partner Engineering & Science, Inc.--Oakland**	**Project Manager:**	**Mike Jaroudi**
Project:	**Behl Property, Porterville, CA**	**Project Number:**	**20-302506-1**

Analysis	Due	TAT	Expires	Comments
Weck Labs				
T204346-01 MW-1 [Water] Sampled 12/22/20 07:30 (GMT-08:00) Pacific Time (US &				
314.0 EPA Perchlorate	12/30/20 15:00	3	01/19/21 07:30	
Cyanide (Amenable)	12/30/20 15:00	3	01/05/21 07:30	
Misc. Subcontract (see notes)	12/30/20 15:00	3	06/20/21 07:30	Weak Acid Cyanide
miscellaneous subcontract #3 (see notes)	12/30/20 15:00	3	06/20/21 07:30	Phenols 420.1
T204346-02 MW-2 [Water] Sampled 12/22/20 11:10 (GMT-08:00) Pacific Time (US &				
314.0 EPA Perchlorate	12/30/20 15:00	3	01/19/21 11:10	
Cyanide (Amenable)	12/30/20 15:00	3	01/05/21 11:10	
Misc. Subcontract (see notes)	12/30/20 15:00	3	06/20/21 11:10	Weak Acid Cyanide
miscellaneous subcontract #3 (see notes)	12/30/20 15:00	3	06/20/21 11:10	Phenols 420.1
T204346-03 MW-3 [Water] Sampled 12/22/20 08:10 (GMT-08:00) Pacific Time (US &				
314.0 EPA Perchlorate	12/30/20 15:00	3	01/19/21 08:10	
Cyanide (Amenable)	12/30/20 15:00	3	01/05/21 08:10	
Misc. Subcontract (see notes)	12/30/20 15:00	3	06/20/21 08:10	Weak Acid Cyanide
miscellaneous subcontract #3 (see notes)	12/30/20 15:00	3	06/20/21 08:10	Phenols 420.1

Reviewed By

Date

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

Printed: 12/29/2020 2:07:04PM

WORK ORDER

T204346

Client:	**Partner Engineering & Science, Inc.--Oakland**	**Project Manager:**	**Mike Jaroudi**
Project:	**Behl Property, Porterville, CA**	**Project Number:**	**20-302506-1**

Report To:

Partner Engineering & Science, Inc.--Oakland
Joe Mangine
1017 22nd Ave. Suite 107
Oakland, CA 94606

Date Due:	12/30/20 17:00 (3 day TAT)		
Received By:	Dan Marteski	Date Received:	12/23/20 12:25
Logged In By:	Mike Jaroudi	Date Logged In:	12/23/20 14:04

Samples Received at:	**1.2°C**		
Custody Seals	No	Received On Ice	Yes
Containers Intact	Yes		
COC/Labels Agree	Yes		
Preservation Confirme	Yes		

Analysis	Due	TAT	Expires	Comments
T204346-01 MW-1 [Water] Sampled 12/22/20 07:30 (GMT-08:00) Pacific Time (US &				
200.8	12/30/20 15:00	3	06/20/21 07:30	
300.0 - F, Cl, Br, SO4	12/30/20 15:00	3	01/19/21 07:30	
300.0 - NO2, NO3, PO4	12/30/20 15:00	3	12/24/20 07:30	
6010 Individual Metals	12/30/20 15:00	3	06/20/21 07:30	Cations (Ca, K, Mg, Na)
6010 Individual Metals, Dissolved	12/30/20 15:00	3	06/20/21 07:30	CAM 17 + Phosphorus
7470/71 Hg Dissolved	12/30/20 15:00	3	03/22/21 07:30	
8015 m Gas Purge	12/30/20 15:00	3	01/05/21 07:30	
8015 TPH-CC LLvL	12/30/20 15:00	3	01/05/21 07:30	
8082 PCB	12/30/20 15:00	3	12/29/20 07:30	
8151 Herbicides	12/30/20 15:00	3	12/29/20 07:30	
8260	12/30/20 15:00	3	01/05/21 07:30	
8270C	12/30/20 15:00	3	12/29/20 07:30	
Cr6-7199	12/30/20 15:00	3	12/23/20 07:30	
MBAS (Surfactants)	12/30/20 15:00	3	12/24/20 07:30	
TDS-160.1	12/30/20 15:00	3	12/29/20 07:30	

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T204346

Client:	**Partner Engineering & Science, Inc.--Oakland**	**Project Manager:**	**Mike Jaroudi**
Project:	**Behl Property, Porterville, CA**	**Project Number:**	**20-302506-1**

Analysis	Due	TAT	Expires	Comments
T204346-02 MW-2 [Water] Sampled 12/22/20 11:10 (GMT-08:00) Pacific Time (US &				
200.8	12/30/20 15:00	3	06/20/21 11:10	
300.0 - F, Cl, Br, SO4	12/30/20 15:00	3	01/19/21 11:10	
300.0 - NO2, NO3, PO4	12/30/20 15:00	3	12/24/20 11:10	
6010 Individual Metals	12/30/20 15:00	3	06/20/21 11:10	Cations (Ca, K, Mg, Na)
6010 Individual Metals, Dissolved	12/30/20 15:00	3	06/20/21 11:10	CAM 17 + Phosphorus
7470/71 Hg Dissolved	12/30/20 15:00	3	03/22/21 11:10	
8015 m Gas Purge	12/30/20 15:00	3	01/05/21 11:10	
8015 TPH-CC LLvL	12/30/20 15:00	3	01/05/21 11:10	
8082 PCB	12/30/20 15:00	3	12/29/20 11:10	
8151 Herbicides	12/30/20 15:00	3	12/29/20 11:10	
8260	12/30/20 15:00	3	01/05/21 11:10	
8270C	12/30/20 15:00	3	12/29/20 11:10	
Cr6-7199	12/30/20 15:00	3	12/23/20 11:10	
MBAS (Surfactants)	12/30/20 15:00	3	12/24/20 11:10	
TDS-160.1	12/30/20 15:00	3	12/29/20 11:10	
T204346-03 MW-3 [Water] Sampled 12/22/20 08:10 (GMT-08:00) Pacific Time (US &				
200.8	12/30/20 15:00	3	06/20/21 08:10	
300.0 - F, Cl, Br, SO4	12/30/20 15:00	3	01/19/21 08:10	
300.0 - NO2, NO3, PO4	12/30/20 15:00	3	12/24/20 08:10	
6010 Individual Metals	12/30/20 15:00	3	06/20/21 08:10	Cations (Ca, K, Mg, Na)
6010 Individual Metals, Dissolved	12/30/20 15:00	3	06/20/21 08:10	CAM 17 + Phosphorus
7470/71 Hg Dissolved	12/30/20 15:00	3	03/22/21 08:10	
8015 m Gas Purge	12/30/20 15:00	3	01/05/21 08:10	
8015 TPH-CC LLvL	12/30/20 15:00	3	01/05/21 08:10	
8082 PCB	12/30/20 15:00	3	12/29/20 08:10	
8151 Herbicides	12/30/20 15:00	3	12/29/20 08:10	
8260	12/30/20 15:00	3	01/05/21 08:10	
8270C	12/30/20 15:00	3	12/29/20 08:10	
Cr6-7199	12/30/20 15:00	3	12/23/20 08:10	
MBAS (Surfactants)	12/30/20 15:00	3	12/24/20 08:10	
TDS-160.1	12/30/20 15:00	3	12/29/20 08:10	

EMSL -- San Leandro

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

Printed: 12/29/2020 2:07:04PM

WORK ORDER

T204346

Client:	**Partner Engineering & Science, Inc.--Oakland**	**Project Manager:**	**Mike Jaroudi**
Project:	**Behl Property, Porterville, CA**	**Project Number:**	**20-302506-1**

Analysis	Due	TAT	Expires	Comments
EMSL -- San Leandro				
T204346-01 MW-1 [Water] Sampled 12/22/20 07:30 (GMT-08:00) Pacific Time (US &				
miscellaneous subcontract 2 (see notes)	12/30/20 15:00	3	06/20/21 07:30	TEM 100.2 Long Fibers > 10 Microns Only
T204346-02 MW-2 [Water] Sampled 12/22/20 11:10 (GMT-08:00) Pacific Time (US &				
miscellaneous subcontract 2 (see notes)	12/30/20 15:00	3	06/20/21 11:10	TEM 100.2 Long Fibers > 10 Microns Only
T204346-03 MW-3 [Water] Sampled 12/22/20 08:10 (GMT-08:00) Pacific Time (US &				
miscellaneous subcontract 2 (see notes)	12/30/20 15:00	3	06/20/21 08:10	TEM 100.2 Long Fibers > 10 Microns Only
Weck Labs				
T204346-01 MW-1 [Water] Sampled 12/22/20 07:30 (GMT-08:00) Pacific Time (US &				
314.0 EPA Perchlorate	12/30/20 15:00	3	01/19/21 07:30	
miscellaneous subcontract #3 (see notes)	12/30/20 15:00	3	06/20/21 07:30	Phenols 420.1
T204346-02 MW-2 [Water] Sampled 12/22/20 11:10 (GMT-08:00) Pacific Time (US &				
314.0 EPA Perchlorate	12/30/20 15:00	3	01/19/21 11:10	
miscellaneous subcontract #3 (see notes)	12/30/20 15:00	3	06/20/21 11:10	Phenols 420.1
T204346-03 MW-3 [Water] Sampled 12/22/20 08:10 (GMT-08:00) Pacific Time (US &				
314.0 EPA Perchlorate	12/30/20 15:00	3	01/19/21 08:10	
miscellaneous subcontract #3 (see notes)	12/30/20 15:00	3	06/20/21 08:10	Phenols 420.1

Reviewed By

Date

LELAP CERTIFICATE NUMBER: 01955
DOD-ELAP ACCREDITATION NUMBER: 74960

ANALYTICAL RESULTS

PERFORMED BY

Pace Analytical Gulf Coast
7979 Innovation Park Dr.
Baton Rouge, LA 70820
(225) 769-4900

Report Date 12/30/2020

Report # 220122330

Project 20-302506.1-PFAS

Deliver To	***Additional Recipients***
Brian Kim Partner Engineering and Science, Inc. 111 Pine Street Suite 1750 San Fransico, CA 94111 (415) 310-5067	NONE

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with Pace Gulf Coast's Standard Operating Procedures.

Common Abbreviations that may be Utilized in this Report

ND	Indicates the result was Not Detected at the specified reporting limit
NO	Indicates the sample did not ignite when preliminary test performed for EPA Method 1030
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
RE	Re-analysis
CF	HPLC or GC Confirmation
00:01	Reported as a time equivalent to 12:00 AM

Reporting Flags that may be Utilized in this Report

J or I	Indicates the result is between the MDL and LOQ
J	DOD flag on analyte in the parent sample for MS/MSD outside acceptance criteria
U	Indicates the compound was analyzed for but not detected
B or V	Indicates the analyte was detected in the associated Method Blank
Q	Indicates a non-compliant QC Result (See Q Flag Application Report)
*****	Indicates a non-compliant or not applicable QC recovery or RPD – see narrative
E	Organics **-** The result is estimated because it exceeded the instrument calibration range
E	Metals - % diference for the serial dilution is > 10%
L	Reporting Limits adjusted to meet risk-based limit.
P	RPD between primary and confirmation result is greater than 40
DL	Diluted analysis – when appended to Client Sample ID

Sample receipt at Pace Gulf Coast is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of Pace Gulf Coast. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with The NELAC Institute (TNI) Standard 2009 and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.

Authorized Signature
Pace Gulf Coast Report 220122330

Certifications

Certification	Certification Number
DOD ELAP	74960
Alabama	01955
Arkansas	88-0655
Colorado	01955
Delaware	01955
Florida	E87854
Georgia	01955
Hawaii	01955
Idaho	01955
Illinois	200048
Indiana	01955
Kansas	E-10354
Kentucky	95
Louisiana	01955
Maryland	01955
Massachusetts	01955
Michigan	01955
Mississippi	01955
Missouri	01955
Montana	N/A
Nebraska	01955
New Mexico	01955
North Carolina	618
North Dakota	R-195
Oklahoma	9403
South Carolina	73006001
South Dakota	01955
Tennessee	01955
Texas	T104704178
Vermont	01955
Virginia	460215
Washington	C929
USDA Soil Permit	P330-16-00234

Case Narrative

Client: PARTNER ENGINEERING AND SCIENCE, INC. **Report:** 220122330

Pace Analytical Gulf Coast received and analyzed the sample(s) listed on the Report Sample Summary page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

COC ANOMALIES

The lab received a set of containers labeled Trip Blank and Field Reagent Blank; however, the TB and FRB were not reflected on the COC. Per client email dated Mon 12/28/2020 10:32 AM, the lab should proceed with PFAS analysis for the TB and FRB in addition to the three samples. (Elizabeth Martin 12/28/2020 11:03)

MISCELLANEOUS

Samples 22012233004 (TRIP BLANK) and 22012233005 (FIELD BLANK) was received but was not listed on the chain of custody. The client was contacted and authorized proceeding with analysis.

PFAS Abbreviations

Abbreviation	Analyte Name
PFBA	Perfluorobutanoic acid
PFBS	Perfluorobutanesulfonic acid
PFDA	Perfluorodecanoic acid
PFDS	Perfluorodecane sulfonic acid
PFDoA	Perfluorododecanoic acid
PFEESA	Perfluoro(2-ethoxyethane)sulfonic acid
PFHpA	Perfluoroheptanoic acid
PFHpS	Perfluoro-1-heptanesulfonic acid
PFHxA	Perfluorohexanoic acid
PFHxS	Perfluorohexanesulfonic acid
PFMBA	Perfluoro-4-methoxybutanoic acid
PFMPA	Perfluoro-3-methoxypropanoic acid
PFNA	Perfluorononanoic acid
PFNS	Perfluorononanesulfonic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctanesulfonic acid
PFPeA	Perfluoropentanoic acid
PFPeS	Perfluoropentanesulfonic acid
PFTA	Perfluorotetradecanoic acid
PFTeDA	Perfluorotetradecanoic acid
PFTrDA	Perfluorotridecanoic acid
PFUnA	Perfluoroundecanoic acid

Abbreviation	Analyte Name
11Cl-PF3OUdS	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid
4:2 FTS	4:2 Fluorotelomer sulfonic acid
6:2 FTS	6:2 Fluorotelomer sulfonic acid
8:2 FTS	8:2 Fluorotelomer sulfonic acid
9Cl-PF3ONS	9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid
ADONA	Dodecafluoro-3H-4,8-dioxanonanoic acid
FOSA	Perfluorooctane Sulfonamide
HFPO-DA	Perfluoro-2-proxypropanoic acid
NEtFOSAA	N-ethylperfluorooctanesulfonamidoacetic acid
NFDHA	Nonafluoro-3,6-dioxaheptanoic acid
NMeFOSAA	N-methylperfluorooctanesulfonamidoacetic acid

Sample Summary

LAB ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
22012233001	MW-1	Water	12/21/2020 13:28	12/23/2020 12:06
22012233002	MW-2	Water	12/22/2020 11:10	12/23/2020 12:06
22012233003	MW-3	Water	12/22/2020 08:10	12/23/2020 12:06
22012233004	TRIP BLANK	Water	12/22/2020 00:01	12/23/2020 12:06
22012233005	FIELD BLANK	Water	12/22/2020 00:01	12/23/2020 12:06

Summary of Compounds Detected

MW-1

Collect Date	12/21/2020 13:28	LAB ID	22012233001
Receive Date	12/23/2020 12:06	Matrix	Water

EPA 537 Mod Isotope Dilution

CAS#	Parameter	Result	DL	LOQ	Units
375-73-5	Perfluorobutanesulfonic acid (PFBS)	4.42J	1.47	10.0	ng/L
375-22-4	Perfluorobutanoic acid (PFBA)	2.35J	2.13	10.0	ng/L
307-24-4	Perfluorohexanoic acid (PFHxA)	4.17J	1.94	10.0	ng/L
335-67-1	Perfluorooctanoic acid (PFOA)	3.27J	1.80	10.0	ng/L
2706-90-3	Perfluoropentanoic acid (PFPeA)	3.31J	2.35	10.0	ng/L

MW-3

Collect Date	12/22/2020 08:10	LAB ID	22012233003
Receive Date	12/23/2020 12:06	Matrix	Water

EPA 537 Mod Isotope Dilution

CAS#	Parameter	Result	DL	LOQ	Units
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.95J	1.47	10.0	ng/L
375-22-4	Perfluorobutanoic acid (PFBA)	2.22J	2.13	10.0	ng/L
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.21J	1.85	10.0	ng/L
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.25J	1.64	10.0	ng/L
307-24-4	Perfluorohexanoic acid (PFHxA)	4.23J	1.94	10.0	ng/L
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.40J	1.70	10.0	ng/L
335-67-1	Perfluorooctanoic acid (PFOA)	4.99J	1.80	10.0	ng/L
2706-90-3	Perfluoropentanoic acid (PFPeA)	3.82J	2.35	10.0	ng/L

FIELD BLANK

Collect Date	12/22/2020 00:01	LAB ID	22012233005
Receive Date	12/23/2020 12:06	Matrix	Water

EPA 537 Mod Isotope Dilution

CAS#	Parameter	Result	DL	LOQ	Units
27619-97-2	6:2 Fluorotelomer sulfonic acid (6:2FTS)	3.81J	1.79	10.0	ng/L
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.73J	1.70	10.0	ng/L

Sample Results

MW-1	**Collect Date**	12/21/2020 13:28	**LAB ID**	22012233001
	Receive Date	12/23/2020 12:06	**Matrix**	Water

EPA 537 Mod Isotope Dilution

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/24/2020 08:50	700504	EPA 537 Mod Isotope Dilution	1	12/29/2020 16:53	MRA	700869

CAS#	Parameter	Result	DL	LOQ	Units
763051-92-9	11Cl-PF3OUdS	4.21U	4.21	10.0	ng/L
757124-72-4	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	1.52U	1.52	10.0	ng/L
27619-97-2	6:2 Fluorotelomer sulfonic acid (6:2FTS)	1.79U	1.79	10.0	ng/L
39108-34-4	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	1.63U	1.63	10.0	ng/L
919005-14-4	ADONA	2.63U	2.63	10.0	ng/L
2991-50-6	NEtFOSAA	5.38U	5.38	10.0	ng/L
2355-31-9	NMeFOSAA	4.60U	4.60	10.0	ng/L
375-73-5	**Perfluorobutanesulfonic acid (PFBS)**	**4.42J**	**1.47**	**10.0**	**ng/L**
375-22-4	**Perfluorobutanoic acid (PFBA)**	**2.35J**	**2.13**	**10.0**	**ng/L**
335-77-3	Perfluorodecane sulfonic acid (PFDS)	2.17U	2.17	10.0	ng/L
335-76-2	Perfluorodecanoic acid (PFDA)	1.65U	1.65	10.0	ng/L
307-55-1	Perfluorododecanoic acid (PFDoA)	2.45U	2.45	10.0	ng/L
375-92-8	Perfluoroheptanesulfonic acid (PFHpS)	2.01U	2.01	10.0	ng/L
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.85U	1.85	10.0	ng/L
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.64U	1.64	10.0	ng/L
307-24-4	**Perfluorohexanoic acid (PFHxA)**	**4.17J**	**1.94**	**10.0**	**ng/L**
68259-12-1	Perfluorononanesulfonic acid (PFNS)	2.11U	2.11	10.0	ng/L
375-95-1	Perfluorononanoic acid (PFNA)	1.68U	1.68	10.0	ng/L
754-91-6	Perfluorooctane Sulfonamide (FOSA)	2.63U	2.63	10.0	ng/L
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.70U	1.70	10.0	ng/L
335-67-1	**Perfluorooctanoic acid (PFOA)**	**3.27J**	**1.80**	**10.0**	**ng/L**
2706-91-4	Perfluoropentanesulfonic acid (PFPeS)	2.07U	2.07	10.0	ng/L
2706-90-3	**Perfluoropentanoic acid (PFPeA)**	**3.31J**	**2.35**	**10.0**	**ng/L**
376-06-7	Perfluorotetradecanoic acid (PFTA)	2.76U	2.76	10.0	ng/L
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	2.56U	2.56	10.0	ng/L
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.86U	1.86	10.0	ng/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
2355-31-9-EIS	d3-NMeFOSAA	100	98.2	ng/L	98	50 - 150
2991-50-6-EIS	d5-NEtFOSAA	100	106	ng/L	106	50 - 150
757124-72-4-EIS	M2 4:2 FTS	100	121	ng/L	121	50 - 150
27619-97-2-EIS	M2 6:2 FTS	100	124	ng/L	124	50 - 150
39108-34-4-EIS	M2 8:2 FTS	100	121	ng/L	121	50 - 150
376-06-7-EIS	M2PFTA	100	94.9	ng/L	95	50 - 150
375-73-5-EIS	M3PFBS	100	95.7	ng/L	96	50 - 150
355-46-4-EIS	M3PFHxS	100	89.8	ng/L	90	50 - 150
375-85-9-EIS	M4PFHpA	100	101	ng/L	101	50 - 150
307-24-4-EIS	M5PFHxA	100	103	ng/L	103	50 - 150
2706-90-3-EIS	M5PFPeA	100	96.6	ng/L	97	50 - 150
335-76-2-EIS	M6PFDA	100	107	ng/L	107	50 - 150
2058-94-8-EIS	M7PFUnA	100	109	ng/L	109	50 - 150
754-91-6-EIS	M8FOSA	100	85.1	ng/L	85	50 - 150
335-67-1-EIS	M8PFOA	100	113	ng/L	113	50 - 150
1763-23-1-EIS	M8PFOS	100	95.8	ng/L	96	50 - 150
375-95-1-EIS	M9PFNA	100	108	ng/L	108	50 - 150
375-22-4-EIS	MPFBA	100	90.6	ng/L	91	50 - 150
307-55-1-EIS	MPFDoA	100	97.5	ng/L	97	50 - 150

Sample Results

MW-1	**Collect Date**	12/21/2020 13:28	**LAB ID**	22012233001
	Receive Date	12/23/2020 12:06	**Matrix**	Water

EPA 537 Mod Isotope Dilution

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/24/2020 08:50	700504	EPA 537 Mod Isotope Dilution	1	12/29/2020 17:09	MRA	700872

CAS#	Parameter	Result	DL	LOQ	Units
756426-58-1	9Cl-PF3ONS	4.54U	4.54	10.0	ng/L
13252-13-6	Perfluoro-2-proxypropanoic acid (HFPO-DA)	12.3U	12.3	20.0	ng/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
13252-13-6-EIS	M3HFPODA	100	105	ng/L	105	50 - 150
1763-23-1-EIS	M8PFOS	100	75.5	ng/L	76	50 - 150

MW-2	**Collect Date**	12/22/2020 11:10	**LAB ID**	22012233002
	Receive Date	12/23/2020 12:06	**Matrix**	Water

EPA 537 Mod Isotope Dilution

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/24/2020 08:50	700504	EPA 537 Mod Isotope Dilution	1	12/29/2020 17:06	MRA	700869

CAS#	Parameter	Result	DL	LOQ	Units
763051-92-9	11Cl-PF3OUdS	4.21U	4.21	10.0	ng/L
757124-72-4	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	1.52U	1.52	10.0	ng/L
27619-97-2	6:2 Fluorotelomer sulfonic acid (6:2FTS)	1.79U	1.79	10.0	ng/L
39108-34-4	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	1.63U	1.63	10.0	ng/L
919005-14-4	ADONA	2.63U	2.63	10.0	ng/L
2991-50-6	NEtFOSAA	5.38U	5.38	10.0	ng/L
2355-31-9	NMeFOSAA	4.60U	4.60	10.0	ng/L
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.47U	1.47	10.0	ng/L
375-22-4	Perfluorobutanoic acid (PFBA)	2.13U	2.13	10.0	ng/L
335-77-3	Perfluorodecane sulfonic acid (PFDS)	2.17U	2.17	10.0	ng/L
335-76-2	Perfluorodecanoic acid (PFDA)	1.65U	1.65	10.0	ng/L
307-55-1	Perfluorododecanoic acid (PFDoA)	2.45U	2.45	10.0	ng/L
375-92-8	Perfluoroheptanesulfonic acid (PFHpS)	2.01U	2.01	10.0	ng/L
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.85U	1.85	10.0	ng/L
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.64U	1.64	10.0	ng/L
307-24-4	Perfluorohexanoic acid (PFHxA)	1.94U	1.94	10.0	ng/L
68259-12-1	Perfluorononanesulfonic acid (PFNS)	2.11U	2.11	10.0	ng/L
375-95-1	Perfluorononanoic acid (PFNA)	1.68U	1.68	10.0	ng/L
754-91-6	Perfluorooctane Sulfonamide (FOSA)	2.63U	2.63	10.0	ng/L
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.70U	1.70	10.0	ng/L
335-67-1	Perfluorooctanoic acid (PFOA)	1.80U	1.80	10.0	ng/L
2706-91-4	Perfluoropentanesulfonic acid (PFPeS)	2.07U	2.07	10.0	ng/L
2706-90-3	Perfluoropentanoic acid (PFPeA)	2.35U	2.35	10.0	ng/L
376-06-7	Perfluorotetradecanoic acid (PFTA)	2.76U	2.76	10.0	ng/L
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	2.56U	2.56	10.0	ng/L

Sample Results

MW-2	**Collect Date**	12/22/2020 11:10	**LAB ID**	22012233002
	Receive Date	12/23/2020 12:06	**Matrix**	Water

EPA 537 Mod Isotope Dilution (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/24/2020 08:50	700504	EPA 537 Mod Isotope Dilution (Continued)	1	12/29/2020 17:06	MRA	700869

CAS#	Parameter	Result	DL	LOQ	Units
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.86U	1.86	10.0	ng/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
2355-31-9-EIS	d3-NMeFOSAA	100	94.2	ng/L	94	50 - 150
2991-50-6-EIS	d5-NEtFOSAA	100	102	ng/L	102	50 - 150
757124-72-4-EIS	M2 4:2 FTS	100	114	ng/L	114	50 - 150
27619-97-2-EIS	M2 6:2 FTS	100	114	ng/L	114	50 - 150
39108-34-4-EIS	M2 8:2 FTS	100	116	ng/L	116	50 - 150
376-06-7-EIS	M2PFTA	100	85.1	ng/L	85	50 - 150
375-73-5-EIS	M3PFBS	100	92.5	ng/L	92	50 - 150
355-46-4-EIS	M3PFHxS	100	93.6	ng/L	94	50 - 150
375-85-9-EIS	M4PFHpA	100	100	ng/L	100	50 - 150
307-24-4-EIS	M5PFHxA	100	96	ng/L	96	50 - 150
2706-90-3-EIS	M5PFPeA	100	85.1	ng/L	85	50 - 150
335-76-2-EIS	M6PFDA	100	94.8	ng/L	95	50 - 150
2058-94-8-EIS	M7PFUnA	100	103	ng/L	103	50 - 150
754-91-6-EIS	M8FOSA	100	79.2	ng/L	79	50 - 150
335-67-1-EIS	M8PFOA	100	104	ng/L	104	50 - 150
1763-23-1-EIS	M8PFOS	100	87.7	ng/L	88	50 - 150
375-95-1-EIS	M9PFNA	100	100	ng/L	100	50 - 150
375-22-4-EIS	MPFBA	100	81	ng/L	81	50 - 150
307-55-1-EIS	MPFDoA	100	100	ng/L	100	50 - 150

EPA 537 Mod Isotope Dilution

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/24/2020 08:50	700504	EPA 537 Mod Isotope Dilution	1	12/29/2020 17:23	MRA	700872

CAS#	Parameter	Result	DL	LOQ	Units
756426-58-1	9Cl-PF3ONS	4.54U	4.54	10.0	ng/L
13252-13-6	Perfluoro-2-proxypropanoic acid (HFPO-DA)	12.3U	12.3	20.0	ng/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
13252-13-6-EIS	M3HFPODA	100	88.1	ng/L	88	50 - 150
1763-23-1-EIS	M8PFOS	100	91.4	ng/L	91	50 - 150

Sample Results

MW-3	**Collect Date**	12/22/2020 08:10	**LAB ID**	22012233003
	Receive Date	12/23/2020 12:06	**Matrix**	Water

EPA 537 Mod Isotope Dilution

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/24/2020 08:50	700504	EPA 537 Mod Isotope Dilution	1	12/29/2020 17:19	MRA	700869

CAS#	Parameter	Result	DL	LOQ	Units
763051-92-9	11Cl-PF3OUdS	4.21U	4.21	10.0	ng/L
757124-72-4	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	1.52U	1.52	10.0	ng/L
27619-97-2	6:2 Fluorotelomer sulfonic acid (6:2FTS)	1.79U	1.79	10.0	ng/L
39108-34-4	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	1.63U	1.63	10.0	ng/L
919005-14-4	ADONA	2.63U	2.63	10.0	ng/L
2991-50-6	NEtFOSAA	5.38U	5.38	10.0	ng/L
2355-31-9	NMeFOSAA	4.60U	4.60	10.0	ng/L
375-73-5	**Perfluorobutanesulfonic acid (PFBS)**	**2.95J**	**1.47**	**10.0**	**ng/L**
375-22-4	**Perfluorobutanoic acid (PFBA)**	**2.22J**	**2.13**	**10.0**	**ng/L**
335-77-3	Perfluorodecane sulfonic acid (PFDS)	2.17U	2.17	10.0	ng/L
335-76-2	Perfluorodecanoic acid (PFDA)	1.65U	1.65	10.0	ng/L
307-55-1	Perfluorododecanoic acid (PFDoA)	2.45U	2.45	10.0	ng/L
375-92-8	Perfluoroheptanesulfonic acid (PFHpS)	2.01U	2.01	10.0	ng/L
375-85-9	**Perfluoroheptanoic acid (PFHpA)**	**2.21J**	**1.85**	**10.0**	**ng/L**
355-46-4	**Perfluorohexanesulfonic acid (PFHxS)**	**2.25J**	**1.64**	**10.0**	**ng/L**
307-24-4	**Perfluorohexanoic acid (PFHxA)**	**4.23J**	**1.94**	**10.0**	**ng/L**
68259-12-1	Perfluorononanesulfonic acid (PFNS)	2.11U	2.11	10.0	ng/L
375-95-1	Perfluorononanoic acid (PFNA)	1.68U	1.68	10.0	ng/L
754-91-6	Perfluorooctane Sulfonamide (FOSA)	2.63U	2.63	10.0	ng/L
1763-23-1	**Perfluorooctanesulfonic acid (PFOS)**	**2.40J**	**1.70**	**10.0**	**ng/L**
335-67-1	**Perfluorooctanoic acid (PFOA)**	**4.99J**	**1.80**	**10.0**	**ng/L**
2706-91-4	Perfluoropentanesulfonic acid (PFPeS)	2.07U	2.07	10.0	ng/L
2706-90-3	**Perfluoropentanoic acid (PFPeA)**	**3.82J**	**2.35**	**10.0**	**ng/L**
376-06-7	Perfluorotetradecanoic acid (PFTA)	2.76U	2.76	10.0	ng/L
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	2.56U	2.56	10.0	ng/L
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.86U	1.86	10.0	ng/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
2355-31-9-EIS	d3-NMeFOSAA	100	98.3	ng/L	98	50 - 150
2991-50-6-EIS	d5-NEtFOSAA	100	109	ng/L	109	50 - 150
757124-72-4-EIS	M2 4:2 FTS	100	126	ng/L	126	50 - 150
27619-97-2-EIS	M2 6:2 FTS	100	114	ng/L	114	50 - 150
39108-34-4-EIS	M2 8:2 FTS	100	105	ng/L	105	50 - 150
376-06-7-EIS	M2PFTA	100	104	ng/L	104	50 - 150
375-73-5-EIS	M3PFBS	100	103	ng/L	103	50 - 150
355-46-4-EIS	M3PFHxS	100	96.1	ng/L	96	50 - 150
375-85-9-EIS	M4PFHpA	100	104	ng/L	104	50 - 150
307-24-4-EIS	M5PFHxA	100	103	ng/L	103	50 - 150
2706-90-3-EIS	M5PFPeA	100	100	ng/L	100	50 - 150
335-76-2-EIS	M6PFDA	100	104	ng/L	104	50 - 150
2058-94-8-EIS	M7PFUnA	100	111	ng/L	111	50 - 150
754-91-6-EIS	M8FOSA	100	81.8	ng/L	82	50 - 150
335-67-1-EIS	M8PFOA	100	107	ng/L	107	50 - 150
1763-23-1-EIS	M8PFOS	100	95.3	ng/L	95	50 - 150
375-95-1-EIS	M9PFNA	100	105	ng/L	105	50 - 150
375-22-4-EIS	MPFBA	100	91.7	ng/L	92	50 - 150
307-55-1-EIS	MPFDoA	100	105	ng/L	105	50 - 150

Sample Results

MW-3	**Collect Date**	12/22/2020 08:10	**LAB ID**	22012233003
	Receive Date	12/23/2020 12:06	**Matrix**	Water

EPA 537 Mod Isotope Dilution

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/24/2020 08:50	700504	EPA 537 Mod Isotope Dilution	1	12/29/2020 17:37	MRA	700872

CAS#	Parameter	Result	DL	LOQ	Units
756426-58-1	9Cl-PF3ONS	4.54U	4.54	10.0	ng/L
13252-13-6	Perfluoro-2-proxypropanoic acid (HFPO-DA)	12.3U	12.3	20.0	ng/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
13252-13-6-EIS	M3HFPODA	100	102	ng/L	102	50 - 150
1763-23-1-EIS	M8PFOS	100	99.1	ng/L	99	50 - 150

TRIP BLANK	**Collect Date**	12/22/2020 00:01	**LAB ID**	22012233004
	Receive Date	12/23/2020 12:06	**Matrix**	Water

EPA 537 Mod Isotope Dilution

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/24/2020 08:50	700504	EPA 537 Mod Isotope Dilution	1	12/29/2020 17:32	MRA	700869

CAS#	Parameter	Result	DL	LOQ	Units
763051-92-9	11Cl-PF3OUdS	4.21U	4.21	10.0	ng/L
757124-72-4	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	1.52U	1.52	10.0	ng/L
27619-97-2	6:2 Fluorotelomer sulfonic acid (6:2FTS)	1.79U	1.79	10.0	ng/L
39108-34-4	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	1.63U	1.63	10.0	ng/L
919005-14-4	ADONA	2.63U	2.63	10.0	ng/L
2991-50-6	NEtFOSAA	5.38U	5.38	10.0	ng/L
2355-31-9	NMeFOSAA	4.60U	4.60	10.0	ng/L
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.47U	1.47	10.0	ng/L
375-22-4	Perfluorobutanoic acid (PFBA)	2.13U	2.13	10.0	ng/L
335-77-3	Perfluorodecane sulfonic acid (PFDS)	2.17U	2.17	10.0	ng/L
335-76-2	Perfluorodecanoic acid (PFDA)	1.65U	1.65	10.0	ng/L
307-55-1	Perfluorododecanoic acid (PFDoA)	2.45U	2.45	10.0	ng/L
375-92-8	Perfluoroheptanesulfonic acid (PFHpS)	2.01U	2.01	10.0	ng/L
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.85U	1.85	10.0	ng/L
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.64U	1.64	10.0	ng/L
307-24-4	Perfluorohexanoic acid (PFHxA)	1.94U	1.94	10.0	ng/L
68259-12-1	Perfluorononanesulfonic acid (PFNS)	2.11U	2.11	10.0	ng/L
375-95-1	Perfluorononanoic acid (PFNA)	1.68U	1.68	10.0	ng/L
754-91-6	Perfluorooctane Sulfonamide (FOSA)	2.63U	2.63	10.0	ng/L
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.70U	1.70	10.0	ng/L
335-67-1	Perfluorooctanoic acid (PFOA)	1.80U	1.80	10.0	ng/L
2706-91-4	Perfluoropentanesulfonic acid (PFPeS)	2.07U	2.07	10.0	ng/L
2706-90-3	Perfluoropentanoic acid (PFPeA)	2.35U	2.35	10.0	ng/L
376-06-7	Perfluorotetradecanoic acid (PFTA)	2.76U	2.76	10.0	ng/L
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	2.56U	2.56	10.0	ng/L

Sample Results

TRIP BLANK	**Collect Date**	12/22/2020 00:01	**LAB ID**	22012233004
	Receive Date	12/23/2020 12:06	**Matrix**	Water

EPA 537 Mod Isotope Dilution (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/24/2020 08:50	700504	EPA 537 Mod Isotope Dilution (Continued)	1	12/29/2020 17:32	MRA	700869

CAS#	Parameter	Result	DL	LOQ	Units
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.86U	1.86	10.0	ng/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
2355-31-9-EIS	d3-NMeFOSAA	100	102	ng/L	102	50 - 150
2991-50-6-EIS	d5-NEtFOSAA	100	107	ng/L	107	50 - 150
757124-72-4-EIS	M2 4:2 FTS	100	119	ng/L	119	50 - 150
27619-97-2-EIS	M2 6:2 FTS	100	116	ng/L	116	50 - 150
39108-34-4-EIS	M2 8:2 FTS	100	114	ng/L	114	50 - 150
376-06-7-EIS	M2PFTA	100	106	ng/L	106	50 - 150
375-73-5-EIS	M3PFBS	100	101	ng/L	101	50 - 150
355-46-4-EIS	M3PFHxS	100	82	ng/L	82	50 - 150
375-85-9-EIS	M4PFHpA	100	107	ng/L	107	50 - 150
307-24-4-EIS	M5PFHxA	100	104	ng/L	104	50 - 150
2706-90-3-EIS	M5PFPeA	100	95.2	ng/L	95	50 - 150
335-76-2-EIS	M6PFDA	100	109	ng/L	109	50 - 150
2058-94-8-EIS	M7PFUnA	100	110	ng/L	110	50 - 150
754-91-6-EIS	M8FOSA	100	74.8	ng/L	75	50 - 150
335-67-1-EIS	M8PFOA	100	107	ng/L	107	50 - 150
1763-23-1-EIS	M8PFOS	100	92.6	ng/L	93	50 - 150
375-95-1-EIS	M9PFNA	100	107	ng/L	107	50 - 150
375-22-4-EIS	MPFBA	100	92.1	ng/L	92	50 - 150
307-55-1-EIS	MPFDoA	100	99.8	ng/L	100	50 - 150

EPA 537 Mod Isotope Dilution

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/24/2020 08:50	700504	EPA 537 Mod Isotope Dilution	1	12/29/2020 17:52	MRA	700872

CAS#	Parameter	Result	DL	LOQ	Units
756426-58-1	9Cl-PF3ONS	4.54U	4.54	10.0	ng/L
13252-13-6	Perfluoro-2-proxypropanoic acid (HFPO-DA)	12.3U	12.3	20.0	ng/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
13252-13-6-EIS	M3HFPODA	100	96.3	ng/L	96	50 - 150
1763-23-1-EIS	M8PFOS	100	107	ng/L	107	50 - 150

Sample Results

FIELD BLANK	**Collect Date**	12/22/2020 00:01	**LAB ID**	22012233005
	Receive Date	12/23/2020 12:06	**Matrix**	Water

EPA 537 Mod Isotope Dilution

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/24/2020 08:50	700504	EPA 537 Mod Isotope Dilution	1	12/29/2020 17:45	MRA	700869

CAS#	Parameter	Result	DL	LOQ	Units
763051-92-9	11Cl-PF3OUdS	4.21U	4.21	10.0	ng/L
757124-72-4	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	1.52U	1.52	10.0	ng/L
27619-97-2	**6:2 Fluorotelomer sulfonic acid (6:2FTS)**	**3.81J**	**1.79**	**10.0**	**ng/L**
39108-34-4	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	1.63U	1.63	10.0	ng/L
919005-14-4	ADONA	2.63U	2.63	10.0	ng/L
2991-50-6	NEtFOSAA	5.38U	5.38	10.0	ng/L
2355-31-9	NMeFOSAA	4.60U	4.60	10.0	ng/L
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.47U	1.47	10.0	ng/L
375-22-4	Perfluorobutanoic acid (PFBA)	2.13U	2.13	10.0	ng/L
335-77-3	Perfluorodecane sulfonic acid (PFDS)	2.17U	2.17	10.0	ng/L
335-76-2	Perfluorodecanoic acid (PFDA)	1.65U	1.65	10.0	ng/L
307-55-1	Perfluorododecanoic acid (PFDoA)	2.45U	2.45	10.0	ng/L
375-92-8	Perfluoroheptanesulfonic acid (PFHpS)	2.01U	2.01	10.0	ng/L
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.85U	1.85	10.0	ng/L
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.64U	1.64	10.0	ng/L
307-24-4	Perfluorohexanoic acid (PFHxA)	1.94U	1.94	10.0	ng/L
68259-12-1	Perfluorononanesulfonic acid (PFNS)	2.11U	2.11	10.0	ng/L
375-95-1	Perfluorononanoic acid (PFNA)	1.68U	1.68	10.0	ng/L
754-91-6	Perfluorooctane Sulfonamide (FOSA)	2.63U	2.63	10.0	ng/L
1763-23-1	**Perfluorooctanesulfonic acid (PFOS)**	**1.73J**	**1.70**	**10.0**	**ng/L**
335-67-1	Perfluorooctanoic acid (PFOA)	1.80U	1.80	10.0	ng/L
2706-91-4	Perfluoropentanesulfonic acid (PFPeS)	2.07U	2.07	10.0	ng/L
2706-90-3	Perfluoropentanoic acid (PFPeA)	2.35U	2.35	10.0	ng/L
376-06-7	Perfluorotetradecanoic acid (PFTA)	2.76U	2.76	10.0	ng/L
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	2.56U	2.56	10.0	ng/L
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.86U	1.86	10.0	ng/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
2355-31-9-EIS	d3-NMeFOSAA	100	84.3	ng/L	84	50 - 150
2991-50-6-EIS	d5-NEtFOSAA	100	96.9	ng/L	97	50 - 150
757124-72-4-EIS	M2 4:2 FTS	100	104	ng/L	104	50 - 150
27619-97-2-EIS	M2 6:2 FTS	100	102	ng/L	102	50 - 150
39108-34-4-EIS	M2 8:2 FTS	100	105	ng/L	105	50 - 150
376-06-7-EIS	M2PFTA	100	90	ng/L	90	50 - 150
375-73-5-EIS	M3PFBS	100	86.8	ng/L	87	50 - 150
355-46-4-EIS	M3PFHxS	100	77.8	ng/L	78	50 - 150
375-85-9-EIS	M4PFHpA	100	98.4	ng/L	98	50 - 150
307-24-4-EIS	M5PFHxA	100	89.5	ng/L	90	50 - 150
2706-90-3-EIS	M5PFPeA	100	85.3	ng/L	85	50 - 150
335-76-2-EIS	M6PFDA	100	91.2	ng/L	91	50 - 150
2058-94-8-EIS	M7PFUnA	100	108	ng/L	108	50 - 150
754-91-6-EIS	M8FOSA	100	72.8	ng/L	73	50 - 150
335-67-1-EIS	M8PFOA	100	101	ng/L	101	50 - 150
1763-23-1-EIS	M8PFOS	100	83.2	ng/L	83	50 - 150
375-95-1-EIS	M9PFNA	100	99	ng/L	99	50 - 150
375-22-4-EIS	MPFBA	100	86.5	ng/L	86	50 - 150
307-55-1-EIS	MPFDoA	100	90.2	ng/L	90	50 - 150

Sample Results

FIELD BLANK	Collect Date	12/22/2020 00:01	LAB ID	22012233005
	Receive Date	12/23/2020 12:06	Matrix	Water

EPA 537 Mod Isotope Dilution

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/24/2020 08:50	700504	EPA 537 Mod Isotope Dilution	1	12/29/2020 18:06	MRA	700872

CAS#	Parameter	Result	DL	LOQ	Units
756426-58-1	9Cl-PF3ONS	4.54U	4.54	10.0	ng/L
13252-13-6	Perfluoro-2-proxypropanoic acid (HFPO-DA)	12.3U	12.3	20.0	ng/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
13252-13-6-EIS	M3HFPODA	100	90.4	ng/L	90	50 - 150
1763-23-1-EIS	M8PFOS	100	90.2	ng/L	90	50 - 150

LC-MS/MS PFAS QC Summary

Analytical Batch	Client ID	MB700504		LCS700504				LCSD700504				
700869	LAB ID	2128334		2128335				2128336				
Prep Batch	Sample Type	MB		LCS				LCSD				
700504	Prep Date	12/24/20 08:50		12/24/20 08:50				12/24/20 08:50				
Prep Method	Analysis Date	12/29/20 16:14		12/29/20 16:27				12/29/20 16:40				
EPA 537 Mod Isotope Dilution	Matrix	Water		Water				Water				
EPA 537 Mod Isotope Dilution		Units Result	ng/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
11Cl-PF3OUdS	763051-92-9	4.21U	4.21	75.4	83.9	111	70 - 130	75.4	88.2	117	5	30
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	1.52U	1.52	74.8	69.5	93	70 - 130	74.8	78.4	105	12	30
6:2 Fluorotelomer sulfonic acid (6:2FTS)	27619-97-2	1.79U	1.79	76.0	87.1	115	70 - 130	76.0	82.2	108	6	30
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	1.63U	1.63	76.8	78.1	102	70 - 130	76.8	90.0	117	14	30
ADONA	919005-14-4	2.63U	2.63	75.4	83.1	110	70 - 130	75.4	91.0	121	9	30
NEtFOSAA	2991-50-6	5.38U	5.38	80.0	71.5	89	70 - 130	80.0	80.8	101	12	30
NMeFOSAA	2355-31-9	4.60U	4.60	80.0	73.5	92	70 - 130	80.0	86.0	108	16	30
Perfluorobutanesulfonic acid (PFBS)	375-73-5	1.47U	1.47	70.8	65.8	93	70 - 130	70.8	71.0	100	8	30
Perfluorobutanoic acid (PFBA)	375-22-4	2.13U	2.13	80.0	75.8	95	70 - 130	80.0	82.6	103	9	30
Perfluorodecane sulfonic acid (PFDS)	335-77-3	2.17U	2.17	77.2	65.6	85	70 - 130	77.2	67.5	87	3	30
Perfluorodecanoic acid (PFDA)	335-76-2	1.65U	1.65	80.0	73.0	91	70 - 130	80.0	75.3	94	3	30
Perfluorododecanoic acid (PFDoA)	307-55-1	2.45U	2.45	80.0	79.8	100	70 - 130	80.0	82.2	103	3	30
Perfluoroheptanesulfonic acid (PFHpS)	375-92-8	2.01U	2.01	76.0	61.7	81	70 - 130	76.0	72.7	96	16	30
Perfluoroheptanoic acid (PFHpA)	375-85-9	1.85U	1.85	80.0	74.8	93	70 - 130	80.0	82.1	103	9	30
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	1.64U	1.64	73.0	71.2	98	70 - 130	73.0	80.5	110	12	30
Perfluorohexanoic acid (PFHxA)	307-24-4	1.94U	1.94	80.0	74.9	94	70 - 130	80.0	72.9	91	3	30
Perfluorononanesulfonic acid (PFNS)	68259-12-1	2.11U	2.11	76.8	70.5	92	70 - 130	76.8	71.0	92	1	30
Perfluorononanoic acid (PFNA)	375-95-1	1.68U	1.68	80.0	80.3	100	70 - 130	80.0	81.1	101	1	30
Perfluorooctane Sulfonamide (FOSA)	754-91-6	2.63U	2.63	80.0	86.0	108	70 - 130	80.0	84.1	105	2	30
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	1.70U	1.70	74.0	67.3	91	70 - 130	74.0	72.6	98	8	30
Perfluorooctanoic acid (PFOA)	335-67-1	1.80U	1.80	80.0	73.5	92	70 - 130	80.0	81.5	102	10	30
Perfluoropentanesulfonic acid (PFPeS)	2706-91-4	2.07U	2.07	75.2	73.0	97	70 - 130	75.2	72.5	96	1	30
Perfluoropentanoic acid (PFPeA)	2706-90-3	2.35U	2.35	80.0	72.3	90	70 - 130	80.0	79.0	99	9	30
Perfluorotetradecanoic acid (PFTA)	376-06-7	2.76U	2.76	80.0	86.8	109	70 - 130	80.0	80.5	101	8	30
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	2.56U	2.56	80.0	77.2	96	70 - 130	80.0	88.4	110	14	30
Perfluoroundecanoic acid (PFUnA)	2058-94-8	1.86U	1.86	80.0	66.3	83	70 - 130	80.0	79.6	100	18	30
Surrogate												
d3-NMeFOSAA	2355-31-9-EIS	112	112	100	107	107	50 - 150	100	107	107	NA	NA
d5-NEtFOSAA	2991-50-6-EIS	99.6	100	100	104	104	50 - 150	100	104	104	NA	NA
M2 4:2 FTS	757124-72-4-EIS	125	125	100	124	124	50 - 150	100	113	113	NA	NA
M2 6:2 FTS	27619-97-2-EIS	131	131	100	116	116	50 - 150	100	133	133	NA	NA
M2 8:2 FTS	39108-34-4-EIS	118	118	100	113	113	50 - 150	100	115	115	NA	NA
M2PFTA	376-06-7-EIS	98.3	98	100	98.3	98	50 - 150	100	108	108	NA	NA
M3PFBS	375-73-5-EIS	90.2	90	100	94.4	94	50 - 150	100	95.1	95	NA	NA
M3PFHxS	355-46-4-EIS	93.8	94	100	92.8	93	50 - 150	100	92.3	92	NA	NA
M4PFHpA	375-85-9-EIS	100	100	100	104	104	50 - 150	100	103	103	NA	NA
M5PFHxA	307-24-4-EIS	101	101	100	96.5	96	50 - 150	100	107	107	NA	NA
M5PFPeA	2706-90-3-EIS	91.7	92	100	91.9	92	50 - 150	100	94.6	95	NA	NA
M6PFDA	335-76-2-EIS	103	103	100	109	109	50 - 150	100	114	114	NA	NA
M7PFUnA	2058-94-8-EIS	113	113	100	117	117	50 - 150	100	110	110	NA	NA
M8FOSA	754-91-6-EIS	70	70	100	74.3	74	50 - 150	100	85	85	NA	NA
M8PFOA	335-67-1-EIS	111	111	100	108	108	50 - 150	100	109	109	NA	NA
M8PFOS	1763-23-1-EIS	92.5	93	100	91.8	92	50 - 150	100	95.7	96	NA	NA
M9PFNA	375-95-1-EIS	116	116	100	99.9	100	50 - 150	100	111	111	NA	NA
MPFBA	375-22-4-EIS	90.3	90	100	86.8	87	50 - 150	100	89.4	89	NA	NA
MPFDoA	307-55-1-EIS	101	101	100	101	101	50 - 150	100	102	102	NA	NA

LC-MS/MS PFAS QC Summary

Analytical Batch	Client ID	MB700504		LCS700504				LCSD700504				
700872	LAB ID	2128334		2128335				2128336				
Prep Batch	Sample Type	MB		LCS				LCSD				
700504	Prep Date	12/24/20 08:50		12/24/20 08:50				12/24/20 08:50				
Prep Method	Analysis Date	12/29/20 16:26		12/29/20 16:40				12/29/20 16:54				
EPA 537 Mod Isotope Dilution	Matrix	Water		Water				Water				
EPA 537 Mod Isotope Dilution		Units Result	ng/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
9Cl-PF3ONS	756426-58-1	4.54U	4.54	74.6	81.5	109	70 - 130	74.6	80.5	108	1	30
Perfluoro-2-proxypropanoic acid (HFPO-DA)	13252-13-6	12.3U	12.3	240	271	113	70 - 130	240	277	115	2	30
Surrogate												
M3HFPODA	13252-13-6-EIS	101	101	100	104	104	50 - 150	100	109	109	NA	NA
M8PFOS	1763-23-1-EIS	105	105	100	99.5	99	50 - 150	100	110	110	NA	NA

Pace Analytical®

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Wor

ALL SHAD

Client ID: 5138 - PARTNER ENGINEERING AND SCIENCE, INC.
SDG: 220122330
PM: EPM

Company: Partner Engineering & Science, Inc.
Address:

Billing Information:
jmangine@partnerest.com
bkim@partnerest.com

Report To:
Email To:
Copy To:
Site Collection Info/Address: Behl Property, Portoville, CA

Customer Project Name/Number: 20-302506.1
State: County/City: /
Time Zone Collected: [ ] PT [ ] MT [ ] CT [ ] ET

Phone:
Email:
Site/Facility ID #:
Compliance Monitoring? [ ] Yes [ ] No

Collected By (print): Brian Kim
Purchase Order #:
Quote #: 20-302506.1
DW PWS ID #:
DW Location Code:

Collected By (signature):
Turnaround Date Required: 12/30 or 3-day
Immediately Packed on Ice: [X] Yes [ ] No

Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____
Rush: Sooner [ ] Same Day [ ] Next Day [ ] 2 Day [X] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)
Field Filtered (if applicable): [ ] Yes [ ] No
Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Container Preservative T

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Analyses: PFAS

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	PFAS										Lab Sample # / Comments:
MW-1	GW		12/21/20	1:28pm					X										1
MW-2	↓		12/22/20	11:10am					X										2
MW-3	↓		↓	8:10am					X										3
																			4
																			5

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y N NA
Custody Signatures Present	Y N NA
Collector Signature Present	Y N NA
Bottles Intact	Y N NA
Correct Bottles	Y N NA
Sufficient Volume	Y N NA
Samples Received on Ice	Y N NA
VOA - Headspace Acceptable	Y N NA
USDA Regulated Soils	Y N NA
Samples in Holding Time	Y N NA
Residual Chlorine Present	Y N NA
Cl Strips: _____	
Sample pH Acceptable	Y N NA
pH Strips: _____	
Sulfide Present	Y N NA
Lead Acetate Strips: _____	

LAB USE ONLY:
Lab Sample # / Comments:

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None
Packing Material Used: 9302 6703 4591
Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A
Lab Tracking #: 2586675
Samples received via: FEDEX UPS Client Courier Pace Courier

Lab Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: _____
Cooler 1 Temp Upon Receipt: _____oC
Cooler 1 Therm Corr. Factor: _____oC
Cooler 1 Corrected Temp: _____oC
Comments: 0.2E26

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO
Page: _____ of: _____

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
	12/22/2020		
Relinquished by/Company: (Signature) Fedex	Date/Time: 12/23/20 12:06	Received by/Company: (Signature)	Date/Time: 12:06 12/23/20
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

SAMPLE RECEIVING CHECKLIST

SAMPLE DELIVERY GROUP 220122330	
Client PM EPM 5138 - PARTNER ENGINEERING AND SCIENCE, INC.	**Transport Method** FEDEX
Profile Number 289757	**Received By** McCune, Dodie N.
Line Item(s) 1 - W - PFAS (28 cmpds)	**Receive Date(s)** 12/23/20

CHECKLIST	YES	NO
Samples received with proper thermal preservation?	☑	☐
Radioactivity is <1600 cpm? If no, record cpm value in notes section.	☑	☐
COC relinquished and complete (including sampleIDs, collect times, and sampler)?	☑	☐
All containers received in good condition and within hold time?	☑	☐
All sample labels and containers received match the chain of custody?	☐	☑
Preservative added to any containers?	☐	☑
If received, was headspace for VOC water containers < 6mm?	☑	☐
Samples collected in containers provided by Pace Gulf Coast?	☑	☐

COOLERS

Airbill	Thermometer ID: E26	Temp °C
936267034591		0.2

DISCREPANCIES

Extra Sample - Not Listed on COC:
22012233004 - TRIP BLANK
22012233005 - FIELD BLANK

LAB PRESERVATIONS

None

NOTES

EXTRA SAMPLES RECEIVED NOT LISTED ON COC-LOGGED PER CONTAINER, NO DATE AND TIME WERE ON LABELS

Revision 1.6

Page 1 of 1

APPENDIX C

Hydrogeological Study from Geo Systems Analysis, Inc

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

Behl Property Subsurface Characterization

Prepared for:
Renewable Resources Group LLC
113 S. La Brea Ave
Los Angeles, CA 90036

Prepared by:
GeoSystems Analysis Inc.
3393 N. Dodge Blvd.
Tucson, AZ 85716
www.gsanalysis.com

DOCUMENT CONTROL SUMMARY

Title:	Behl Property Subsurface Characterization		
Client Company:	Renewable Resources Group		
Client Contact:	Kel Mitchel		
Contract Number:	NA		
Status:	Final		
GeoSystems Analysis Job #:	2039/2054		
Project Manager:	Jason Keller		
Author(s):	Jaime Bañuelos		
Revision Number:	1		
Notes:	Addresses client comments		
Date:	April 15, 2021		
Checked By:	Jason Keller		
Issued By:	Jaime Bañuelos		
Distribution (Number of Copies):	Client	Other	GSA Library
	1		

This document may contain confidential or privileged information and is intended for the sole use of the person(s) to whom it is addressed. This document is copyrighted. GeoSystems *Analysis*, Inc. is not liable if this document is altered without its written consent. This document is and shall remain the property of GeoSystems *Analysis*, Inc. It may only be used for the purposes for which it was commissioned and in accordance with the terms of the contract.

TABLE OF CONTENTS

DOCUMENT CONTROL SUMMARY i
TABLE OF CONTENTS i
LIST OF TABLES ii
LIST OF FIGURES ii
LIST OF APPENDICES iii
EXECUTIVE SUMMARY iv
1.0 INTRODUCTION 1
2.0 FIELD AND LABORATORY CHARACTERIZATION METHODS 3
2.1 Background Soils Review and Selection of Test Pit and Drilling Locations 3
2.2 Geologic Logging 6
2.2.1 Test Pits 6
2.2.2 Boreholes and Monitor Wells 6
2.3 Monitor Well Completion 9
2.4 Cylinder Infiltrometer Testing 14
2.5 Laboratory Testing Methods 14
3.0 FIELD AND LABORATORY CHARACTERIZATION RESULTS 15
3.1 Calibration of Field-Estimated Particle Size Distribution Estimates 15
3.2 Subsurface Material Classifications 16
3.3 Geologic Logging Results 16
3.3.1 Cross-Sections A-A' and B-B' (Test Pits) 19
3.3.2 Cross-Section C-C' – BH-1, BH-2, and MW-1 26
3.3.3 Cross-Section D-D' – BH-3, MW-2, and MW-3 31
3.4 Cylinder Infiltrometer Testing Results 36
3.5 Groundwater Recharge Evaluation 38
3.6 Laboratory Testing Results 40
3.6.1 Dry Bulk Density 40
3.6.2 Particle Size Distribution 42
3.7 Groundwater Elevation and Quality – Behl Property and Teapot Dome Landfill 43
3.7.1 Groundwater Elevations 43
3.7.2 Groundwater Quality 48
4.0 CONCLUSIONS 53
5.0 REFERENCES 56

LIST OF TABLES

Table 1. USDA-NRCS soils data for predominant soil series within the investigation site..... 5
Table 2. Coordinates for test pits and drilling locations 5
Table 3. Monitor well completion overview..... 9
Table 4. Modified Standard Penetration Test results for BH-1, BH-2, and MW-1 30
Table 5. Modified standard penetration resistance results for BH-3, MW-2, and MW-3 35
Table 6. Cylinder infiltrometer testing results 37
Table 7. Water content, bulk density, and modified penetration resistance blow counts for borehole and monitor well core samples 41
Table 8. Recent groundwater depth and elevation for monitor wells within the Behl property and Teapot Dome landfill 44
Table 9. PFAS, VOC, and SVOC results for monitor wells within the Behl property and Teapot Dome Landfill..... 51

LIST OF FIGURES

Figure 1. Location of Behl property investigation area and Teapot Dome Landfill..... 2
Figure 2. Test pits, boreholes, and monitor well locations within the Behl property..... 4
Figure 3. Excavated test pit (TP-N-05) material piles representing one-foot depth intervals .. 7
Figure 4. Subsurface material sieved to separate gravel (>4.75 mm) and fine-earth fraction.. 8
Figure 5. Split-spoon core sample comprised of three 6-inch by 2-inch cylinders 8
Figure 6. Monitor Well MW-1 Completion Diagram..... 10
Figure 7. Monitor Well MW-2 Completion Diagram..... 11
Figure 8. Monitor Well MW-3 Completion Diagram..... 12
Figure 9. Typical monitor well surface completion diagram..... 13
Figure 10. Cylinder infiltrometer test 14
Figure 11. Laboratory measured PSD versus field estimated PSD 15
Figure 12. Estimated hydrologic units based on weighted fines percentages for test pit depth intervals within the Behl property..... 17
Figure 13. Locations of cross-sections A-A', B-B', C-C' and D-D' within the Behl property 18
Figure 14. Test pit cross-section A-A' showing hydrologic unit with depth and depth intervals containing hardpan material..... 20
Figure 15. Test pit cross-section B-B' showing hydrologic unit with depth and depth intervals containing hardpan material..... 21
Figure 16. Test pit TP-N-02, Unit 3 (0 to 6 ft), Unit 2 (6 to 14.5 ft), Unit 1 (14.5 to 16 ft)... 22
Figure 17. Test pit TP-N-04, Unit 3 (0 to 2 ft), Unit 2 (2 to 11 ft), Unit 1 (11 to 16 ft), hardpan layer (3 to 6 ft bgs)..... 22
Figure 18. Test pit TP-N-07, Unit 2 (0 to 7 ft), Unit 3 (7 to 8 ft) Unit 1 (8 to 16 ft), hardpan layer (1 to 3 ft bgs)..... 23
Figure 19. Hardpan material in TP-N-01 (4 to 5 ft bgs) 23
Figure 20. Test pit N-03, hardpan layer at approximately 3 to 5 ft bgs..... 24
Figure 21. TP-N-09, typical Unit 1 material (15% fines) in TP-N-09, TP-N-10, and TP-N-11 25
Figure 22. TP-N-12, typical Unit 2 material (28% fines) at 5 to 9 ft bgs 25
Figure 23. Borehole and monitor well cross-section C-C'..... 27

Figure 24. BH-1, Unit 3 (hardpan) material. BH-2, typical Unit 2 material 28
Figure 25. MW-1, typical Unit 2 and Unit 1 materials 28
Figure 26. MW-1, Unit 3 materials encountered at 26 to 26.5 ft bgs and 56 to 56.5 ft bgs ... 29
Figure 27. Borehole and monitor well cross-section D-D' 32
Figure 28. BH-3, Unit 1 material (21 to 21.5 ft bgs), Unit 3 material (46 to 46.5 ft bgs) 33
Figure 29. MW-2, Unit 3 material (41 to 41.5 ft bgs), gravelly Unit 1 material (95-95.5) 33
Figure 30. MW-3, Unit 1 material (86 to 86.5 ft bgs), saturated Unit 2 material (48 ft bgs) . 34
Figure 31. Hydrologic unit weighted effective hydraulic conductivity (K) for test pits within the Behl property 39
Figure 32. Laboratory particle size distribution results 42
Figure 33. Location of cross-sections (E-E' and F-F') with monitor wells within the Behl property and Teapot Dome Landfill 45
Figure 34. Behl property and Teapot Dome Landfill monitor well cross-section E-E' 46
Figure 35. Behl property and Teapot Dome Landfill monitor well cross-section F-F' 47
Figure 36. Monitor wells within the Behl property and Teapot Dome Landfill with PFAS and VOC results 50

LIST OF APPENDICES

Appendix A. Test Pit and Borehole/Monitor Well Geologic Logs

Appendix B. Monitor Well Completion Reports

Appendix C. Standard Operating Procedure 4.4 Single Ring Infiltrometer with Lateral Divergence Correction

Appendix D. Laboratory Testing Results

EXECUTIVE SUMMARY

In support to Renewable Resources Group (RRG), GeoSystems Analysis Inc. (GSA) was contracted to conduct a field and laboratory characterization of subsurface materials within the Behl property located near Porterville, CA. The overall scope of work was to 1) assess the suitability of the near surface soils and the deeper vadose zone for use as managed aquifer recharge (MAR) basins or Flood MAR operations and 2) assess groundwater quality conditions and potential groundwater quality impacts from the Teapot Dome Landfill located southeast and immediately adjacent to the Behl property. Specifically, the primary goals of the project are to identify the optimum recharge areas (highest infiltration rates) at the project site and determine whether there are any limitations to surface spreading recharge due to low-permeability layers in the deeper subsurface.

This report presents the results of the field and laboratory investigation which consisted of:

- Excavation of 12 test pits within the Behl property. Test pit materials were logged for geologic parameters and representative samples were collected for laboratory testing of physical properties.
- Drilling of 3 boreholes to a depth of 50 ft below ground surface (bgs). Drill cuttings and split-spoon core samples were collected and logged every 5 ft.
- Drilling and completion of 3 groundwater monitor wells ranging from 110 ft to 115 ft bgs in depth. Drill cuttings and split-spoon core samples were collected and logged every 5 ft.
- Laboratory testing of selected test pit and borehole/monitor well samples for particle size distribution (PSD) and core bulk density. To correct for bias in the geologic log estimated PSD, linear regression equations were developed to correlate field log estimates of PSD to the laboratory measured results.
- Cylinder infiltrometer (CI) testing to measure the field effective saturated hydraulic conductivity (K) of predominant near-surface materials.

Logged subsurface materials were classified into three hydrologic units based on the adjusted percent fines (silt+clay). To estimate potential surface infiltration rates, geometric mean effective K values were assigned to each of the hydrologic units based on the CI testing results and were then applied to each logged test pit interval, weighted by thickness and then averaged to determine a weighted effective K value for each test pit. Hydrologic unit classifications and associated effective K values are as followed:

- Unit 1: coarse material, predominantly sandy material with 25% fines or less and a mean effective K of 4.6 ft/day;
- Unit 2: medium textured material, silty/clayey sands with 25% to 45% fines and a mean effective K of approximately 0.90 ft/day;
- Unit 3: fine textured material, silty/clayey material with greater than 45%fines with a mean effective K of approximately 0.30 ft/day.

Geologic logging results for the near-surface test pits indicates that subsurface materials were overall finer-grained in the northern section of the Behl property within the Exeter and Flamen loam soil map units. Subsurface materials were composed of predominantly Unit 3 materials from the surface to 4 ft bgs and then transitioned to predominantly Unit 2 materials 4 ft bgs to 16 ft bgs. A hardpan layer was also encountered in the majority of test pits within the Exeter and Flamen loam soil map units at depths ranging from 1 ft to 4 ft bgs with thicknesses ranging from 2 ft to approximately 5 ft. For the most part, hardpan material was logged as sandy Unit 2 material and had moderate to strong effervescence indicating the presence of carbonates. Test pit hydrologic unit weighted effective K values ranged from 0.41 ft/day to 1.28 ft/day indicating that this area is marginally suitable for groundwater recharge. It is important to note that the effective K may be even lower within the Exeter loam and Flamen loam soil map units due to the presence of hardpan layers. Deep ripping of the near-surface is recommended if groundwater recharge is to occur in these areas of the Behl property.

In the southern section of the Behl property, test pits located within the Tujunga loamy sand and Nord fine sandy loam soil map units were significantly coarser grained. Within the Tujunga loamy sand soil map unit, approximately 97% of the logged material was classified as Unit 1 material. Within the Nord fine sandy loam soil map unit subsurface materials were slightly finer-grained with 50% of the material classified as Unit 1 and the other 50% of the material classified as Unit 2. Test pit hydrologic unit weighted effective K values ranged from 1.51 ft/day to 4.58 ft/day indicating that this area is suitable for groundwater recharge.

Geologic logging results from the boreholes and monitor wells indicate similar trends as observed in the test pits; generally finer-grained materials in the northern section of the Behl property and significantly coarser-grained materials in the southern section. In the northern section, boreholes BH-1, BH-2 had predominantly Unit 3 material from the surface to 10 ft bgs and predominantly Unit 2 material from 10 ft to 50 ft bgs. In monitor well MW-1, subsurface materials were coarser compared to BH-1 and BH-2 with predominantly Unit 1 and Unit 2 materials from the surface to 115 ft bgs. Consistent with the test pits, a hardpan

layer was encountered in BH-1 and MW-1 at depths from 5 to 10 ft bgs. Unit 3 material was also encountered in MW-1 at 25 ft bgs and at 55 ft bgs however it is likely that these finer-grained materials are minor at 5 ft thick or less.

In the southern section of the Behl property, subsurface materials in borehole BH-3 and monitor wells MW-2 and MW-3 were predominantly classified as Unit 1 from the surface to 50 ft bgs. Below 50 ft bgs, materials in MW-2 were predominantly Unit 1 and Unit 2 down to 111 ft bgs. Finer-grained Unit 3 sediments were present in BH-3 at 45 to 50 ft bgs and in MW-2 at 35 to 50 ft bgs. In MW-3, subsurface materials were almost exclusively Unit 1 material from the surface to 112 ft bgs.

Mean laboratory dry bulk density for drill core samples were 1.70 g/cm^3, 1.77 g/cm^3, and 1.85 g/cm^3 for Unit 1, Unit 2, and Unit 3 materials respectively. Modified penetration resistance results indicate that total blows required to penetrate the 1.5-foot-long core sampler were 60, 76, and 63 for Unit 1, Unit 2, and Unit 3 materials. No correlation was observed between core bulk density and modified penetration resistance.

Groundwater elevations from well sounding measurements in December 2020 for monitor wells on the eastern edge of the Behl property were similar with elevations of approximately 301.7 ft amsl and 300.7 ft amsl for MW-1 and MW-3, respectively. The groundwater elevation at MW-2 was lower at approximately 293.3 ft amsl. In general, groundwater elevations for monitor wells within the Behl property were lower compared to April 2020 and October 2019 groundwater elevations at the Teapot Dome Landfill monitor wells.

The Central Valley Water Quality Control Board has adopted a groundwater trigger elevation of 340 ft amsl for groundwater levels below the Teapot Dome landfill (EBA Engineering, 2020). Consequently, any groundwater recharge operations at the Behl property would be required to maintain groundwater mounding conditions at the landfill below 340 ft amsl. The restriction on groundwater mounding (approximately 30-40 feet above current groundwater elevations) below the landfill will require coordination with the landfill operator and possibly extensive groundwater monitoring to ensure groundwater elevations are maintained below the groundwater trigger elevation.

Groundwater quality sampling conducted in December 2020 for the Behl monitor wells detected five PFAS compounds in monitor well MW-1 at estimated concentrations above the laboratory detection limits. No PFAS compounds were detected above the laboratory reporting limit in monitor well MW-2. Eight PFAS compounds were detected in MW-3. Additionally, groundwater quality results for the Behl property irrigation well (IW-1)

collected in August 2020 indicate that seven PFAS compounds were detected. Of the detected PFAS compounds, only PFOA currently has a California State Water Board response level (10 parts per trillion (ppt or ng/l)). PFAS levels in the Behl wells, including IW-1, were less than 5 ng/l and below the target reporting limits (TRLs) for groundwater as adopted from the Department of Defense by the California State Water Resource Control Boards (DOD/CASWRCB). No volatile organic compounds (VOCs), including chlorinated solvents, or semi-volatile organic compounds (SVOCs) were detected in the Behl monitor well samples. Water quality data from the Teapot Dome Landfill indicates that concentrations for PFOA and PFPeA in landfill wells M-11C and M-16B were approximately 14 to 21 ng/L higher than concentrations detected in the Behl wells. It is important to note that sampling for the Behl monitor wells (MW-1 to MW-3) was conducted in the unconfined aquifer and as a result water quality data is not directly comparable to the landfill wells.

Based on the results from this study, the southern section of the Behl property located within the Tujunga loamy sand and Nord fine sandy loam soil map units are hydrologically suitable for MAR operations and are likely to achieve near-surface infiltration rates in excess of 1.5 ft/day. The northern section is marginally suitable due to the presence of finer-grained materials and a hardpan layer. Deep ripping is recommended in the northern section of the Behl property if MAR operations are to be conducted in that portion of the property.

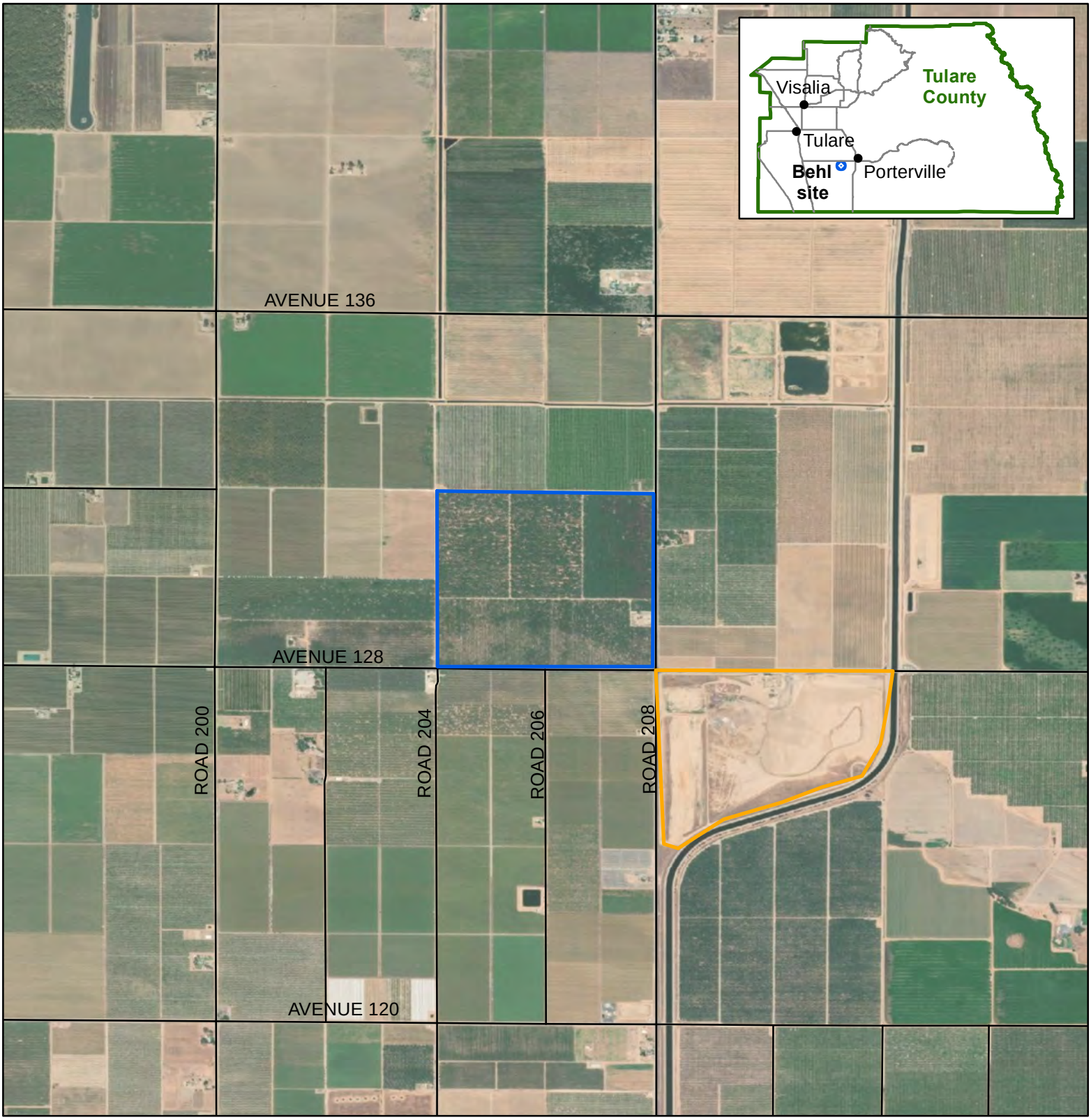
1.0 INTRODUCTION

In support to Renewable Resources Group (RRG), GeoSystems Analysis Inc. (GSA) was contracted to conduct field and laboratory characterization of subsurface materials within the Behl property located near Porterville, CA consisting of 159 acres of walnuts (Figure 1). The overall scope of work was to 1) assess the suitability of the near surface soils and the deeper vadose zone for use as managed aquifer recharge (MAR) basins or Flood MAR operations and 2) assess groundwater quality conditions and potential groundwater quality impacts from the Teapot Dome Landfill located southeast and immediately adjacent to the Behl property. Specifically, the goals of the project are to identify the optimum recharge areas (highest infiltration rates) at the project site and determine whether there are any limitations to surface spreading recharge due to low-permeability layers in the deeper subsurface.

This report presents the results of the field and laboratory investigation which consisted of:

- Excavation of 12 test pits within the Behl property. Test pit materials were logged for geologic parameters and representative samples were collected for laboratory testing of physical properties.
- Drilling of 3 boreholes to a depth of 50 ft below ground surface (bgs). Drill cuttings and split-spoon core samples were collected and logged every 5 ft.
- Drilling and completion of 3 groundwater monitor wells ranging from 110 ft to 115 ft bgs in depth. Drill cuttings and split-spoon core samples were collected and logged every 5 ft.
- Laboratory testing of selected test pit and borehole/monitor well samples for particle size distribution (PSD) and core bulk density.
- Cylinder infiltrometer (CI) testing to measure the field effective saturated hydraulic conductivity (K) of predominant near-surface materials.

A preliminary review of the soils within the Behl property and the methods used for the field and laboratory investigation are presented in Section 2.0, field and laboratory results are presented in Section 3.0. Conclusions and recommendations are presented in Section 4.0.



Legend

Investigation Area - Behl Property

Teapot Dome Landfill

Figure 1. Location of the Behl Property investigation area and Teapot Dome Landfill

GSA GeoSystems Analysis, Inc. Innovations and Solutions

2.0 FIELD AND LABORATORY CHARACTERIZATION METHODS

The following presents an overview of the USDA-NRCS soil series present within the Behl property, methods for the test pit and borehole geologic logging, an overview of the monitor well completion, description of the CI test to measure the effective K of soils and an overview of the laboratory methods used to analyzed collected test pit and borehole samples.

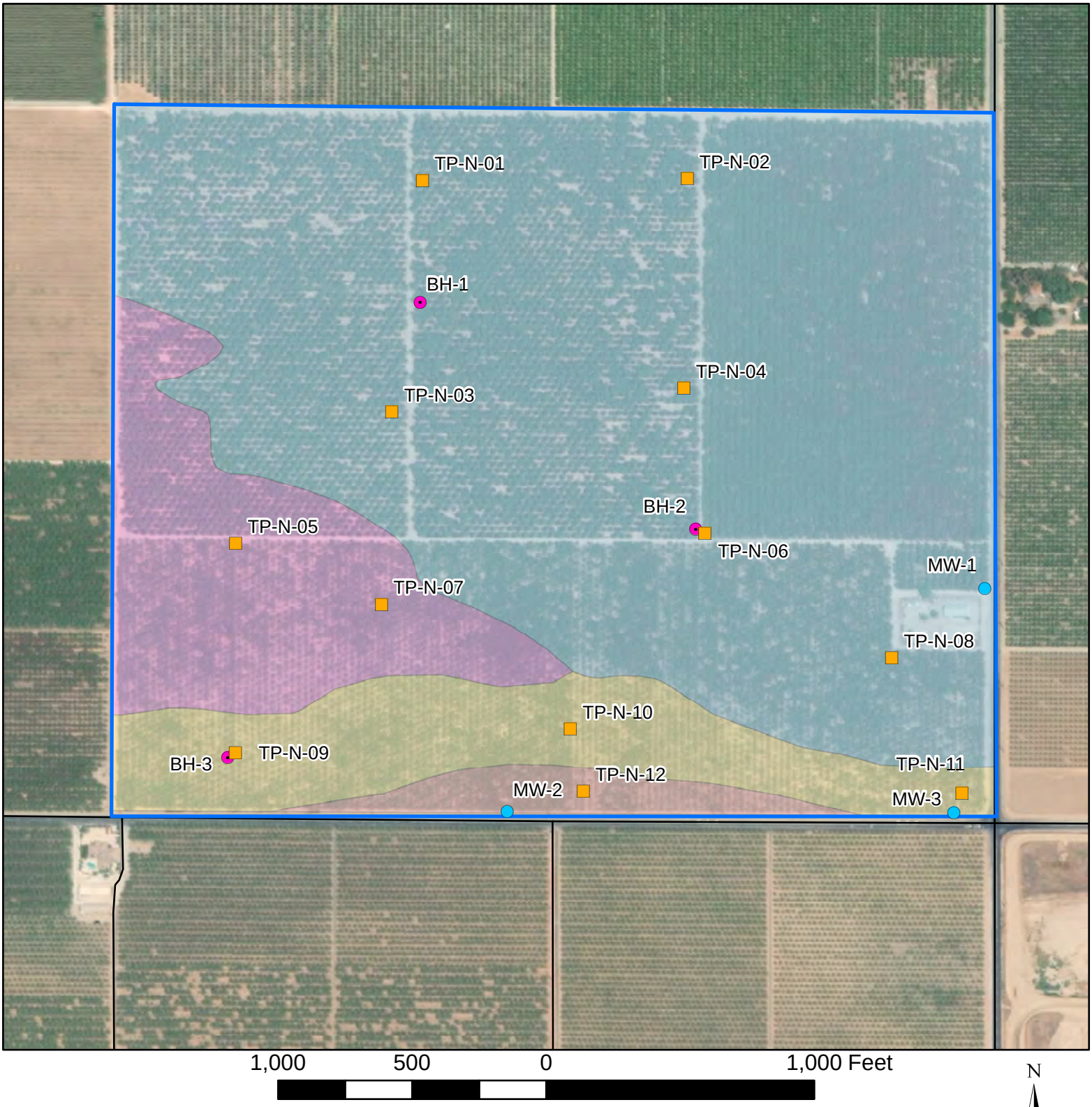
2.1 Background Soils Review and Selection of Test Pit and Drilling Locations

Figure 2 shows the Behl property, location of test pits, boreholes and monitor wells, and USDA-NRCS soil series data. Table 1 provides USDA-NRCS soil classification information for the soil series within the Behl property.

The Exeter loam soil series is found in the northern and eastern section of the Behl property and comprises approximately 71% of the property. USDA-NRCS soils data indicates that soils from the surface to 6 ft bgs contain percent fines (silt + clay) content ranging from approximately 12% to 69% (Table 1). Additionally, a duripan (hardpan) layer is noted to be present between 1.5 to 4 ft bgs. The Flamen loam soil series is found in the western section and comprises approximately 14% of the area. Soils from the surface to 6 ft bgs contain percent fines content ranging from 55% to 67%. Like the Exeter loam, a duripan is noted between 3 ft to 5 ft bgs. The Tujunga loamy sand soil series is found in the southern section and comprises 12% of the area. Soils from the surface to 6 ft bgs are coarser-grained with percent fines of 17%. The Nord fine sandy loam soil series is also found in the southern section and comprises 3% of the area. Soils from the surface to 6 ft bgs contain percent fines content ranging from 25 to 74%.

GSA's experience is that USDA-NRCS estimated soil permeability rates are typically 5X to 10X greater than long-term potential infiltration at the near-surface. Applying a 10X reduction to the USDA-NRCS estimated permeability data indicate that the majority of the soil series at the Behl property are expected to have long-term infiltration rates between 0.2 to 2.6 ft/day (Table 1).

Based on the USDA-NRCS soils data presented, GSA selected 12 test pit locations and 3 borehole locations targeting the expected range of material types within the Behl property (Figure 2, Table 2). Three monitor well locations were also selected by RRG and are located at the perimeter of the Behl property. Monitor well locations were positioned to be adjacent and downgradient from the Teapot Dome Landfill.



Legend

- Site boundary: Behl site
- Borehole
- Monitoring well
- Test pit

Soil map unit

- Exeter loam, 0 to 2 percent slopes
- Flamen loam, 0 to 2 percent slopes
- Nord fine sandy loam, 0 to 2 percent slopes
- Tujunga loamy sand, 0 to 2 percent slopes

Soils data from:
Soil Survey Staff, Natural Resources Conservation Service, United States Dept.of Agriculture. Web Soil Survey. http://websoilsurvey.sc.egov.usda.gov/. Accessed 8/12/20.

Figure 2. Test pits, boreholes, and monitor well locations within the Behl property

GSA GeoSystems Analysis, Inc.
Innovations and Solutions

Table 1. USDA-NRCS soils data for predominant soil series within the investigation site

Soil Map Unit	Map Unit ID	Soil Phase Name	% Fines (Silt + Clay)	% Clay	Relative Permeability	NRCS Estimated Permeability (feet/day)[1]	Estimated Long-term Permeability (feet/day)
Exeter loam, 0 to 2 percent slopes	114	Exeter	12 to 69	2 to 35	High	8.3	0.8
Flamen loam, 0 to 2 percent slopes	116	Flamen	55 to 67	18 to 30	Moderately High	1.6	0.2
Nord fine sandy loam, 0 to 2 percent slopes	130	Nord	25 to 74	2 to 18	High	5.8	0.6
Tujunga loamy sand, 0 to 2 percent slopes	138	Tujunga	17	0 to 5	High	26	2.6

[1]Long-term permeabilities can be expected to be an order of magnitude less than reported by the NRCS

Table 2. Coordinates for test pits and drilling locations

Location	Easting[1]	Northing[1]
Test Pits		
TP-N-01	309589	3989216
TP-N-02	309833	3989212
TP-N-03	309555	3988954
TP-N-04	309824	3988975
TP-N-05	309408	3988808
TP-N-06	309840	3988817
TP-N-07	309540	3988736
TP-N-08	310005	3988671
TP-N-09	309402	3988570
TP-N-10	309711	3988591
TP-N-11	310069	3988513
TP-N-12	309722	3988520
Boreholes		
BH-1	309583	3989077
BH-2	309831	3988815
BH-3	309394	3988565
Monitor Wells		
MW-1	310092	3988748
MW-2	309650	3988503
MW-3	310059	3988492

[1]Coordinates are in Universal Transverse Mercator, World Geodetic System 1984, Zone 11 S

2.2 Geologic Logging

2.2.1 Test Pits

Twelve test pits were excavated under GSA supervision to a maximum depth or refusal ranging between 5 and 16 ft bgs using a John Deere 310J backhoe (Deere & Company, Moline IL) operated by Water Associates LLC personnel (Bakersfield, CA). At each test pit location, the excavated material was placed outside the test pit in piles representing one-foot intervals (Figure 3). Material from each pile was manually sieved through a #4 sieve (4.75 mm) (Figure 4) and logged for the following geologic parameters using visual manual methods (ASTM D-2488):

- Moisture content (dry, slightly moist, moist, or wet);
- Percent gravel (>4.75 mm), sand, silt (< #200 mesh), and clay (<2 µm) fractions;
- Degree of grading and plasticity;
- Visual or Munsell soil color (Munsell Color Company, Grand Rapids MI) and evidence of gleying, mottling, or oxidation;
- USCS classification;
- Free lime (effervescence with 10% hydrochloric acid (HCl)).

Representative samples of the predominant observed material types were collected in 1-gallon sealed plastic bags and were transported to the GSA laboratory in Tucson, AZ for testing of laboratory PSD. Excavated material was backfilled into each test pit at the approximate depth interval it was excavated from. After backfilling, the surface at all test pit locations was re-graded with the backhoe. Test pit geologic logging results are presented in Section 3.3. Complete geologic logging results are presented in Appendix A.

2.2.2 Boreholes and Monitor Wells

GSA supervised the drilling of 3 boreholes and 3 monitor wells by Consolidated Testing Laboratories Inc. (CTL, Exeter, CA) to investigate deeper subsurface lithologies and collect soil samples for laboratory testing of water content, PSD, and bulk density. Boreholes were drilled to a depth of 51 ft bgs using a 4-inch hollow stem auger. Monitor wells were drilled to depths 10 ft below the phreatic surface, ranging from 110 ft bgs to 115 ft bgs using an 8-inch hollow stem auger.

Drive core samples were obtained every 5 feet using a 2.5-inch diameter by 1.5-ft long split spoon sampler. Each 1.5-foot-long split-spoon core was comprised of three 2-inch diameter by 6-inch-long metal cylinders (Figure 5). Material from the bottom most cylinder was

photographed and geologically logged in the same manner as the test pit materials (Section 2.2.1). Representative logged material was sampled in 1-gallon sealed plastic bags and transported to the GSA laboratory. Material in the center cylinder was left undisturbed, sealed with plastic end caps, weighed and transported to the GSA laboratory for testing. Material in the upper cylinder was not used due to potentially being disturbed from material sloughing within the borehole during drilling. During the split-spoon core sampling, modified Standard Penetration Tests (SPT) were completed by recording the blow counts for each 6-inch interval of penetration. SPTs give an indication of the degree of penetration resistance and can indicate the relative density of the subsurface materials. Boreholes were backfilled immediately after the geologic logging and sampling was completed. Borehole and monitor well geologic logging results are presented in Section 3.3. Complete geologic logging results are presented in Appendix A.

Figure 3. Excavated test pit (TP-N-05) material piles representing one-foot depth intervals

Figure 4. Subsurface material sieved to separate gravel (>4.75 mm) and fine-earth fraction

Figure 5. Split-spoon core sample comprised of three 6-inch by 2-inch cylinders

2.3 Monitor Well Completion

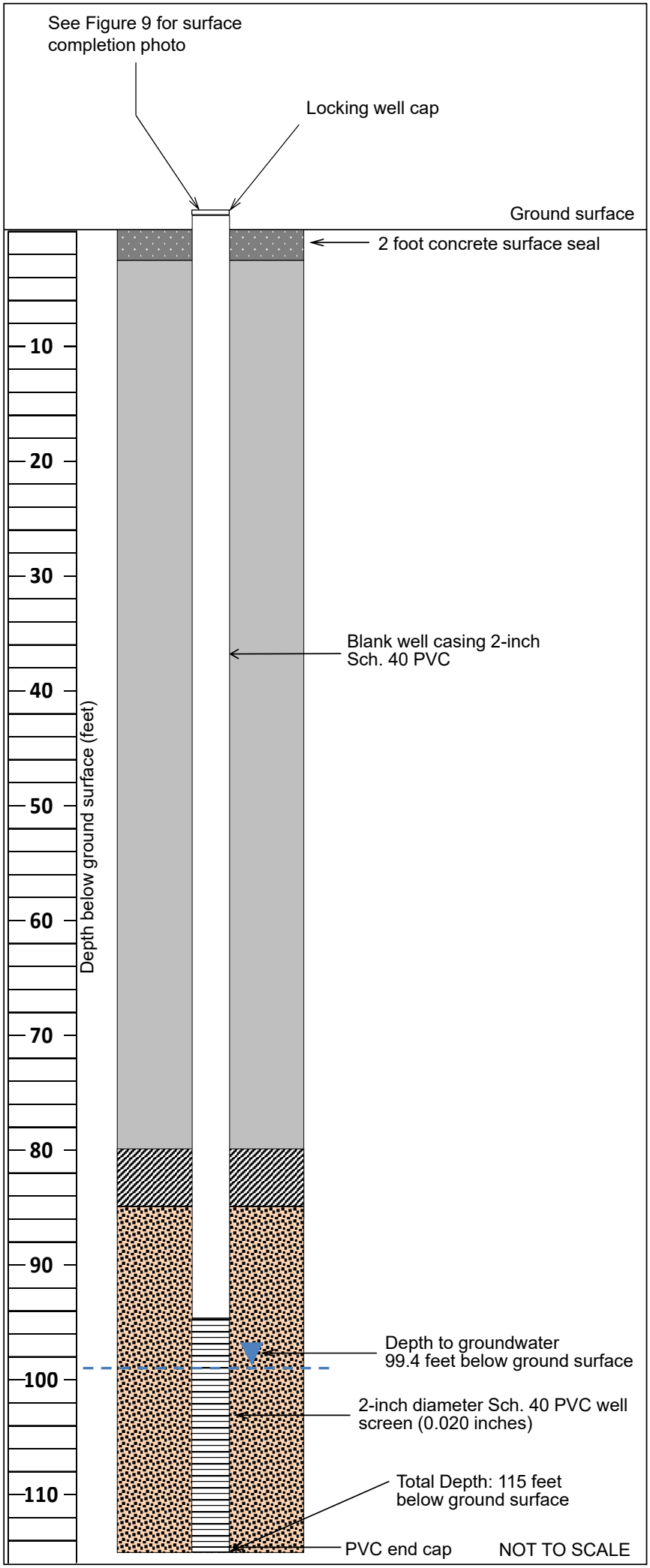
Table 3 presents an overview for the completed monitor well locations. Figure 6 to Figure 8 present completion diagrams for all three monitor wells showing backfill materials. Monitor wells were drilled to target the upper unconfined aquifer beneath the investigation site and drilling was terminated at depths representing 10 ft below encountered saturated conditions or the top of the confining unit of the underlying upper semi-confined groundwater aquifer, whichever was shallowest. Monitor well construction for all monitor wells consisted of a 2-inch diameter Schedule 40 flush-thread PVC pipe with a 20 ft length of 0.020-inch slotted screen placed at the bottom of the monitor well. The screened interval was backfilled with #3 sand up to 10 ft above the well screen. A 5-foot-thick bentonite seal was then placed above the sand pack. Grout was then poured up to approximately 2 ft below ground surface. A concrete slab was poured with a surface monument installed to house the well piezometer. A surface completion diagram for all wells is shown in Figure 9. Groundwater depths measured the day after drilling was completed for MW-1, MW-2, and MW-3 were 99.4 ft bgs, 104.6 ft bgs, and 98.5 ft bgs respectively. Monitor well completion reports generated by CTL and submitted to Tulare County are presented in Appendix B.

Table 3. Monitor well completion overview

Location	Elevation (ft amsl)[1]	Total Depth (ft bgs)	Screened Interval (ft bgs)	Measured Depth to Groundwater (ft bgs)	Groundwater Elevation (ft amsl)
MW-1	402	115	95 - 115	99.4	302.1
MW-2	397	110	90 - 110	104.6	292.4
MW-3	398	112	92 - 112	98.5	299.1

[1]ft amsl: feet above mean sea level

Figure 6.
Monitor Well MW-1
Completion Diagram



BACKFILL MATERIAL

- Concrete
- #3 (8 x 20) Sand
- Bentonite Hydro Grout
- Bentonite Pellets

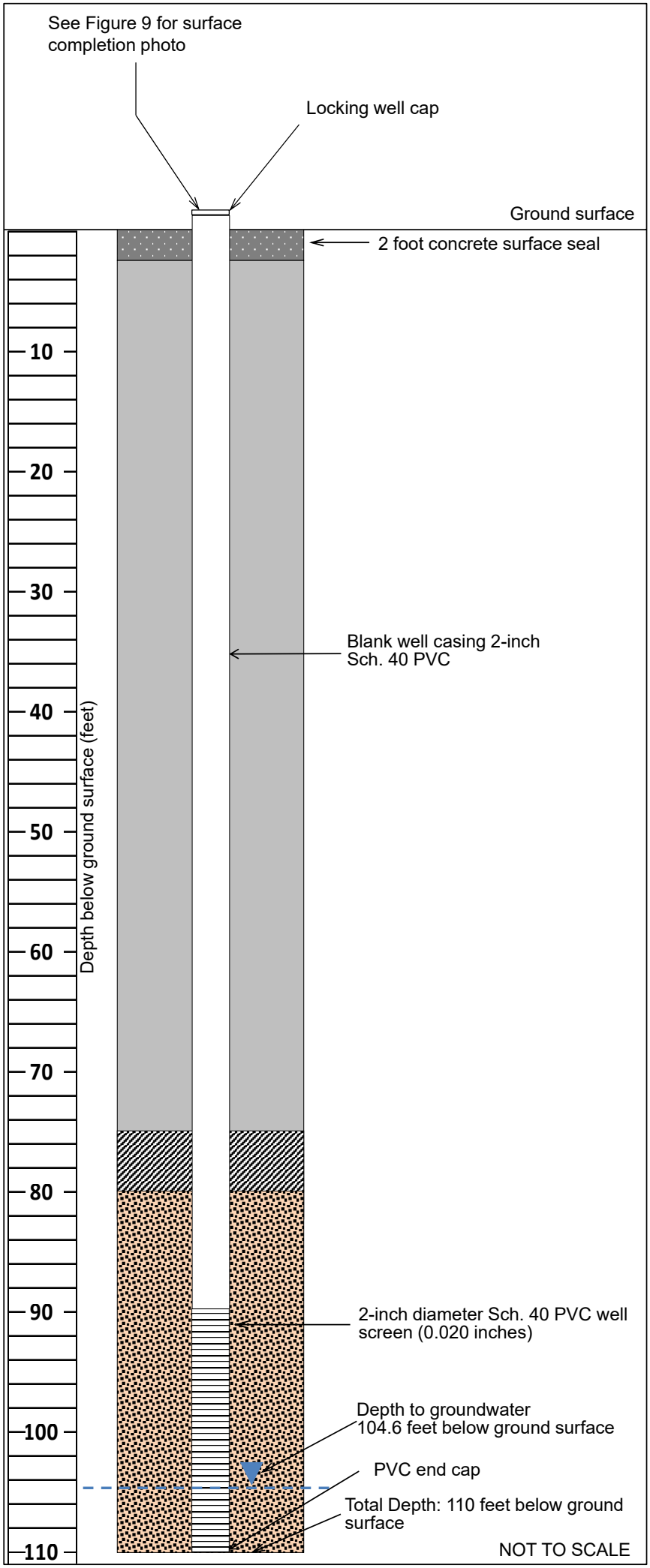
Prepared for:

Renewable Resources Group

Prepared by:

GSA GeoSystems Analysis, Inc. Innovations in Hydrology

Figure 7.
Monitor Well MW-2 Completion Diagram



BACKFILL MATERIAL

- Concrete
- #3 (8 x 20) Sand
- Bentonite Hydro Grout
- Bentonite Pellets

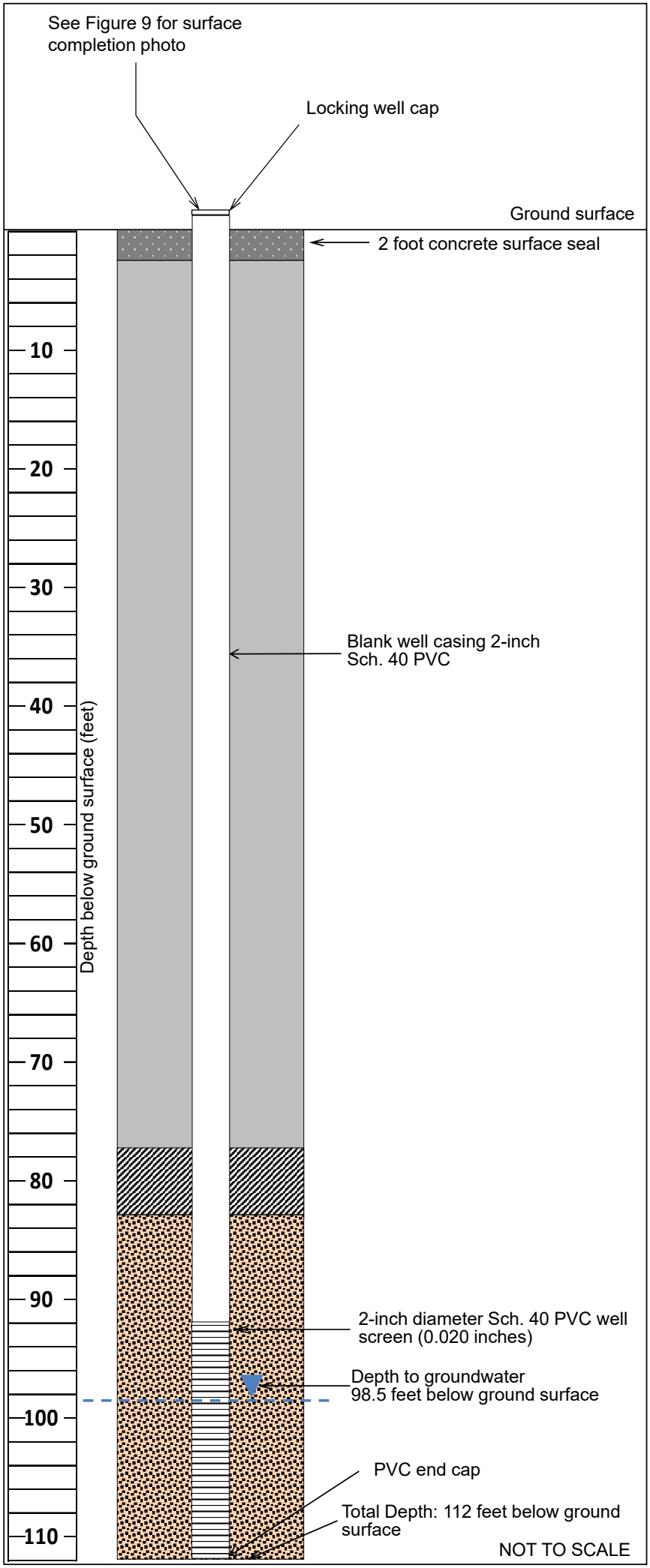
Prepared for:

Renewable Resources Group

Prepared by:

GSA GeoSystems Analysis, Inc. Innovations in Hydrology

Figure 8.
Monitor Well MW-3
Completion Diagram



BACKFILL MATERIAL

- Concrete
- #3 (8 x 20) Sand
- Bentonite Hydro Grout
- Bentonite Pellets

Prepared for:

Renewable Resources Group

Prepared by:

GSA GeoSystems Analysis, Inc. Innovations in Hydrology

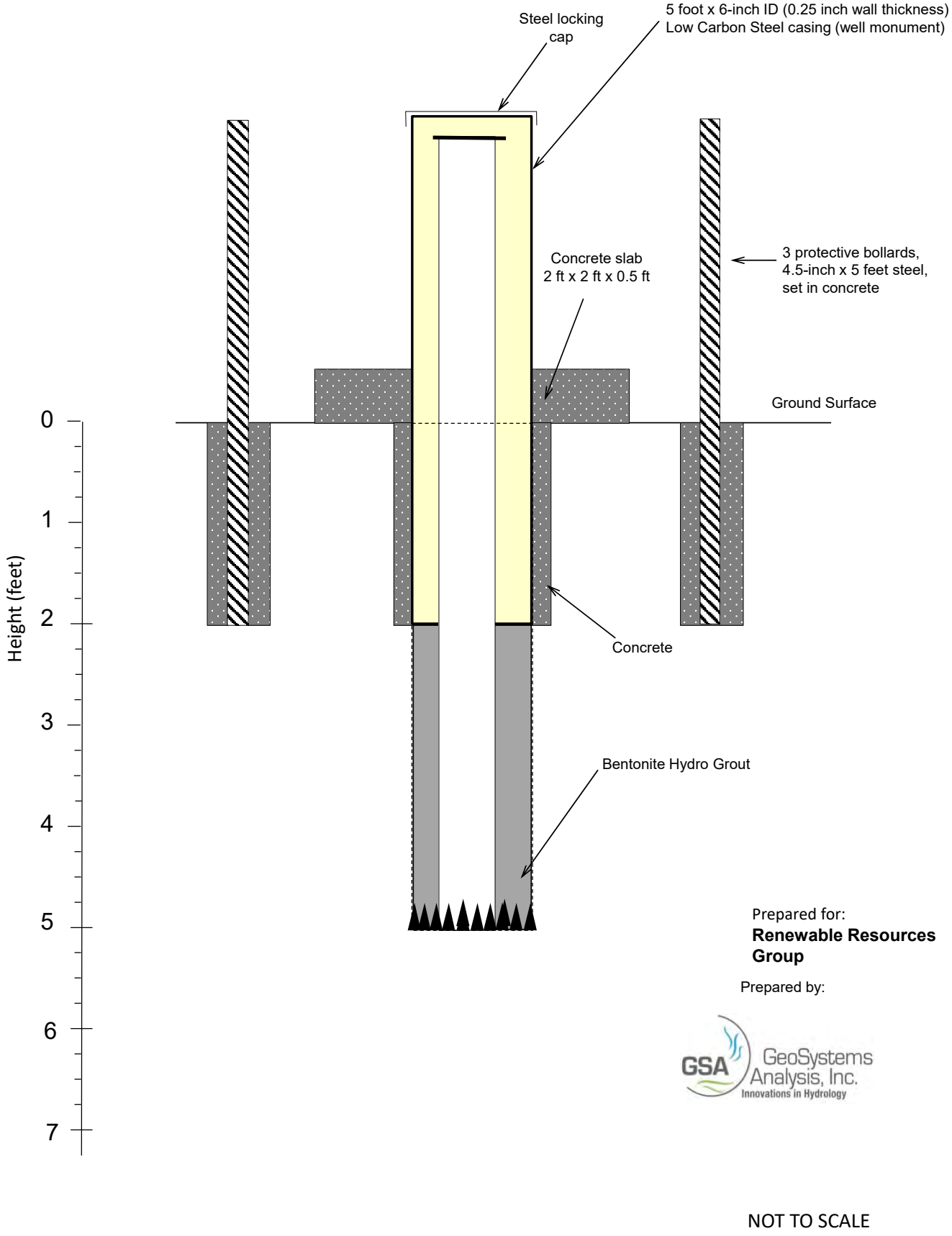


Figure 9. Typical monitor well surface completion diagram

2.4 Cylinder Infiltrometer Testing

Based on the near-surface geologic logging results, in-situ infiltration testing was conducted in representative soil materials adjacent to selected test pit locations using the single ring cylinder infiltrometer (CI) with the lateral divergence method (Bouwer et al. 1999) (Appendix C). The CI method employs a cylinder measuring 50 cm in diameter and 30 cm in length which provides a more accurate in-situ measurement of the effective K of the soil than smaller-scale laboratory measurements (Figure 10). Effective K values provide a good estimate of the potential infiltration rate in the absence of surface clogging and/or restricting or compacted layers present deeper in the profile (Bouwer et al., 1999, Rice et al., 2014). Nineteen CI tests were completed which included 10 tests at the ground surface and 9 tests at depths up to 2 ft bgs. CI tests were conducted by RRG personnel with guidance from GSA.

Figure 10. Cylinder infiltrometer test

2.5 Laboratory Testing Methods

Eighteen grab samples representing predominant observed material types were collected from the test pits. In the drilling locations, 19 grab samples and 92 drive core split-spoon samples were collected. Based on the geologic logging results, 9 grab samples (5 test pit samples and 4 monitor well samples) were selected for laboratory PSD testing using dry sieve and hydrometer methods (ASTM D 6913-17 / ASTM C 136-14). Thirty intact core samples were selected for gravimetric water content (GWC) (ASTM D 2216-19) and core bulk density testing (ASTM D 2937-17e2).

3.0 FIELD AND LABORATORY CHARACTERIZATION RESULTS

3.1 Calibration of Field-Estimated Particle Size Distribution Estimates

To correct for hand texture bias in estimated PSD, linear regression equations were developed to correlate field estimates of PSD to the laboratory measured results (Figure 11). The correlations for sand ($R^2 = 0.90$) and clay ($R^2 = 0.84$) were used to adjust the field estimated values to the laboratory measured values, as silt is calculated by difference. Using the silt correlation ($R^2 = 0.87$) to adjust the field textures generally resulted in higher silt percentages and zero or negative values for clay and as a result this correlation was not used. A few caveats were applied in the adjustment of the field estimates of PSD:

- Field estimates of gravel were not adjusted due to the overall low percentages observed in the logged materials.
- The intercept for the clay regression equation was set to zero since there was a better fit for samples with relatively higher field estimated clay contents (i.e. >10%).
- Coarse-grained materials with field estimates of gravel and sand greater than 91% were not adjusted since adjusted values resulted in estimates greater than 100%.

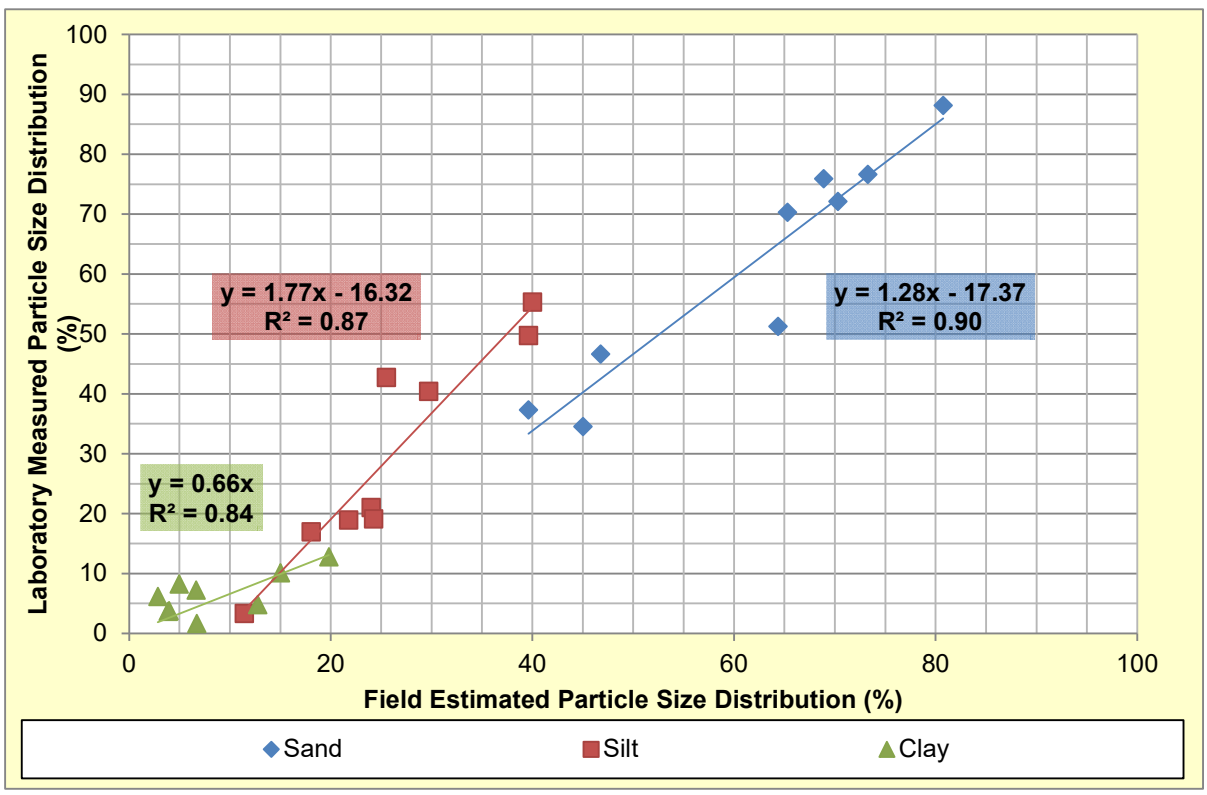


Figure 11. Laboratory measured PSD versus field estimated PSD

3.2 Subsurface Material Classifications

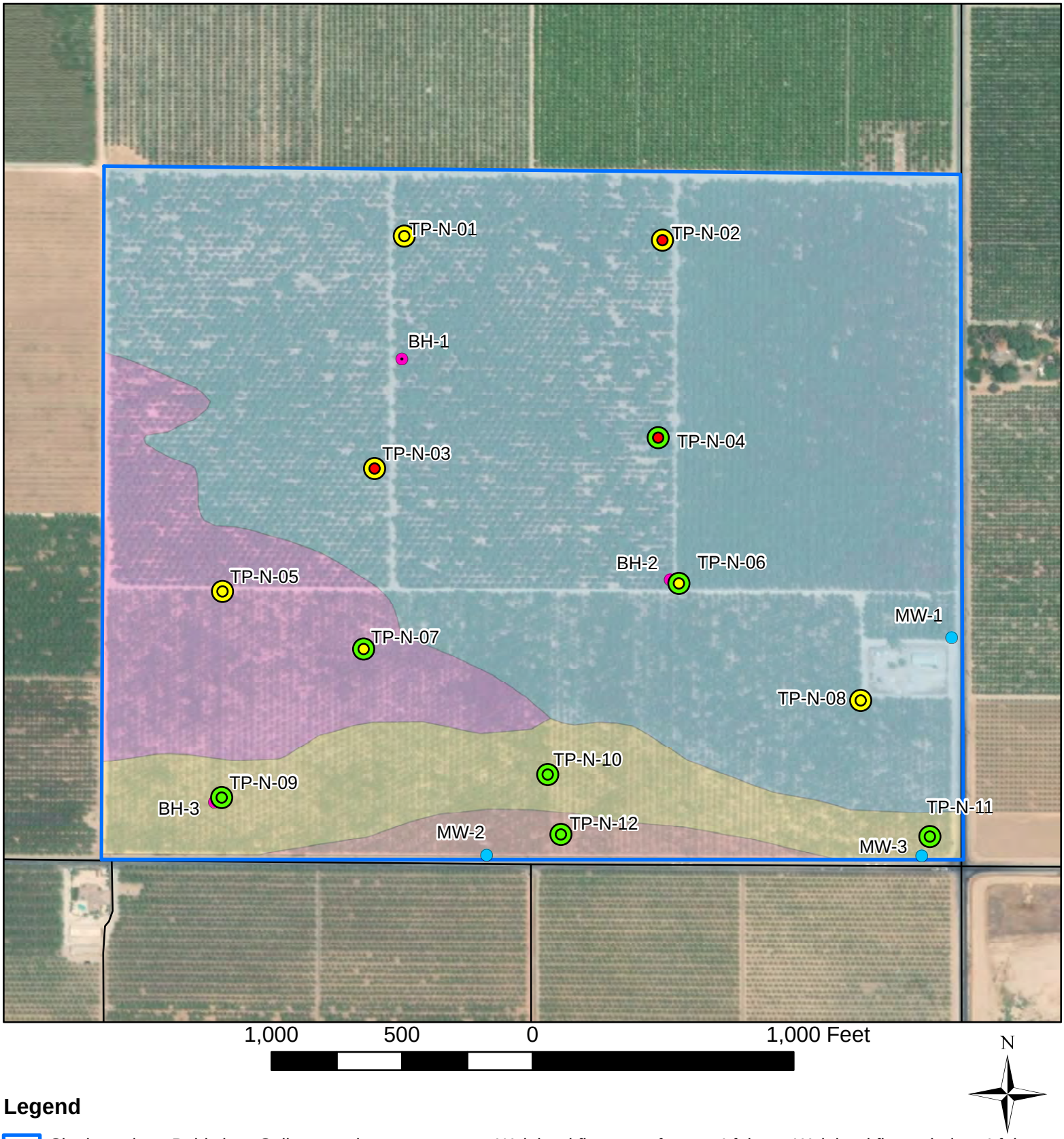
Due to the variability of soil materials encountered within the test pits and boreholes, the interpretation of the geologic logging data focused on defining materials using a hydrologic unit classification to group the observed materials into similar material types that are correlated to the CI testing results.

A hydrologic unit classification system based on the percent fines distribution was created and assigned to each logged interval. CI testing results were then analyzed to determine a geometric mean effective K value for each hydrologic unit (Section 3.4). Hydrologic unit definitions are as followed:

- Unit 1: coarse material, predominantly sandy material with 25% fines or less with a mean effective K of 4.6 ft/day;
- Unit 2: medium textured material, silty/clayey sands with 25% to 45% percent fines with a mean effective K of approximately 0.90 ft/day;
- Unit 3: fine textured material, silty/clayey material with greater than 45% fines with a mean effective K of approximately 0.30 ft/day.

3.3 Geologic Logging Results

A summary of the geologic logging results is presented below. Detailed geologic logging results are presented in Appendix A. Test pit geologic logging results indicate that materials from the surface to 4 ft bgs were finer-grained and generally became coarser below 4 ft bgs. As a result, for each test pit a depth weighted average fines percentage was determined for material above and below 4 ft bgs (Figure 12). In addition, geologic logging results for the test pits and boreholes/monitor wells indicate that subsurface materials were finer-grained in the northern section of the Behl property and became coarser towards the southern section. To show this trend, north to south cross sections were generated for the test pits and boreholes/monitor wells. The locations of the cross-sections are presented in Figure 13. The cross-sections for the test pits (A-A' and B-B') are presented below (Section 3.3.1), cross-sections for the boreholes are presented in sections (3.3.2 and 3.3.3).



Legend

- Site boundary: Behl site
- Borehole
- Monitor well

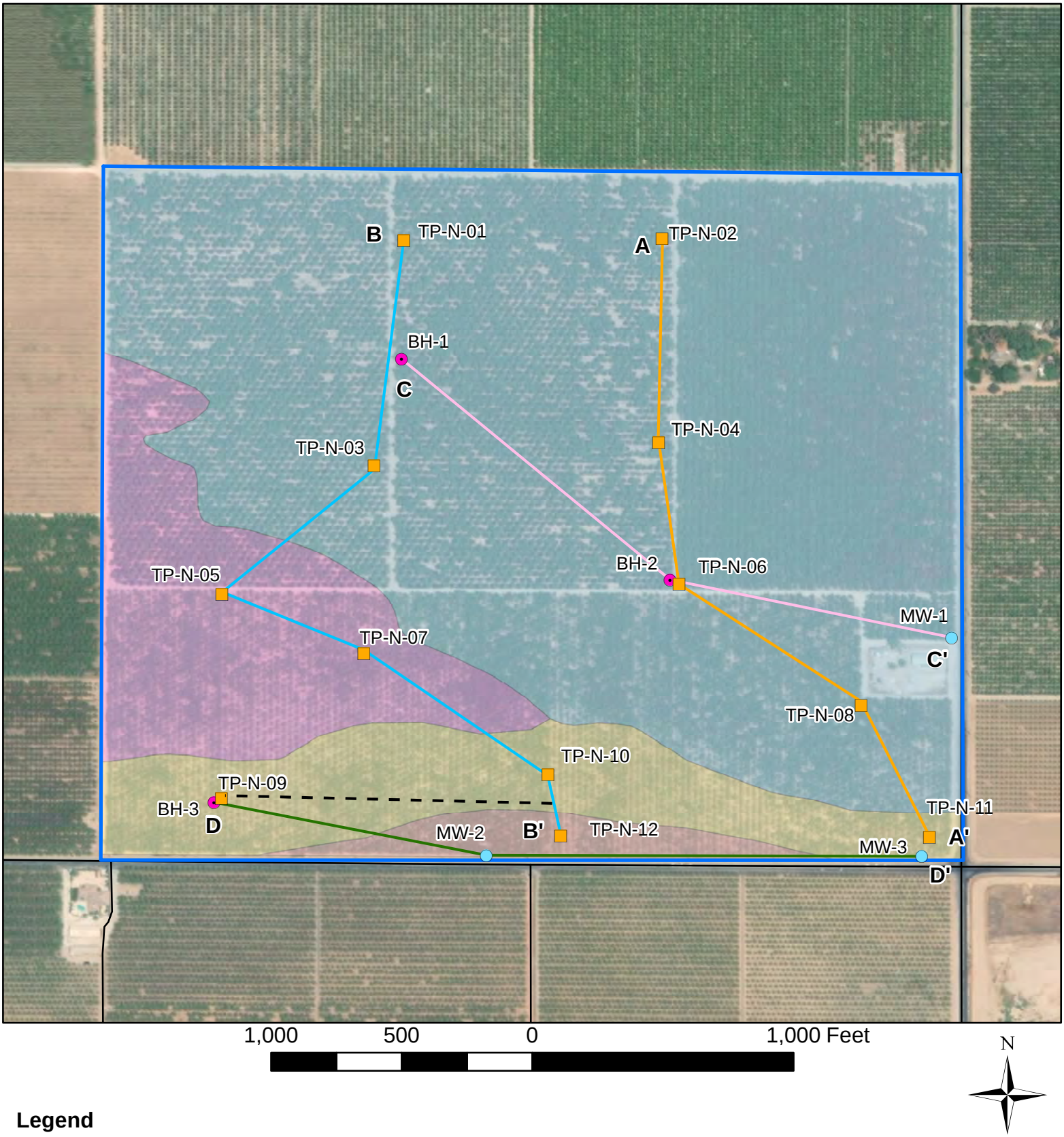
Soil map unit
- Exeter loam
- Flamen loam
- Nord fine sandy loam
- Tujunga loamy sand

Weighted fines - surface to 4 ft bgs
- <= 25% (Hydro Unit 1)
- 25.1 - 45% (Hydro Unit 2)
- > 45% (Hydro Unit 3)

Weighted fines - below 4 ft bgs
- <= 25% (Hydro Unit 1)
- 25.1 - 45% (Hydro Unit 2)

Figure 12. Estimated hydrologic units based on weighted fines percentages for test pit depth intervals within the Behl property

GSA GeoSystems Analysis, Inc. Innovations and Solutions



Legend

- Site boundary: Behl site
- Borehole
- Monitoring well
- Test pit

Soil map unit
- Exeter loam
- Flamen loam
- Nord fine sandy loam
- Tujunga loamy sand

Test pit cross-sections
- A-A'
- B-B'

Borehole/monitor well cross-sections
- C-C'
- D-D'

FIgure 13. Locations of cross-sections A-A', B-B', C-C' and D-D' within the Behl property

GSA GeoSystems Analysis, Inc. Innovations and Solutions

3.3.1 Cross-Sections A-A' and B-B' (Test Pits)

Figure 14 and Figure 15 present north to south cross-sections A-A' and B-B' showing hydrologic unit classifications with depth for test pits within the Behl property. Locations for cross-sections A-A' and B-B' is shown in Figure 12. Geologic logging results indicate that subsurface materials were finer-grained in the northern section and became coarser towards the southern section of the Behl property. In the northern section and within the Exeter loam soil map unit, subsurface materials from the surface to 4 ft bgs, were relatively fine-grained with approximately 92% of the logged intervals classified as Unit 3 (46%) or Unit 2 (46%) material, with the remaining 8% being Unit 1 material. Below 4 ft bgs, materials within the Exeter loam soil map unit became coarser with depth with approximately 63% of the logged intervals classified as Unit 2 material and 24% classified as Unit 1 material. Figure 16 and Figure 17 show the subsurface materials for TP-N-02 and TP-N-04 which were typical for test pits within the northern section of the Behl property.

Cross-section B-B' includes two test pits (TP-N-05 and TP-N-07) that were in the central section of the Behl property within the Flamen loam soil map unit (Figure 15). Subsurface materials in TP-N-05 were composed of interbedding of Unit 1, 2, and 3 materials from the surface to 4 ft bgs and Unit 1 and Unit 3 materials to 16 ft bgs. Test pit TP-N-07 to the south was coarser grained with Unit 2 materials down to 7 ft bgs, follows by a 1 ft thick layer of Unit 3 material and then Unit 1 materials from 8 to 16 ft bgs (Figure 15, Figure 18).

Of note, a hardpan layer was encountered in six of the eight test pits within the Exeter and Flamen loam soil map units (Figure 14, Figure 15, Figure 19). Hardpan was encountered at depths ranging from 1 ft (TP-N-06) to 4 ft bgs (TP-N-01) (Figure 14, Figure 15) and had a thickness ranging from 2 ft bgs (TP-N-07) to approximately 5 ft bgs (TP-N-04). These depths are consistent with the duripan depths reported in the USDA-NRCS soils data. Hardpan layer material was generally present as very firm non-friable clods that became more friable with depth within the hardpan layer. Hardpan material was typically sandy Unit 2 material and had moderate to strong effervescence indicating the presence of carbonates. In TP-N-03, the hardpan layer was encountered from 3 ft to 5 ft and caused backhoe refusal (Figure 20). Based on the variable friability of the hardpan material, it is possible that the hardpan layer may be completely cemented (i.e. TP-N-03) and/or fragmented at various locations within the Behl property. CI test infiltration rates at depths within the hardpan layer were variable, ranging from very low infiltration rates (indicating cementation) and high infiltration rates (indicating fragmentation) (see Section 3.4).

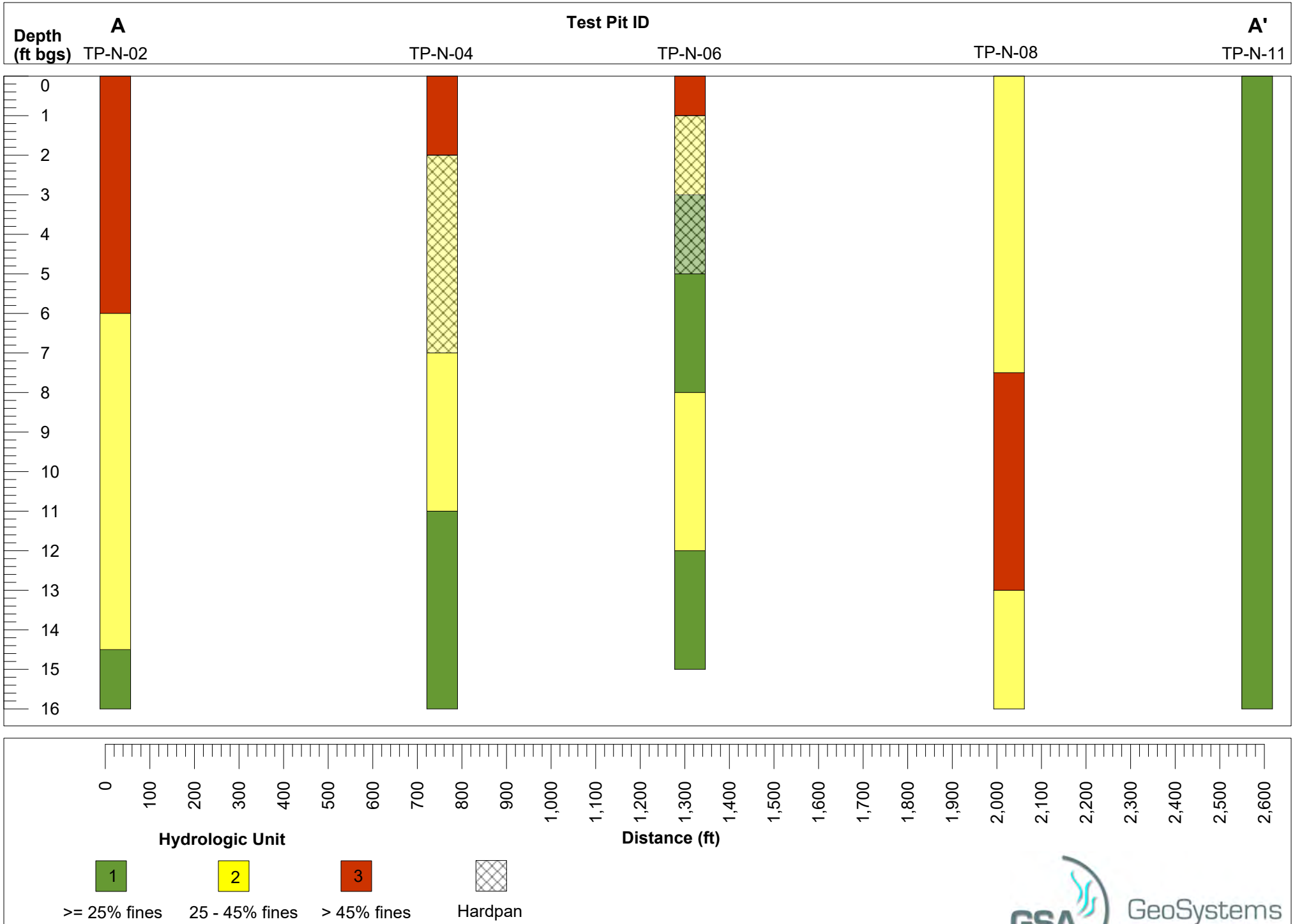


Figure 14. Test pit cross-section A-A' showing hydrologic unit with depth and depth intervals containing hardpan material

GSA GeoSystems Analysis, Inc. Innovations in Hydrology

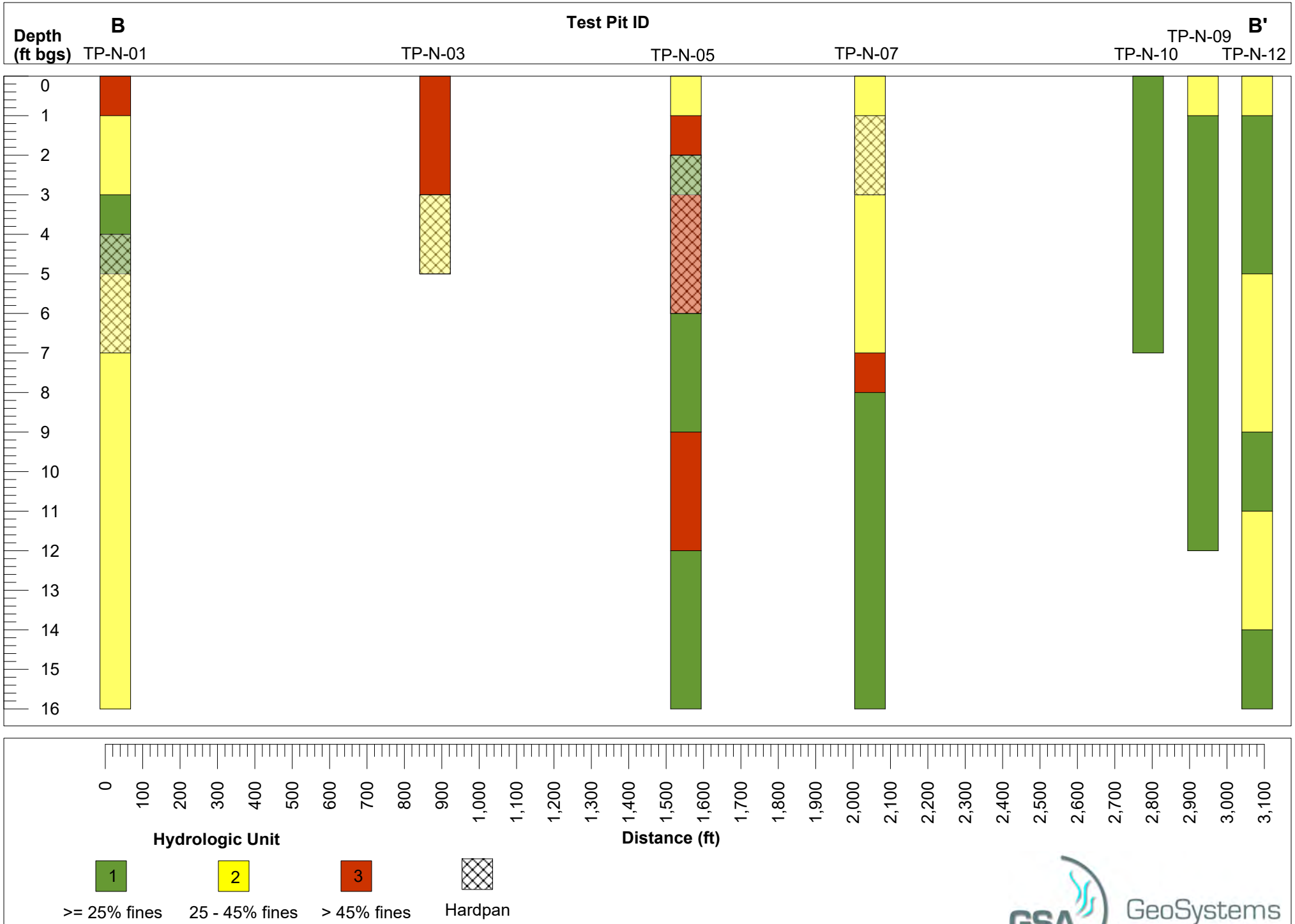


Figure 15. Test pit cross-section B-B' showing hydrologic unit with depth and depth intervals containing hardpan material

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

Figure 16. Test pit TP-N-02, Unit 3 (0 to 6 ft), Unit 2 (6 to 14.5 ft), Unit 1 (14.5 to 16 ft)

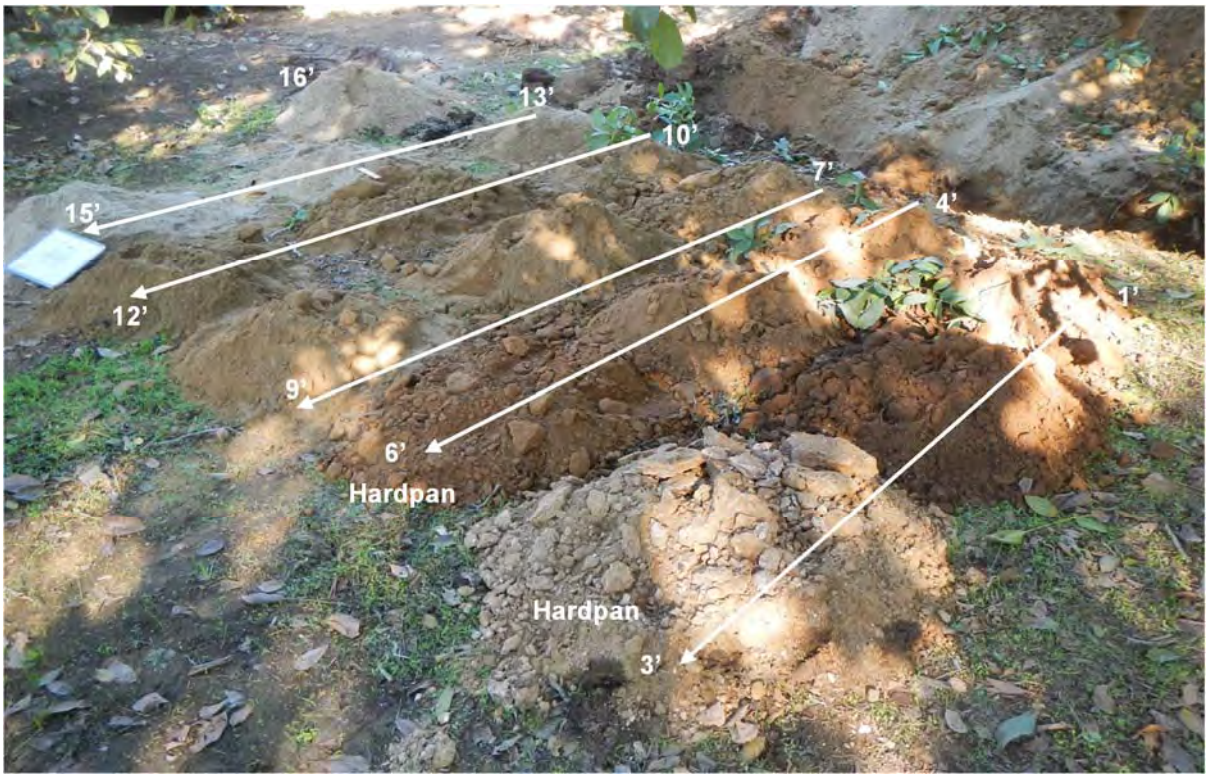


Figure 17. Test pit TP-N-04, Unit 3 (0 to 2 ft), Unit 2 (2 to 11 ft), Unit 1 (11 to 16 ft), hardpan layer (3 to 6 ft bgs)

Figure 18. Test pit TP-N-07, Unit 2 (0 to 7 ft), Unit 3 (7 to 8 ft) Unit 1 (8 to 16 ft), hardpan layer (1 to 3 ft bgs)

Figure 19. Hardpan material in TP-N-01 (4 to 5 ft bgs)

Figure 20. Test pit N-03, hardpan layer at approximately 3 to 5 ft bgs

In the southern section of the Behl property, test pits located within the Tujunga loamy sand and Nord fine sandy loam soil map units were coarser grained (Figure 14, Figure 15). Approximately 97% of the test pit geologic logged material within the Tujunga loamy sand soil map unit (TP-N-09, TP-N-10, and TP-N-11) was representative of Unit 1 material (Figure 21). Of note, TP-N-10 had entirely Unit 1 material down to 7 ft bgs where excavation was terminated due to frequent side-wall cave-in of the coarse textured, non-cohesive material. Subsurface materials from test pit TP-N-12 located within the Nord fine sandy loam soil map unit were slightly finer-grained than the Tujunga loamy sand test pits, with 50% of the material classified as Unit 1 and 50% of the material classified as Unit 2 (Figure 22).

Figure 21. TP-N-09, typical Unit 1 material (15% fines) in TP-N-09, TP-N-10, and TP-N-11

Figure 22. TP-N-12, typical Unit 2 material (28% fines) at 5 to 9 ft bgs

3.3.2 Cross-Section C-C' – BH-1, BH-2, and MW-1

Figure 23 presents a west to east cross-section in the northern section of the Behl property that includes boreholes BH-1, BH-2 and monitor well MW-1 (Figure 12). Borehole locations BH-1 and BH-2 were drilled to 51 ft bgs and were composed of similar materials with predominantly Unit 3 material from the surface to 10 ft bgs. At depths from 10 ft to 51 ft bgs, subsurface materials were primarily classified as Unit 2 material with very similar textures with depth between these two boreholes (Figure 23, Figure 24). In BH-1, a hardpan layer was encountered at depths from 5 to 10 ft bgs. There was low penetration (≈ 6 inches) during core sampling at these depths and core samples contained very firm clods (Figure 24). No hardpan material was encountered in BH-2.

In monitor well MW-1, subsurface materials were coarser compared to BH-1 and BH-2. Subsurface materials from the surface to the final drilled depth (115 ft bgs) were predominantly Unit 1 and Unit 2 material (Figure 25). At 5 ft bgs, a hardpan layer was present that did not allow full penetration of the core sampler during sampling. A depth interval with sand and high gravel content (approximately 40 to 65% gravel) was encountered between 14 and 20 ft bgs. Unit 3 material was encountered at approximately 25 ft bgs and then at 55 ft bgs. Subsequent core samples at these depths transitioned to Unit 1 material which indicates that the fine-grained Unit 3 materials are likely minor and less than 5 ft thick. Saturated materials were present at depths between 100 and 105 ft bgs indicating the presence of the groundwater table.

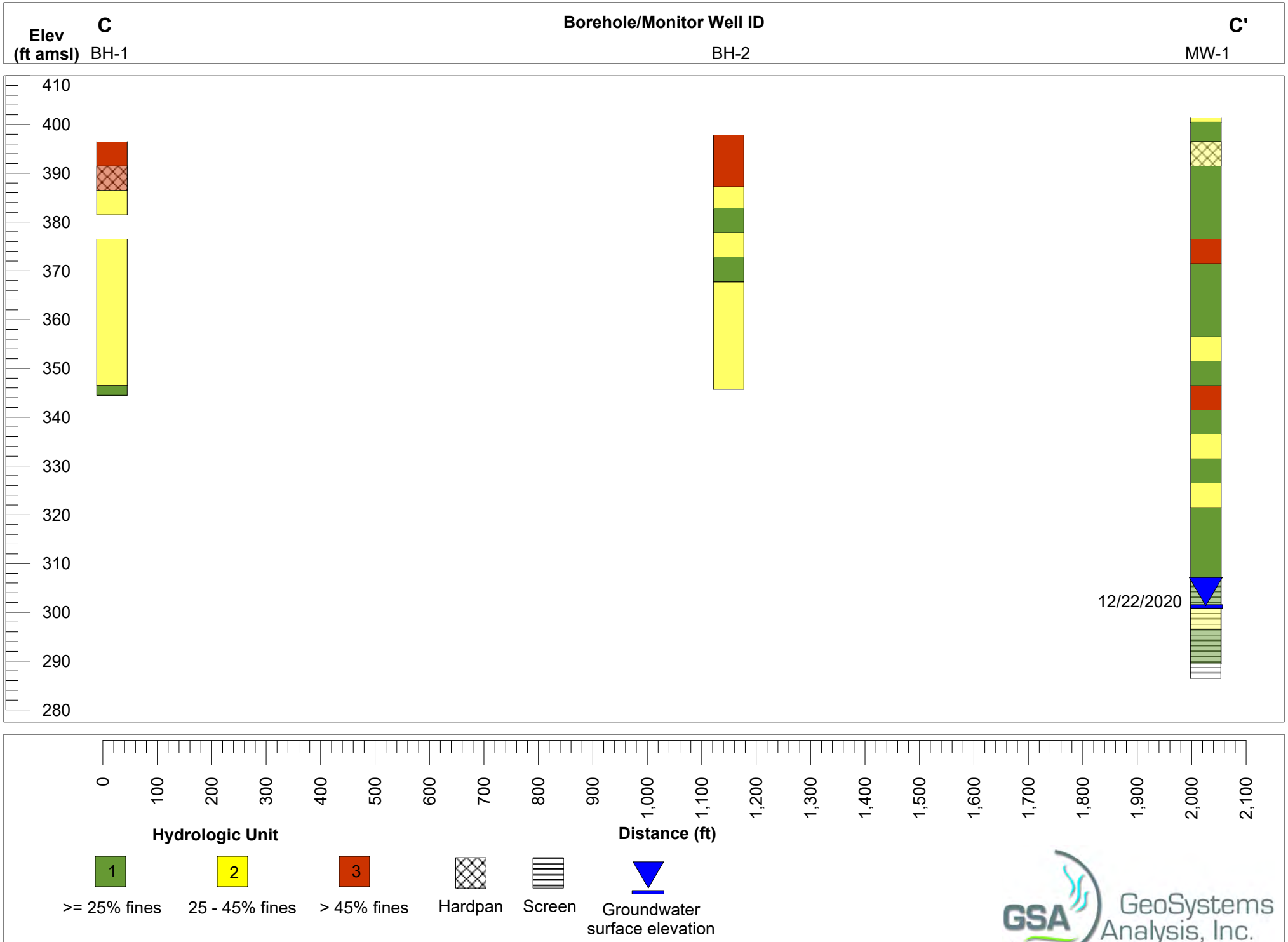


Figure 23. Borehole and monitor well cross-section C-C'

Figure 24. BH-1, Unit 3 (hardpan) material. BH-2, typical Unit 2 material

Figure 25. MW-1, typical Unit 2 and Unit 1 materials

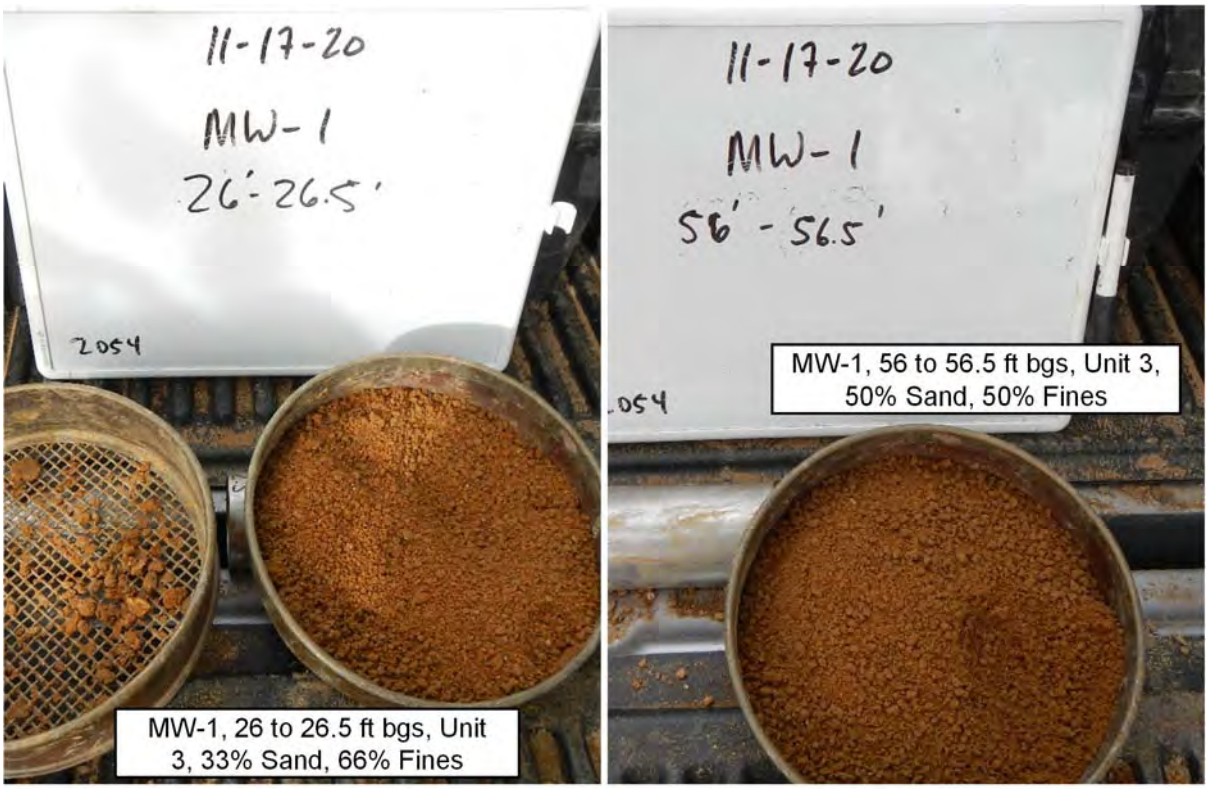


Figure 26. MW-1, Unit 3 materials encountered at 26 to 26.5 ft bgs and 56 to 56.5 ft bgs

Modified SPT results for BH-1, BH-2, and MW-1 are presented in Table 4. Core sampling was terminated when more than 50 blow counts were needed to penetrate a 6-inch segment. In general, lower blow counts were recorded for the initial 6 inches of penetration and higher blow counts were recorded to penetrate the middle and final 6 inches core segments. Penetration testing results for BH-1 indicate that subsurface materials had higher penetration resistance from 5 to 11.5 ft bgs and is consistent with the depth of the hardpan layer. Subsurface materials with higher penetration resistance also appear to be present at depths from 25 to 31.5 ft bgs and from 40 to 46.5 ft bgs. These intervals were classified as Unit 2 with approximately 40% fines. In BH-2, penetration testing results indicate generally alternating depths with lower and medium penetration resistance down to 36.5 ft bgs and higher penetration resistance at depths from 40 to 51.5 ft bgs. In MW-1, higher penetration resistance was observed at 5 to 6.5 ft bgs consistent with the hardpan layer at this depth. Higher penetration resistance was also observed at 45 to 46.5 ft bgs, 65 to 66.5 ft bgs and at 105 to 106.5 ft bgs. The material was very gravelly at 105 ft bgs, which likely caused the low penetration depth. Modified penetration results were compared to measured core bulk density values and results are presented in Section 3.6.1.

Table 4. Modified Standard Penetration Test results for BH-1, BH-2, and MW-1

Depth Interval		Blow Counts								
		Initial 6 Inches	Middle 6 Inches	Final 6 Inches	Initial 6 Inches	Middle 6 Inches	Final 6 Inches	Initial 6 Inches	Middle 6 Inches	Final 6 Inches
From	To	BH-1			BH-2			MW-1		
1	2.5	17	27	19	15	12	11	4	4	7
5	6.5	50	NM	NM	21	26	30	31	50	NM
10	11.5	38	50	NM	12	38	35	15	18	20
15	16.5	5	8	12	12	21	23	22	31	35
20	21.5	12	10	9	19	30	36	9	12	19
25	26.5	26	30	50	9	22	26	13	21	33
30	31.5	8	19	50	16	31	39	16	23	36
35	36.5	10	12	21	11	17	21	10	17	19
40	41.5	17	34	50	19	38	45	14	27	35
45	46.5	20	35	42	24	39	50	22	37	50
50	51.5	8	23	27	15	25	41	15	25	40
55	56.5							17	24	38
60	61.5							15	26	31
65	66.5							19	24	50
70	71.5							12	29	32
75	76.5							9	21	28
80	81.5							12	23	42
85	86.5							11	21	27
90	91.5							16	25	36
95	96.5							12	24	29
100	100.5							15	23	32
105	106.5							15	50	NM
110	111.5							18	35	36

NM = not measured

3.3.3 Cross-Section D-D' – BH-3, MW-2, and MW-3

Figure 27 presents a west to east cross-section in the southern section of the Behl property and includes borehole BH-3 and monitor wells MW-2 and MW-3. At depths from the surface to 25 ft bgs, all logged intervals at these three locations were classified as Unit 1 with percent fines ranging from 1% to 23% (Figure 28). Below 25 ft bgs, materials were variable at these three locations. In BH-3, Unit 1 material continued down to 40 ft bgs but became finer-grained with depth with Unit 3 material (64% fines) encountered at 45 to 50 ft bgs (Figure 27, Figure 28).

In MW-2, material below 25 ft bgs became finer grained with depth and a thick Unit 3 interval (60% fines) was present from 35 to 50 ft bgs (Figure 27, Figure 29). Below 50 ft bgs, predominantly Unit 1 and Unit 2 materials were present down to 111 ft bgs. At 111 ft bgs drilling was terminated when Unit 3 material was encountered likely indicating the presence of the confining unit of the underlying upper semi-confined groundwater aquifer. Groundwater was encountered at 105 ft bgs. In MW-3, material below 25 ft bgs was predominantly Unit 1 down to 112 ft bgs, though at approximately 48 ft bgs, an interval of saturated Unit 2 material (41% fines) was encountered indicating a perched groundwater (Figure 27, Figure 30). Groundwater was encountered at approximately 96 ft bgs. Below 96 ft bgs, gravelly materials were present down to the 112 ft bgs.

The number of blow counts needed to penetrate each 6-inch segment of the 1.5-foot core sampler during modified SPTs of BH-3, MW-2, and MW-3 are presented in Table 5. In general, lower blow counts were recorded for the initial 6 inches of penetration and higher blow counts were recorded to penetrate the middle and final 6 inches core segments. Penetration testing results for BH-3 indicate that subsurface materials had relatively low to medium penetration resistance for all depths. Higher penetration resistance was recorded at 25 to 26.5 ft bgs and was due to a large rock that prevented penetration of the entire 1.5-foot core run. In MW-2, penetration resistance increased between 25 to 56.5 ft bgs; subsurface materials at these depths were classified as Unit 2 and Unit 3 materials. Relatively intermediate penetration resistance was then observed to 91.5 ft bgs. At depths below 91.5 ft bgs, higher penetration resistance was recorded and was mainly due to the high gravel content of the material. In MW-3, penetration resistance was relatively low from 1 to 46.5 ft bgs and then increased between 50 and 96.5 ft bgs. Materials at these depths were for the most part Unit 1 material. Below 96.5 ft bgs, subsurface material had higher gravel content which resulted in higher penetration resistances. A comparison of the modified penetration results to measured core bulk density values is presented in Section 3.6.1.

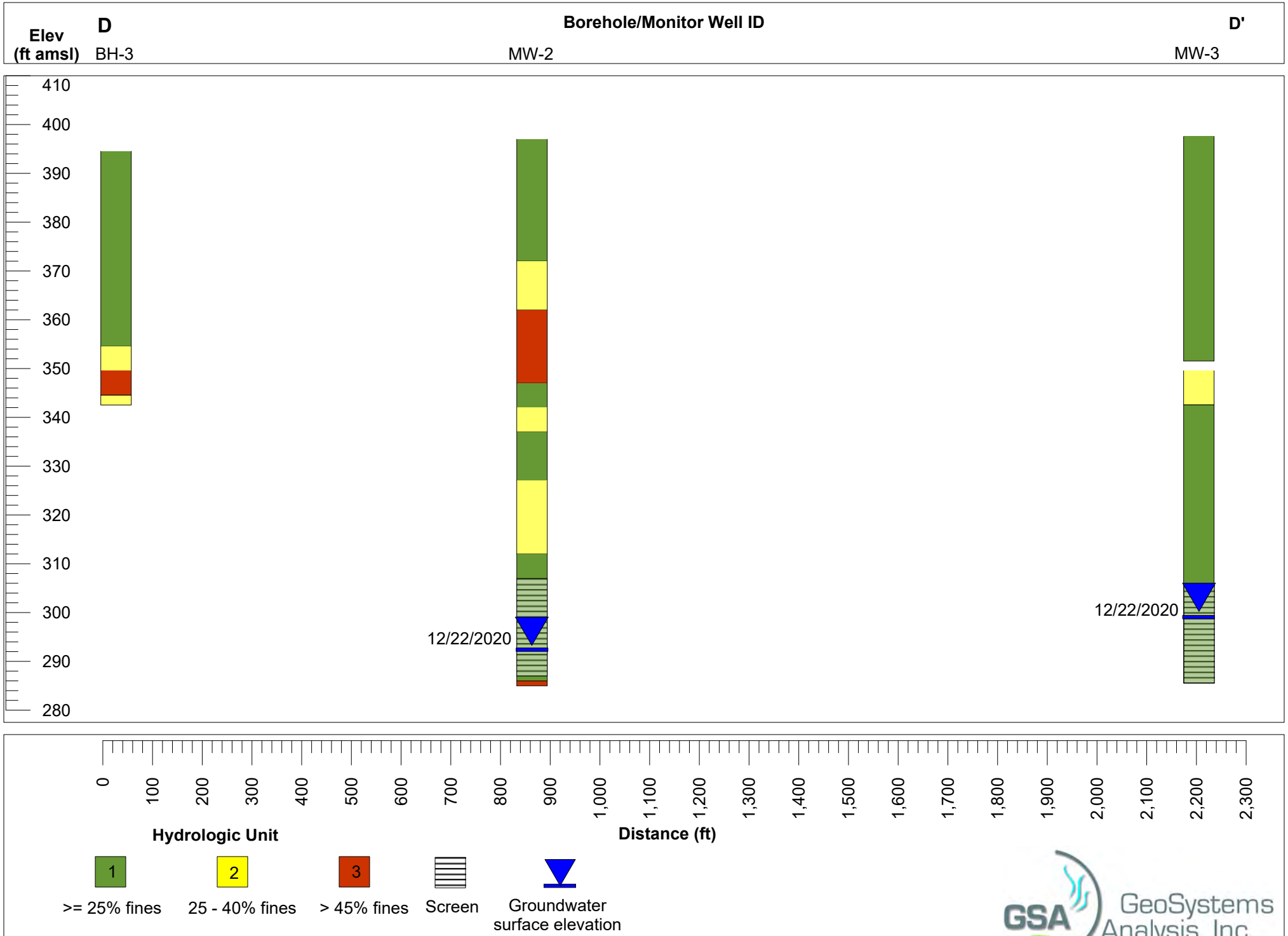


Figure 27. Borehole and monitor well cross-section D-D'

Figure 28. BH-3, Unit 1 material (21 to 21.5 ft bgs), Unit 3 material (46 to 46.5 ft bgs)

Figure 29. MW-2, Unit 3 material (41 to 41.5 ft bgs), gravelly Unit 1 material (95-95.5)

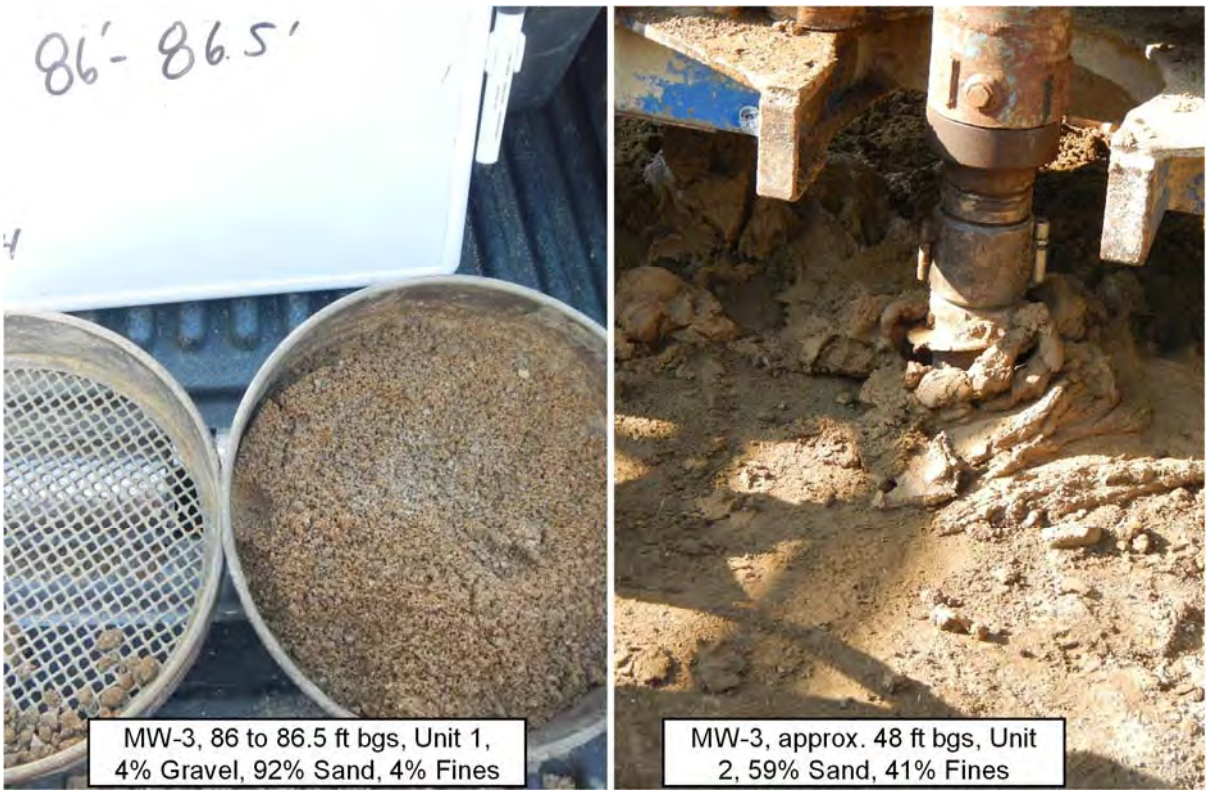


Figure 30. MW-3, Unit 1 material (86 to 86.5 ft bgs), saturated Unit 2 material (48 ft bgs)

Table 5. Modified standard penetration resistance results for BH-3, MW-2, and MW-3

Depth Interval		Blow Counts								
		Initial 6 Inches	Middle 6 Inches	Final 6 Inches	Initial 6 Inches	Middle 6 Inches	Final 6 Inches	Initial 6 Inches	Middle 6 Inches	Final 6 Inches
From	To	BH-3			MW-2			MW-3		
1	2.5	9	6	6	6	8	8	4	6	7
5	6.5	4	7	9	13	16	19	8	8	9
10	11.5	8	12	13	10	19	22	6	9	9
15	16.5	6	7	10	6	10	13	6	9	11
20	21.5	6	10	11	5	5	7	8	11	17
25	26.5	50	NM	NM	18	42	50	7	12	13
30	31.5	10	13	18	11	12	16	8	11	13
35	36.5	7	9	12	14	27	40	7	9	10
40	41.5	15	29	40	13	15	22	20	25	29
45	46.5	9	31	17	16	20	35	8	8	11
50	51.5	17	19	27	18	18	39	15	22	24
55	56.5				11	20	42	12	27	35
60	61.5				8	13	34	11	13	50
65	66.5				20	35	50	25	39	44
70	71.5				8	21	35	13	28	35
75	76.5				17	28	35	18	29	37
80	81.5				8	22	31	17	18	20
85	86.5				16	24	36	16	40	50
90	91.5				10	20	36	12	26	33
95	96.5				50	NM	NM	16	20	50
100	101.5				50	NM	NM	50	NM	NM
105	106.5				50	NM	NM	50	NM	NM
110	111.5				10	17	20	50	NM	NM

3.4 Cylinder Infiltrometer Testing Results

Table 6 presents the results for the CI testing which were used to assign geometric mean K values for the hydrologic unit classifications. Five tests each were completed on Unit 1, Unit 2, and Unit 3 materials. Effective K results ranged from 0.06 ft/day to 5.01 ft/day (Table 6).

After assessing data quality, the geometric mean effective K values for Unit 1, Unit 2, and Unit 3 materials were 4.58, 0.90, and 0.30 ft/day respectively. The measured effective K values in Unit 1 material were consistent except for the effective K measured at the surface in TP-N-11 which was close to an order of magnitude lower. A separate CI test was conducted at this location at 1 ft bgs, measuring an effective K of 4.81 ft/day that is more representative of the sandy materials tested. As a result, the TP-N-11 CI test at the surface was omitted from the Unit 1 mean K calculation (Table 6).

Unit 2 material CI tests at TP-N-06 (2 ft bgs) and TP-N-12 (0.5 ft bgs) had measured effective K values that were about one order of magnitude less than other Unit 2 tests, which had consistent measured K values of about 0.8 to 1 ft/day. The CI test conducted at TP-N-06 (2 ft bgs) was just above a hardpan layer which could have impeded infiltration rates and resulted in the lower measured effective K value. The CI test location at TP-N-12 (0.5 ft bgs) had soil smearing from the backhoe bucket, indicating compaction from the backhoe bucket may have occurred during excavation, and resulted in reduced infiltration rates. As a result, these two locations were excluded from the Unit 2 mean K calculation (Table 6).

In the Unit 3 material, duplicate tests were conducted at the surface in TP-N-04, producing similar effective K values (0.80 and 0.88 ft/day). The mean of the TP-N-04 tests (0.84 ft/day) was applied in the Unit 3 material geometric mean effective K of 0.30 ft/day.

Of note, two tests were conducted within the hardpan layer and measured effective K results were highly variable. A very low effective K (0.06 ft/day) was measured at TP-N-06 (2 ft bgs) where the CI test was completed just above the hardpan layer located at 1 to 5 ft bgs. A significantly higher effective K (18 ft/day) was measured at TP-N-07 (2 ft bgs) where the CI test was completed within the hardpan layer located at 1 to 3 ft bgs. The thinner hardpan layer at TP-N-07 could have been fragmented during pit excavation, creating preferential flow conditions that resulted in a high effective K measurement. The thicker hardpan layer at TP-N-06 was likely less disturbed and as a result the measured effective K is likely more representative of the undisturbed hardpan material. The measured effective K of the hardpan layer at TP-N-06 is consistent with the estimated USDA-NRCS soils data, where

permeabilities for the "most restricting layer" range from 0.02 to 0.4 ft/day (USDA-NRCS. 2019).

Table 6. Cylinder infiltrometer testing results

Test Pit Location	Depth (ft bgs)	Calibrated Field Particle Size Distribution					Hydrologic Unit	Effective K	
		Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Fines (%)		ft/day	cm/sec
TP-N-09	2	1	94	4	1	5	1	5.01	1.8E-03
TP-N-10	0	1	79	17	3	20		3.73	1.3E-03
TP-N-10	1	2	95	3	0	3		4.89	1.7E-03
TP-N-11	0	1	87	11	1	12		0.74	2.6E-04
TP-N-11	1	1	96	3	0	3		4.81	1.7E-03
Unit 1 Geomean[1]								**4.58**	**1.6E-03**
TP-N-05	0	2	58	34	6	40	2	0.99	3.5E-04
TP-N-06	2	3	63	24	10	34		0.06	2.2E-05
TP-N-07	0	2	58	32	8	40		0.77	2.7E-04
TP-N-07	2	4	69	23	4	27		Very high infiltration value (18 ft/day).	
TP-N-08	1	0	66	31	3	34		0.96	3.4E-04
TP-N-12	0.5	1	70	26	3	29		0.13	4.6E-05
Unit 2 Geomean[1]								**0.90**	**3.2E-04**
TP-N-06	0	1	46	43	10	53	3	0.10	3.4E-05
TP-N-01	0	1	40	48	12	59		0.48	1.7E-04
TP-N-02	0	1	33	53	13	66		0.22	7.9E-05
TP-N-04	0	1	33	53	13	66		0.80	2.8E-04
TP-N-04	0	1	33	53	13	66		0.88	3.1E-04
Unit 3 Geomean[2]								**0.30**	**1.1E-04**

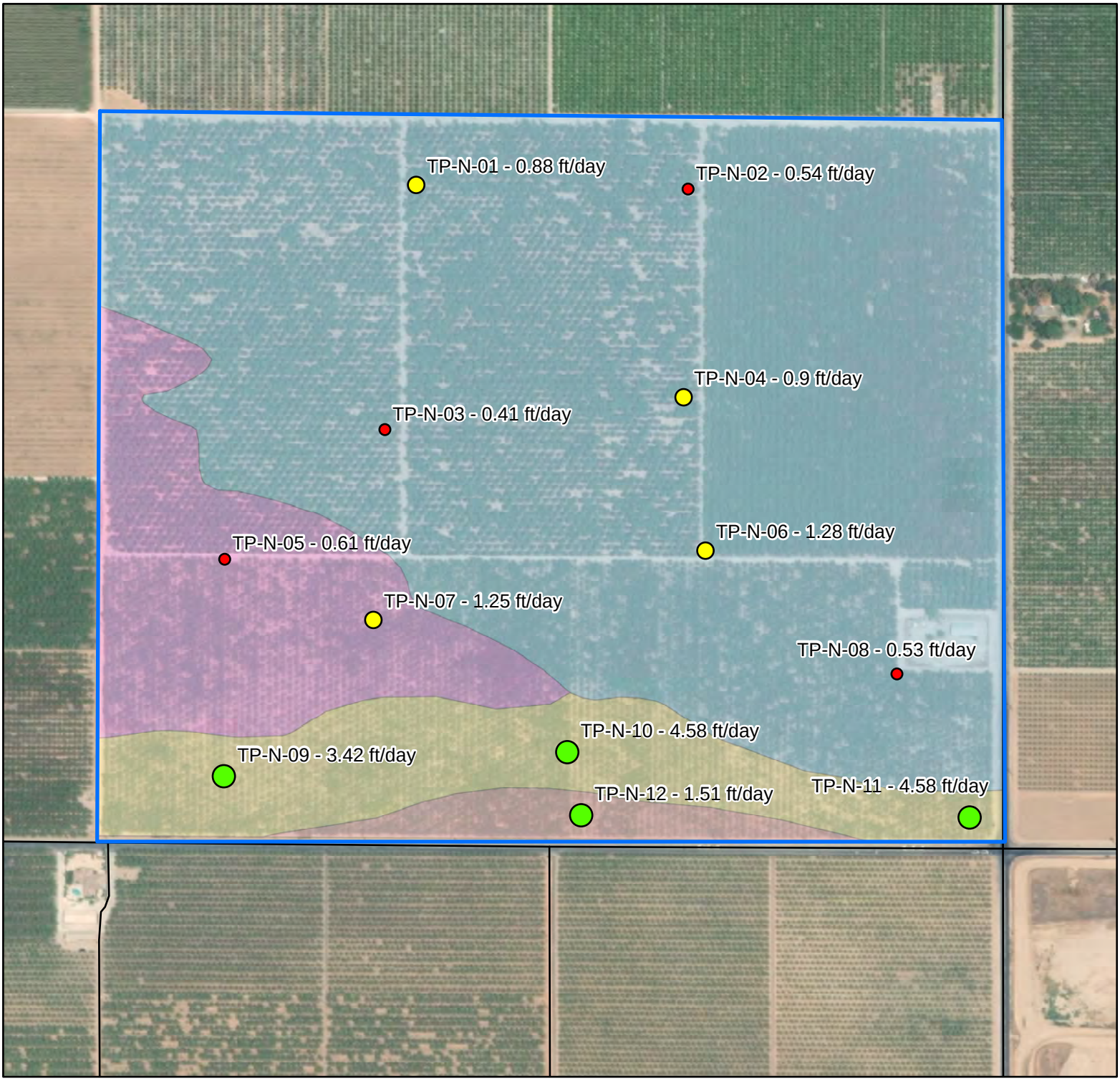
[1]CI tests shaded in gray were excluded from hydrologic unit geometric mean calculation
[2]A mean effective K of 0.84 was used for the duplicated tests at TP-N-04

3.5 Groundwater Recharge Evaluation

Geometric mean effective K values determined for each hydrologic unit (Table 6) were applied to each logged test pit interval and a weighted effective K value was estimated for the entire test pit. Figure 31 presents the estimated hydrologic unit weighted K values for each of the test pit. Generally, test pits composed of Unit 3 and Unit 2 materials had geometric mean effective K values of 0.61 ft/day or less and may be unsuitable for groundwater recharge. Test pits with predominantly Unit 2 and minor amounts of Unit 1 materials had geometric mean effective K values between 0.90 and 1.28 ft/day and are marginally suitable for groundwater recharge. Test pits with predominantly Unit 1 materials had geometric mean effective K values between 1.51 and 4.58 ft/day and are suitable for groundwater recharge. Consequently, the approximately 25-acre southern portion of the Behl property defined by the Tujunga loamy sand and Nord fine sandy loam soil series is expected have surface infiltration rates in excess of 1.5 feet per day.

Deeper subsurface geologic logging results from the boreholes and monitor wells indicate that predominantly Unit 2 materials are present in the northern section and predominantly Unit 1 materials are present in the southern section of the Behl property. Consistent with the test pits, hardpan materials were encountered between 5 and 10 ft bgs in the northern section. At the majority of the drilling locations, finer-grained Unit 3 and Unit 2 materials were encountered at depths between 35 and 65 ft bgs which could have lower permeability (based on the penetration resistance results) and may result in groundwater perching. Overall, these finer-grained materials were generally minor (i.e. less than 5 ft thick) with the exception of MW-2 where finer-grained materials appear to be about 15 ft thick.

Unsuitable and marginally suitable near-surface infiltration conditions exist in the Exeter loam and Flamen loam soil map units. Suitable near-surface infiltration conditions exist in the Nord fine sandy loam and Tujunga loamy sand soil map units. It is important to note that the effective K may even be lower for test pits located within the Exeter loam and Flamen loam soil map units due to the presence of a hardpan layer, which is not considered in the weighted effective K calculation. For example, applying an effective K value of 0.06 ft/day for the hardpan layer results in geometric mean effective K values of less than 0.4 ft/day for test pits where hardpan was encountered. Deep ripping of the near-surface is recommended if groundwater recharge is to occur in these areas of the Behl property.



1,000 500 0 1,000 Feet

N

Legend

Site boundary: Behl site

Soil map unit

- Exeter loam, 0 to 2 percent slopes
- Flamen loam, 0 to 2 percent slopes
- Nord fine sandy loam, 0 to 2 percent slopes
- Tujunga loamy sand, 0 to 2 percent slopes

Hydro Unit-weighted K (ft/day)

- < 0.75
- 0.76 - 1.50
- >=1.51

Hydrologic Unit Properties
Unit 1 - fines <= 25%
Unit 2 - fines 25.1% to 45%
Unit 3 - fines > 45%

Figure 31. Hydrologic unit weighted effective hydraulic conductivity (K) for test pits within the Behl property

GSA GeoSystems Analysis, Inc. Innovations and Solutions

3.6 Laboratory Testing Results

The following sections present laboratory testing results for test pit, borehole, and monitor well samples. Appendix D presents complete laboratory testing results.

3.6.1 Dry Bulk Density

Fifteen borehole core samples (5 from each borehole) and 15 monitor well core samples (5 from each monitor well) were tested for gravimetric water content and dry bulk density. Gravimetric water content values for all core samples ranged from 0.06 g/g to 0.21 g/g. Higher gravimetric water contents were generally measured at deeper depths within each drilling location. Core bulk density values ranged from 1.34 g/cm^3 to 1.93 g/cm^3. Average core bulk density was lowest for Unit 1 material (1.70 g/cm^3) and highest for finer-grained Unit 3 material (1.85 g/cm^3).

Core bulk density values were compared to the modified SPT results but no strong correlations were observed. In general, total blow counts were lowest for Unit 1 material which is consistent with the lower measured average dry bulk density (1.70 g/cm^3). Average blow counts were highest for Unit 2 materials where dry bulk density values were intermediate. The two samples in Unit 2 material where hardpan material was encountered (BH-1 10.5-11 and MW-1 5.5-6) had partial recovery, likely resulting in an under-measurement of dry bulk density. Average blow counts for Unit 3 material were intermediate with measured average dry bulk density (1.85 g/cm^3) for this material.

Table 7. Water content, bulk density, and modified penetration resistance blow counts for borehole and monitor well core samples

Drilling Location	Depth Below Ground Surface (ft bgs)	Hydrologic Unit	Gravimetric Water Content (g/g)	Volumetric Water Content* (cm^3/cm^3)	Dry Bulk Density (g/cm^3)	Total Blows
Borehole Core Samples						
BH-1	1.5-2	3	0.07	0.14	1.86	46
BH-1	10.5-11*	2	0.10	0.18	1.73	88
BH-1	35.5-36	2	0.12	0.19	1.63	43
BH-1	45.5-46	2	0.10	0.19	1.93	97
BH-1	50.5-51	1	0.08	0.15	1.86	58
BH-2	5.5-6	3	0.10	0.19	1.80	77
BH-2	20.5-21	2	0.15	0.26	1.74	85
BH-2	30.5-31	2	0.11	0.20	1.81	86
BH-2	40.5-41	2	0.12	0.22	1.86	102
BH-2	50.5-51	2	0.15	0.26	1.71	81
BH-3	10.5-11	1	0.06	0.11	1.76	81
BH-3	35.5-36	1	0.07	0.12	1.68	33
BH-3	40.5-41	2	0.12	0.24	1.93	84
BH-3	45.5-46	3	0.13	0.26	1.93	57
BH-3	50.5-51	2	0.21	0.36	1.67	63
Monitor Well Core Samples						
MW-1	5.5-6*	2	0.12	0.16	1.34	81
MW-1	25.5-26	3	0.15	0.29	1.85	67
MW-1	40.5-41	1	0.11	0.20	1.89	76
MW-1	55.5-56	3	0.13	0.24	1.83	79
MW-1	80.5-81	1	0.18	0.28	1.57	77
MW-2	5.5-6	1	0.06	0.11	1.83	48
MW-2	15.5-16	1	0.11	0.17	1.62	29
MW-2	40.5-41	3	0.16	0.29	1.81	50
MW-2	60.5-61	1	0.16	0.27	1.63	55
MW-2	80.5-81	2	0.14	0.23	1.67	61
MW-3	20.5-21	1	0.14	0.20	1.45	36
MW-3	40.5-41	1	0.16	0.29	1.83	74
MW-3	50.5-51	2	0.19	0.35	1.80	61
MW-3	70.5-71	1	0.06	0.10	1.68	76
MW-3	90.5-91	1	0.19	0.30	1.57	71
Hydrologic Unit 1 Average (n=12)					**1.70**	**60**
Hydrologic Unit 2 Average (n=12)					**1.73 (1.77)****	**78 (76)****
Hydrologic Unit 3 Average (n=6)					**1.85**	**63**

*partial recovery, core sample contained firm clods indicative of hardpan material
**values in parenthesis reflect averages when omitting samples in hardpan material

3.6.2 Particle Size Distribution

Five test pit samples and four borehole samples that captured the range of materials observed were selected for PSD testing and the results are shown in Figure 32. Laboratory measured percent fines (<0.075 mm) ranged between 10 and 65%. Laboratory PSD results were used to calibrate field PSD estimates for logged test pit and drilled intervals previously discussed in Section 3.3 and 3.3.2.

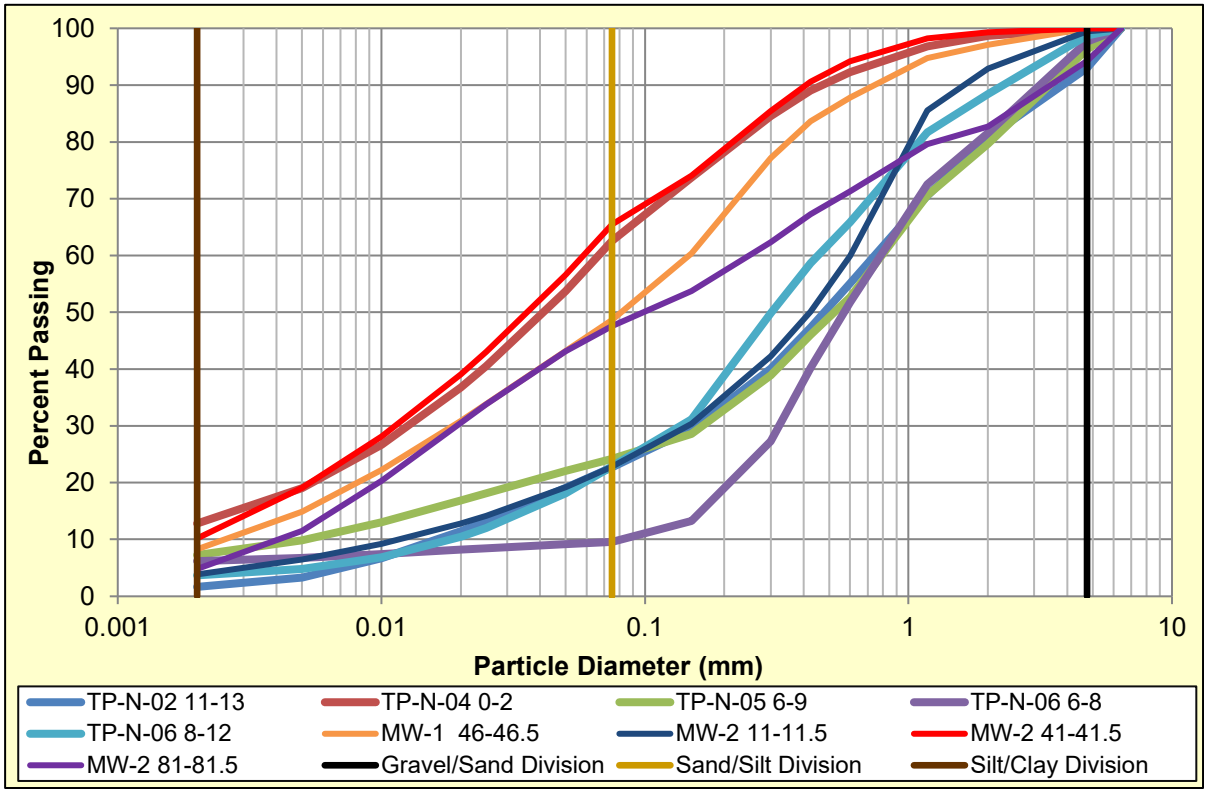


Figure 32. Laboratory particle size distribution results

3.7 Groundwater Elevation and Quality – Behl Property and Teapot Dome Landfill

Groundwater elevation and quality results for the Behl monitor wells were analyzed and compared to available data from wells within the Teapot Dome Landfill.

3.7.1 Groundwater Elevations

Table 8 presents recent available groundwater depth and elevation data for monitor wells within the Behl property and Teapot Dome Landfill. Figure 33 presents the location of groundwater monitor wells located within the Behl property and Teapot Dome Landfill. There were instances where groundwater depth measurements for some of the Teapot Dome Landfill wells indicated they were dry or contact was made with the top of the pump and as a result, groundwater depth is not shown for these wells. EBA Engineering (2020) defined two water-bearing zones beneath the landfill, the unconfined groundwater aquifer and the upper semi-confined groundwater aquifer. The unconfined groundwater aquifer extends to a depth of approximately 110 ft bgs. The upper semi-confined groundwater aquifer extends from approximately 150 ft bgs to 310 ft bgs. A semi-confining layer is present between these two groundwater aquifers at depths of approximately 110 ft to 150 ft bgs. These data indicate the Behl and landfill groundwater monitor wells in Table 8 penetrate the upper unconfined aquifer.

Recent groundwater levels for monitor wells in cross-section E-E' and F-F' are presented in Figure 34 and Figure 35 respectively. In December 2020, groundwater elevations on the southeastern edge of the Behl property were approximately 301.7 ft amsl and 300.7 ft amsl for MW-1 and MW-3, respectively. Groundwater elevation for MW-2 along the southern edge of the Behl property was lower at approximately 293.3 ft amsl. In April 2020, groundwater elevations were highest in the eastern section of the landfill with an elevation of 306.5 ft and 312 ft amsl in landfill wells M-5 and M-9, respectively, with elevations declining towards west to an elevation of 301.2 ft amsl in monitor well MW-12A. It is important to note that the most recent groundwater elevation data for the landfill wells is from approximately 8 months (April 2020) to 13 months (October 2019) prior to the Behl monitor well measurements and there may be seasonal or annual differences in groundwater elevations.

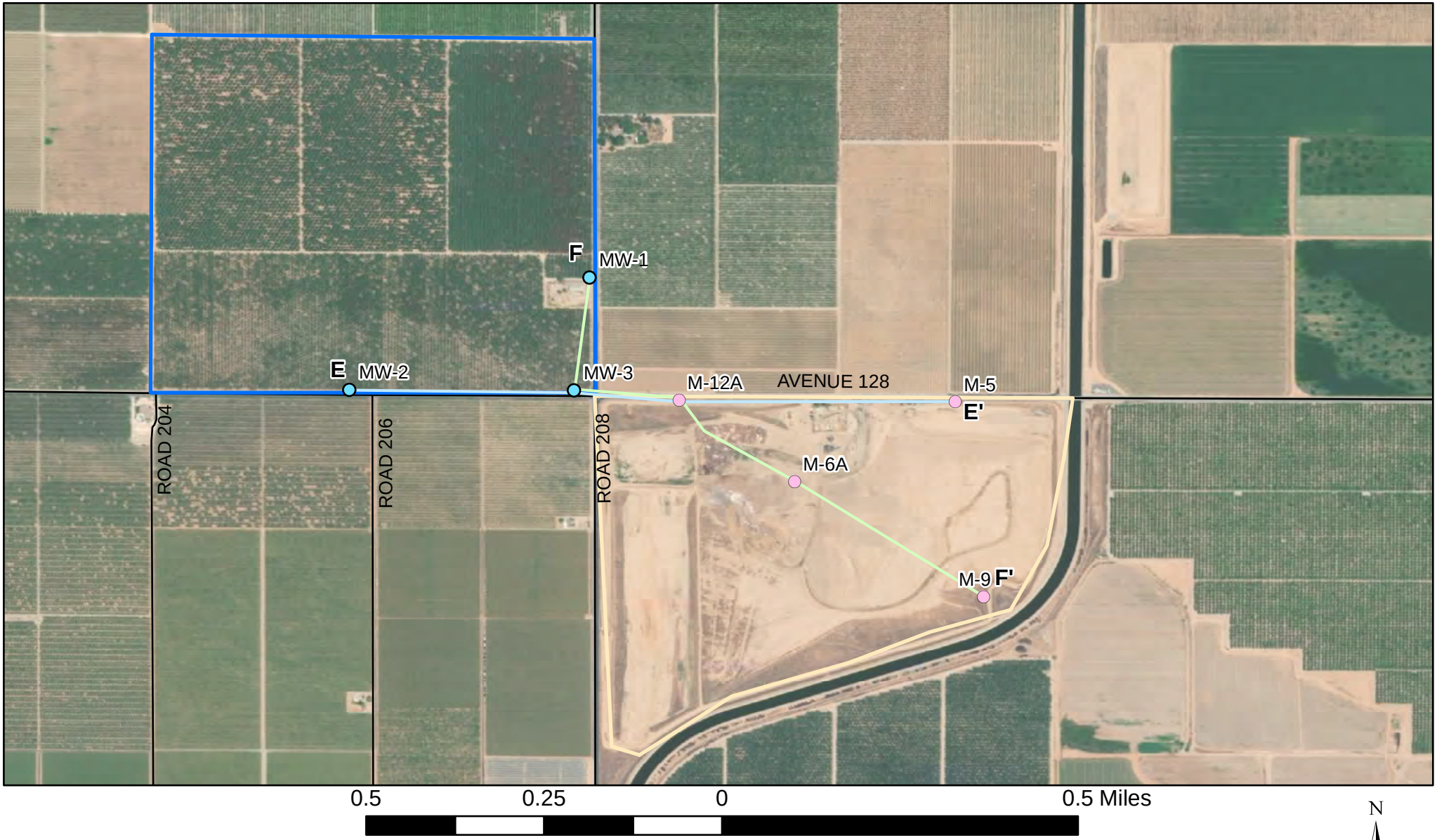
The Central Valley Water Quality Control Board has adopted a groundwater trigger elevation of 340 ft amsl for groundwater levels below the Teapot Dome landfill (EBA Engineering, 2020). Consequently, any groundwater recharge operations at the Behl property would be

required to maintain groundwater mounding conditions below the 340 ft amsl level. Other groundwater quality considerations are discussed in Section 3.7.2.

Table 8. Recent groundwater depth and elevation for monitor wells within the Behl property and Teapot Dome landfill

Monitor Well	Location	Ground Surface Elevation	Depth to Groundwater (ft bgs)	Groundwater Elevation (ft amsl)	Measurement Date	Data Source
MW-1	Behl Property	401.5	99.8	301.7	12/22/2020	Partner, 2021
MW-2		397.0	103.7	293.3	12/22/2020	
MW-3		397.6	96.9	300.7	12/22/2020	
M-12A	Teapot Dome Landfill	397.6	96.42	301.2	4/1/2020	EBA Engineering, 2020
M-5		402.9	96.47	306.5	4/1/2020	
M-6A		402.3	105.09	297.2	4/1/2020	
M-9		401.3	89.32	312.0	10/1/2019	

Note: Recent groundwater level measurements for M-1B, M-3C, M-4B, M-6A/M-6B, M-10B, M-11C, M-15C, and M-16B were registered as “Dry” or “Hit Top of Pump” and as a result are not presented.



Legend

Site boundary: Behl site

Teapot Dome Landfill

Monitor well

Teapot Dome Landfill monitoring wells

Groundwater zone

Unconfined

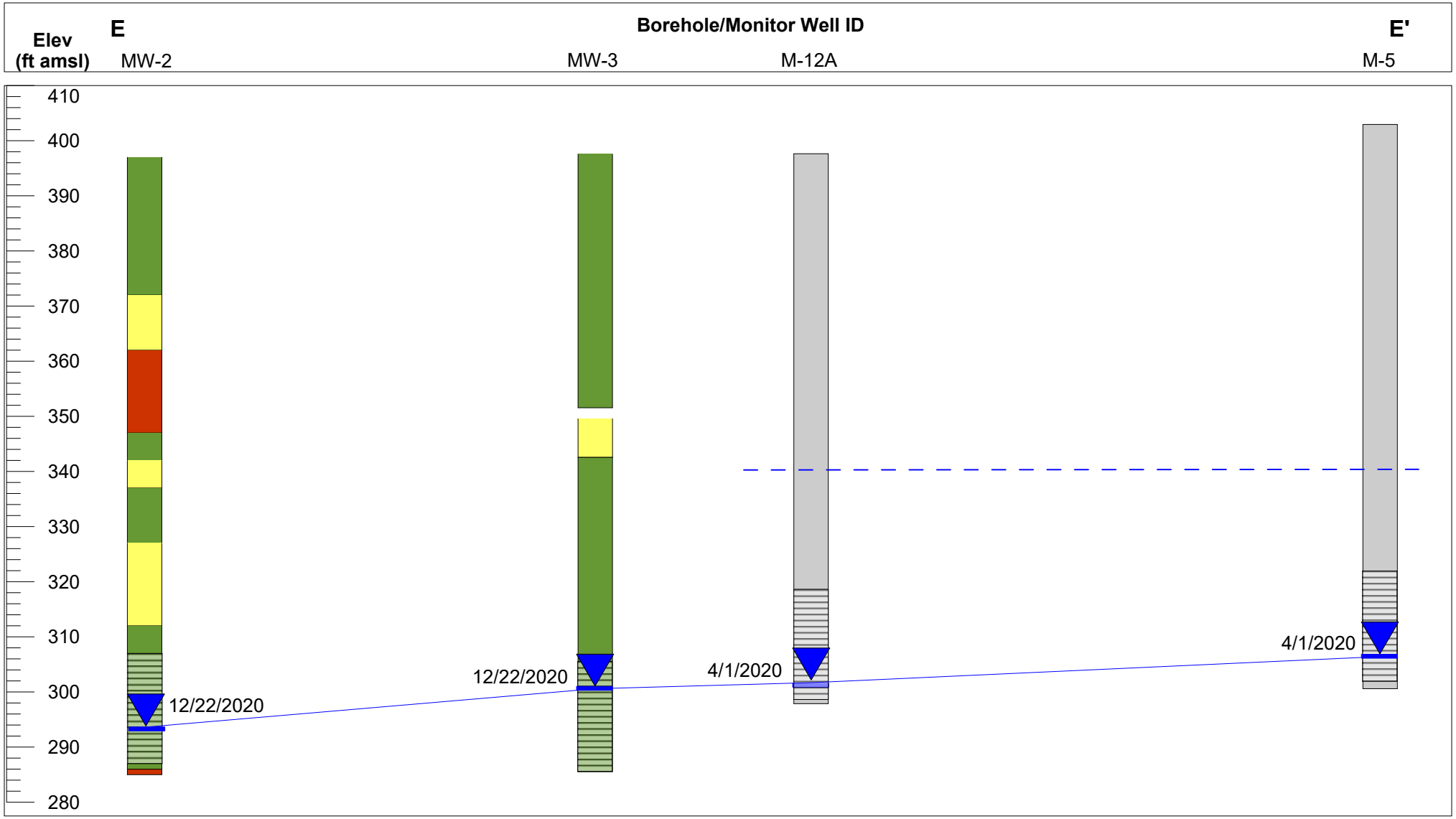
Cross-sections

E

F

Figure 33. Location of cross-sections (E-E' and F-F') with monitor wells within the Behl property and Teapot Dome Landfill

GSA GeoSystems Analysis, Inc. *Innovations and Solutions*



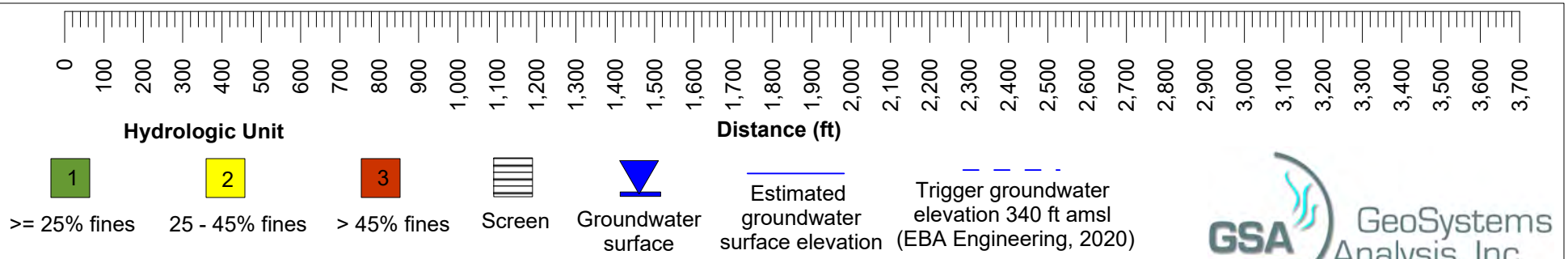


Figure 34. Behl property and Teapot Dome Landfill monitor well cross-section E-E'

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

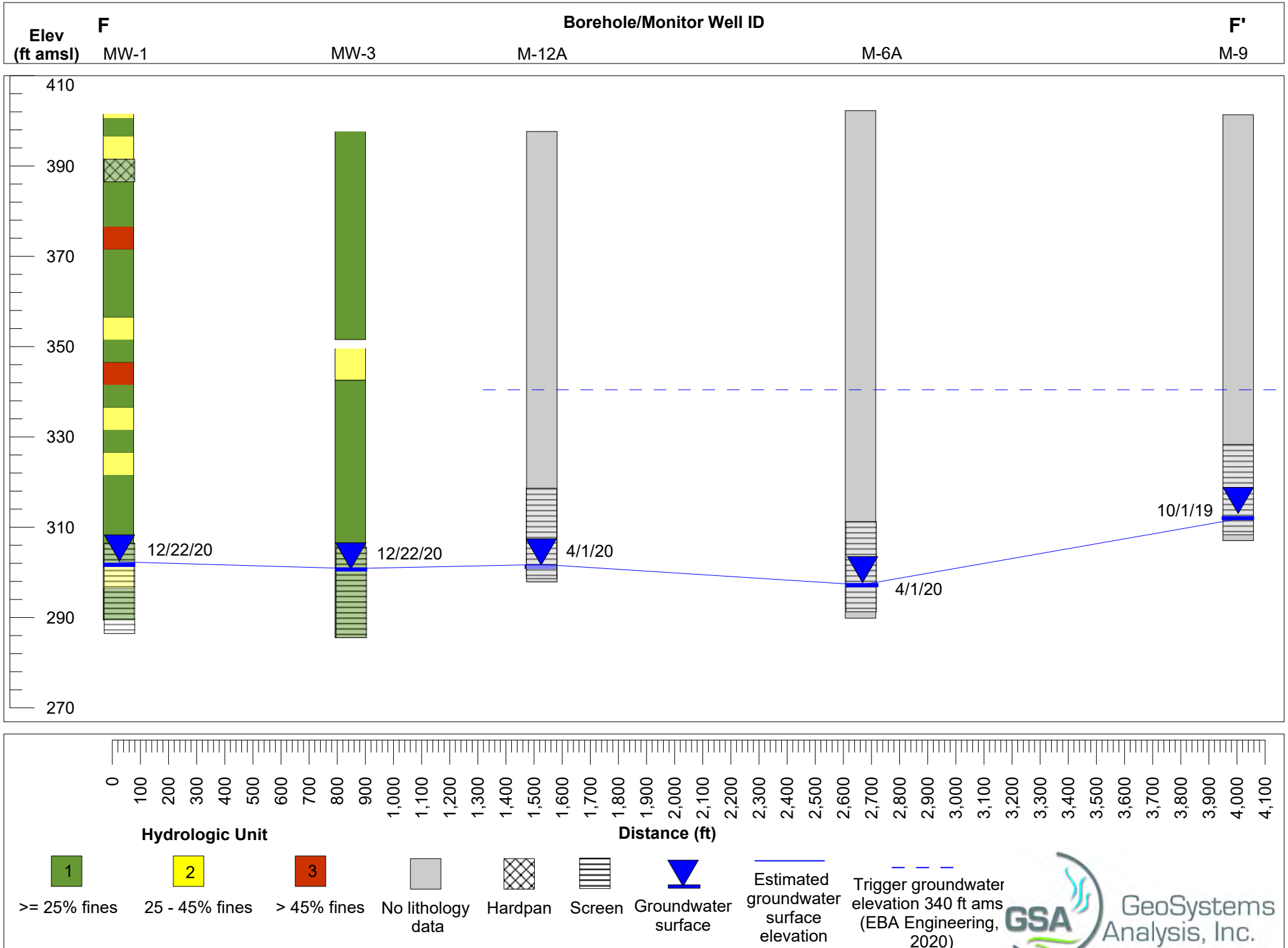


Figure 35. Behl property and Teapot Dome Landfill monitor well cross-section F-F'

3.7.2 Groundwater Quality

Recent groundwater quality sampling results were reviewed for the Behl monitor wells including the irrigation well (IW-1) within the Behl property and compared to groundwater quality results for monitor wells within the Teapot Dome Landfill. Groundwater quality sampling was completed by Partner Engineering and Science, Inc (Partner) for the Behl property monitor wells on December 22, 2022 (Partner, 2021). Well screen intervals for the Behl monitor wells range from 90 ft to 115 ft bgs which indicates sampling was completed from the shallower unconfined groundwater aquifer. Goundwater quality sampling for IW-1 was completed on August 17, 2020 by CBRE. The well screen interval for IW-1 is from approximately 122 to 260 ft bgs and the static groundwater level was measured at approximately 138 ft bgs in September 2020 (Well Spy, 2020). This indicates that sampling was completed from the upper semi-confined groundwater aquifer. Figure 36 shows locations of the Behl property monitor and irrigation wells as well as Teapot Dome Landfill monitor well locations. Table 9 presents groundwater quality results for wells within the Behl property and Teapot Dome Landfill.

The December 2020 sampling event by Partner for the Behl monitor wells detected five per- and polyfluoroalkyl substances (PFAS) in monitor well MW-1 at estimated concentrations above the laboratory detection limits (Partner, 2021) (Table 9). No PFAS compounds were detected above the laboratory reporting limit in monitor well MW-2. Eight PFAS compounds were detected in MW-3. Seven PFAS compounds were detected in IW-1 groundwater samples collected in August 2020. PFAS levels for the Behl monitor wells and irrigation well IW-1 were below 5 ng/L (Table 9). Of the detected PFAS compounds, only PFOA currently has a California State Water Board response level (10 ng/l). These PFAS concentrations were below the target reporting limits (TRLs) for groundwater of 5.0 to 8.0 ng/L as adopted from the federal Department of Defense by the California State Water Resource Control Boards (DOD/CASWRCB) in October 2020. No primary drinking water quality standard volatile organic compounds (VOCs), including chlorinated solvents, or semi-volatile organic compounds (SVOCs) were detected in the Behl monitor well and irrigation well samples.

Water quality data from wells within the Teapot Dome landfill (CSWRCB, 2020) were reviewed to determine if PFAS compounds detected in the Behl wells were also detected in the landfill wells. Recent published groundwater quality data for the landfill wells was only available for the upper semi-confined groundwater aquifer. Upper semi-confined groundwater samples collected from the landfill wells in December 5, 2019 indicate that concentrations for PFOA and PFPeA in landfill wells M-11C and M-16B were

approximately 14 to 24 ng/L greater than concentrations detected in the Behl wells (IW-1, MW-1, and MW-3) (Table 9). The screened interval for the Behl monitor wells (MW-1 to MW-3) is in the unconfined aquifer and as a result water quality data from the landfill wells may not be directly comparable to the Behl monitor wells (Table 9). However, the screened interval for the Behl irrigation well (IW-1) is in the upper semi-confined groundwater aquifer and as a result water quality data from this well may not be directly comparable to the landfill wells. Concentrations for VOCs were typically less than 1.3 ug/L for wells that had detections. An elevated concentration of 88 ug/L was detected during sampling in July 2019 for the semi-volatile organic compound bis(2-Ethylhexyl)phthalate (BEHP) in landfill well M-8.

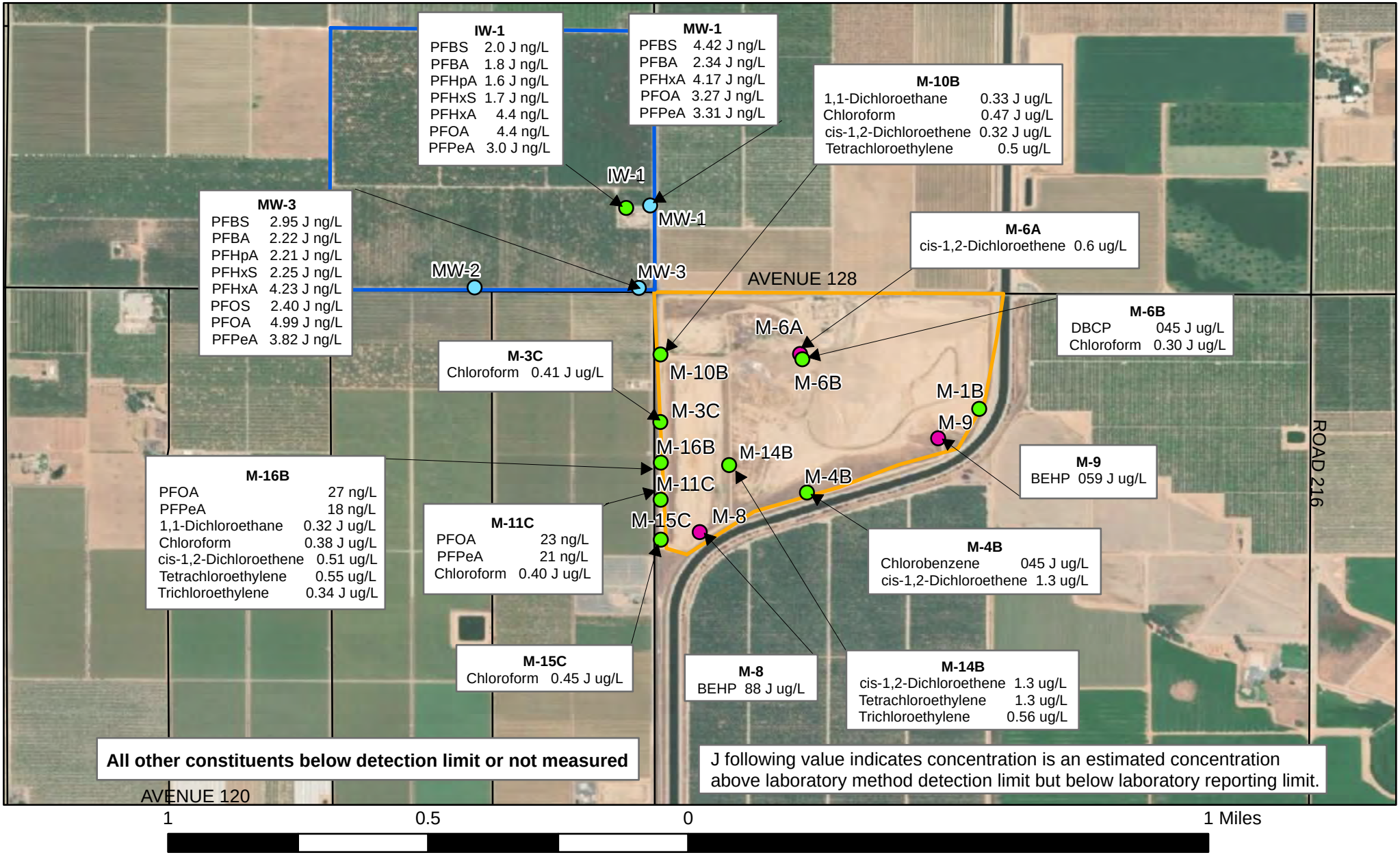


Figure 36. Monitor wells within the Behl property and Teapot Dome Landfill with PFAS and VOC results (2019-2020)

GSA GeoSystems Analysis, Inc. Innovations and Solutions

Table 9. PFAS, VOC, and SVOC results for monitor wells within the Behl property and Teapot Dome Landfill

Analyte	Behl Property Wells				Teapot Dome Landfill Wells												Units	Method
	MW-1	MW-2	MW-3	IW-1	M-1B (pump FRB)	M-3C	M-4B	M-6A	M-6B	M-8	M-9	M-10B	M-11C	14B	M-15C	M-16B		
PFAS	**12/22/2020[1,5]**				**12/5/2019[2,4,5,6,7]**													
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	<DL	<DL	<DL	<DL	{<4.5J}	NM	NM	NM	NM	NM	NM	NM	< DL	NM	NM	< DL	ng/L	EPA 537 Mod
Perfluorobutanesulfonic acid (PFBS)	4.42 J	<DL	2.95 J	2.0 J	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	ng/L	EPA 537 Mod
Perfluorobutanoic acid (PFBA)	2.35 J	<DL	2.22 J	1.8 J	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	ng/L	EPA 537 Mod
Perfluoroheptanoic acid (PFHpA)	<DL	<DL	2.21 J	1.6 J	< DL	NM	NM	NM	NM	NM	NM	NM	{< 9.4 J}	NM	NM	{< 9.2 J}	ng/L	EPA 537 Mod
Perfluorohexanesulfonic acid (PFHxS)	<DL	<DL	2.25 J	1.7 J	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	ng/L	EPA 537 Mod
Perfluorohexanoic acid (PFHxA)	4.17 J	<DL	4.23 J	4.4	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	ng/L	EPA 537 Mod
Perfluorooctanesulfonic acid (PFOS)	<DL	<DL	2.40 J	<DL	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	ng/L	EPA 537 Mod
Perfluorooctanoic acid (PFOA)	3.27 J	<DL	4.99 J	4.4	< DL	NM	NM	NM	NM	NM	NM	NM	{23}	NM	NM	{27}	ng/L	EPA 537 Mod
Perfluoropentanoic acid (PFPeA)	3.31 J	<DL	3.82 J	3.0 J	< DL	NM	NM	NM	NM	NM	NM	NM	{21}	NM	NM	{18}	ng/L	EPA 537 Mod
Other PFAS Compounds	< DL	< DL	< DL	< DL													ng/L	EPA 537 Mod
VOC	**12/22/2020[1,6]**				**6/2/2020[3,4,5,7]**													
1,1-Dichloroethane	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	{0.33 J}	<DL	<DL	<DL	**{0.32 J}**	ug/L	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	{0.45 J}	<DL	<DL	<DL	<DL	<DL	<DL	<DL	ug/L	EPA 8260B
Chlorobenzene	<DL	<DL	<DL	<DL	<DL	<DL	{0.45 J}	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	ug/L	EPA 8260B
Chloroform	<DL	<DL	<DL	<DL	<DL	{0.41 J}	<DL	<DL	{0.30 J}	<DL	<DL	**{0.47 J}**	**{0.40 J}**	<DL	{0.45 J}	**{0.38 J}**	ug/L	EPA 8260B
cis-1,2-Dichloroethene	<DL	<DL	<DL	<DL	<DL	<DL	{1.3}	0.6	<DL	<DL	<DL	**{0.32 J}**	<DL	**{1.3}**	<DL	{0.51}	ug/L	EPA 8260B
Tetrachloroethylene	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	{0.5}	<DL	**{1.3}**	<DL	{0.55}	ug/L	EPA 8260B
Trichloroethylene	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	**{0.56}**	<DL	**{0.34 J}**	ug/L	EPA 8260B
SVOC																		
bis(2-Ethylhexyl)pthalate (BEHP)	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	**88**	**0.59 J**	<DL	<DL	<DL	<DL	<DL	ug/L	EPA 8270C

[1]Partner Engineering and Science, Inc., 2020. December 2020 Groundwater Monitoring Report: Behl Property. Prepared for RRG Capital Management, L:LC, January 20, 2021.
[2]California State Water Resources Control Board, 2020. EDF Data Report for Teapot Dome SWDS (L10001759711). Online: https://geotracker.waterboards.ca.gov/.

[3]EBA Engineering, 2020. 2020 First Semi-Annual Monitoring Report for Teapot Dome Landfill. Prepared for Tulare County Solid Waste Department, August 2020. Online: https://geotracker.waterboards.ca.gov/.

[4]Value in brackets {} indicates a well screened in upper semi-confined groundwater zone

[5]Value followed by J indicates the value is between the minimum detectable limit and the reportable limit

[6]<DL - below detectable limit

[7]NM - not measured

[8] Value in bold indicates test date in July 2019

4.0 CONCLUSIONS

GSA conducted a field and laboratory characterization of subsurface materials within the Behl property located near Porterville, CA to assess the suitability of subsurface soils for use as MAR operations and assess groundwater quality conditions and potential groundwater quality impacts from the Teapot Dome Landfill.

At the near surface, 12 test pits were excavated and logged, in addition CI testing was completed adjacent to the test pit locations. Deeper subsurface characterization was completed by drilling and logging 3 boreholes and 3 monitor wells. Logged depth intervals were classified into 3 hydrologic units based on the adjusted percent fines. To estimate potential recharge rates, geometric mean effective K values were assigned to each of the hydrologic units based on the CI testing results and applied to each logged test pit interval, weighted by thickness and then averaged to determine a weighted effective K value for each test pit. Hydrologic unit classifications and associated effective K values are as followed:

- Unit 1: coarse material, predominantly sandy material with 25% fines or less with a mean effective K of 4.6 ft/day;
- Unit 2: medium textured material, silty/clayey sands with 25% to 45% fines with a mean effective K of 0.90 ft/day;
- Unit 3: fine textured material, silty/clayey material with greater than 45%fines with a mean effective K of 0.30 ft/day.

Geologic logging results for the near-surface test pits indicates that subsurface materials were overall finer-grained in the northern section of the Behl property within the Exeter and Flamen loam soil map units. Subsurface materials were composed of predominantly Unit 3 materials from the surface to 4 ft bgs and then transitioned to predominantly Unit 2 materials from 4 ft to 16 ft bgs. Additionally, a hardpan layer was encountered in the majority of test pits within the Exeter and Flamen loam soil map units at depths ranging from 1 ft to 4 ft bgs and had a thickness ranging from 2 ft to approximately 5 ft. Test pit hydrologic unit weighted effective K values ranged from 0.41 ft/day to 1.28 ft/day, indicating that this area is marginally suitable for groundwater recharge. It is important to note that the effective K may be lower for test pits located within the Exeter loam and Flamen loam soil map units due to the presence of a hardpan layer. Deep ripping of the near-surface is recommended if groundwater recharge is to occur in these areas of the Behl property.

In the southern section of the Behl property, test pits located within the Tujunga loamy sand and Nord fine sandy loam soil map units were significantly coarser grained consisting of

mainly Unit 1 materials. Test pit effective K values within the Tujunga loamy sand and Nord fine sandy loam soil map units ranged from 1.51 ft/day to 4.58 ft/day, indicating that this area is suitable for groundwater recharge.

Geologic logging results for the deeper subsurface indicate similar trends as observed in the test pits; generally finer-grained materials in the northern section of the Behl property and significantly coarser-grained materials in the southern section. Consistent with the test pits, hardpan materials were encountered in the northern section at BH-1 and MW-1 between 5 and 10 ft bgs. At the majority of the drilling locations, finer-grained Unit 3 and Unit 2 materials were encountered at depths between 35 and 65 ft bgs which could have lower permeability based on SPT results and may result in groundwater perching. Overall, these finer-grained materials were minor (i.e. less than 5 ft thick) with the exception of MW-2 where finer-grained materials appear to be about 15 ft thick.

Laboratory dry bulk density values for drill core samples were 1.70 g/cm^3, 1.77 g/cm^3, and 1.85 g/cm^3 for Unit 1, Unit 2, and Unit 3 materials, respectively. Modified penetration resistance results indicate that total blows required to penetrate the 1.5-foot-long core sampler were 60, 76, and 63 for Unit 1, Unit 2, and Unit 3 materials. No correlation was observed between core bulk density and modified penetration resistance.

Groundwater elevations from well sounding measurements in December 2020 for monitor wells on the eastern edge of the Behl property were similar with elevations of approximately 301.7 ft amsl and 300.7 ft amsl for MW-1 and MW-3, respectively. The groundwater elevation for MW-2 was lower at approximately 293.3 ft amsl. In general groundwater elevations for monitor wells within the Behl property were lower compared to April 2020 and October 2019 groundwater levels at the Teapot Dome Landfill monitor wells.

The Central Valley Water Quality Control Board has adopted a groundwater trigger elevation of 340 ft amsl for groundwater levels below the Teapot Dome landfill (EBA Engineering, 2020). Consequently, any groundwater recharge operations at the Behl property would be required to maintain groundwater mounding conditions at the landfill below 340 ft amsl. The restriction on groundwater mounding (approximately 30-40 feet above current groundwater elevations) below the landfill will require coordination with the landfill operator and possibly extensive groundwater monitoring to ensure groundwater elevations are maintained below the groundwater trigger elevation.

Groundwater quality sampling conducted in December 2020 for the Behl monitor wells detected five PFAS compounds in monitor well MW-1 at estimated concentrations above the

laboratory detection limits. No PFAS compounds were detected above the laboratory reporting limit in monitor well MW-2. Eight PFAS compounds were detected in MW-3. Additionally, groundwater quality results for Behl irrigation well IW-1 collected in August 2020 indicate that seven PFAS compounds were detected. Of the detected PFAS compounds, only PFOA currently has a California State Water Board response level (10 ng/l). PFAS levels in the Behl wells, including irrigation well IW-1, were less than 5 ng/L and below the TRLs for groundwater as adopted from the DOD/CASWRCB. No VOCs, including chlorinated solvents, or semi-volatile organic compounds (SVOCs) were detected in the Behl well samples. Water quality data from the Teapot Dome Landfill indicates that concentrations for PFOA and PFPeA in landfill wells M-11C and M-16B were approximately 14 to 21 ng/L higher than concentrations detected in the Behl wells. It is important to note that sampling for the Behl monitor wells (MW-1 to MW-3) was conducted in the unconfined aquifer and as a result water quality data is not directly comparable to the landfill wells.

Based on the results from this study, the southern section of the Behl property located within the Tujunga loamy sand and Nord fine sandy loam soil map units are hydrologically suitable for MAR operations and are likely to achieve near-surface infiltration rates in excess of 1.5 ft/day. The northern section is marginally suitable due to the presence of finer-grained materials and a hardpan layer. Deep ripping is recommended in the northern section of the Behl property if MAR operations are to be conducted in that portion of the property.

5.0 REFERENCES

American Society for Testing and Materials. 2003. Volume 4.08. Philadelphia, Pennsylvania.

ASTM, See American Society for Testing and Materials

CSWRCB, See California State Water Resources Control Board

California State Water Resources Control Board. 2020. EDF Data Report for Teapot Dome SWDS (L10001759711). Online: https://geotracker.waterboards.ca.gov/

EBA Engineering. 2019. 2019 Second Semi-Annual and Annual Monitoring Report for Teapot Dome Landfill Tulare County, California. Prepared for: Tulare County Solid Waste Department. February 2020.

EBA Engineering. 2020. 2020 First Semi-Annual Monitoring Report for Teapot Dome Landfill Tulare Country, California. Prepared for: Tulare County Solid Waste Department. August 2020.

GSA, See GeoSystems Analysis, Inc.

Guo, B., Zeng, J., & Brusseau, M. L. (2020). A mathematical model for the release, transport, and retention of per- and polyfluoroalkyl substances (PFAS) in the vadose zone. Water Resources Research, 56.

Partner Engineering and Science, Inc. 2021. December 2020 Groundwater Monitoring Report: Behl Property. Prepared for: RRG Capital Management LLC. January 20, 2021.

USDA-NRCS. 2019. Soil Survey Geographic (SSURGO) databases for Tulare County, Western Part, California. Web Soil Survey. Available online at the following link: http://websoilsurvey.sc.egov.usda.gov/. Accessed [October 8, 2020].

U.S. Geological Survey. 2020. 3D Elevation Program 1/3 arc-second Digital Elevation Model. Online: https://apps.nationalmap.gov/downloader/#/. Accessed [February 5, 2021].

Well Spy. 2020. Wellbore Inspection Report (Downhole camera reconnaissance of Behl Property irrigation supply well). Well Spy Water Well Surveys, Reedly, California

APPENDIX A

Test Pit and Borehole/Monitor Well Geologic Logs

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Group **Location:** Behl Property **Excavation Company:** Water Associates LLC **Excavation Date:** 11/10/2020 **Logged By:** Jaime Banuelos

Test Pit ID: TP-N-01 **Easting[1]:** 309589 **Northing[1]:** 3989216 **Elevation (ft amsl):** N/A

Depth Interval (ft)		Grab Sample?	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Classification	Hydrologic Unit [3]	HCL Reaction (None, Weak, Moderate, Strong)	Color	Comments
From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	% Fines									
0	1		Moist	1	45	37	18	54	1	40	48	12	59	Well	Fine	Low	loam	ML	3	None	dark yellowish brown	Similar to 0 to 1 at TP-N-02, grittier
1	3		Slightly Moist	5	67	25	4	29	5	68	25	3	27	Well	Medium	None	loamy sand	SM	2	None	brown	Dirty sand
3	4		Slightly Moist	20	76	4	0	4	20	76	4	0	4	Well	Medium	None	sand	SW	1	None	brown	Fairly clean sand
4	5		Slightly Moist	3	73	19	5	24	3	76	18	3	21	Well	Medium	None	loamy sand	SM	1	Moderate	yellowish red	Caliche type layer, cemented clods, carbonates on clods. Hardpan.
5	7	Sampled	Slightly Moist	2	67	25	7	31	2	68	26	5	30	Well	Fine	None	sandy loam	SM	2	Strong	yellowish brown	Very malleable, slightly sticky. Hard clods present but mostly friable. Some clods are not friable.
7	13		Slightly Moist	2	67	25	7	31	2	68	26	5	30	Well	Medium	None	sandy loam	SM	2	Weak	yellowish brown	Same as above, less HCl reaction.
13	16		Slightly Moist	2	69	25	5	29	2	70	24	3	28	Well	Medium	None	sandy loam	SM	2	Weak	yellowish brown	Slightly less clay

[1]Coordinates are in Universal Transverse Mercator System, World Geodetic System 1984, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Group **Location:** Porterville, CA - Behl Property **Excavation Company:** Water Associates LLC **Excavation Date:** 11/10/20 **Logged By:** Jaime Banuelos

Test Pit ID: TP-N-02 **Easting[1]:** 309833 **Northing[1]:** 3989212 **Elevation (ft amsl):** N/A

Depth Interval (ft)		Grab Sample?	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Classification	Hydrologic Unit [3]	HCL Reaction (None, Weak, Moderate, Strong)	Color	Comments
From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	% Fines									
0	2		Moist	1	40	40	20	59	1	33	53	13	66	Well	Fine	Medium	silt loam	ML	3	None	dark reddish brown	Same as 0 to 2 ft in TP-N-04
2	3		Slightly Moist	1	37	40	23	62	1	30	54	15	69	Well	Fine	Medium	silt loam	ML	3	None	dark reddish brown	Slightly more clay
3	6		Slightly Moist	1	45	35	20	54	1	40	46	13	59	Well	Medium	Low	loam	ML	3	Weak	brown	Fine/medium sand.
6	8		Slightly Moist	1	59	30	10	40	1	59	34	7	40	Well	Fine	Low	sandy loam	SM	2	None	brown	More sand, very malleable
8	11		Slightly Moist	4	56	29	12	40	4	54	34	8	42	Well	Fine	Low	sandy loam	SM	2	None	dark yellowish brown	Slightly more clay
11	14.5	Sampled	Slightly Moist	4	65	24	7	31	4	66	25	4	30	Well	Medium	None	sandy loam	SM	2	None	dark yellowish brown	Coarser, sampled 11 to 13 ft
14.5	16		Moist	5	88	6	1	7	5	88	6	1	7	Well	Medium	None	sand	SW-SM	1	None	dark yellowish brown	Medium sand with little fines.

[1]Coordinates are in Universal Transverse Mercator System, World Geodetic System 1984, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Group **Location:** Porterville, CA - Behl Property **Excavation Company:** Water Associates LLC **Excavation Date:** 11/10/2020 **Logged By:** Jaime Banuelos

Test Pit ID: TP-N-03 **Easting[1]:** 309555 **Northing[1]:** 3988954 **Elevation (ft amsl):** N/A

Depth Interval (ft)		Grab Sample?	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Classification	Hydrologic Unit [3]	HCL Reaction (None, Weak, Moderate, Strong)	Color	Comments
From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	% Fines									
0	1		Dry	1	40	40	20	59	1	33	53	13	66	Well	Fine	Low	silt loam	ML	3	Weak	dark yellowish brown	Silty loam
1	3	Sampled	Slightly Moist	1	50	35	15	50	1	46	43	10	53	Well	Fine	Low	loam	ML	3	Weak	brown	Similar material as above but slightly less fines.
3	5		Slightly Moist	2	59	25	15	39	2	58	30	10	40	Well	Coarse	None	sandy loam	SM	2	Weak	brown	Medium coarse sand with fines. Gritty. Refusal at 6 ft. Hardpan layer. Backhoe spent approx. 20 minutes trying to break through hardpan layer without success.

[1]Coordinates are in Universal Transverse Mercator System, World Geodetic System 1984, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Group **Location:** Porterville, CA - Behl Property **Excavation Company:** Water Associates LLC **Excavation Date:** 11/10/2020 **Logged By:** Jaime Banuelos

Test Pit ID: TP-N-04 **Easting[1]:** 309824 **Northing[1]:** 3988975 **Elevation (ft amsl):** N/A

Depth Interval (ft)		Grab Sample?	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Classification	Hydrologic Unit [3]	HCL Reaction (None, Weak, Moderate, Strong)	Color	Comments
From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	% Fines									
0	2	Sampled	Moist	1	40	40	20	59	1	33	53	13	66	Well	Fine	Medium	silt loam	ML	3	None	dark brown	Finer grained so far.
2	3		Dry	3	66	24	7	31	3	67	25	4	30	Well	Medium	None	sandy loam	SM	2	Strong	yellowish brown	Hardpan, caliche type material. White coating on clods. Appears to be cemented layer. Clods are difficult to break apart
3	6		Slightly Moist	5	62	24	10	33	5	62	27	6	33	Well	Medium	Low	sandy loam	SM	2	Weak	brown	Gritty material. Silty sand. Hard clods difficult to break up. May have more gravel
6	7		Dry	3	66	24	7	31	3	67	25	4	30	Well	Medium	None	sandy loam	SM	2	Strong	brown	Similar to 2-3 foot interval. Slightly moist. White coating on clods. Clods difficult to break apart. May have more gravel.
7	11	Sampled	Moist	2	64	27	7	34	2	64	29	5	34	Well	Fine	Low	sandy loam	SM	2	Moderate	dark yellowish brown	Silty sand.
11	12.5		Slightly Moist	2	74	20	5	25	2	77	18	3	21	Well	Fine	None	loamy sand	SM	1	Moderate	dark yellowish brown	Coarser material
12.5	16		Slightly Moist	15	83	2	0	2	15	83	2	0	2	Well	Medium	None	sand	SW	1	None	light yellowish brown	Clean sand

[1]Coordinates are in Universal Transverse Mercator System, World Geodetic System 1984, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Group **Location:** Porterville, CA - Behl Property **Excavation Company:** Water Associates LLC **Excavation Date:** 11/11/2020 **Logged By:** Jaime Banuelos

Test Pit ID: TP-N-05 **Easting[1]:** 309408 **Northing[1]:** 3988808 **Elevation (ft amsl):** N/A

Depth Interval (ft)		Grab Sample?	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Classification	Hydrologic Unit [3]	HCL Reaction (None, Weak, Moderate, Strong)	Color	Comments
From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	% Fines									
0	1		Moist	2	59	29	10	39	2	58	34	6	40	Well	Fine	Low	sandy loam	SM	2	None	dark reddish brown	Fine sand with silt, smooth not very sticky
1	2		Slightly Moist	2	39	34	25	59	2	33	49	16	65	Well	Fine	Medium	loam	ML	3	None	yellowish red	Sandy clay
2	3	Sampled	Dry	3	79	16	2	18	3	83	13	1	14	Well	Coarse	None	sand	SM	1	Moderate	yellowish red	Material with hard clods that are difficult to break up. Carbonate coating on clod surfaces. Material may be finer grained. Appears to be cemented hardpan layer.
3	6	Sampled	Slightly Moist	3	44	34	19	53	3	39	46	13	58	Well	Coarse	Low	loam	ML	3	Weak	reddish brown	Gritty, medium coarse sand with fines. Clods present similar to interval above, hard but friable.
6	9	Sampled	Slightly Moist	5	70	18	7	25	5	73	18	4	22	Well	Coarse	Low	loamy sand	SM	1	None	yellowish red	Slightly coarser than above. Coarse sand with clay.
9	12		Moist	3	50	29	17	47	3	47	38	12	50	Well	Fine	Low	loam	SM	3	None	brown	Fine malleable material. Equal parts sand and fines.
12	13		Moist	3	79	15	4	18	3	83	11	3	14	Well	Fine	None	loamy sand	SM	1	None	brown	Coarser, silty sand
13	16		Slightly Moist	8	91	1	0	1	8	91	1	0	1	Well	Coarse	None	sand	SW	1	None	brown	Clean coarse/medium sand

[1]Coordinates are in Universal Transverse Mercator System, World Geodetic System 1984, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Group **Location:** Porterville, CA - Behl Property **Excavation Company:** Water Associates LLC **Excavation Date:** 11/10/2020 **Logged By:** Jaime Banuelos

Test Pit ID: TP-N-06 **Easting[1]:** 309840 **Northing[1]:** 3988817 **Elevation (ft amsl):** N/A

Depth Interval (ft)		Grab Sample?	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Classification	Hydrologic Unit [3]	HCL Reaction (None, Weak, Moderate, Strong)	Color	Comments
From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	% Fines									
0	1		Slightly Moist	1	50	35	15	50	1	46	43	10	53	Well	Fine	Low	loam	ML	3	None	dark yellowish brown	Fine grained material
1	3		Slightly Moist	3	63	19	15	34	3	63	24	10	34	Well	Medium	Low	sandy loam	SM	2	Weak	brown	Sandy clay, gritty. Hard clods.
3	5	Sampled	Slightly Moist	4	72	19	5	24	4	75	18	3	21	Well	Medium	None	loamy sand	SM	1	Moderate	yellowish brown	Sand with some fines, hard clods not very friable, gritty.
5	6		Slightly Moist	5	76	16	3	19	5	80	13	2	15	Well	Medium	None	loamy sand	SM	1	Moderate	dark yellowish brown	Coarser than interval above
6	8	Sampled	Slightly Moist	5	81	11	3	14	5	86	7	2	9	Well	Medium	None	sand	SW-SM	1	None	brown	More sand, difficult to dig.
8	12	Sampled	Slightly Moist	3	69	24	4	28	3	71	24	3	26	Well	Fine	None	loamy sand	SM	2	Weak	dark yellowish brown	Finer than above, very difficult to dig.
12	15		Slightly Moist	12	84	4	0	4	12	84	4	0	4	Well	Medium	None	sand	SW	1	None	brownish yellow	Clean sand

[1]Coordinates are in Universal Transverse Mercator System, World Geodetic System 1984, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Group **Location:** Porterville, CA - Behl Property **Excavation Company:** Water Associates LLC **Excavation Date:** 11/11/2020 **Logged By:** Jaime Banuelos

Test Pit ID: TP-N-07 **Easting[1]:** 309540 **Northing[1]:** 3988736 **Elevation (ft amsl):** N/A

Depth Interval (ft)		Grab Sample?	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Classification	Hydrologic Unit [3]	HCL Reaction (None, Weak, Moderate, Strong)	Color	Comments
From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	% Fines									
0	1		Moist	2	59	27	12	39	2	58	32	8	40	Well	Fine	Low	sandy loam	SM	2	None	dark brown	Similar to material at 0 to 1 ft at TP-N-05.
1	3		Slightly Moist	4	67	22	7	29	4	69	23	4	27	Well	Medium	None	sandy loam	SM	2	Weak	strong brown	Material with hard clods. HCl effervescence not as strong as TP-5. Not very sticky. Hard to estimate gravel due to hard clods. May be hardpan layer.
3	5	Sampled	Slightly Moist	10	61	23	6	29	10	61	25	4	29	Well	Fine	None	sandy loam	SM	2	Strong	strong brown	Fine sand with fines. Slightly sticky. Some small (<1.5-inch) hard clods.
5	7		Slightly Moist	5	65	24	7	30	5	65	25	4	30	Well	Fine	None	sandy loam	SM	2	Weak	brown	Same as above. Fine sand with fines. Slightly sticky. Hard clods in this interval but friable, less gravel.
7	8		Slightly Moist	1	54	30	15	45	1	52	37	10	47	Well	Fine	Low	sandy loam	SM	3	Weak	brown	Finer grained. Slightly more sand than fines
8	12		Slightly Moist	2	94	4	0	4	2	94	4	0	4	Well	Medium	None	sand	SW	1	None	strong brown	Fairly clean sand
12	13		Moist	10	84	6	0	6	10	84	6	0	6	Well	Medium	None	sand	SW-SM	1	None	strong brown	Slightly finer
13	16		Moist	15	82	3	0	3	15	82	3	0	3	Well	Coarse	None	sand	SW	1	None	strong brown	Fairly clean sand, more gravel, coarser sand

[1]Coordinates are in Universal Transverse Mercator System, World Geodetic System 1984, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Group **Location:** Porterville, CA - Behl Property **Excavation Company:** Water Associates LLC **Excavation Date:** 11/10/2020 **Logged By:** Jaime Banuelos

Test Pit ID: TP-N-08 **Easting[1]:** 310005 **Northing[1]:** 3988671 **Elevation (ft amsl):** N/A

Depth Interval (ft)		Grab Sample?	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Classification	Hydrologic Unit [3]	HCL Reaction (None, Weak, Moderate, Strong)	Color	Comments
From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	% Fines									
0	1		Slightly Moist	1	59	30	10	40	1	59	34	7	40	Well	Fine	Low	sandy loam	SM	2	Weak	brown	Silty sand. More sand than fines.
1	4.5	Sampled	Slightly Moist	0	65	30	5	35	0	66	31	3	34	Well	Fine	Low	sandy loam	SM	2	Weak	brown	Slightly more sand.
4.5	7.5		Slightly Moist	0	65	30	5	35	0	66	31	3	34	Well	Fine	Low	sandy loam	SM	2	Weak	brown	Same as above, slightly darker material
7.5	13		Slightly Moist	0	55	33	12	45	0	53	39	8	47	Well	Fine	Low	sandy loam	SM	3	Weak	brown	Slightly more clay than 0 to 1 ft
13	14		Slightly Moist	0	65	30	5	35	0	66	31	3	34	Well	Fine	Low	sandy loam	SM	2	None	brown	
14	15		Slightly Moist	0	60	30	10	40	0	59	34	7	41	Well	Very Fine	Low	sandy loam	SM	2	None	brown	
15	16		Slightly Moist	0	65	30	5	35	0	66	31	3	34	Well	Fine	None	sandy loam	SM	2	None	brown	

[1]Coordinates are in Universal Transverse Mercator System, World Geodetic System 1984, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Group **Location:** Porterville, CA - Behl Property **Excavation Company:** Water Associates LLC **Excavation Date:** 11/11/2020 **Logged By:** Jaime Banuelos

Test Pit ID: TP-N-09 **Easting[1]:** 309402 **Northing[1]:** 3988570 **Elevation (ft amsl):** N/A

Depth Interval (ft)		Grab Sample?	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Classification	Hydrologic Unit [3]	HCL Reaction (None, Weak, Moderate, Strong)	Color	Comments
From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	% Fines									
0	1		Moist	1	67	25	7	32	1	69	26	5	30	Well	Fine	None	sandy loam	SM	2	None	brown	Similar to 0 to 1 ft at TP-N-10 and TP-N-12. Sandy loam
1	2		Slightly Moist	1	79	15	5	20	1	84	12	3	15	Well	Fine	None	loamy sand	SM	1	None	brown	Coarser, silty sand
2	4		Moist	1	87	10	2	12	1	94	4	1	5	Well	Fine	None	sand	SW	1	None	dark yellowish brown	Fine medium sand, some fines
4	8	Sampled	Moist	2	78	16	4	20	2	83	12	3	15	Well	Medium	None	loamy sand	SM	1	None	dark brown	Similar as above. Slightly more fines.
8	10		Moist	2	86	10	2	12	2	93	4	1	5	Well	Medium	None	sand	SW	1	None	dark yellowish brown	Coarser, medium sand with some fines
10	11		Slightly Moist	5	94	1	0	1	5	94	1	0	1	Well	Medium	None	sand	SW	1	None	brownish yellow	Clean medium sand
11	12		Moist	2	86	10	2	12	2	93	4	1	5	Well	Medium	None	sand	SW	1	None	dark yellowish brown	No sample due to cave in. Operator indicates material changed to material similar as 8 to 10 ft.

[1]Coordinates are in Universal Transverse Mercator System, World Geodetic System 1984, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Group **Location:** Porterville, CA - Behl Property **Excavation Company:** Water Associates LLC **Excavation Date:** 11/11/2020 **Logged By:** Jaime Banuelos

Test Pit ID: TP-N-10 **Easting[1]:** 309711 **Northing[1]:** 3988591 **Elevation (ft amsl):** N/A

Depth Interval (ft)		Grab Sample?	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Classification	Hydrologic Unit [3]	HCL Reaction (None, Weak, Moderate, Strong)	Color	Comments
From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	% Fines									
0	1		Slightly Moist	1	75	20	4	24	1	79	17	3	20	Well	Fine	None	loamy sand	SM	1	None	dark yellowish brown	Similar to 0 to 1 in TP-11, silty sand
1	3		Slightly Moist	2	95	3	0	3	2	95	3	0	3	Well	Fine	None	sand	SW	1	None	yellowish brown	Clean sand
3	7	Sampled	Slightly Moist	4	94	2	0	2	4	94	2	0	2	Well	Medium	None	sand	SW	1	None	yellowish brown	Medium sand, grittier. Frequent cave-in at approximately 6 ft bgs due to very sandy material.

[1]Coordinates are in Universal Transverse Mercator System, World Geodetic System 1984, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Group **Location:** Porterville, CA - Behl Property **Excavation Company:** Water Associates LLC **Excavation Date:** 11/11/2020 **Logged By:** Jaime Banuelos

Test Pit ID: TP-N-11 **Easting[1]:** 310069 **Northing[1]:** 3988513 **Elevation (ft amsl):** N/A

Depth Interval (ft)		Grab Sample?	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Classification	Hydrologic Unit [3]	HCL Reaction (None, Weak, Moderate, Strong)	Color	Comments
From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	% Fines									
0	1		Slightly Moist	1	81	16	2	18	1	87	11	1	12	Well	Fine	None	sand	SM	1	None	brown	Sand with some silt
1	4.5		Slightly Moist	1	96	3	0	3	1	96	3	0	3	Well	Fine	None	sand	SW	1	None	yellowish brown	Clean sand
4.5	8	Sampled	Slightly Moist	2	72	22	5	26	2	74	21	3	24	Well	Fine	None	loamy sand	SM	1	None	brown	Similar to 0 to 1 ft, slightly more fines, frequent caving in at approximately 6 to 8 ft due to sandy material.
8	10		Slightly Moist	2	79	17	2	19	2	84	12	1	14	Well	Fine	None	sand	SM	1	None	brown	Slightly coarser
10	12		Slightly Moist	5	90	5	0	5	5	90	5	0	5	Well	Fine	None	sand	SW	1	None	dark yellowish brown	Slightly dirty sand
12	13		Slightly Moist	3	71	22	4	26	3	73	21	3	24	Well	Fine	None	loamy sand	SM	1	None	brown	Similar to 4.5 to 8 ft. Silty sand
13	16		Slightly Moist	3	92	5	0	5	3	92	5	0	5	Well	Fine	None	sand	SW	1	None	yellowish brown	Slightly dirty sand

[1]Coordinates are in Universal Transverse Mercator System, World Geodetic System 1984, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Group **Location:** Porterville, CA - Behl Property **Excavation Company:** Water Associates LLC **Excavation Date:** 11/11/2020 **Logged By:** Jaime Banuelos

Test Pit ID: TP-N-12 **Easting[1]:** 309722 **Northing[1]:** 3988520 **Elevation (ft amsl):** N/A

Depth Interval (ft)		Grab Sample?	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Classification	Hydrologic Unit [3]	HCL Reaction (None, Weak, Moderate, Strong)	Color	Comments
From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	% Fines									
0	1	Sampled	Slightly Moist	1	68	27	4	31	1	70	26	3	29	Well	Fine	None	sandy loam	SM	2	None	brown	Similar to 0 to 1 ft at TP-N-10. Silty sand.
1	3		Moist	0	95	5	0	5	0	95	5	0	5	Well	Fine	None	sand	SW-SM	1	None	brown	Slightly dirty sand
3	4		Moist	1	84	13	2	15	1	90	7	1	9	Well	Medium	None	sand	SW-SM	1	None	brown	Medium sand. More fines, gritty
4	5		Moist	1	94	5	0	5	1	94	5	0	5	Well	Fine	None	sand	SW	1	None	brown	Same as 1 to 3 ft.
5	9		Moist	1	69	26	4	30	1	71	25	3	28	Well	Fine	None	sandy loam	SM	2	None	brown	More fines, fine/medium sand. Not very sticky
9	11		Moist	1	79	18	2	20	1	84	14	1	15	Well	Medium	None	loamy sand	SM	1	None	dark yellowish brown	Silty sand, similar to 3 to 4 ft
11	14	Sampled	Moist	1	67	27	5	32	1	69	27	3	30	Well	Fine	Low	sandy loam	SM	2	None	dark yellowish brown	Sandy loam, finer grained.
14	16		Moist	8	88	4	0	4	8	88	4	0	4	Well	Fine	None	sand	SW	1	None	brown	Clean sand

[1]Coordinates are in Universal Transverse Mercator System, World Geodetic System 1984, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Goup | **Location:** Behl Agriculture Field | **Drilling Company:** Consolidated Testing Laboratory | **Drilling Completion Date:** 11/12/2020 | **Drilling Method:** Hollow Stem Auger, Core Sampling every 5 feet

Borehole ID: BH-1 | **Easting**[1]**:** 309583 | **Northing**[1]**:** 3989077 | **Elevation (ft amsl):** N/A | **Logged By:** Jaime Bañuelos (GSA)

Summary Depth Interval (feet)	Predominant Soil Classification (USDA texture, USCS code)	Logged Drill Sample Depth Interval (feet)		Sample Type: Core (C), Drill Cuttings (DC)	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Group	Hydrologic Unit[3]	HCL Reaction (None, Weak, Moderate, Strong)	Visual Color	Comments
		From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	%Fines									
0 to 5	sandy loam, SM	0	0.5	DC	Dry	0	55	30	15	45	0	53	37	10	47	Well	Fine	Low	sandy loam	SM	3	Weak	strong brown	Silty material not very sticky.
	silt loam, MH	2	2.5	C	Slightly Moist	0	20	50	30	80	0	8	72	20	92	Well	Very Fine	High	silt loam	MH	3	None	strong brown	Sticky, slick material. Relatively fine grained material
5 to 15	sandy loam, SM	5	5.5	C	Dry	1	54	30	15	45	1	52	37	10	47	Well	Medium	Low	sandy loam	SM	3	Weak	strong brown	Medium sand with fines. Sticky. Hard clods indicative of hard pan layer. Difficult drilling from 0 to 5 feet.
		10	10.5	C	Slightly Moist	1	59	25	15	40	1	59	31	10	40	Well	Medium	Low	sandy loam	SM	2	Weak	strong brown	Medium sand with fines. Somewhat sticky. Difficult drilling between 5 and 10 feet.
15 to 21.5	No Recovery	15	16.5																					No recovery. Likely sand.
		20	21.5																					No recovery. Likely sand based on driller.
21.5 to 51	sandy loam, SM	21.5	25	DC	Slightly Moist	25	45	19	11	30	25	40	27	7	35	Well	Fine	Low	sandy loam	SM	2	None	dark yellowish brown	Drill Cuttings. Sandy material with fines. Malleable. High gravel, fragments of up to 1 inch.
		26	26.5	C	Slightly Moist	0	60	30	10	40	0	59	34	7	41	Well	Fine	Low	sandy loam	SM	2	None	yellowish brown	Fine sand with silt. Smooth
		31	31.5	C	Slightly Moist	4	58	29	10	38	4	56	33	6	40	Well	Fine	Low	sandy loam	SM	2	None	brown	Malleable, fine sandy material. Driller indicates tight fine grained material from 30 to 35 ft.
		36	36.5	C	Slightly Moist	1	67	25	7	32	1	69	26	5	30	Well	Fine	Low	sandy loam	SM	2	None	strong brown	Less fines. Fine sand.
		41	41.5	C	Slightly Moist	0	68	25	7	32	0	70	26	5	30	Well	Fine	Low	sandy loam	SM	2	None	strong brown	Same as above, fine sand with some fines
		46	46.5	C	Slightly Moist	1	59	27	13	40	1	59	32	8	40	Well	Medium	Low	sandy loam	SM	2	Weak	brown	More clay, similar silt content. Gritty. Predominantly sand. Material very tight in cylinder. Could not recover all sample.
51 to 51.5	loamy sand, SM	51	51.5	C	Moist	2	74	20	5	25	2	77	18	3	21	Well	Medium	None	loamy sand	SM	1	None	brown	More sand, less sticky, gritty

[1]Coordinates are in World Geodetic System 1984, Universal Transverse Mercator System, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Goup | **Location:** Behl Agriculture Field | **Drilling Company:** Consolidated Testing Laboratory | **Drilling Completion Date:** 11/12/2020 | **Drilling Method:** Hollow Stem Auger, Core Sampling every 5 feet

Borehole ID: BH-2 | **Easting**[1]: 309832 | **Northing**[1]: 3988815 | **Elevation (ft amsl):** N/A | **Logged By:** Jaime Bañuelos (GSA)

Summary Depth Interval (feet)	Summary Soil Classification (USDA texture, USCS code)	Logged Drill Sample Depth Interval (feet)		Sample Type: Core (C), Drill Cuttings (DC)	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Group	Hydrologic Unit[3]	HCL Reaction (None, Weak, Moderate, Strong)	Visual Color	Comments
		From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	%Fines									
0 to 2	silt loam, ML	0	0.5	DC	Slightly Moist	1	40	40	20	59	1	33	53	13	66	Well	Fine	Low	silt loam	ML	3	Weak	brown	Fine grained, sticky
2 to 6	sandy loam, SM	2	2.5	C	Slightly Moist	1	54	30	15	45	1	52	37	10	47	Well	Fine	Low	sandy loam	SM	3	Weak	brown	Less fines. Similar amounts of sand and fines.
6 to 11	loam, ML	6	6.5	C	Slightly Moist	1	45	30	25	54	1	40	43	16	59	Well	Medium	Medium	loam	ML	3	None	strong brown	Fine grained medium/coarse sand
11 to 16	sandy loam, SM	11	11.5	C	Slightly Moist	10	59	23	9	32	10	58	27	6	32	Well	Fine	Low	sandy loam	SM	2	None	brown	More sand, malleable, somewhat sticky
16 to 21	sand, SW	16	16.5	C	Moist	20	78	2	0	2	20	78	2	0	2	Well	Medium	None	sand	SW	1	None	light brown	Clean sand with gravel
21 to 51.5	sandy loam, SM	21	21.5	C	Moist	0	68	25	7	32	0	70	26	5	30	Well	Fine	None	sandy loam	SM	2	None	brown	Sand with some fines. Somewhat sticky. Gritty
	loamy sand, SM	26	26.5	C	Moist	1	73	21	5	26	1	76	19	3	23	Well	Fine	None	loamy sand	SM	1	Weak	brown	Sandier. Less sticky.
	sandy loam, SM	31	31.5	C	Slightly Moist	0	60	28	12	40	0	59	33	8	41	Well	Fine	Low	sandy loam	SM	2	Weak	brown	Slightly more clay, smooth, predominantly sand
		36	36.5	C	Slightly Moist	1	67	25	7	32	1	69	26	5	30	Well	Fine	Low	sandy loam	SM	2	None	brown	Sandier material, slightly sticky.
		41	41.5	C	Slightly Moist	1	67	25	7	32	1	69	26	5	30	Well	Fine	Low	sandy loam	SM	2	None	strong brown	Predominantly sand, somewhat gritty
		46	46.5	C	Slightly Moist	1	59	30	10	40	1	59	34	7	40	Well	Fine	Low	sandy loam	SM	2	None	strong brown	Smooth malleable material. Predominantly sand. Finer sand. Smoother
		51	51.5	C	Slightly Moist	0	65	28	7	35	0	66	30	5	34	Well	Fine	Low	sandy loam	SM	2	None	strong brown	Less clay. Malleable silty sand material.

[1]Coordinates are in World Geodetic System 1984, Universal Transverse Mercator System, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Goup | **Location:** Behl Agriculture Field | **Drilling Company:** Consolidated Testing Laboratory | **Drilling Completion Date:** 11/13/2020 | **Drilling Method:** Hollow Stem Auger, Core Sampling every 5 feet

Borehole ID: BH-3 | **Easting**[1]: 309395 | **Northing**[1]: 3988565 | **Elevation (ft amsl):** N/A | **Logged By:** Jaime Bañuelos (GSA)

Summary Depth Interval (feet)	Summary Soil Classification (USDA texture, USCS code)	Logged Drill Sample Depth Interval (feet)		Sample Type: Core (C), Drill Cuttings (DC)	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Group	Hydrologic Unit[3]	HCL Reaction (None, Weak, Moderate, Strong)	Visual Color	Comments
		From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	%Fines									
0 to 2	loamy sand, SM	0	1	DC	Dry	1	79	18	2	20	1	84	14	1	15	Well	Fine	None	loamy sand	SM	1	None	light yellowish brown	Fine silty sand
2 to 41	sand, SW	2	2.5	C	Slightly Moist	1	94	5	0	5	1	94	5	0	5	Well	Fine	None	sand	SW	1	None	yellowish brown	Fine/medium sand
		6	6.5	C	Moist	1	84	13	2	15	1	90	7	1	9	Well	Fine	None	sand	SW-SM	1	None	brown	Dirty sand fine/medium sand fraction
		11	11.5	C	Moist	2	95	3	0	3	2	95	3	0	3	Well	Medium	None	sand	SW	1	None	yellowish brown	Coarser sand
		16	16.5	C	Moist	3	95	2	0	2	3	95	2	0	2	Well	Medium	None	sand	SW	1	None	light yellowish brown	Medium clean sand. Material similar throughout 1.5 ft core run.
		21	21.5	C	Moist	4	88	8	0	8	4	88	8	0	8	Well	Medium	None	sand	SW-SM	1	None	yellowish brown	More fines, dirty sand
		25	25.5	C	Moist	7	92	1	0	1	7	92	1	0	1	Well	Fine	None	sand	SW	1	None	pale brown	Maximum blows. Low penetration caused by rock. No core sample collected. Logged the 6 inches recovered. Finer clean sand.
		31	31.5	C	Moist	2	96	2	0	2	2	96	2	0	2	Well	Coarse	None	sand	SW	1	None	light yellowish brown	Coarser sand, clean
		36	36.5	C	Moist	10	88	2	0	2	10	88	2	0	2	Well	Medium	None	sand	SW	1	None	yellowish brown	Medium clean sand. More gravel. Driller: gravelly layer at 38 ft.
41 to 46	sandy loam, SM	41	41.5	C	Moist	1	69	20	10	30	1	71	21	7	28	Well	Coarse	Low	sandy loam	SM	2	None	dark yellowish brown	More fines. Sticky. Coarse sand.
46 to 51	loam, ML	46	46.5	C	Moist	0	42	35	23	58	0	36	48	15	64	Well	Fine	Medium	loam	ML	3	None	dark yellowish brown	Sticky, finer grained.
51 to 51.5	sandy loam, SM	51	51.5	C	Moist	1	64	28	7	35	1	65	29	5	34	Well	Fine	Low	sandy loam	SM	2	None	dark yellowish brown	Silty fine sand. Less fines as above. Smooth

[1]Coordinates are in World Geodetic System 1984, Universal Transverse Mercator System, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Goup | **Location:** Behl Agriculture Field | **Drilling Company:** Consolidated Testing Laboratory | **Drilling Completion Date:** 11/18/2020 | **Drilling Method:** Hollow Stem Auger, Core Sampling every 5 feet

Borehole ID: MW-1 | **Easting**[1]**:** 310093 | **Northing**[1]**:** 3988748 | **Elevation (ft amsl):** N/A | **Logged By:** Jaime Bañuelos (GSA)

Summary Depth Interval (feet)	Summary Soil Classification (USDA texture, USCS code)	Logged Drill Sample Depth Interval (feet)		Sample Type: Core (C), Drill Cuttings (DC)	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Group	Hydrologic Unit[3]	HCL Reaction (None, Weak, Moderate, Strong)	Visual Color	Comments
		From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	%Fines									
0 to 2	sandy loam, SM	0	1	DC	Slightly Moist	1	59	30	10	40	1	59	34	7	40	Well	Fine	Low	sandy loam	SM	2	Weak	brown	Silty sand
2 to 6	loamy sand, SM	2	2.5	C	Slightly Moist	2	78	16	4	20	2	83	12	3	15	Well	Fine	None	loamy sand	SM	1	None	brown	Fine silty sand. Not sticky. Low clay.
6 to 11	sandy loam, SM	6	6.5	C	Slightly Moist	1	67	25	7	32	1	69	26	5	30	Well	Fine	Low	sandy loam	SM	2	Weak	strong brown	Silty sand. More fines than above. Portion of core had dense clods but somewhat friable.
11 to 21	sand, SW-SM	11	11.5	C	Slightly Moist	5	80	13	2	15	5	85	9	1	10	Well	Fine	None	sand	SW-SM	1	None	strong brown	Coarser material and slightly more gravel.
		13	14	DC	Dry	4	80	14	2	16	4	85	10	1	11	Well	Medium	None	sand	SW-SM	1	None	yellowish brown	Drill cuttings sample. Dirty sand
		14	15	C	Dry	40	58	2	0	2	40	58	2	0	2	Well	Fine	None	Gravelly sand	SW	1	None	yellowish brown	Slightly dirty sand
		16	16.5	C	Dry	65	33	2	0	2	65	33	2	0	2	Well	Fine	None	Very gravelly sand	GW	1	None	light yellowish brown	Partial recovery in bottom cylinder. Sandy gravel. Rock fragments up to 2 inches
21 to 26	loamy sand, SM	21	21.5	C	Slightly Moist	0	73	25	2	27	0	76	23	1	24	Well	Fine	Low	loamy sand	SM	1	None	yellowish brown	Fine silty sand. Not sticky but smooth.
26 to 31	silt loam, ML	26	26.5	C	Slightly Moist	1	40	40	20	59	1	33	53	13	66	Well	Fine	Medium	silt loam	ML	3	None	strong brown	Fine-grained material. Somewhat malleable. Very tight in core.
31 to 41	sand, SW-SM	31	31.5	C	Slightly Moist	4	81	14	1	15	4	86	10	1	10	Well	Medium	None	sand	SW-SM	1	None	strong brown	Medium sand with some silt.
		36	36.5	C	Slightly Moist	15	81	4	0	4	15	81	4	0	4	Well	Coarse	None	sand	SW	1	None	strong brown	Coarser sand. Less fines more gravel
41 to 46	loamy sand, SM	41	41.5	C	Slightly Moist	3	76	18	3	21	3	79	16	2	18	Well	Medium	None	loamy sand	SM	1	None	strong brown	Medium sand with some fines
46 to 51	sandy loam, SM	46	46.5	C	Slightly Moist	1	64	30	5	35	1	65	31	3	34	Well	Very Fine	Low	sandy loam	SM	2	None	strong brown	Silty sand. Very smooth, high silt content. Material tight in core.
51 to 56	loamy sand, SM	51	51.5	C	Slightly Moist	0	77	20	3	23	0	81	17	2	19	Well	Fine	None	loamy sand	SM	1	None	strong brown	Fine sand with some silt. Less fines than above.

[1]Coordinates are in World Geodetic System 1984, Universal Transverse Mercator System, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Goup | **Location:** Behl Agriculture Field | **Drilling Company:** Consolidated Testing Laboratory | **Drilling Completion Date:** 11/18/2020 | **Drilling Method:** Hollow Stem Auger, Core Sampling every 5 feet

Borehole ID: MW-1 | **Easting**[1]: 310093 | **Northing**[1]: 3988748 | **Elevation (ft amsl):** N/A | **Logged By:** Jaime Bañuelos (GSA)

Summary Depth Interval (feet)	Summary Soil Classification (USDA texture, USCS code)	Logged Drill Sample Depth Interval (feet)		Sample Type: Core (C), Drill Cuttings (DC)	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Group	Hydrologic Unit[3]	HCL Reaction (None, Weak, Moderate, Strong)	Visual Color	Comments
		From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	%Fines									
56 to 61	loam, SC	56	56.5	C	Moist	0	53	35	12	47	0	50	42	8	50	Well	Very Fine	Medium	loam	SC	3	None	brown	Finer grained. Sticky and smooth. However more fine sand. Material tight in core.
61 to 66	loamy sand, SM	61	61.5	C	Moist	0	77	19	4	23	0	81	16	3	19	Well	Very Fine	None	loamy sand	SM	1	None	brown	Fine sand. Less fines as above. Not very sticky.
66 to 71	sandy loam, SM	66	66.5	C	Moist	1	69	23	7	30	1	71	23	5	28	Well	Fine	None	sandy loam	SM	2	None	brown	More fines, very malleable.
71 to 76	sand, SW	71	71.5	C	Moist	3	87	10	0	10	3	94	3	0	3	Well	Medium	None	sand	SW	1	None	brown	Dirty medium sand.
76 to 81	sandy loam, SM	76	76.5	C	Moist	1	62	30	7	37	1	62	32	5	37	Well	Very Fine	Low	sandy loam	SM	2	None	strong brown	Silty sand. Smooth. Long ribbon indicating appreciable amount of fines
81 to 100	loamy sand, SM	81	81.5	C	Moist	1	74	20	5	25	1	78	18	3	21	Well	Fine	None	loamy sand	SM	1	None	strong brown	Similar as above less fines. Not as smooth.
		86	86.5	C	Moist	0	73	20	7	27	0	76	19	5	24	Well	Fine	Low	loamy sand	SM	1	None	strong brown	Same as above. Slightly more sticky. Slightly longer ribbon
		91	91.5	C	Moist	0	73	20	7	27	0	76	19	5	24	Well	Fine	Low	loamy sand	SM	1	None	strong brown	Same as above
		96	96.5	C	Moist	0	80	16	4	20	0	85	12	3	15	Well	Very Fine	None	loamy sand	SM	1	None	strong brown	Very fine sand. Somewhat slippery. Less sticky. Orange staining
100 to 106	sandy loam, SM	100	100.5	C	Moist	0	68	25	7	32	0	70	26	5	30	Well	Fine	Low	sandy loam	SM	2	None	brown	Recovered about 5 inches of material. Core sampler penetrated fully but sample lost during extraction. Core sampler had standing water indicating saturated conditions which could have caused the loss of sample. Sandy material with fines. More fines than above. Gravels at approximately 102 ft.
106 to 111.5	Very gravelly loamy sand, GM and SM	106	106.5	C	Saturated	65	26	7	2	9	65	16	18	1	19	Poor	Coarse	None	Very gravelly loamy sand	GM	1	None	yellowish brown	Saturated material. Depth to groundwater: between 100 and 105 ft. Difficult to estimate gravel and texture. Coarse sand with fines.
		111	111.5	C	Saturated	30	53	11	7	18	30	50	16	5	20	Poor	Very Coarse	Low	loamy sand	SM	1	None	very pale brown	Coarse sand but fairly sticky. 4 inch ribbon. Less gravel as above. Set bottom of well at 115 feet below ground surface.

[1]Coordinates are in World Geodetic System 1984, Universal Transverse Mercator System, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Goup | **Location:** Behl Agriculture Field | **Drilling Company:** Consolidated Testing Laboratory | **Drilling Completion Date:** 11/14/2020 | **Drilling Method:** Hollow Stem Auger, Core Sampling every 5 feet

Borehole ID: MW-2 | **Easting**[1]: 309650 | **Northing**[1]: 3988503 | **Elevation (ft amsl):** N/A | **Logged By:** Jaime Bañuelos (GSA)

Summary Depth Interval (feet)	Summary Soil Classification (USDA texture, USCS code)	Logged Drill Sample Depth Interval (feet)		Sample Type: Core (C), Drill Cuttings (DC)	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Group	Hydrologic Unit[3]	HCL Reaction (None, Weak, Moderate, Strong)	Visual Color	Comments
		From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	%Fines									
0 to 6	sand, SW-SM	0	1	DC	Slightly Moist	2	85	12	1	13	2	92	6	1	6	Well	Fine	None	sand	SW-SM	1	None	dark yellowish brown	Fine sand with some silt
		2	2.5	C	Moist	2	90	8	0	8	2	90	8	0	8	Well	Fine	None	sand	SW-SM	1	None	dark yellowish brown	Fine dirty sand. Less fines as above.
6 to 16	loamy sand, SM	6	6.5	C	Slightly Moist	1	73	22	4	26	1	76	20	3	23	Well	Fine	None	loamy sand	SM	1	None	dark yellowish brown	More fines. Silty sand
		11	11.5	C	Slightly Moist	1	73	22	4	26	1	76	20	3	23	Well	Medium	None	loamy sand	SM	1	None	dark yellowish brown	Same as above
16 to 26	sand, SW	16	16.5	C	Moist	0	90	10	0	10	0	98	2	0	2	Well	Fine	None	sand	SW	1	None	yellowish brown	Fine sand. Able to make ribbon thus some fines are present
		21	21.5	C	Moist	10	89	1	0	1	10	89	1	0	1	Well	Coarse	None	sand	SW	1	None	pale brown	Clean coarse sand
26 to 36	sandy loam, SM	26	26.5	C	Moist	7	54	23	16	39	7	52	31	10	41	Well	Medium	Low	sandy loam	SM	2	None	dark yellowish brown	Clayey medium sand. Gritty
		31	31.5	C	Moist	0	60	30	10	40	0	59	34	7	41	Well	Very Fine	Low	sandy loam	SM	2	None	dark yellowish brown	Fine sand with silt
36 to 51	loam, ML	36	36.5	C	Moist	0	40	40	20	60	0	34	53	13	66	Well	Fine	Medium	silt loam	ML	3	None	dark yellowish brown	Finer grained. More fines than sand. Smooth when wet
		41	41.5	C	Moist	0	45	40	15	55	0	40	50	10	60	Well	Fine	Low	loam	ML	3	None	dark yellowish brown	Similar as above, slightly less sticky.
	sand, SW	46	46.5	C	Moist	15	38	34	13	47	15	32	45	8	53	Well	Fine	Low	loam	ML	3	None	dark yellowish brown	Same as above
51 to 56		51	51.5	C	Slightly Moist	35	61	4	0	4	35	61	4	0	4	Well	Medium	None	sand	SW	1	None	yellowish brown	Medium sand with high gravel

[1]Coordinates are in World Geodetic System 1984, Universal Transverse Mercator System, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Goup | **Location:** Behl Agriculture Field | **Drilling Company:** Consolidated Testing Laboratory | **Drilling Completion Date:** 11/14/2020 | **Drilling Method:** Hollow Stem Auger, Core Sampling every 5 feet

Borehole ID: MW-2 | **Easting**[1]: 309650 | **Northing**[1]: 3988503 | **Elevation (ft amsl):** N/A | **Logged By:** Jaime Bañuelos (GSA)

Summary Depth Interval (feet)	Summary Soil Classification (USDA texture, USCS code)	Logged Drill Sample Depth Interval (feet)		Sample Type: Core (C), Drill Cuttings (DC)	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Group	Hydrologic Unit[3]	HCL Reaction (None, Weak, Moderate, Strong)	Visual Color	Comments
		From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	%Fines									
56 to 61	sandy loam, SM	56	56.5	C	Moist	1	69	23	7	30	1	71	23	5	28	Well	Fine	Low	sandy loam	SM	2	None	brown	Less fines, not very sticky. Silty sand.
61 to 71	loamy sand, SM	61	61.5	C	Moist	2	76	18	4	22	2	80	15	3	18	Well	Fine	None	loamy sand	SM	1	None	yellowish brown	Fine sand
		66	66.5	C	Moist	0	74	20	6	26	0	77	19	4	23	Well	Fine	None	loamy sand	SM	1	None	dark yellowish brown	Slightly finer than above. Longer ribbon. Fine sand with some fines
71 to 86	sandy loam, SM	71	71.5	C	Moist	0	63	30	7	37	0	63	32	5	37	Well	Very Fine	Low	sandy loam	SM	2	None	dark yellowish brown	More silt. Fine sand and silty material.
		76	76.5	C	Moist	2	69	23	7	29	2	70	23	5	28	Well	Fine	Low	sandy loam	SM	2	None	yellowish brown	Fine sand with silt. Driller: small layers of gravel
		81	81.5	C	Moist	15	47	26	13	38	15	42	34	8	43	Well	Fine	Low	sandy loam	SM	2	None	dark yellowish brown	Finer. More sticky. Malleable.
86 to 99	sand, SW and GM	86	86.5	C	Slightly Moist	15	81	4	0	4	15	81	4	0	4	Well	Medium	None	sand	SW	1	None	light yellowish brown	Slightly dirty medium sand. Some gravel. Hard to drill through, possibly due to gravels
		91	91.5	C	Slightly Moist	25	73	2	0	2	25	73	2	0	2	Well	Medium	None	sand	SW	1	None	very pale brown	Clean sand with gravel. Rock fragments up to 1-1.5 inches.
		95	95.3	C	Slightly Moist	50	38	9	4	13	50	31	17	2	19	Poor	Coarse	None	Gravelly loamy sand	GM	1	None	brown	Gravelly material between 90 and 95 ft bgs. Rock fragments up to 2-2.5 inches in cuttings. Difficult drilling. High amount of rock fragments. Sandy gravels with fines. Sticky, can make ribbon. Bottom cylinder about half full. Rock stuck in core sampler shoe.
99 to 105	No Recovery	99	99.5																					No recovery. Rocky material based on driller.
105 to 111	Gravelly sand, GP	105	105.5	C	Saturated	60	36	4	0	4	60	36	4	0	4	Poor	Coarse	None	Gravelly sand	GP	1	None	yellowish brown	Predominantly gravel with dirty coarse sand. Rock fragments up to 1.5 inches. Saturated wet material. Groundwater likely at approximately 105 ft bgs. Max 50 blows for 6 inches of penetration as a result logged 105 to 105.5 ft.
111 to 111.5	loam, ML	111	111.5	C	Moist	5	48	29	19	48	5	43	39	13	52	Well	Fine	Low	loam	ML	3	None	dark yellowish brown	Sticky malleable material. Fine medium sand. Not as wet as sand above.

[1]Coordinates are in World Geodetic System 1984, Universal Transverse Mercator System, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Goup | **Location:** Behl Agriculture Field | **Drilling Company:** Consolidated Testing Laboratory | **Drilling Completion Date:** 11/16/2020 | **Drilling Method:** Hollow Stem Auger, Core Sampling every 5 feet

Borehole ID: MW-3 | **Easting[1]:** 310059 | **Northing[1]:** 3988492 | **Elevation (ft amsl):** N/A | **Logged By:** Jaime Bañuelos (GSA)

Summary Depth Interval (feet)	Summary Soil Classification (USDA texture, USCS code)	Logged Drill Sample Depth Interval (feet)		Sample Type: Core (C), Drill Cuttings (DC)	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Group	Hydrologic Unit[3]	HCL Reaction (None, Weak, Moderate, Strong)	Visual Color	Comments
		From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	%Fines									
0 to 46	sand, SW-SM	0	1	DC	Dry	1	86	12	1	13	1	93	5	1	6	Well	Fine	None	sand	SW-SM	1	None	dark yellowish brown	Fine sand, little fines.
		2	2.5	C	Slightly Moist	4	90	6	0	6	4	90	6	0	6	Well	Fine	None	sand	SW-SM	1	None	yellowish brown	Fine sand. Less fines. Rock fragments up to 0.25 inches
		6	6.5	C	Slightly Moist	1	96	3	0	3	1	96	3	0	3	Well	Fine	None	sand	SW	1	None	yellowish brown	Fine sand. Less fines. Cleaner sand
		11	11.5	C	Slightly Moist	4	91	5	0	5	4	91	5	0	5	Well	Fine	None	sand	SW	1	None	dark yellowish brown	Fine sand. Slightly more fines. Rock fragments up to 0.25 inches.
		16	16.5	C	Slightly Moist	15	82	3	0	3	15	82	3	0	3	Well	Medium	None	sand	SW	1	None	yellowish brown	Coarser sand. Similar fines as above
		21	21.5	C	Moist	0	94	6	0	6	0	94	6	0	6	Well	Fine	None	sand	SW-SM	1	None	dark yellowish brown	Finer sand. No gravel.
		26	26.5	C	Moist	15	82	3	0	3	15	82	3	0	3	Well	Coarse	None	sand	SW	1	None	yellowish brown	Coarser sand. Less fines. Rock fragments up to 0.25 inches
		31	31.5	C	Moist	20	77	3	0	3	20	77	3	0	3	Well	Medium	None	sand	SW	1	None	yellowish brown	Same as above. More gravel. Larger size gravel. Rock fragments up to 0.5 inches.
		36	36.5	C	Moist	20	68	11	1	12	20	70	10	1	10	Well	Very Coarse	None	sand	SW-SM	1	None	dark yellowish brown	Very coarse sand with small gravel. Dirty sand.
		41	41.5	C	Moist	2	78	18	2	20	2	83	14	1	15	Well	Fine	None	loamy sand	SM	1	None	dark yellowish brown	Fine sand with fines.
46 to 48	No Recovery	46	46.5																					No recovery.
48 to 56	sandy loam, SM	48	48.5	G	Moist	0	60	30	10	40	0	59	34	7	41	Well	Fine	Low	sandy loam	SM	2	None	yellowish brown	Perching layer. Finer grained still predominantly sand.
		51	51.5	C	Moist	0	68	25	7	32	0	70	26	5	30	Well	Very Fine	Low	sandy loam	SM	2	None	dark yellowish brown	Center hammer came up showing completely saturated material at 50 ft. Likely perched zone. Core sample is moist but not saturated. Likely small perched zone at approximately 48 ft. This sample is silty fine sand. May have less fines.
56 to 56.5	sand, SW	56	56.5	C	Moist	2	86	11	1	12	2	93	4	1	5	Well	Fine	None	sand	SW	1	None	yellowish brown	Fine sand with some silt. Very saturated material between 56.5 and 60 ft. Saturated material is predominantly sandy with approximately 20% silt and 7% clay.
60 to 66	loamy sand, SM	61	61.5	C	Moist	1	74	20	5	25	1	78	18	3	21	Well	Very Fine	None	loamy sand	SM	1	None	dark yellowish brown	Very fine sand with silt. Not very sticky

[1]Coordinates are in World Geodetic System 1984, Universal Transverse Mercator System, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Goup | **Location:** Behl Agriculture Field | **Drilling Company:** Consolidated Testing Laboratory | **Drilling Completion Date:** 11/16/2020 | **Drilling Method:** Hollow Stem Auger, Core Sampling every 5 feet

Borehole ID: MW-3 | **Easting[1]:** 310059 | **Northing[1]:** 3988492 | **Elevation (ft amsl):** N/A | **Logged By:** Jaime Bañuelos (GSA)

Summary Depth Interval (feet)	Summary Soil Classification (USDA texture, USCS code)	Logged Drill Sample Depth Interval (feet)		Sample Type: Core (C), Drill Cuttings (DC)	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Group	Hydrologic Unit[3]	HCL Reaction (None, Weak, Moderate, Strong)	Visual Color	Comments
		From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	%Fines									
66 to 101	sand, SW	66	66.5	C	Slightly Moist	2	94	4	0	4	2	94	4	0	4	Well	Medium	None	sand	SW	1	None	light yellowish brown	Medium clean sand. Finer material in top cylinder.
		71	71.5	C	Moist	4	92	4	0	4	4	92	4	0	4	Well	Fine	None	sand	SW	1	None	yellowish brown	Clean fine/medium sand. Rock fragments up to 0.25 inches.
		76	76.5	C	Moist	3	92	5	0	5	3	92	5	0	5	Well	Medium	None	sand	SW	1	None	yellowish brown	Fine medium sand with little fines. Slightly dirty sand.
		81	81.5	C	Moist	2	94	4	0	4	2	94	4	0	4	Well	Medium	None	sand	SW	1	None	yellowish brown	Fine medium sand. Similar as above.
		86	86.5	C	Slightly Moist	4	92	4	0	4	4	92	4	0	4	Well	Medium	None	sand	SW	1	None	yellowish brown	Same as above, fine medium sand. Little fines. 2 inch rock found in top cylinder
		91	91.5	C	Moist	2	82	13	3	16	2	88	8	2	10	Well	Medium	None	sand	SW-SM	1	None	yellowish brown	Driller: starting to hit gravels at approximately 87.5 ft. Silty sand. Slightly sticky.
		96	96.5	C	Saturated	5	84	10	2	11	5	90	4	1	5	Well	Fine	None	sand	SW-SM	1	None	light yellowish brown	Saturated sand. Slight stickiness. Gravel present with one 1.5 inch rock. Hard to estimate texture.
101 to 111.5	Very gravelly sand, GP-GM	101	101.5	C	Saturated	75	19	4	3	6	75	19	4	3	6	Poor	Coarse	None	Very gravelly sand	GP-GM	1	None	brown	Sandy gravel with some fines. Sticky material. Rock fragments up to 2.5 inches. Only the bottom cylinder had material.
		101.5	102	C	Saturated	80	12	6	2	8	80	12	6	2	8	Poor	Medium	None	Very gravelly loamy sand	GM	1	None	yellowish brown	No cylinders in sampler. Looking at the complete 1.5 ft material in core sampler. Clayey gravel. Rock fragments up to 2.5 inches. Rock color is very dark brown. Ribbon is estimated. Material too wet to sieve. Sticky material.
		103	104.5	C	Saturated	40	45	12	3	15	40	40	18	2	20	Poor	Coarse	None	Gravelly loamy sand	SM	1	None	yellowish brown	Wet saturated material. Unable to sieve. Grave and ribbon estimated based on feel.
		105	105.5	C	Saturated	75	20	4	1	5	75	20	4	1	5	Poor	Coarse	None	Very gravelly sand	GP-GM	1	None	yellowish brown	More gravel. Rock fragments up to 2 inches. 50 blows for 6 inches of penetration. Coarse sandy gravel with some fines.
		106.5	108	C	Saturated	55	34	9	2	11	55	26	18	1	19	Well	Coarse	None	Gravelly loamy sand	GM	1	None	yellowish brown	Coarse sand with high gravel. Rock fragments up to 2.5 inches.
		108	109.5	C	Moist	75	20	4	1	5	75	20	4	1	5	Poor	Coarse	None	Very gravelly sand	GP-GM	1	None	yellowish brown	Coarse sandy gravel. Some fines. Rock fragments up to 2 inches. Material drier than above.
		110	110.5	C	Moist	50	41	8	2	9	50	35	14	1	15	Poor	Coarse	None	Gravelly loamy sand	GM	1	None	yellowish brown	Coarse sandy gravel.
		111	111.5	C	Moist	60	33	6	1	7	60	33	6	1	7	Poor	Coarse	None	Gravelly sand	GP-GM	1	None	brown	Coarse sandy gravel. Moist, difficult to estimate gravel. Rock fragments up to 1 inch. 50 blows for approximately 5 inches of penetration.

[1]Coordinates are in World Geodetic System 1984, Universal Transverse Mercator System, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

APPENDIX B.
Monitor Well Completion Reports

CTL, INC. CONSOLIDATED TESTING LABORATORIES

February 4, 2021
File No. 9442-20

GeoSystems Analysis, Inc.
Attn: Jason Keller
1412 13th St. Ste 400
Hood River, OR 97031

Mr. Keller:

We would like to inform you that the Well Completion Reports have been submitted to the county for the monitoring wells located at the Behl Agricultural Field. Please find the Well Completion Reports, Submittal Acknowledgments and map for the well locations.

If you should have any questions or need further assistance, please contact our office.

Respectfully submitted,

CTL, INC.

SE:sd

Enclosures

710 S. Kaweah Avenue, Exeter, CA 93221 (559) 592-3555 * Fax 559-592-3553
ctl@consolidatedtesting.com

OSWCR: Thank you for submitting Well Completion Report WCR2021-001465

Print Trusted Blocked Delete Reply Reply to All Forward Previous Next Close

From: OSWCR-NoReply@water.ca.gov [OSWCR-NoReply@water.ca.gov] Full header
Sent: 2/4/2021 1:51:39 PM
To: ctl@consolidatedtesting.com [ctl@consolidatedtesting.com]
Cc:
Subject: OSWCR: Thank you for submitting Well Completion Report WCR2021-001465
Attachments:

*******Please do not reply to this e-mail message*******

Thank you for submitting your Well Completion Report - A New Production or Monitoring Well, **WCR2021-001465**, using the Online System for Well Completion Reports (OSWCR). The Department of Water Resources will review it for completeness. You will be notified if additional information is required. If you have any questions, please call your local DWR Region Office WCR contact.

DWR South Central Region Office
Chris Guevara
(559)230-3356
Chris.Guevara@water.ca.gov

To view this record, log in to OSWCR, or use the following link:
https://civicnet.resources.ca.gov/DWR_WELLS/urlrouting.ashx?type=1000&Module=WellCompletion&capID1=21CAP&capID2=00000&capID3=0018X&agencyCode=DWR_WELLS

Licensed Contractor: CONSOLIDATED TESTING LABORATORIES INC License Number: 544541
Well Owner: Ashok Behl GeoSystems Analysis Inc
Well Owner Address: 1475 N. Highland Drive Porterville CA 93257

Well Address: County: Tulare Parcel: 302-020-013
Latitude/Longitude: 36.022439°N, -119.112532°W
Submitted: 02/04/2021
Record Status: Submitted

State of California

Well Completion Report

Form DWR 188 Submitted 2/4/2021
WCR2021-001465

Owner's Well Number: MW - 1 | Date Work Began: 11/14/2020 | Date Work Ended: 11/20/2020

Local Permit Agency: Tulare County Environmental Health Services Division

Secondary Permit Agency: | Permit Number: 2000398 | Permit Date: 10/02/2020

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: GEOSYSTEMS ANALYSIS INC, Ashok Behl

Mailing Address: 1475 N. Highland Drive

City: Porterville | State: CA | Zip: 93257

Planned Use and Activity

Activity: New Well

Planned Use: Monitoring

Well Location

Address:

City: | Zip: | County: Tulare

Latitude: 36 Deg. 1 Min. 20.7804 Sec. N | Longitude: -119 Deg. 6 Min. 45.1151 Sec. W

Dec. Lat.: 36.022439 | Dec. Long.: -119.112532

Vertical Datum: | Horizontal Datum: WGS84

Location Accuracy: 5 Ft | Location Determination Method:

APN: 302-020-013

Township: 22 S

Range: 26 E

Section: 12

Baseline Meridian: Mount Diablo

Ground Surface Elevation:

Elevation Accuracy:

Elevation Determination Method:

Borehole Information

Orientation: Vertical | Specify:

Drilling Method: Auger | Drilling Fluid: None

Total Depth of Boring: 115 Feet

Total Depth of Completed Well: 115 Feet

Water Level and Yield of Completed Well

Depth to first water: (Feet below surface)

Depth to Static Water Level: 99.4 (Feet) | Date Measured: 11/22/2020

Estimated Yield*: (GPM) | Test Type:

Test Length: (Hours) | Total Drawdown: (feet)

*May not be representative of a well's long term yield.

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	2	sandy loam, SM
2	6	loamy sand, SM
6	11	sandy, loam, SM
11	21	sand, SW-SM
21	26	loamy sand, SM
26	31	silt loam, ML
31	41	sand, SW-SM
41	46	loamy sand, SM
46	51	sandy loam, SM
51	56	loamy sand, SM
56	61	loam, SC
61	66	loamy sand, SM
66	71	sandy loam, SM
71	76	sand, SW

76	81	sandy loam, SM
81	100	loamy sand, SM
100	106	sandy loam, SM
106	115	very gravelly loamy sand, GM and SM

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	95	Blank	PVC	N/A	0.1875	2.375			Schedule 40
1	95	115	Screen	Other	N/A	0.1875	2.375	Milled Slots	0.02	Schedule 40

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	2	Other Fill	See description.		Concrete; ready mix
2	85	Cement	Portland Cement/Neat Cement		
79.8	85	Bentonite	Other Bentonite		3/8\" Bentonite chips
85	115	Filter Pack	8 x 20	8 x 20	#3 sand

Other Observations:

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	115	8.5

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name: CONSOLIDATED TESTING LABORATORIES INC
Person, Firm or Corporation

710 SOUTH KAWEAH AVE | EXETER | CA | 93221
Address | City | State | Zip

Signed: *electronic signature received* | 02/04/2021 | 544541
C-57 Licensed Water Well Contractor | Date Signed | C-57 License Number

Attachments

9442 - Monitoring Well Location Map_2-3-2021.doc - Location Map

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

OSWCR: Thank you for submitting Well Completion Report WCR2021-001470

Print Trusted Blocked Delete Reply Reply to All Forward Previous Next Close

From: OSWCR-NoReply@water.ca.gov [OSWCR-NoReply@water.ca.gov] Full header
Sent: 2/4/2021 2:43:10 PM
To: ctl@consolidatedtesting.com [ctl@consolidatedtesting.com]
Cc:
Subject: OSWCR: Thank you for submitting Well Completion Report WCR2021-001470
Attachments:

*******Please do not reply to this e-mail message*******

Thank you for submitting your Well Completion Report - A New Production or Monitoring Well, **WCR2021-001470**, using the Online System for Well Completion Reports (OSWCR). The Department of Water Resources will review it for completeness. You will be notified if additional information is required. If you have any questions, please call your local DWR Region Office WCR contact.

DWR South Central Region Office
Chris Guevara
(559)230-3356
Chris.Guevara@water.ca.gov

To view this record, log in to OSWCR, or use the following link:
https://civicnet.resources.ca.gov/DWR_WELLS/urlrouting.ashx?type=1000&Module=WellCompletion&capID1=21CAP&capID2=00000&capID3=00194&agencyCode=DWR_WELLS

Licensed Contractor: CONSOLIDATED TESTING LABORATORIES INC License Number: 544541
Well Owner: Ashok Behl GeoSystems Analysis Inc
Well Owner Address: 1475 N. Highland Drive Porterville CA 93257

Well Address: County: Tulare Parcel: 302-020-013
Latitude/Longitude: 36.022405°N, -119.107976°W
Submitted: 02/04/2021
Record Status: Submitted

State of California

Well Completion Report

Form DWR 188 Submitted 2/4/2021
WCR2021-001470

Owner's Well Number MW - 2 Date Work Began 11/14/2020 Date Work Ended 11/20/2020

Local Permit Agency Tulare County Environmental Health Services Division

Secondary Permit Agency Permit Number 2000398 Permit Date 10/02/2020

Well Owner (must remain confidential pursuant to Water Code 13752)

Name GEOSYSTEMS ANALYSIS INC, Ashok Behl

Mailing Address 1475 N. Highland Drive

City Porterville State CA Zip 93257

Planned Use and Activity

Activity New Well

Planned Use Monitoring

Well Location

Address

City Zip County Tulare

Latitude 36 Deg. 1 Min. 20.6579 Sec. N Longitude -119 Deg. 6 Min. 28.7135 Sec. W

Dec. Lat. 36.022405 Dec. Long. -119.107976

Vertical Datum Horizontal Datum WGS84

Location Accuracy Location Determination Method

APN 302-020-013

Township 22 S

Range 26 E

Section 12

Baseline Meridian Mount Diablo

Ground Surface Elevation

Elevation Accuracy

Elevation Determination Method

Borehole Information

Orientation Vertical Specify

Drilling Method Auger Drilling Fluid None

Total Depth of Boring 110 Feet

Total Depth of Completed Well 110 Feet

Water Level and Yield of Completed Well

Depth to first water (Feet below surface)

Depth to Static Water Level 104.6 (Feet) Date Measured 11/22/2020

Estimated Yield* (GPM) Test Type

Test Length (Hours) Total Drawdown (feet)

*May not be representative of a well's long term yield.

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	6	sand, SW-SM
6	16	loamy sand, SM
16	26	sand, SW
26	36	sandy loam, SM
36	51	loamy, ML; sand, SW
51	56	sand, SW
56	61	sandy loam, SM
61	71	loamy sand, SM
71	86	sandy loam, SM
86	99	sand, SW and GM
99	105	No Recovery
105	110	Gravely sand, GP

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	90	Blank	PVC	N/A	0.1875	2.375			Schedule 40
1	90	110	Screen	Other	N/A	0.1875	2.375	Milled Slots	0.02	Schedule 40

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	2	Other Fill	See description.		Concrete; ready mix
2	75	Cement	Portland Cement/Neat Cement		
75	80	Bentonite	Other Bentonite		3/8\" Bentonite chips
80	110	Filter Pack	8 x 20	8 x 20	#3 sand

Other Observations:

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	110	8.5

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name: CONSOLIDATED TESTING LABORATORIES INC
Person, Firm or Corporation

710 SOUTH KAWEAH AVE (Address) | EXETER (City) | CA (State) | 93221 (Zip)

Signed: *electronic signature received* (C-57 Licensed Water Well Contractor) | 02/04/2021 (Date Signed) | 544541 (C-57 License Number)

Attachments

9442 - Behl Agriculture Field Monitoring Well Location Map_2-3-2021.doc - Location Map

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

OSWCR: Thank you for submitting Well Completion Report WCR2021-001472

PrintTrustedBlockedDeleteReplyReply to AllForwardPreviousNextClose

From: OSWCR-NoReply@water.ca.gov [OSWCR-NoReply@water.ca.gov] Full header
Sent: 2/4/2021 2:52:27 PM
To: ctl@consolidatedtesting.com [ctl@consolidatedtesting.com]
Cc:
Subject: OSWCR: Thank you for submitting Well Completion Report WCR2021-001472
Attachments:

*******Please do not reply to this e-mail message*******

Thank you for submitting your Well Completion Report - A New Production or Monitoring Well, **WCR2021-001472**, using the Online System for Well Completion Reports (OSWCR). The Department of Water Resources will review it for completeness. You will be notified if additional information is required. If you have any questions, please call your local DWR Region Office WCR contact.

DWR South Central Region Office
Chris Guevara
(559)230-3356
Chris.Guevara@water.ca.gov

To view this record, log in to OSWCR, or use the following link:
https://civicnet.resources.ca.gov/DWR_WELLS/urlrouting.ashx?type=1000&Module=WellCompletion&capID1=21CAP&capID2=00000&capID3=00196&agencyCode=DWR_WELLS

Licensed Contractor: CONSOLIDATED TESTING LABORATORIES INC License Number: 544541
Well Owner: Ashok Behl GeoSystems Analysis Inc
Well Owner Address: 1475 N. Highland Drive Porterville CA 93257

Well Address: County: Tulare Parcel: 302-020-013
Latitude/Longitude: 36.024742°N, -119.107618°W
Submitted: 02/04/2021
Record Status: Submitted

State of California

Well Completion Report

Form DWR 188 Submitted 2/4/2021
WCR2021-001472

Owner's Well Number: MW - 3 | Date Work Began: 11/14/2020 | Date Work Ended: 11/20/2020

Local Permit Agency: Tulare County Environmental Health Services Division

Secondary Permit Agency: | Permit Number: 2000398 | Permit Date: 10/02/2020

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: GEOSYSTEMS ANALYSIS INC, Ashok Behl

Mailing Address: 1475 N. Highland Drive

City: Porterville | State: CA | Zip: 93257

Planned Use and Activity

Activity: New Well

Planned Use: Monitoring

Well Location

Address:

City: | Zip: | County: Tulare

Latitude: 36 Deg. 1 Min. 29.0711 Sec. N | Longitude: -119 Deg. 6 Min. 27.4248 Sec. W

Dec. Lat.: 36.024742 | Dec. Long.: -119.107618

Vertical Datum: | Horizontal Datum: WGS84

Location Accuracy: | Location Determination Method:

APN: 302-020-013

Township: 22 S

Range: 27 E

Section: 07

Baseline Meridian: Mount Diablo

Ground Surface Elevation:

Elevation Accuracy:

Elevation Determination Method:

Borehole Information

Orientation: Vertical | Specify:

Drilling Method: Auger | Drilling Fluid: None

Total Depth of Boring: 112 Feet

Total Depth of Completed Well: 112 Feet

Water Level and Yield of Completed Well

Depth to first water: (Feet below surface)

Depth to Static Water Level: 98.5 (Feet) | Date Measured: 11/22/2020

Estimated Yield*: (GPM) | Test Type:

Test Length: (Hours) | Total Drawdown: (feet)

*May not be representative of a well's long term yield.

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	46	sand, SW-SM
46	48	No Recovery
48	56	sandy loam, SM
56	60	sand, SW
60	66	loamy sand, SM
66	101	sand, SW
101	112	very gravelly sand, GP-GM

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	92	Blank	PVC	N/A	0.1875	2.375			Schedule 40
1	92	112	Screen	Other	N/A	0.1875	2.375	Milled Slots	0.02	Schedule 40

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	2	Other Fill	See description.		Concrete; ready mix
2	77.5	Cement	Portland Cement/Neat Cement		
77.5	82.5	Bentonite	Other Bentonite		3/8\" Bentonite chips
82.5	112	Filter Pack	8 x 20	8 x 20	#3 sand

Other Observations:

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	112	8.5

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name: CONSOLIDATED TESTING LABORATORIES INC
Person, Firm or Corporation

710 SOUTH KAWEAH AVE (Address) | EXETER (City) | CA (State) | 93221 (Zip)

Signed: *electronic signature received* (C-57 Licensed Water Well Contractor) | 02/04/2021 (Date Signed) | 544541 (C-57 License Number)

Attachments

9442 - Behl Agriculture Field Monitoring Well Location Map_2-3-2021.doc - Location Map

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

MONITORING WELL LOCATION MAP	Scale: NTS	Date: February 3, 2021	CTL Consolidated Testing Laboratories, Inc.
Behl Agriculture Field Teapot Dome & Ave 208 Porterville, CA APN: 302-020-013	Drawn by: Google Earth	Approved by: SE	
	Project No. 9442-20	Figure No. 1	

APPENDIX C.

GSA SOP 4.4

Single Ring Infiltrometer with Lateral Divergence Correction

STANDARD OPERATING PROCEDURE 4.4

Single Ring Infiltrometer with Lateral Divergence Correction

Version 1.0

Prepared by:	RR	Date:	08/06/2015
Reviewed by:	JB	Date:	10/09/2020
Approved by:		Date:	

DRAFT FOR DISCUSSION

TABLE OF CONTENTS

1.0 General Statement 1
2.0 Objective 1
3.0 Equipment and/or Instrumentation 2
4.0 Preparation 2
5.0 Procedures 3
6.0 Sample Containers, Preservation, and Transmittal 3
7.0 Equipment Decontamination and Disposal 4
8.0 Documentation 4
8.0 Documentation 5
9.0 Quality Assurance 5
11.0 References 5

FIGURES

Figure 1. Cylinder infiltrometer testing (1a); measurement of lateral divergence (1b) 1

TABLES

Table 1. Water entry values for different soil types 5

DRAFT FOR DISCUSSION

1.0 GENERAL STATEMENT

The single-ring cylinder infiltrometer (CI) method is described by Bouwer et al. (1999). The method is a short-term infiltration test, which provides an in-situ measurement of the effective saturated hydraulic conductivity (K) of soil material.

2.0 OBJECTIVE

The CI is driven into the material to be tested and then filled with water to the top of the ring. The decline of water in the ring is then monitored (Figure 1). After the water falls about 5 cm, the time and exact decrease in water level is recorded and the cylinder is refilled. This process is continued until about 40 cm of water have infiltrated or four hours have expired. A shovel is then used to dig outside of the cylinder to determine the distance of lateral divergence (Figure 1). The depth of the wetting front is also determined by augering in the center of the wetted surface to dryness or the wetting front, if evident. The final infiltration rate, wetting depth and divergence are then used to calculate K.

Figure 1. Cylinder infiltrometer testing (1a); measurement of lateral divergence (1b)

DRAFT FOR DISCUSSION

3.0 EQUIPMENT AND/OR INSTRUMENTATION

The following field equipment shall be used to run a CI test:

- Cylinder infiltrometer, minimum diameter of 50 cm, depth of 30 cm.
- 20 to 60-liter water-filled containers to supply water.
- Bubble wrap to place inside the ring while filling with water.
- Stopwatch or watch.
- Thermometer.
- Ruler or tape measure.
- Sledge hammer or equivalent driver and three foot 2x4's for driving the CI into the soil.
- Shovel.
- Pick or breaking bar.
- Hand auger
- Knee pads and/or chair (optional).

4.0 PREPARATION

The following procedures shall be used to prepare the site and the equipment for running the CI test:

- The measuring surface should be relatively level.
- Large rocks or stones should be removed from the cylinder perimeter.
- The method is not recommended for use on rocky soil that prevents the insertion of the cylinder.
- When measurements are not taken at the ground surface, the site should be leveled after excavation. Care is to be taken to remove loose, disturbed soil.
- The area leveled should be at least one meter larger than the cylinder diameter.

DRAFT FOR DISCUSSION

5.0 PROCEDURES

The following procedures shall be used to run the CI test in the field. Data collected shall be recorded in Table 1.

- Drive the CI approximately 4 to 7 cm into the ground using a sledge hammer or driver and 2x4's placed across the CI top.
- In cases where the soil is too compacted to drive the CI to the required depth, the soil may be loosened around the outside perimeter of the cylinder with a pick or breaking bar and then driven in.
- Lightly compact the soil against the inside and outside of the CI ring to minimize preferential flow at the ring-soil contact.
- Place bubble wrap on the soil surface inside the CI ring to prevent soil disturbance during filling with water.
- Fill the CI ring with water to the top, remove bubble wrap and measure water temperature
- Monitor the decline in water level (y). After the water has fallen about 5 cm, record the elapsed time (Δt) and exact decrease in water level (y_n) before the CI is refilled.
- This process is repeated until about 40 cm of water has infiltrated or four hours have expired.
- When the CI has been filled for the last time, water level measurements should be taken more frequently to obtain an accurate infiltration rate.
- At the conclusion of the test, a shovel is used to dig outside of the cylinder to determine the distance (x) of lateral divergence. In moist soils where the lateral wetting cannot be determined by change of color, the lateral wetting can be determined with a portable moisture probe.
- After removing the cylinder, determine the depth of wetting (L) by augering to dryness or the wetting front, when possible.

6.0 SAMPLE CONTAINERS, PRESERVATION, AND TRANSMITTAL

Not applicable.

DRAFT FOR DISCUSSION

7.0 EQUIPMENT DECONTAMINATION AND DISPOSAL

Not applicable.

8.0 DOCUMENTATION

In order to calculate K, the downward flow rate, i_w, must first be corrected for the effect of lateral divergence, based on the radius of the observed wetting front:

1) $$i_w = \frac{i_n \pi r^2}{\pi (r + x)^2}$$

Where,

i_n = infiltration rate during the last water drop ($y_n/\Delta t_n$),

r = radius of the CI ring,

x = lateral divergence from the ring, and

Δt_n = elapsed time during last water drop

When the depth of the wetting front at the end of the test, L, is difficult to measure, such as in soil that is already moist, it can be calculated from the cumulative infiltration (y_t) as follows:

2) $$L = \frac{y_t \pi r^2}{n \pi (r + x)^2}$$

Where, n is the estimated fillable porosity of the soil, based on the field description of soil texture and initial moisture content. When the depth of the wetting front was directly measured in the field, Equation 2 may be used to estimate fillable porosity.

Applying Darcy's equation to the downward flow i_w (Equation 1) and assuming vertical flow in the wetted zone yields:

3) $$i_w = K \frac{z + L - h_{we}}{L}$$

where:

K = effective saturated hydraulic conductivity of the wetted zone,

z = average depth of water in the cylinder during the last water drop y_n,

h_{we} = water entry value of the soil (estimate of soil suction, from Bouwer et al., 1999).

Soil texture estimates made in the field (Table 1) are used to assign the water entry value for each sample.

DRAFT FOR DISCUSSION

Equation 3 is rearranged to solve for K:

4) $$K = \frac{i_w L}{(z + L - h_{we})}$$

This calculated *K* is an estimate of the effective field saturated hydraulic conductivity. The effective field saturated hydraulic conductivity, may be less than the true hydraulic conductivity due to air entrapment within the pores. Nonetheless, because of scale effects, cylinder infiltrometers provide a more accurate estimation of saturated hydraulic conductivity than smaller-scale laboratory measurements.

Table 1. Water entry values for different soil types

Soil Type	Water-entry Value (cm of water)[1]
Coarse sands	-5
Medium sands	-10
Fine sands	-15
Loamy sands	-20
Sandy loams	-25
Loams	-35
Structured clay soils	-30
Nonstructured clay soils	-100 or less (more negative)

[1]Water entry values taken from Bouwer, 1999

8.1 Spreadsheet

Enter the data into the Standard Field Form Single Ring Cylinder Infiltrometer spreadsheet (see below) to calculate the final K value. The data to be entered is highlighted in yellow. Several tests can be recorded in the same spreadsheet and summarized on the first page.

9.0 QUALITY ASSURANCE

Quality assurance (QA) for running the CI shall be accomplished by following the procedures contained in this SOP. It is especially important that the sites chosen remain as `undisturbed and are as level as possible. In addition, soils with a large percentage of gravel material, or soils that are loosely compacted increase the probability that the *K* will not be representative of the undisturbed soil matrix.

10.0 REFERENCES

Bouwer, H., Back, J.T., Oliver, J.M., 1999. Predicting Infiltration and Ground Water Mounds for Artificial Recharge, J Hydro Eng, ASCE, (4) pp. 350-357

DRAFT FOR DISCUSSION

Standard Field Form
Single Ring Cylinder Infiltrometer

Project: _____

Location: _____

Date: _____ Operators: _____

Soil Type: _____

Cover and moisture conditions: _____

Diameter of cylinder: 50.4 cm Height of cylinder: 30 cm

Depth of penetration: _____

Time	Filled level	Water level drop	Infiltration	Accumulated infiltration
_____	_____	Filled	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Lateral wetting outside cylinder: _____

Wetting depth: _____

Water entry value: _____

Fillable porosity: _____

Final infiltration rate for large area: _____

APPENDIX D.
Laboratory Testing Results

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N Dodge Blvd
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

DATE:	December 15, 2020
Project #	**92039**
Project Name	**Phase I - Behl Recharge Project Evaluation**
TO:	Renewable Resources Group 113 S. La Brea Ave. Los Angeles, CA 90036
Project Contact	Dave Dorrance
Enclosed are results for:	Subsurface characterization

Test	***Method***	***Qty***
Gravimetric Water Content/Dry Bulk Density	ASTM D 2216 - 19 / ASTM D 2937-17e2	15
Particle Size Analysis with Hydrometer	ASTM D 6913-17 / ASTM C136-14	5

[1] Testing performed by outside contractor Conforma Tech

[2] Testing performed by outside contractor American Assay

Thank you for choosing GeoSystems Analysis for your material testing needs. We look forward to working with you again. If you have any questions or require additional information, please contact us at 1-520-628-9330

Sincerely,

Prepared By:Ángel Briseño
Laboratory Project Manager

Reviewed By: Mike Yao
Laboratory Technical Director

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N Dodge Blvd
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Laboratory Test Results - Water Content

Date: December 15, 2020
Job No: **92039**
Job Name: **Phase I - Behl Recharge Project Evaluation**
Job Description: Subsurface characterization
Company: Renewable Resources Group

Borehole ID	Depth Below Ground Surface	Gravimetric Water Content	Volumetric Water Content*	Dry Bulk Density	
	[ft]	[g/g]	[cm^3/cm^3]	[pcf]	[g/cm^3]
BH-1	1.5-2	0.075	0.139	116.11	1.86
BH-1	10.5-11	0.101	0.175	108.30	1.73
BH-1	35.5-36	0.119	0.194	101.90	1.63
BH-1	45.5-46	0.099	0.191	120.23	1.93
BH-1	50.5-51	0.080	0.149	116.24	1.86
BH-2	5.5-6	0.103	0.185	112.60	1.80
BH-2	20.5-21	0.148	0.257	108.34	1.74
BH-2	30.5-31	0.113	0.204	112.70	1.81
BH-2	40.5-41	0.117	0.218	116.03	1.86
BH-2	50.5-51	0.151	0.257	106.49	1.71
BH-3	10.5-11	0.063	0.112	109.81	1.76
BH-3	35.5-36	0.072	0.122	105.16	1.68
BH-3	40.5-41	0.123	0.238	120.73	1.93
BH-3	45.5-46	0.134	0.259	120.28	1.93
BH-3	50.5-51	0.212	0.356	104.48	1.67

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N Dodge Blvd
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Laboratory Test Results - Soil Particle Size Distribution with Hydrometer

Date: December 15, 2020
Job No: **92039**
Job Name: **Phase I - Behl Recharge Project Evaluation**
Job Description: Subsurface characterization
Company: Renewable Resources Group

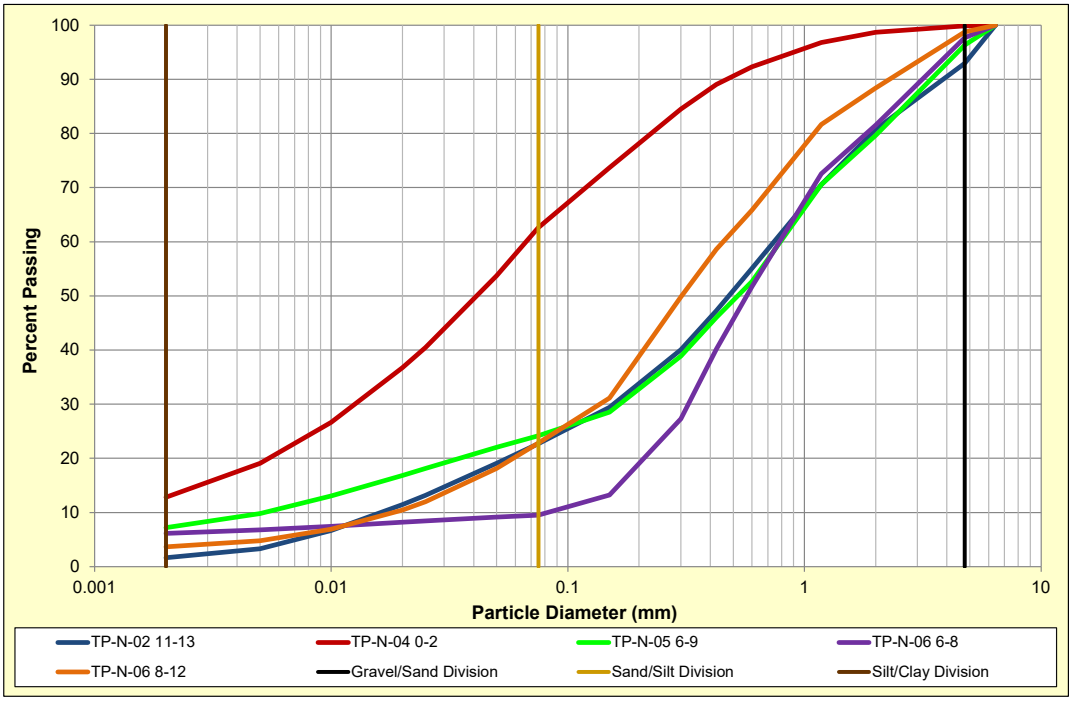
Particle Size Distribution						
Mesh (mm)	Sieve	Sample ID				
		TP-N-02 11-13	TP-N-04 0-2	TP-N-05 6-9	TP-N-06 6-8	TP-N-06 8-12
		Percent Passing				
6.4	0.25"	100	100	100	100	100
4.75	#4	93	100	96	98	99
2	#10	81	99	80	82	88
1.18	#16	71	97	71	73	82
0.6	#30	55	92	53	52	66
0.425	#40	47	89	46	40	59
0.3	#50	40	85	39	27	50
0.15	#100	29	74	29	13	31
0.075	#200	22.7	62.6	24.2	9.5	22.8
0.05	Hydrometer	19.1	53.7	22.0	9.2	18.2
0.025		13.2	40.5	18.1	8.4	12.0
0.02		11.4	36.7	16.8	8.2	10.5
0.01		6.7	26.7	13.0	7.4	6.9
0.005		3.3	19.0	9.8	6.8	4.8
0.002		1.7	12.8	7.2	6.2	3.7

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N Dodge Blvd
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Laboratory Test Results - Soil Particle Size Distribution with Hydrometer

Date: December 15, 2020
Job No: **92039**
Job Name: **Phase I - Behl Recharge Project Evaluation**
Job Description: Subsurface characterization
Company: Renewable Resources Group



GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N Dodge Blvd
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

DATE:	December 15, 2020
Project #	**92054**
Project Name	**Behl Site Monitoring Well Installation**
TO:	Renewable Resources Group 113 S. La Brea Ave. Los Angeles, CA 90036
Project Contact	Kel Mitchel
Enclosed are results for:	Subsurface characterization for monitoring well instalation

Test	***Method***	***Qty***
Gravimetric Water Content/Dry Bulk Density	ASTM D 2216 - 19 / ASTM D 2937-17e2	15
Particle Size Analysis with Hydrometer	ASTM D 6913-17 / ASTM C136-14	4

[1] Testing performed by outside contractor Conforma Tech

[2] Testing performed by outside contractor American Assay

Thank you for choosing GeoSystems Analysis for your material testing needs. We look forward to working with you again. If you have any questions or require additional information, please contact us at 1-520-628-9330

Sincerely,

Prepared By:Ángel Briseño
Laboratory Project Manager

Reviewed By: Mike Yao
Laboratory Technical Director

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N Dodge Blvd
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Laboratory Test Results - Water Content

Date: December 15, 2020
Job No: **92054**
Job Name: **Behl Site Monitoring Well Installation**
Job Description: Subsurface characterization for monitoring well instalation
Company: Renewable Resources Group

Monitoring well ID	Depth Below Ground Surface	Gravimetric Water Content	Volumetric Water Content*	Dry Bulk Density		
	[ft]	[g/g]	[cm^3/cm^3]	[pcf]	[g/cm^3]	
MW-1	5.5-6	0.122	0.163	83.81	1.34	*
MW-1	25.5-26	0.155	0.287	115.71	1.85	
MW-1	40.5-41	0.108	0.205	118.26	1.89	
MW-1	55.5-56	0.133	0.243	114.32	1.83	
MW-1	80.5-81	0.177	0.277	97.97	1.57	
MW-2	5.5-6	0.058	0.106	114.28	1.83	
MW-2	15.5-16	0.106	0.172	101.25	1.62	
MW-2	40.5-41	0.161	0.293	113.28	1.81	
MW-2	60.5-61	0.163	0.266	101.95	1.63	
MW-2	80.5-81	0.138	0.230	104.18	1.67	
MW-3	20.5-21	0.137	0.198	90.28	1.45	Δ
MW-3	40.5-41	0.161	0.294	114.13	1.83	
MW-3	50.5-51	0.194	0.350	112.35	1.80	
MW-3	70.5-71	0.060	0.100	105.05	1.68	
MW-3	90.5-91	0.194	0.305	97.95	1.57	

* Sample was loose

Δ Suspect slightly loose sample, actual BD might be higher

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N Dodge Blvd
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Laboratory Test Results - Soil Particle Size Distribution with Hydrometer

Date: December 15, 2020

Job No: **92054**

Job Name: **Behl Site Monitoring Well Installation**

Job Description: Subsurface characterization for monitoring well instalation

Company: Renewable Resources Group

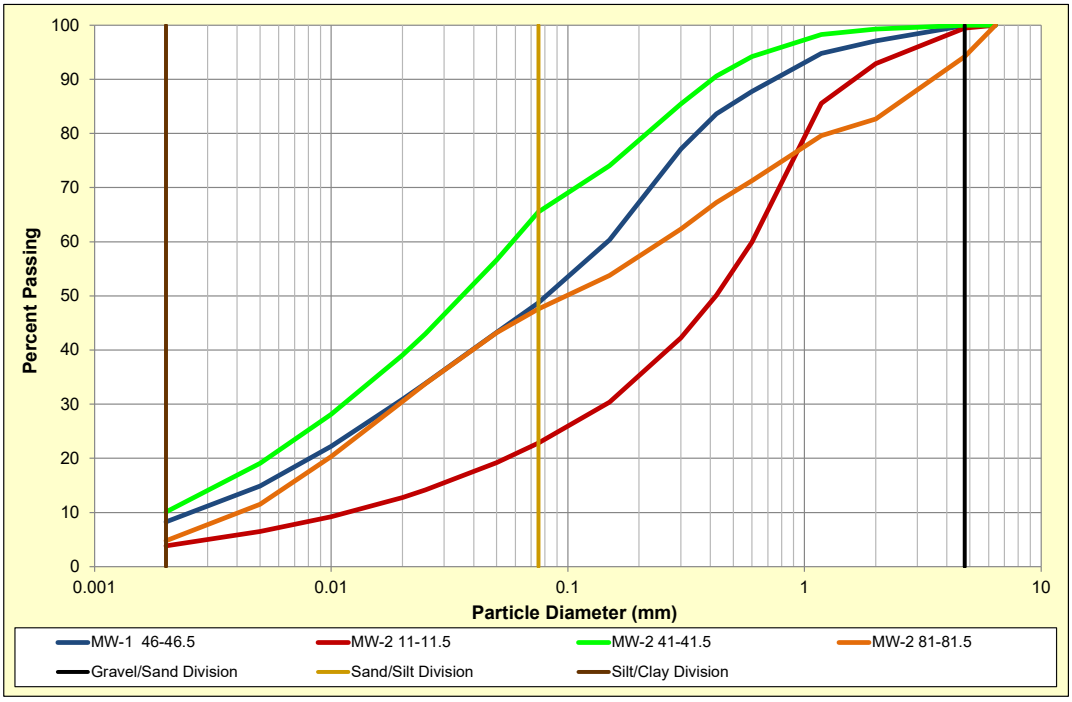
Particle Size Distribution					
Mesh (mm)	Sieve	Sample ID			
		MW-1 46-46.5	MW-2 11-11.5	MW-2 41-41.5	MW-2 81-81.5
		Percent Passing			
6.4	0.25"	100	100	100	100
4.75	#4	100	99	100	94
2	#10	97	93	99	83
1.18	#16	95	86	98	80
0.6	#30	88	60	94	71
0.425	#40	84	50	91	67
0.3	#50	77	42	85	62
0.15	#100	60	30	74	54
0.075	#200	48.7	22.8	65.5	47.6
0.05	Hydrometer	43.2	19.2	56.6	43.2
0.025		33.8	14.1	43.0	33.8
0.02		30.9	12.8	39.1	30.5
0.01		22.2	9.2	28.1	20.3
0.005		14.9	6.5	19.1	11.5
0.002		8.3	3.8	10.1	4.8

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N Dodge Blvd
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Laboratory Test Results - Soil Particle Size Distribution with Hydrometer

Date: December 15, 2020
Job No: **92054**
Job Name: **Behl Site Monitoring Well Installation**
Job Description: Subsurface characterization for monitoring well instalation
Company: Renewable Resources Group



APPENDIX D

GSA Perching Analysis

MEMORANDUM

July 13, 2021

TO: Kel Mitchel, Renewable Resources Group

FROM: Jason Keller

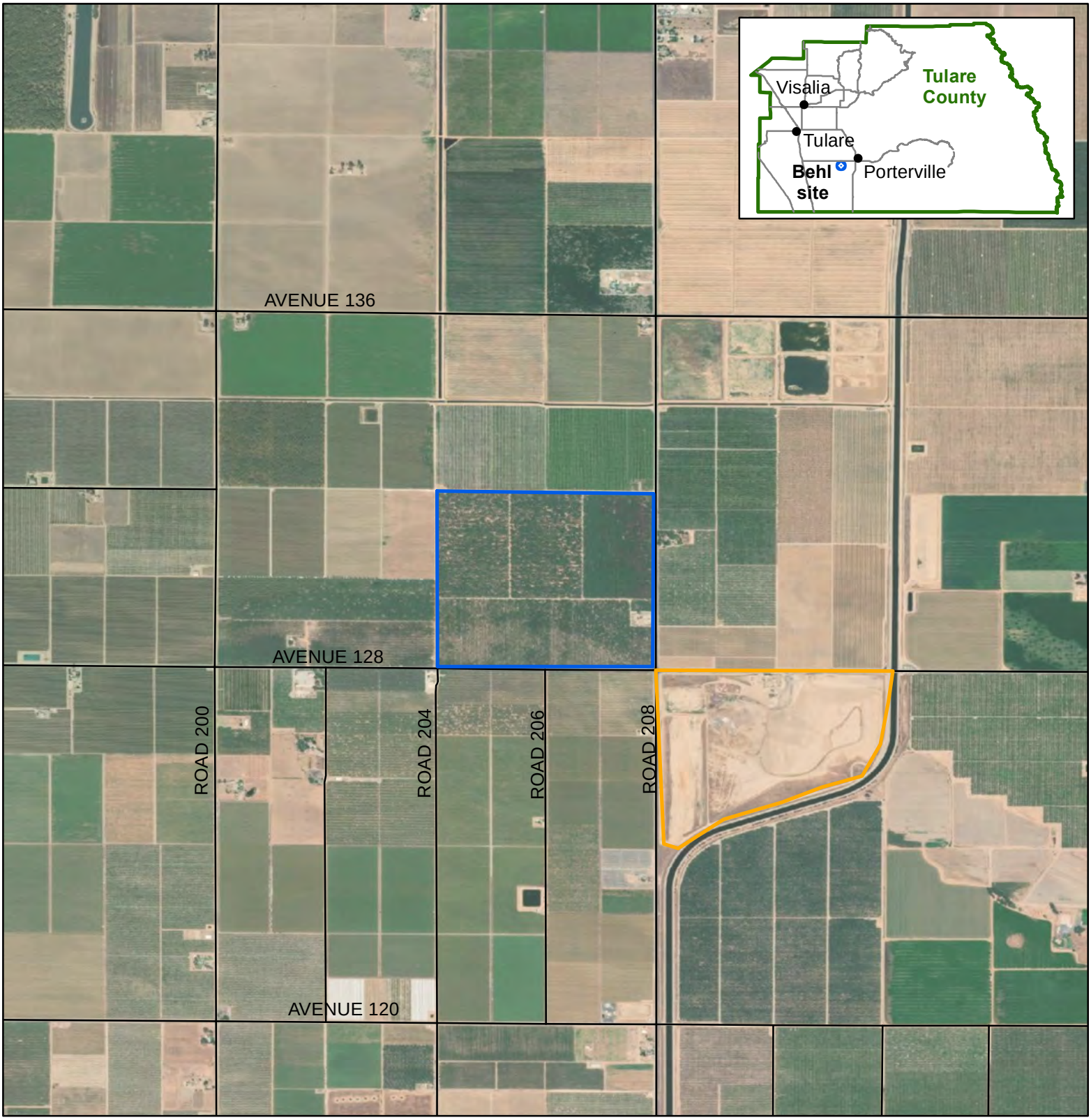
CC: Dave Dorrance, RRG
Mike Milczarek, GSA
Jaime Banuelos, GSA

RE: Behl Site Infill Borehole Investigation

1.0 INTRODUCTION

As a follow-up to the recharge feasibility subsurface investigation at the Behl Site, GeoSystems Analysis Inc. (GSA), under contract to Renewable Resources Group (RRG), conducted additional borehole drilling and subsurface characterization to determine the potential extent of a finer-textured subsurface material layer and perched water conditions within an ancestral channel area that has been identified as potentially favorable for recharge (GSA, 2021). The Behl Site location is shown in Figure 1; the location of drill holes and monitor wells at the site are shown in Figure 2.

During the initial site investigation in November 2020 (GSA, 2021), a saturated interval between 48 to 48.5 ft below ground surface (bgs; 349.5 to 350 ft amsl), was encountered during the drilling of MW-3, approximately 50.5 ft above the measured depth to groundwater of 98.5 ft bgs (299 ft amsl). The saturated interval was in material that is finer-textured relative to overlying and underlying sediments and thus may be a low permeability zone that could act as a perching layer under groundwater recharge conditions. The saturated interval also was ten feet above the neighboring Teapot Dome Landfill's regulatory groundwater trigger elevation of 340 ft amsl.



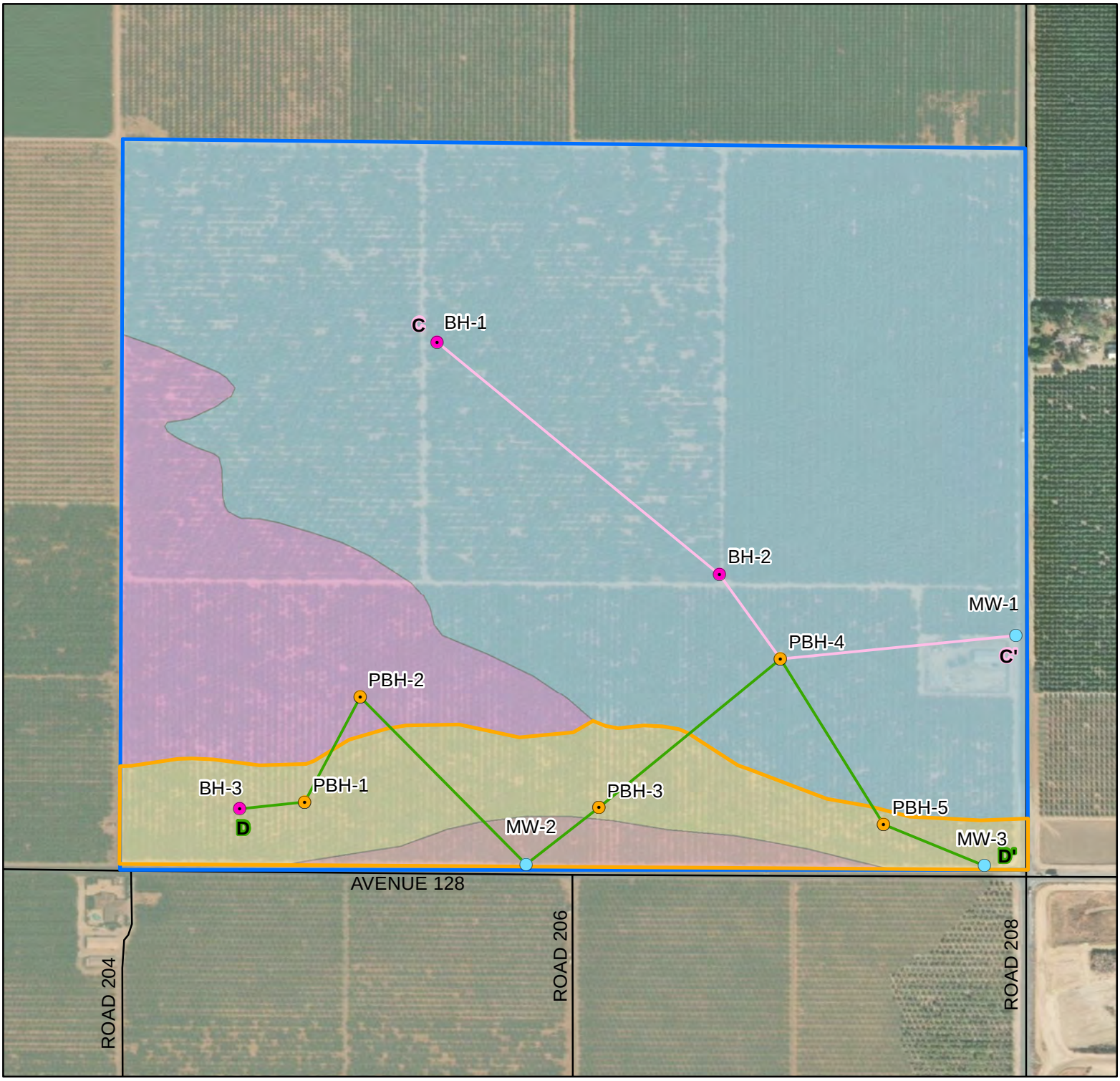
Legend

Investigation Area - Behl Property

Teapot Dome Landfill

Figure 1. Location of the Behl Property investigation area and Teapot Dome Landfill

GSA GeoSystems Analysis, Inc. Innovations and Solutions



1,000 500 0 1,000 Feet

N

Legend

- 2020 borehole
- 2021 borehole
- 2020 monitoring well

Revised cross-section transects including PBH boreholes

- C-C'
- D-D'
- Site boundary: Behl site

Soil map unit

- Exeter loam, 0 to 2 percent slopes
- Flamen loam, 0 to 2 percent slopes
- Nord fine sandy loam, 0 to 2 percent slopes
- Tujunga loamy sand, 0 to 2 percent slopes
- Area potentially favorable to recharge

Soils data from:
Soil Survey Staff, Natural Resources Conservation Service, United States Dept.of Agriculture. Web Soil Survey. http://websoilsurvey.sc.egov.usda.gov/. Accessed 8/12/20.

GSA GeoSystems Analysis, Inc. Innovations and Solutions

Figure 2. Location of the 2020 monitoring wells and boreholes, 2021 boreholes, and cross-section transects

On May 10 and 11, 2021, five additional boreholes were drilled in the southern part of the site that was identified as being potentially favorable for recharge (GSA, 2021). The 2021 borehole locations are shown in Figure 2. The purpose of this additional borehole investigation was to determine whether a similar finer-textured layer and/or similar saturated perched water conditions are located within the southern part of the Behl site.

This memo presents the results of the field investigation and supporting laboratory physical and hydraulic testing of borehole samples.

2.0 FIELD AND LABORATORY METHODS

2.1 Borehole Drilling

Five boreholes (Figure 2) were drilled in May 2021 to investigate the presence of perched water and/or finer-textured material at the approximate depth of saturated conditions observed in the vadose zone at MW-3 (48 to 48.5 ft bgs). Borehole locations were selected by RRG and staked prior to the start of drilling. A GSA project hydrologist supervised the drilling by Gregg Drilling, LLC (Signal Hill, CA). Boreholes were drilled to a depth of 64 ft bgs using a track mounted 6-inch hollow stem auger (Figure 3).

Continuous core samples were obtained every 4 feet using a 2-inch diameter direct push sampler with a plastic liner (Figure 4). The 4 ft plastic liner was opened, and the sample was photographed and geologically logged for the following parameters using visual manual methods (ASTM D-2488):

- Moisture content (dry, slightly moist, moist, or wet);
- Percent gravel (>4.75 mm), sand, silt (< #200 mesh), and clay (<2 μm) fractions;
- Degree of grading and plasticity;
- Visual or Munsell soil color (Munsell Color Company, Grand Rapids MI) and evidence of gleying, mottling, or oxidation;
- USCS classification;
- Free lime (effervescence with 10% hydrochloric acid (HCl)).

Three split spoon and two plastic liner samples of encountered finer-textured material were obtained for laboratory hydraulic conductivity testing (Table 1). Logged material representative of the range of material textures encountered was sampled in 1-gallon sealed plastic bags and transported to the GSA laboratory. Boreholes were grouted immediately after the geologic logging and sampling was completed. Borehole geologic logging results are presented in Section 3. Complete geologic logging results are in Appendix A.

Table 1. Core samples

Sample ID	Borehole	Depth (ft bgs)	Sample Type
PBH-1 (51-52')	PBH-1	51-52	Continuous Core
PBH-1 (55-56')	PBH-1	55-56	Continuous Core
PBH-2 (49.5-50')	PBH-2	49.5-50	Split Spoon
PBH-4 (52.5-53')	PBH-4	52.5-53	Split Spoon
PBH-4 (62.5-63')	PBH-4	62.5-63	Split Spoon

Figure 3. Track-mounted hollow stem auger rig

Figure 4. Four-foot plastic core sample

2.2 Laboratory Testing

Based on the geologic logging results, five grab samples were selected for laboratory particle size distribution (PSD) testing using wet sieve and hydrometer methods (ASTM D 6913-17 / ASTM C 136-14) (Table 2). An intact core sample from PBH-1 and PBH-4 representing finer-textured material at the approximate depth of the perched water layer identified at MW-3 were selected for saturated hydraulic conductivity (Ksat) (ASTM D5856-15) and bulk density testing (ASTM D2937-17e2) (Table 2).

Table 2. Laboratory testing samples

Sample ID	Borehole	Depth (ft bgs)	Sample Type	Laboratory Test	Test Method
PBH-1 (2-4')	PBH-1	2-4	Grab	Particle Size Distribution	ASTM D6913-17, ASTM C136-14
PBH-2 (8-12')	PBH-2	8-12	Grab		
PBH-3 (42-44')	PBH-3	42-44	Grab		
PBH-5 (48-52')	PBH-5	48-52	Grab		
PBH-5 (52-54')	PBH-5	52-54	Grab		
PBH-1 (55-56')	PBH-1	55-56	Continuous Core	Saturated Hydraulic Conductivity, Dry Bulk Density	ASTM D5856-15, ASTM D2937-17e2
PBH-4 (52.5-53')	PBH-4	52.5-53	Split Spoon		

3.0 RESULTS

3.1 Calibration of Field-Estimated Particle Size Distribution Estimates

To correct for hand texture bias in field-estimated PSD, linear regression equations were developed to correlate field estimates of PSD to the laboratory measured results (Figure 5). The correlations for sand (R^2 = 0.83) and clay (R^2 = 0.89) were used to adjust the field estimated values to the laboratory measured values, and silt was calculated by difference. Field estimates of gravel were not adjusted due to the overall low percentages observed in the logged materials.

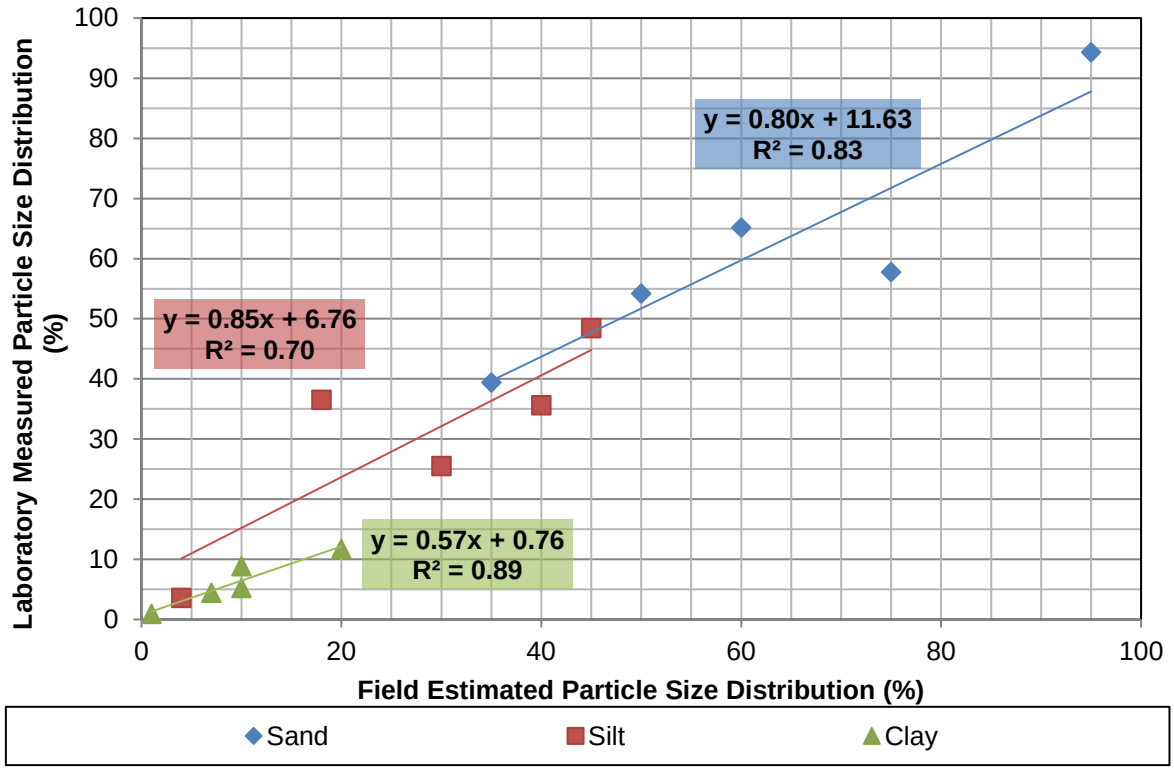


Figure 5. Laboratory measured PSD versus field estimated PSD

3.2 Geologic Logging Results

Interpretation of the geologic log data used the hydrologic unit classification utilized in the original subsurface investigation (GSA, 2021). The hydrologic unit classification was assigned to each logged interval as follows:

- Unit 1: coarse material, predominantly sandy material with 25% fines or less with a mean effective Ksat of 4.6 ft/day;
- Unit 2: medium textured material, silty/clayey sands with 25% to 45% percent fines with a mean effective Ksat of approximately 0.90 ft/day;

- Unit 3: fine textured material, silty/clayey material with greater than 45% fines with a mean effective Ksat of approximately 0.30 ft/day.

A summary of the geologic logging results is presented in the following sub-sections. Detailed geologic logging results are presented in Appendix A. Using the hydrologic unit classifications, two west-to-east cross sections from the initial subsurface investigation report (GSA, 2021) were updated to include log results from the 2021 boreholes. The locations of the cross-sections are shown in Figure 2.

3.2.1 Cross-section C-C'

Figure 6 presents cross-section C – C' in the central and eastern parts of the Behl property (Figure 2). Boreholes BH-1 and BH-2 were composed of similar materials with predominantly Unit 2 and Unit 3 material from the surface to the maximum borehole depth (51 ft bgs). Sediments in borehole PBH-4 alternated between Unit 1 and less than 5 ft thick layers of Unit 2 and Unit 3 material to 44 ft bgs. From 44 ft bgs to 63 ft bgs, PBH-4 was entirely Unit 2 and Unit 3 material. In MW-1, subsurface materials from the surface to 115 ft bgs were predominantly Unit 1 and Unit 2 material. A 5 ft thick layer of Unit 3 material was encountered at approximately 25 ft bgs and at 55 ft bgs. Saturated subsurface conditions potentially indicating perched water were not observed at any of the cross-section C-C' boreholes or monitoring wells above the groundwater table. In BH-1 and MW-1 a hardpan layer was encountered at depths from approximately 5 to 10 ft bgs. No hardpan material was encountered in BH-2 or PBH-4.

The approximate depth to the top of finer-textured material layers at the approximate depth of the perched water layer identified at MW-3 (48 ft bgs) is presented in Figure 6 for PBH-4 and MW-1. The depth to the finer-textured sediment layer was approximately 46 ft bgs and ranged in thickness from 5 ft to approximately 20 ft.

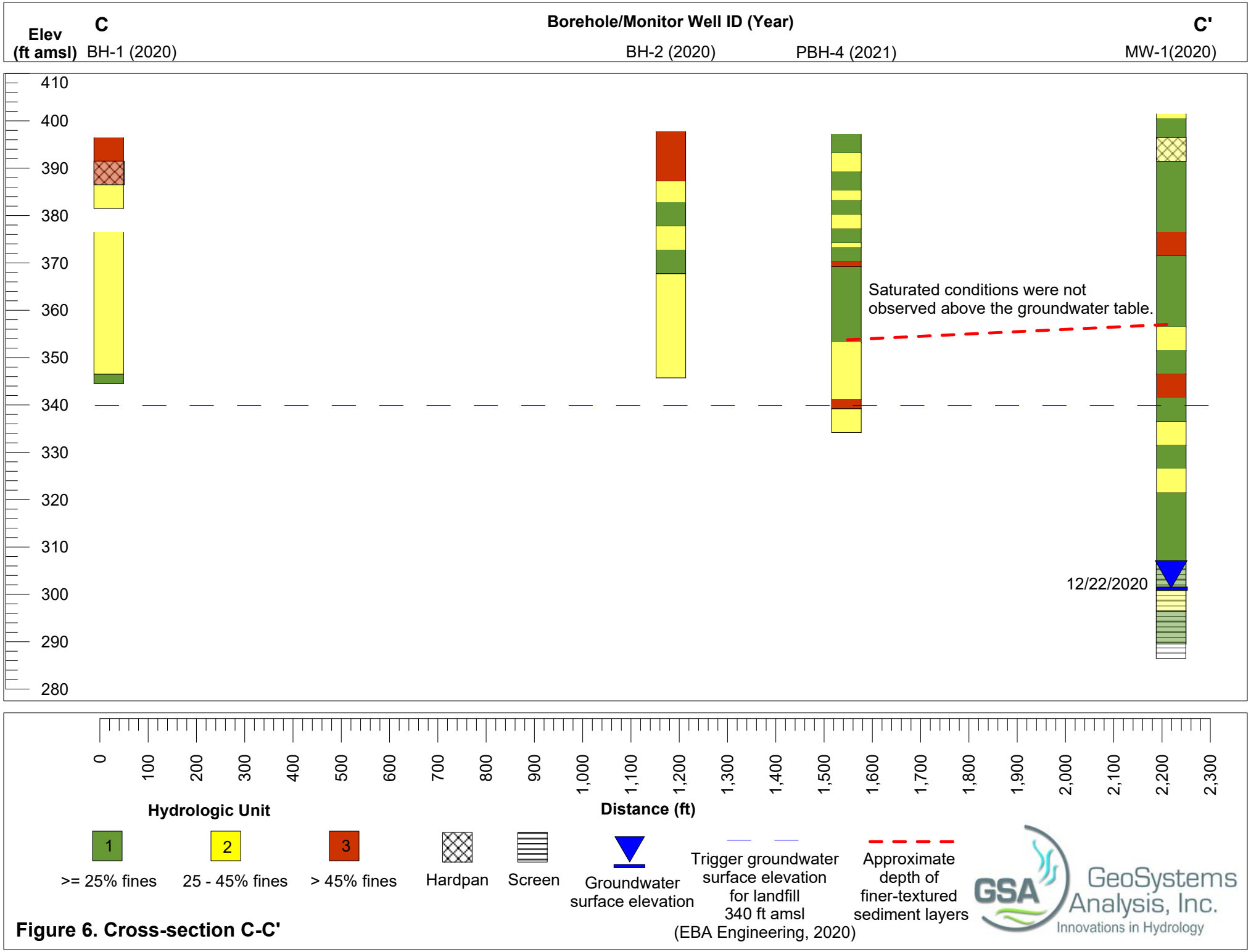


Figure 6. Cross-section C-C'

3.2.2 Cross-section D-D'

Figure 7 presents cross-section D – D' in the southern part of the Behl property. Except for PBH-2 (Figure 2), logged intervals were primarily classified as Unit 1 with depths to Unit 2 or Unit 3 layers more than 5 ft thick ranging from 26 ft bgs to 48 ft bgs. Sediments in PBH-2, located outside of the ancestral channel area potentially favorable for recharge (Figure 2, Figure 7), alternate between Unit 1, Unit 2, and Unit 3 material layers from the near surface to the maximum borehole depth (65 ft bgs).

Except for MW-3, below the first occurrence of greater than 5 ft thick Unit 2 and Unit 3 material the boreholes are predominately comprised of Unit 2 and Unit 3 material to the maximum borehole depth. In MW-3, Unit 1 material existed below the Unit 2 material layer (48 to 56 ft bgs) down to 112 ft bgs (Figure 7).

Saturated subsurface conditions above the groundwater table that would indicate perched water conditions were only observed in sediments from the 2020 monitoring well MW-3 (48 to 48.5 ft bgs, Figure 7) and at no other monitoring well or borehole locations.

The approximate depth to the top of finer-textured material layers more than 5 ft thick is presented in Figure 7. Note, the estimated depth does not include borehole PBH-2 and targets the top of the Unit 3 material layer at MW-2. The approximate depth to the finer-textured sediment layer ranges from 36 to 48 ft bgs and thickness ranges from 6 ft to more than 25 ft. The elevation high point for the top of the finer-textured sediment layer is projected to exist near the center of the west to east transect, and slope downward to the east and the west.

While perched water conditions were only observed at MW-3, this occurred under agricultural irrigation conditions (i.e., approximately 1 ft recharge per year). Under managed aquifer recharge, perched water conditions could develop above the finer-textured material layers identified at approximately 36 to 48 ft bgs. These potential perching layers have variable thickness and expected permeability, thus if the ancestral channel area were periodically flooded (i.e., once every three years), perching would likely dissipate due to lateral spreading. However, outside of the ancestral channel area the finer-textured sediment generally increases in thickness and could constrain the lateral spreading from the ancestral channel area. Additionally, the slope of the top of the finer-textured material layer could result in perched water moving laterally downslope towards the east and west edges of the property.

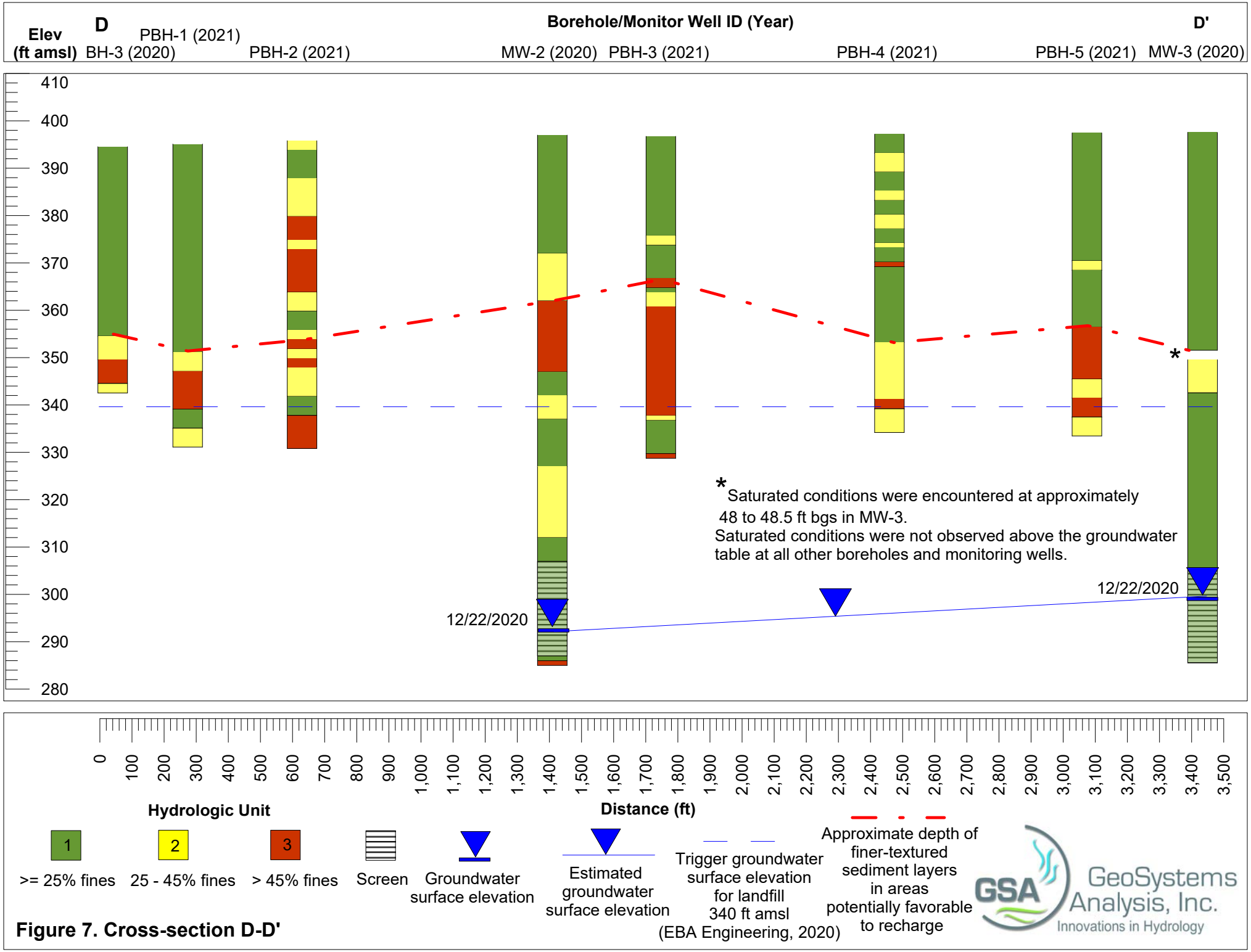


Figure 7. Cross-section D-D'

3.3 Laboratory Testing Results

The following section presents laboratory PSD, bulk density, and Ksat testing results for the intact drill core samples. Appendix B contains complete laboratory testing results.

3.3.1 Particle Size Distribution

Five borehole samples that captured the range of materials observed were selected for PSD testing and the test results are shown in Figure 8. Laboratory measured percent fines (<0.075 mm) ranged between 5 percent and 60 percent. Laboratory PSD results were used to calibrate field PSD estimates for logged drilled intervals as previously discussed in Section 3.1.

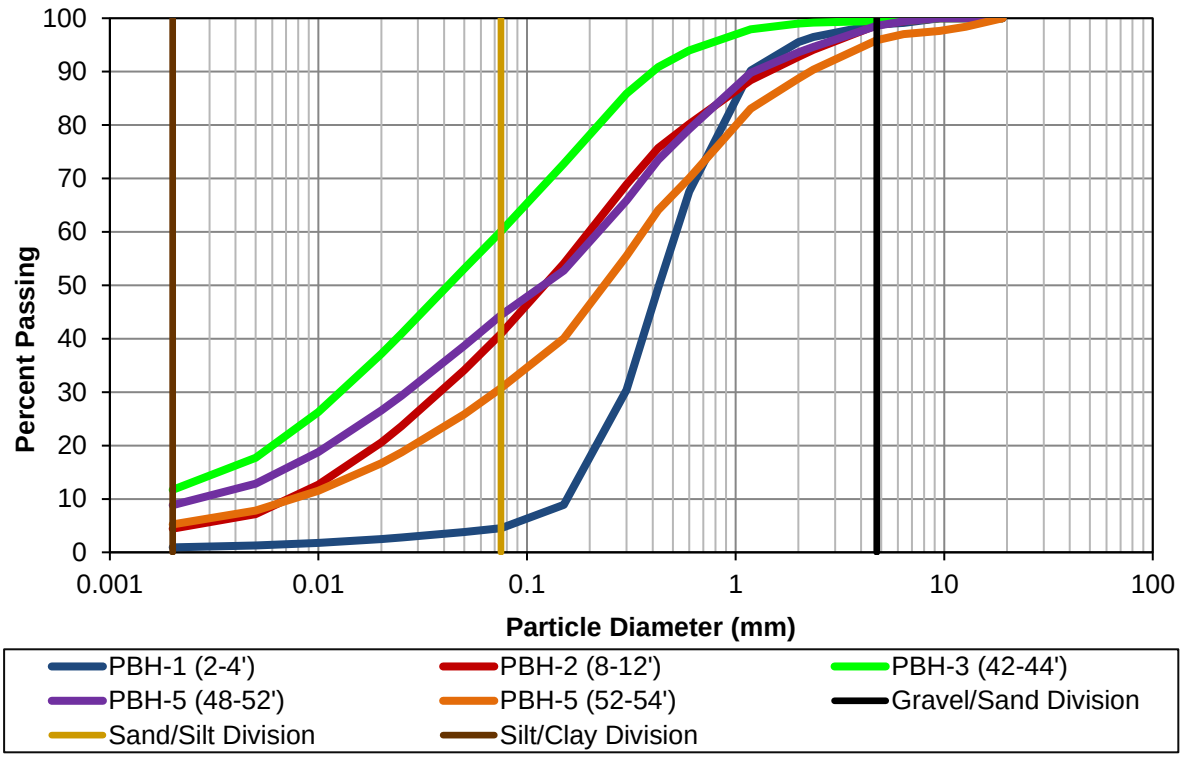


Figure 8. Laboratory particle size distribution results

3.3.2 Bulk Density and Saturated Hydraulic Conductivity

Two drill core samples, one representing Unit 2 material and one representing Unit 3 material, were selected to undergo bulk density and Ksat testing. Test results are summarized in Table 3.

Table 3. Results of bulk density and saturated hydraulic conductivity testing

Sample ID	Field Estimated Particle Size Distribution (%)			Hydrologic Unit	Dry Bulk Density (g/cm^3)	Saturated Hydraulic Conductivity (cm/sec)	
	Sand	Silt	Clay			(cm/sec)	(ft/day)
PBH-1 (55-56')	40	48	12	3	1.75	9.6E-07	2.7E-03
PBH-4 (52.5-53')	60	34	6	2	1.93	2.0E-06	5.7E-03

Sample dry bulk density was less for the finer-textured Unit 3 sample (PBH-1 (55-56') relative to the Unit 2 sample (PBH-4 (52.5-53'). Sample Ksat values were low for both samples, with the finer-textured Unit 3 sample Ksat being 9.6E-7 cm/s (0.003 ft/day) and Unit 2 sample Ksat being 2.0E-6 cm/s (0.006 ft/day). The laboratory measured Ksat values are approximately two orders of magnitude less than cylinder infiltrometer (CI) measured mean effective Ksat for near surface material (0 to 2 ft bgs), which was 3.2E-4 cm/s (0.9 ft/day) for Unit 2 material and 1.1E-4 cm/s (0.3 ft/day) for Unit 3 material (GSA, 2021). Potential factors affecting laboratory core sample Ksat values include:

- Increased consolidation of material at depth resulting from overburden pressure.
- Disturbance of samples resulting from the drive-coring process, which may have compacted the fine-grained samples (Gilbert, 1992).
- Scale (size) of the samples being tested (Schulze-Makuch et al., 2005; Nielson et al., 1973).

Consequently, the laboratory measured Ksat values most likely underestimate the bulk Ksat of the Unit 2 and Unit 3 material, and the field measured values may overestimate the Ksat of sediments at depth.

4.0 SUMMARY AND CONCLUSIONS

Borehole logs from the Behl site indicate that finer-textured Unit 2 and Unit 3 material may be continuously present beneath the southern half of the Behl site at variable thicknesses and at depths ranging from 36 ft bgs to 48 ft bgs. The laboratory measured Ksat values for drill core samples was 2.0E-6 cm/s (0.003 ft/day) for the Unit 2 material and 9.6E-7 cm/s (0.006 ft/day) for the Unit 3 material; these values are approximately two orders of magnitude lower than the field measured Ksat values for similar sediments at the near surface (GSA, 2020). The lower laboratory values are most likely due to potential sample compaction and small sample size. Due to the potential for sediment consolidation at depth, it is likely that the bulk Ksat values of deeper sub-surface sediments are intermediate between the field and laboratory measured values (i.e., <0.1 ft/day).

Apart from MW-3, the absence of saturated sediments or perched water in all the boreholes indicates that the permeability of the subsurface is sufficiently high to recharge agricultural drainage which is expected to be approximately 1 ft of recharge per year in this area. However, under managed aquifer recharge operations, the deeper Unit 2 and Unit 3 material layers identified at approximately 36 to 48 ft bgs have the potential to act as a perching layer. The variable depths and thicknesses of the finer grained layers indicate that perched water can be expected to move laterally until higher permeability sediments are encountered to transmit the perched water to groundwater.

5.0 REFERENCES

GSA – see GeoSystems Analysis, Inc.

Geosystems Analysis, Inc., 2021. Behl Property Subsurface Characterization. Prepared for Renewable Resources Group LLC, April 15, 2021.

Gilbert, P.A. 1992. Effect of sampling disturbance on laboratory-measured soil properties. Prepared for Department of the Army US Army Corps of Engineers.

Nielsen D, J. Biggar, and K. Erh. 1973. Spatial variability of field-measured soil-water properties. Hilgardia 42(7):215-259.

Schulze-Makuch, D., D.A. Carlson, D.S. Cherkauer, and P. Malik. 2005. Scale dependency of hydraulic conductivity in heterogeneous media. Groundwater 37(6):904-919.

APPENDIX A

Drill Core Geologic Logs

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Group **Location:** Porterville, CA - Behl Property **Drilling Company:** Gregg **Drilling Date:** 5/11/21 **Logged By:** Robert Rice

Borehole ID: PBH-1 **Easting[1]:** 309454 **Northing[1]:** 3988572 **Elevation (ft amsl):** N/A

Depth Interval (ft)		Sample Collected?	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Classification	Hydrologic Unit[3]	HCL Reaction (None, Weak, Moderate, Strong)	Color	Comments
From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	% Fines									
0	2		Slightly Moist	0	85	12	3	15	0	80	18	2	20	Well	Fine	None	loamy sand	SM	1	None	Tan	Sand
2	5	Grab	Slightly Moist	0	95	4	1	5	0	88	11	1	12	Well	Fine	None	sand	SM	1	None	Tan	
5	8		Slightly Moist	0	85	12	3	15	0	80	18	2	20	Well	Fine	None	loamy sand	SM	1	None	Tan	more fines
8	13		Slightly Moist	0	85	12	3	15	0	80	18	2	20	Well	Fine	None	loamy sand	SM	1	None	Tan	
13	16		Moist	0	95	4	1	5	0	88	11	1	12	Well	Medium	None	sand	SM	1	None	Tan	medium sand
16	20		Moist	0	95	4	1	5	0	88	11	1	12	Well	Medium	None	sand	SM	1	None	Tan	
20	24		Moist	0	95	4	1	5	0	88	11	1	12	Well	Medium	None	sand	SM	1	None	Tan	
24	28		Moist	3	92	4	1	5	3	85	10	1	12	Well	Medium	None	sand	SW-SM	1	None	Tan	some gravel
28	32		Moist	0	85	12	3	15	0	80	18	2	20	Well	Fine	None	loamy sand	SM	1	None	Tan	coarse sand
32	36		Moist	1	94	4	1	5	1	87	11	1	12	Well	Medium-Coars	None	sand	SM	1	None	Tan	coarse sand
36	38		Moist	20	75	4	1	5	20	72	7	1	8	Well	Medium-Coars	None	sand	SW-SM	1	None	Tan	more gravel
38	40		Moist	0	80	15	5	20	0	76	21	4	24	Well	Fine	Low	loamy sand	SM	1	None	Tan	more fines
40	44		Moist	0	80	15	5	20	0	76	21	4	24	Well	Fine	Low	loamy sand	SM	1	None	Tan	
44	48		Moist	0	60	30	10	40	0	60	34	6	40	Well	Fine	Medium	sandy loam	SC	2	None	Tan	more fines, sandy loam
48	52	Core	Moist	0	40	40	20	60	0	44	44	12	56	Well	Fine	High	loam	MH	3	None	Tan	more clay, loam
52	56	Core	Moist	0	35	45	20	65	0	40	48	12	60	Well	Fine	High	loam	MH	3	None	Tan	more fines
56	57		Moist	0	90	7	3	10	0	84	14	2	16	Well	Fine	None	loamy sand	SM	1	None	Tan	sand
57	60		Moist	0	95	4	1	5	0	88	11	1	12	Well	Fine	None	sand	SM	1	None	Tan	fine sand
60	64		Moist	0	55	30	15	45	0	56	35	9	44	Well	Fine	Medium	sandy loam	SC	2	None	Tan	loam, more fines

[1]Coordinates are in Universal Transverse Mercator System, World Geodetic System 1984, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Group **Location:** Porterville, CA - Behl Property **Drilling Company:** Gregg **Drilling Date:** 5/11/2021 **Logged By:** Robert Rice

Borehole ID: PBH-2 **Easting[1]:** 309506 **Northing[1]:** 3988687 **Elevation (ft amsl):** N/A

Depth Interval (ft)		Sample Collected?	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Classification	Hydrologic Unit[3]	HCL Reaction (None, Weak, Moderate, Strong)	Color	Comments
From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	% Fines									
0	2		Slightly Moist	0	75	18	7	25	0	72	24	5	28	Well	Fine	Low	sandy loam	SM	2	None	Tan	loamy sand
2	4		Moist	0	90	7	3	10	0	84	14	2	16	Well	Fine	None	loamy sand	SM	1	None	Tan	sand
4	8		Moist	0	95	4	1	5	0	88	11	1	12	Well	Fine	None	sand	SM	1	None	Tan	medium sand
8	12	Grab	Moist	0	75	18	7	25	0	72	24	5	28	Well	Fine	Low	sandy loam	SM	2	None	Tan	loamy sand
12	16		Moist	0	55	35	10	45	0	56	38	6	44	Well	Fine	Medium	sandy loam	SC	2	None	Tan	more fines, loam
16	21		Moist	0	50	40	10	50	0	52	42	6	48	Well	Fine	High	sandy loam	SC	3	None	Tan	more fines, loam
21	23		Moist	0	70	25	5	30	0	68	29	4	32	Well	Fine	Low	sandy loam	SM	2	None	Tan	less fines
23	24		Moist	0	50	40	10	50	0	52	42	6	48	Well	Fine	High	sandy loam	SC	3	None	Tan	
24	26		Moist	0	50	40	10	50	0	52	42	6	48	Well	Fine	High	sandy loam	SC	3	None	Tan	
26	28		Moist	0	40	40	20	60	0	44	44	12	56	Well	Fine	High	loam	MH	3	None	Tan	more fines, loam
28	32		Moist	0	40	40	20	60	0	44	44	12	56	Well	Fine	High	loam	MH	3	None	Tan	
32	36		Moist	0	55	35	10	45	0	56	38	6	44	Well	Fine	Medium	sandy loam	SC	2	None	Tan	
36	40		Moist	0	80	17	3	20	0	76	22	2	24	Well	Fine	Low	loamy sand	SM	1	None	Tan	sandy
40	42		Moist	0	70	25	5	30	0	68	29	4	32	Well	Fine	Medium	sandy loam	SC	2	None	Tan	more fines
42	44		Moist	0	40	40	20	60	0	44	44	12	56	Well	Fine	High	loam	MH	3	None	Tan	more clay, loam
44	46		Moist	0	60	30	10	40	0	60	34	6	40	Well	Fine	Medium	sandy loam	SC	2	None	Tan	less fines
46	48		Moist	0	50	35	15	50	0	52	39	9	48	Well	Fine	High	loam	SC	3	None	Tan	more fined
48	50	Core	Moist	0	70	25	5	30	0	68	29	4	32	Well	Fine	Low	sandy loam	SM	2	None	Tan	less fines
50	52		Moist	0	70	25	5	30	0	68	29	4	32	Well	Fine	Low	sandy loam	SM	2	None	Tan	
52	54		Moist	0	75	20	5	25	0	72	25	4	28	Well	Fine	Low	sandy loam	SM	2	None	Tan	
54	58		Moist	0	85	12	3	15	0	80	18	2	20	Well	Fine	None	loamy sand	SM	1	None	Tan	sandy
58	62		Moist	0	40	40	20	60	0	44	44	12	56	Well	Fine	High	loam	MH	3	None	Tan	more clay, fines
62	65		Moist	0	40	40	20	60	0	44	44	12	56	Well	Fine	High	loam	MH	3	None	Tan	

[1]Coordinates are in Universal Transverse Mercator System, World Geodetic System 1984, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Group **Location:** Porterville, CA - Behl Property **Drilling Company:** Gregg **Drilling Date:** 5/10/2021 **Logged By:** Robert Rice

Borehole ID: PBH-3 **Easting[1]:** 309718 **Northing[1]:** 3988560 **Elevation (ft amsl):** N/A

Depth Interval (ft)		Sample Collected?	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Classification	Hydrologic Unit[3]	HCL Reaction (None, Weak, Moderate, Strong)	Color	Comments
From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	% Fines									
0	3		Slightly Moist	0	90	8	2	10	0	84	14	2	16	Well	Fine	None	loamy sand	SM	1	None	Tan	sandy
3	5		Dry	0	95	4	1	5	0	88	11	1	12	Well	Fine	None	sand	SM	1	None	Tan	
5	8		Slightly Moist	0	85	12	3	15	0	80	18	2	20	Well	Fine	Low	loamy sand	SM	1	None	Tan	more fines
8	12		Slightly Moist	0	90	8	2	10	0	84	14	2	16	Well	Fine	None	loamy sand	SM	1	None	Tan	sandy
12	16		Slightly Moist	0	95	4	1	5	0	88	11	1	12	Well	Fine	None	sand	SM	1	None	Tan	
16	20		Slightly Moist	0	95	4	1	5	0	88	11	1	12	Well	Fine	None	sand	SM	1	None	Tan	
20	21		Slightly Moist	0	95	4	1	5	0	88	11	1	12	Well	Fine	None	sand	SM	1	None	Tan	
21	23		Slightly Moist	0	65	30	5	35	0	64	33	4	36	Well	Fine	Medium	sandy loam	SC	2	None	Tan	sandy loam, more fines
23	25		Dry	0	95	4	1	5	0	88	11	1	12	Well	Fine-Medium	None	sand	SM	1	None	Tan	sandy
25	28		Slightly Moist	0	90	8	2	10	0	84	14	2	16	Well	Fine	None	loamy sand	SM	1	None	Tan	
28	30		Slightly Moist	0	90	8	2	10	0	84	14	2	16	Well	Fine	None	loamy sand	SM	1	None	Tan	
30	32		Moist	0	50	40	10	50	0	52	42	6	48	Well	Fine	High	sandy loam	SC	3	None	Tan	more fines, loam
32	33		Moist	0	80	15	5	20	0	76	21	4	24	Well	Fine	None	loamy sand	SM	1	None	Tan	sandy layer
33	36		Moist	0	60	35	5	40	0	60	37	4	40	Well	Fine	Medium	sandy loam	SC	2	None	Tan	loam
36	40		Moist	0	50	40	10	50	0	52	42	6	48	Well	Fine	Medium	sandy loam	SC	3	None	Tan	more fines, loam
40	42		Moist	0	50	40	10	50	0	52	42	6	48	Well	Fine	Medium	sandy loam	SC	3	None	Tan	
42	44	Grab	Moist	0	35	45	20	65	0	40	48	12	60	Well	Fine	High	loam	MH	3	None	Tan	more clay, denser
44	48		Moist	0	40	40	20	60	0	44	44	12	56	Well	Fine	High	loam	MH	3	None	Tan	
48	52		Moist	0	45	40	15	55	0	48	43	9	52	Well	Fine	High	loam	MH	3	None	Tan	
52	56		Moist	0	45	40	15	55	0	48	43	9	52	Well	Fine	High	loam	MH	3	None	Tan	
56	59		Moist	0	45	40	15	55	0	48	43	9	52	Well	Fine	High	loam	MH	3	None	Tan	
59	60		Moist	0	70	20	5	25	0	72	22	6	32	Well	Fine	Low	sandy loam	SM	2	None	Tan	
60	64		Moist	0	90	7	3	10	0	84	14	2	16	Well	Fine	None	loamy sand	SM	1	None	Tan	sand
64	67		Moist	0	90	7	3	10	0	84	14	2	16	Well	Fine	None	loamy sand	SM	1	None	Tan	
67	68		Moist	0	40	40	20	60	0	44	44	12	56	Well	Fine	High	loam	MH	3	None	Tan	more clay, fines,

[1]Coordinates are in Universal Transverse Mercator System, World Geodetic System 1984, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Group **Location:** Porterville, CA - Behl Property **Drilling Company:** Gregg **Drilling Date:** 5/11/2021 **Logged By:** Robert Rice

Borehole ID: PBH-4 **Easting[1]:** 309884 **Northing[1]:** 3988721 **Elevation (ft amsl):** N/A

Depth Interval (ft)		Sample Collected?	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Classification	Hydrologic Unit[3]	HCL Reaction (None, Weak, Moderate, Strong)	Color	Comments
From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	% Fines									
0	4		Slightly Moist	0	80	17	3	20	0	76	22	2	24	Well	Fine	None	loamy sand	SM	1	None	Tan	loamy sand
4	8		Slightly Moist	0	75	20	5	25	0	72	25	4	28	Well	Fine	Low	sandy loam	SM	2	None	Tan	more fines
8	12		Moist	0	80	17	3	20	0	76	22	2	24	Well	Fine	None	loamy sand	SM	1	None	Tan	
12	14		Moist	0	75	20	5	25	0	72	25	4	28	Well	Fine	Low	sandy loam	SM	2	None	Tan	
14	16		Moist	0	85	12	3	15	0	80	18	2	20	Well	Fine	None	loamy sand	SM	1	None	Tan	
16	17		Moist	0	85	12	3	15	0	80	18	2	20	Well	Fine	None	loamy sand	SM	1	None	Tan	
17	20		Moist	0	75	20	5	25	0	72	25	4	28	Well	Fine	Low	sandy loam	SM	2	None	Tan	more fines
20	23		Moist	0	90	7	3	10	0	84	14	2	16	Well	Fine	None	loamy sand	SM	1	None	Tan	sandy
23	24		Moist	0	75	20	5	25	0	72	25	4	28	Well	Fine	Low	sandy loam	SM	2	None	Tan	more fines, loamy sand
24	27		Moist	0	95	4	1	5	0	88	11	1	12	Well	Fine	None	sand	SM	1	None	Tan	sandy
27	28		Moist	0	40	40	20	60	0	44	44	12	56	Well	Fine	High	loam	MH	3	None	Tan	clay layer
28	32		Moist	0	95	4	1	5	0	88	11	1	12	Well	Fine	None	sand	SM	1	None	Tan	sandy
32	34		Moist	0	80	15	5	20	0	76	21	4	24	Well	Fine	Low	loamy sand	SM	1	None	Tan	
34	36		Moist	0	90	4	1	5	0	95	15	1	16	Well	Medium	None	#bad arg!	SM	1	None	Tan	
36	40		Moist	0	95	4	1	5	0	88	11	1	12	Well	Medium-Coars	None	sand	SM	1	None	Tan	coarse sand
40	44		Moist	0	90	8	2	10	0	84	14	2	16	Well	Medium-Coars	None	loamy sand	SM	1	None	Tan	
44	48		Moist	0	65	25	10	35	0	64	30	6	36	Well	Fine	Medium	sandy loam	SC	2	None	Tan	sandy loam
48	52		Moist	0	55	30	15	45	0	56	35	9	44	Well	Fine	High	sandy loam	SC	2	None	Tan	more fines
52	53	Core	Moist	0	60	30	10	40	0	60	34	6	40	Well	Fine	Medium	sandy loam	SC	2	None	Tan	
53	56		Moist	0	60	30	10	40	0	60	34	6	40	Well	Fine	Medium	sandy loam	SC	2	None	Tan	
56	58		Moist	0	50	35	15	50	0	52	39	9	48	Well	Fine	High	loam	SC	3	None	Tan	
58	62		Moist	0	60	30	10	40	0	60	34	6	40	Well	Fine	Medium	sandy loam	SC	2	None	Tan	
62	63	Core	Moist	0	60	30	10	40	0	60	34	6	40	Well	Fine	Medium	sandy loam	SC	2	None	Tan	.

[1]Coordinates are in Universal Transverse Mercator System, World Geodetic System 1984, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Group **Location:** Porterville, CA - Behl Property **Drilling Company:** Gregg **Drilling Date:** 5/10/2021 **Logged By:** Robert Rice

Borehole ID: PBH-5 **Easting[1]:** 309973 **Northing[1]:** 3988536 **Elevation (ft amsl):** N/A

Depth Interval (ft)		Sample Collected?	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Classification	Hydrologic Unit[3]	HCL Reaction (None, Weak, Moderate, Strong)	Color	Comments
From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	% Fines									
0	2		Slightly Moist	0	90	8	2	10	0	84	14	2	16	Well	Fine	None	loamy sand	SM	1	None	Tan	sandy
2	4		Slightly Moist	0	90	8	2	10	0	84	14	2	16	Well	Fine	None	loamy sand	SM	1	None	Tan	
4	8		Slightly Moist	0	80	15	5	20	0	76	21	4	24	Well	Fine	Low	loamy sand	SM	1	None	Tan	more fines
8	10		Slightly Moist	0	80	15	5	20	0	76	21	4	24	Well	Fine	Low	loamy sand	SM	1	None	Tan	
10	12		Slightly Moist	0	90	8	2	10	0	84	14	2	16	Well	Fine	None	loamy sand	SM	1	None	Tan	less fines
12	16		Slightly Moist	0	95	4	1	5	0	88	11	1	12	Well	Medium	None	sand	SM	1	None	Tan	coarse sand
16	20		Slightly Moist	0	97	2	1	3	0	89	9	1	11	Well	Medium	None	sand	SW-SM	1	None	Tan	
20	22		Slightly Moist	0	97	2	1	3	0	89	9	1	11	Well	0	None	sand	SW-SM	1	None	Tan	
22	24	Grab	Slightly Moist	0	80	15	5	20	0	76	21	4	24	Well	Fine	Low	loamy sand	SM	1	None	Tan	
24	27		Moist	0	80	15	5	20	0	76	21	4	24	Well	Fine	Low	loamy sand	SM	1	None	Tan	
27	29		Moist	0	70	25	5	30	0	68	29	4	32	Well	Fine	Low	sandy loam	SM	2	None	Tan	more fines
29	32		Moist	0	90	8	2	10	0	84	14	2	16	Well	Fine	None	loamy sand	SM	1	None	Tan	
32	34		Moist	0	90	8	2	10	0	84	14	2	16	Well	Fine	None	loamy sand	SM	1	None	Tan	
34	36		Moist	0	95	4	1	5	0	88	11	1	12	Well	e-Medium-Co	None	sand	SM	1	None	Tan	coarse sand
36	40		Moist	10	87	2	1	3	10	81	7	1	9	Well	Medium-Coars	None	sand	SW-SM	1	None	Tan	some gravel
40	41		Moist	0	80	15	5	20	0	76	21	4	24	Well	Fine	Low	loamy sand	SM	1	None	Tan	
41	44		Moist	0	50	40	10	50	0	52	42	6	48	Well	Fine	High	sandy loam	SC	3	None	Tan	more fines, loam
44	48		Moist	0	50	40	10	50	0	52	42	6	48	Well	Fine	High	sandy loam	SC	3	None	Tan	
48	52	Grab	Moist	0	50	40	10	50	0	52	42	6	48	Well	Fine	High	sandy loam	SC	3	None	Tan	
52	56	Grab	Moist	0	60	30	10	40	0	60	34	6	40	Well	Fine	Medium	sandy loam	SC	2	None	Tan	
56	60		Moist	0	50	40	10	50	0	52	42	6	48	Well	Fine	High	sandy loam	SC	3	None	Tan	
60	64		Moist	0	55	35	10	45	0	56	38	6	44	Well	Fine	Medium	sandy loam	SC	2	None	Tan	

[1]Coordinates are in Universal Transverse Mercator System, World Geodetic System 1984, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Goup | **Location:** Behl Agriculture Field | **Drilling Company:** Consolidated Testing Laboratory | **Drilling Completion Date:** 11/12/2020 | **Drilling Method:** Hollow Stem Auger, Core Sampling every 5 feet

Borehole ID: BH-1 | **Easting**[1]**:** 309583 | **Northing**[1]**:** 3989077 | **Elevation (ft amsl):** N/A | **Logged By:** Jaime Bañuelos (GSA)

Summary Depth Interval (feet)	Predominant Soil Classification (USDA texture, USCS code)	Logged Drill Sample Depth Interval (feet)		Sample Type: Core (C), Drill Cuttings (DC)	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Group	Hydrologic Unit[3]	HCL Reaction (None, Weak, Moderate, Strong)	Visual Color	Comments
		From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	%Fines									
0 to 5	sandy loam, SM	0	0.5	DC	Dry	0	55	30	15	45	0	53	37	10	47	Well	Fine	Low	sandy loam	SM	3	Weak	strong brown	Silty material not very sticky.
	silt loam, MH	2	2.5	C	Slightly Moist	0	20	50	30	80	0	8	72	20	92	Well	Very Fine	High	silt loam	MH	3	None	strong brown	Sticky, slick material. Relatively fine grained material
5 to 15	sandy loam, SM	5	5.5	C	Dry	1	54	30	15	45	1	52	37	10	47	Well	Medium	Low	sandy loam	SM	3	Weak	strong brown	Medium sand with fines. Sticky. Hard clods indicative of hard pan layer. Difficult drilling from 0 to 5 feet.
		10	10.5	C	Slightly Moist	1	59	25	15	40	1	59	31	10	40	Well	Medium	Low	sandy loam	SM	2	Weak	strong brown	Medium sand with fines. Somewhat sticky. Difficult drilling between 5 and 10 feet.
15 to 21.5	No Recovery	15	16.5																					No recovery. Likely sand.
		20	21.5																					No recovery. Likely sand based on driller.
21.5 to 51	sandy loam, SM	21.5	25	DC	Slightly Moist	25	45	19	11	30	25	40	27	7	35	Well	Fine	Low	sandy loam	SM	2	None	dark yellowish brown	Drill Cuttings. Sandy material with fines. Malleable. High gravel, fragments of up to 1 inch.
		26	26.5	C	Slightly Moist	0	60	30	10	40	0	59	34	7	41	Well	Fine	Low	sandy loam	SM	2	None	yellowish brown	Fine sand with silt. Smooth
		31	31.5	C	Slightly Moist	4	58	29	10	38	4	56	33	6	40	Well	Fine	Low	sandy loam	SM	2	None	brown	Malleable, fine sandy material. Driller indicates tight fine grained material from 30 to 35 ft.
		36	36.5	C	Slightly Moist	1	67	25	7	32	1	69	26	5	30	Well	Fine	Low	sandy loam	SM	2	None	strong brown	Less fines. Fine sand.
		41	41.5	C	Slightly Moist	0	68	25	7	32	0	70	26	5	30	Well	Fine	Low	sandy loam	SM	2	None	strong brown	Same as above, fine sand with some fines
		46	46.5	C	Slightly Moist	1	59	27	13	40	1	59	32	8	40	Well	Medium	Low	sandy loam	SM	2	Weak	brown	More clay, similar silt content. Gritty. Predominantly sand. Material very tight in cylinder. Could not recover all sample.
51 to 51.5	loamy sand, SM	51	51.5	C	Moist	2	74	20	5	25	2	77	18	3	21	Well	Medium	None	loamy sand	SM	1	None	brown	More sand, less sticky, gritty

[1]Coordinates are in World Geodetic System 1984, Universal Transverse Mercator System, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Goup | **Location:** Behl Agriculture Field | **Drilling Company:** Consolidated Testing Laboratory | **Drilling Completion Date:** 11/12/2020 | **Drilling Method:** Hollow Stem Auger, Core Sampling every 5 feet

Borehole ID: BH-2 | **Easting**[1]: 309832 | **Northing**[1]: 3988815 | **Elevation (ft amsl):** N/A | **Logged By:** Jaime Bañuelos (GSA)

Summary Depth Interval (feet)	Summary Soil Classification (USDA texture, USCS code)	Logged Drill Sample Depth Interval (feet)		Sample Type: Core (C), Drill Cuttings (DC)	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Group	Hydrologic Unit[3]	HCL Reaction (None, Weak, Moderate, Strong)	Visual Color	Comments
		From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	%Fines									
0 to 2	silt loam, ML	0	0.5	DC	Slightly Moist	1	40	40	20	59	1	33	53	13	66	Well	Fine	Low	silt loam	ML	3	Weak	brown	Fine grained, sticky
2 to 6	sandy loam, SM	2	2.5	C	Slightly Moist	1	54	30	15	45	1	52	37	10	47	Well	Fine	Low	sandy loam	SM	3	Weak	brown	Less fines. Similar amounts of sand and fines.
6 to 11	loam, ML	6	6.5	C	Slightly Moist	1	45	30	25	54	1	40	43	16	59	Well	Medium	Medium	loam	ML	3	None	strong brown	Fine grained medium/coarse sand
11 to 16	sandy loam, SM	11	11.5	C	Slightly Moist	10	59	23	9	32	10	58	27	6	32	Well	Fine	Low	sandy loam	SM	2	None	brown	More sand, malleable, somewhat sticky
16 to 21	sand, SW	16	16.5	C	Moist	20	78	2	0	2	20	78	2	0	2	Well	Medium	None	sand	SW	1	None	light brown	Clean sand with gravel
21 to 51.5	sandy loam, SM	21	21.5	C	Moist	0	68	25	7	32	0	70	26	5	30	Well	Fine	None	sandy loam	SM	2	None	brown	Sand with some fines. Somewhat sticky. Gritty
	loamy sand, SM	26	26.5	C	Moist	1	73	21	5	26	1	76	19	3	23	Well	Fine	None	loamy sand	SM	1	Weak	brown	Sandier. Less sticky.
	sandy loam, SM	31	31.5	C	Slightly Moist	0	60	28	12	40	0	59	33	8	41	Well	Fine	Low	sandy loam	SM	2	Weak	brown	Slightly more clay, smooth, predominantly sand
		36	36.5	C	Slightly Moist	1	67	25	7	32	1	69	26	5	30	Well	Fine	Low	sandy loam	SM	2	None	brown	Sandier material, slightly sticky.
		41	41.5	C	Slightly Moist	1	67	25	7	32	1	69	26	5	30	Well	Fine	Low	sandy loam	SM	2	None	strong brown	Predominantly sand, somewhat gritty
		46	46.5	C	Slightly Moist	1	59	30	10	40	1	59	34	7	40	Well	Fine	Low	sandy loam	SM	2	None	strong brown	Smooth malleable material. Predominantly sand. Finer sand. Smoother
		51	51.5	C	Slightly Moist	0	65	28	7	35	0	66	30	5	34	Well	Fine	Low	sandy loam	SM	2	None	strong brown	Less clay. Malleable silty sand material.

[1]Coordinates are in World Geodetic System 1984, Universal Transverse Mercator System, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Goup | **Location:** Behl Agriculture Field | **Drilling Company:** Consolidated Testing Laboratory | **Drilling Completion Date:** 11/13/2020 | **Drilling Method:** Hollow Stem Auger, Core Sampling every 5 feet

Borehole ID: BH-3 | **Easting**[1]: 309395 | **Northing**[1]: 3988565 | **Elevation (ft amsl):** N/A | **Logged By:** Jaime Bañuelos (GSA)

Summary Depth Interval (feet)	Summary Soil Classification (USDA texture, USCS code)	Logged Drill Sample Depth Interval (feet)		Sample Type: Core (C), Drill Cuttings (DC)	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Group	Hydrologic Unit[3]	HCL Reaction (None, Weak, Moderate, Strong)	Visual Color	Comments
		From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	%Fines									
0 to 2	loamy sand, SM	0	1	DC	Dry	1	79	18	2	20	1	84	14	1	15	Well	Fine	None	loamy sand	SM	1	None	light yellowish brown	Fine silty sand
2 to 41	sand, SW	2	2.5	C	Slightly Moist	1	94	5	0	5	1	94	5	0	5	Well	Fine	None	sand	SW	1	None	yellowish brown	Fine/medium sand
		6	6.5	C	Moist	1	84	13	2	15	1	90	7	1	9	Well	Fine	None	sand	SW-SM	1	None	brown	Dirty sand fine/medium sand fraction
		11	11.5	C	Moist	2	95	3	0	3	2	95	3	0	3	Well	Medium	None	sand	SW	1	None	yellowish brown	Coarser sand
		16	16.5	C	Moist	3	95	2	0	2	3	95	2	0	2	Well	Medium	None	sand	SW	1	None	light yellowish brown	Medium clean sand. Material similar throughout 1.5 ft core run.
		21	21.5	C	Moist	4	88	8	0	8	4	88	8	0	8	Well	Medium	None	sand	SW-SM	1	None	yellowish brown	More fines, dirty sand
		25	25.5	C	Moist	7	92	1	0	1	7	92	1	0	1	Well	Fine	None	sand	SW	1	None	pale brown	Maximum blows. Low penetration caused by rock. No core sample collected. Logged the 6 inches recovered. Finer clean sand.
		31	31.5	C	Moist	2	96	2	0	2	2	96	2	0	2	Well	Coarse	None	sand	SW	1	None	light yellowish brown	Coarser sand, clean
		36	36.5	C	Moist	10	88	2	0	2	10	88	2	0	2	Well	Medium	None	sand	SW	1	None	yellowish brown	Medium clean sand. More gravel. Driller: gravelly layer at 38 ft.
41 to 46	sandy loam, SM	41	41.5	C	Moist	1	69	20	10	30	1	71	21	7	28	Well	Coarse	Low	sandy loam	SM	2	None	dark yellowish brown	More fines. Sticky. Coarse sand.
46 to 51	loam, ML	46	46.5	C	Moist	0	42	35	23	58	0	36	48	15	64	Well	Fine	Medium	loam	ML	3	None	dark yellowish brown	Sticky, finer grained.
51 to 51.5	sandy loam, SM	51	51.5	C	Moist	1	64	28	7	35	1	65	29	5	34	Well	Fine	Low	sandy loam	SM	2	None	dark yellowish brown	Silty fine sand. Less fines as above. Smooth

[1]Coordinates are in World Geodetic System 1984, Universal Transverse Mercator System, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Goup | **Location:** Behl Agriculture Field | **Drilling Company:** Consolidated Testing Laboratory | **Drilling Completion Date:** 11/18/2020 | **Drilling Method:** Hollow Stem Auger, Core Sampling every 5 feet

Borehole ID: MW-1 | **Easting**[1]**:** 310093 | **Northing**[1]**:** 3988748 | **Elevation (ft amsl):** N/A | **Logged By:** Jaime Bañuelos (GSA)

Summary Depth Interval (feet)	Summary Soil Classification (USDA texture, USCS code)	Logged Drill Sample Depth Interval (feet)		Sample Type: Core (C), Drill Cuttings (DC)	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Group	Hydrologic Unit[3]	HCL Reaction (None, Weak, Moderate, Strong)	Visual Color	Comments
		From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	%Fines									
0 to 2	sandy loam, SM	0	1	DC	Slightly Moist	1	59	30	10	40	1	59	34	7	40	Well	Fine	Low	sandy loam	SM	2	Weak	brown	Silty sand
2 to 6	loamy sand, SM	2	2.5	C	Slightly Moist	2	78	16	4	20	2	83	12	3	15	Well	Fine	None	loamy sand	SM	1	None	brown	Fine silty sand. Not sticky. Low clay.
6 to 11	sandy loam, SM	6	6.5	C	Slightly Moist	1	67	25	7	32	1	69	26	5	30	Well	Fine	Low	sandy loam	SM	2	Weak	strong brown	Silty sand. More fines than above. Portion of core had dense clods but somewhat friable.
11 to 21	sand, SW-SM	11	11.5	C	Slightly Moist	5	80	13	2	15	5	85	9	1	10	Well	Fine	None	sand	SW-SM	1	None	strong brown	Coarser material and slightly more gravel.
		13	14	DC	Dry	4	80	14	2	16	4	85	10	1	11	Well	Medium	None	sand	SW-SM	1	None	yellowish brown	Drill cuttings sample. Dirty sand
		14	15	C	Dry	40	58	2	0	2	40	58	2	0	2	Well	Fine	None	Gravelly sand	SW	1	None	yellowish brown	Slightly dirty sand
		16	16.5	C	Dry	65	33	2	0	2	65	33	2	0	2	Well	Fine	None	Very gravelly sand	GW	1	None	light yellowish brown	Partial recovery in bottom cylinder. Sandy gravel. Rock fragments up to 2 inches
21 to 26	loamy sand, SM	21	21.5	C	Slightly Moist	0	73	25	2	27	0	76	23	1	24	Well	Fine	Low	loamy sand	SM	1	None	yellowish brown	Fine silty sand. Not sticky but smooth.
26 to 31	silt loam, ML	26	26.5	C	Slightly Moist	1	40	40	20	59	1	33	53	13	66	Well	Fine	Medium	silt loam	ML	3	None	strong brown	Fine-grained material. Somewhat malleable. Very tight in core.
31 to 41	sand, SW-SM	31	31.5	C	Slightly Moist	4	81	14	1	15	4	86	10	1	10	Well	Medium	None	sand	SW-SM	1	None	strong brown	Medium sand with some silt.
		36	36.5	C	Slightly Moist	15	81	4	0	4	15	81	4	0	4	Well	Coarse	None	sand	SW	1	None	strong brown	Coarser sand. Less fines more gravel
41 to 46	loamy sand, SM	41	41.5	C	Slightly Moist	3	76	18	3	21	3	79	16	2	18	Well	Medium	None	loamy sand	SM	1	None	strong brown	Medium sand with some fines
46 to 51	sandy loam, SM	46	46.5	C	Slightly Moist	1	64	30	5	35	1	65	31	3	34	Well	Very Fine	Low	sandy loam	SM	2	None	strong brown	Silty sand. Very smooth, high silt content. Material tight in core.
51 to 56	loamy sand, SM	51	51.5	C	Slightly Moist	0	77	20	3	23	0	81	17	2	19	Well	Fine	None	loamy sand	SM	1	None	strong brown	Fine sand with some silt. Less fines than above.

[1]Coordinates are in World Geodetic System 1984, Universal Transverse Mercator System, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Goup | **Location:** Behl Agriculture Field | **Drilling Company:** Consolidated Testing Laboratory | **Drilling Completion Date:** 11/18/2020 | **Drilling Method:** Hollow Stem Auger, Core Sampling every 5 feet

Borehole ID: MW-1 | **Easting**[1]: 310093 | **Northing**[1]: 3988748 | **Elevation (ft amsl):** N/A | **Logged By:** Jaime Bañuelos (GSA)

Summary Depth Interval (feet)	Summary Soil Classification (USDA texture, USCS code)	Logged Drill Sample Depth Interval (feet)		Sample Type: Core (C), Drill Cuttings (DC)	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Group	Hydrologic Unit[3]	HCL Reaction (None, Weak, Moderate, Strong)	Visual Color	Comments
		From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	%Fines									
56 to 61	loam, SC	56	56.5	C	Moist	0	53	35	12	47	0	50	42	8	50	Well	Very Fine	Medium	loam	SC	3	None	brown	Finer grained. Sticky and smooth. However more fine sand. Material tight in core.
61 to 66	loamy sand, SM	61	61.5	C	Moist	0	77	19	4	23	0	81	16	3	19	Well	Very Fine	None	loamy sand	SM	1	None	brown	Fine sand. Less fines as above. Not very sticky.
66 to 71	sandy loam, SM	66	66.5	C	Moist	1	69	23	7	30	1	71	23	5	28	Well	Fine	None	sandy loam	SM	2	None	brown	More fines, very malleable.
71 to 76	sand, SW	71	71.5	C	Moist	3	87	10	0	10	3	94	3	0	3	Well	Medium	None	sand	SW	1	None	brown	Dirty medium sand.
76 to 81	sandy loam, SM	76	76.5	C	Moist	1	62	30	7	37	1	62	32	5	37	Well	Very Fine	Low	sandy loam	SM	2	None	strong brown	Silty sand. Smooth. Long ribbon indicating appreciable amount of fines
81 to 100	loamy sand, SM	81	81.5	C	Moist	1	74	20	5	25	1	78	18	3	21	Well	Fine	None	loamy sand	SM	1	None	strong brown	Similar as above less fines. Not as smooth.
		86	86.5	C	Moist	0	73	20	7	27	0	76	19	5	24	Well	Fine	Low	loamy sand	SM	1	None	strong brown	Same as above. Slightly more sticky. Slightly longer ribbon
		91	91.5	C	Moist	0	73	20	7	27	0	76	19	5	24	Well	Fine	Low	loamy sand	SM	1	None	strong brown	Same as above
		96	96.5	C	Moist	0	80	16	4	20	0	85	12	3	15	Well	Very Fine	None	loamy sand	SM	1	None	strong brown	Very fine sand. Somewhat slippery. Less sticky. Orange staining
100 to 106	sandy loam, SM	100	100.5	C	Moist	0	68	25	7	32	0	70	26	5	30	Well	Fine	Low	sandy loam	SM	2	None	brown	Recovered about 5 inches of material. Core sampler penetrated fully but sample lost during extraction. Core sampler had standing water indicating saturated conditions which could have caused the loss of sample. Sandy material with fines. More fines than above. Gravels at approximately 102 ft.
106 to 111.5	Very gravelly loamy sand, GM and SM	106	106.5	C	Saturated	65	26	7	2	9	65	16	18	1	19	Poor	Coarse	None	Very gravelly loamy sand	GM	1	None	yellowish brown	Saturated material. Depth to groundwater: between 100 and 105 ft. Difficult to estimate gravel and texture. Coarse sand with fines.
		111	111.5	C	Saturated	30	53	11	7	18	30	50	16	5	20	Poor	Very Coarse	Low	loamy sand	SM	1	None	very pale brown	Coarse sand but fairly sticky. 4 inch ribbon. Less gravel as above. Set bottom of well at 115 feet below ground surface.

[1]Coordinates are in World Geodetic System 1984, Universal Transverse Mercator System, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Goup | **Location:** Behl Agriculture Field | **Drilling Company:** Consolidated Testing Laboratory | **Drilling Completion Date:** 11/14/2020 | **Drilling Method:** Hollow Stem Auger, Core Sampling every 5 feet

Borehole ID: MW-2 | **Easting**[1]: 309650 | **Northing**[1]: 3988503 | **Elevation (ft amsl):** N/A | **Logged By:** Jaime Bañuelos (GSA)

Summary Depth Interval (feet)	Summary Soil Classification (USDA texture, USCS code)	Logged Drill Sample Depth Interval (feet)		Sample Type: Core (C), Drill Cuttings (DC)	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Group	Hydrologic Unit[3]	HCL Reaction (None, Weak, Moderate, Strong)	Visual Color	Comments
		From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	%Fines									
0 to 6	sand, SW-SM	0	1	DC	Slightly Moist	2	85	12	1	13	2	92	6	1	6	Well	Fine	None	sand	SW-SM	1	None	dark yellowish brown	Fine sand with some silt
		2	2.5	C	Moist	2	90	8	0	8	2	90	8	0	8	Well	Fine	None	sand	SW-SM	1	None	dark yellowish brown	Fine dirty sand. Less fines as above.
6 to 16	loamy sand, SM	6	6.5	C	Slightly Moist	1	73	22	4	26	1	76	20	3	23	Well	Fine	None	loamy sand	SM	1	None	dark yellowish brown	More fines. Silty sand
		11	11.5	C	Slightly Moist	1	73	22	4	26	1	76	20	3	23	Well	Medium	None	loamy sand	SM	1	None	dark yellowish brown	Same as above
16 to 26	sand, SW	16	16.5	C	Moist	0	90	10	0	10	0	98	2	0	2	Well	Fine	None	sand	SW	1	None	yellowish brown	Fine sand. Able to make ribbon thus some fines are present
		21	21.5	C	Moist	10	89	1	0	1	10	89	1	0	1	Well	Coarse	None	sand	SW	1	None	pale brown	Clean coarse sand
26 to 36	sandy loam, SM	26	26.5	C	Moist	7	54	23	16	39	7	52	31	10	41	Well	Medium	Low	sandy loam	SM	2	None	dark yellowish brown	Clayey medium sand. Gritty
		31	31.5	C	Moist	0	60	30	10	40	0	59	34	7	41	Well	Very Fine	Low	sandy loam	SM	2	None	dark yellowish brown	Fine sand with silt
36 to 51	loam, ML	36	36.5	C	Moist	0	40	40	20	60	0	34	53	13	66	Well	Fine	Medium	silt loam	ML	3	None	dark yellowish brown	Finer grained. More fines than sand. Smooth when wet
		41	41.5	C	Moist	0	45	40	15	55	0	40	50	10	60	Well	Fine	Low	loam	ML	3	None	dark yellowish brown	Similar as above, slightly less sticky.
	sand, SW	46	46.5	C	Moist	15	38	34	13	47	15	32	45	8	53	Well	Fine	Low	loam	ML	3	None	dark yellowish brown	Same as above
51 to 56		51	51.5	C	Slightly Moist	35	61	4	0	4	35	61	4	0	4	Well	Medium	None	sand	SW	1	None	yellowish brown	Medium sand with high gravel

[1]Coordinates are in World Geodetic System 1984, Universal Transverse Mercator System, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Goup | **Location:** Behl Agriculture Field | **Drilling Company:** Consolidated Testing Laboratory | **Drilling Completion Date:** 11/14/2020 | **Drilling Method:** Hollow Stem Auger, Core Sampling every 5 feet

Borehole ID: MW-2 | **Easting**[1]: 309650 | **Northing**[1]: 3988503 | **Elevation (ft amsl):** N/A | **Logged By:** Jaime Bañuelos (GSA)

Summary Depth Interval (feet)	Summary Soil Classification (USDA texture, USCS code)	Logged Drill Sample Depth Interval (feet)		Sample Type: Core (C), Drill Cuttings (DC)	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Group	Hydrologic Unit[3]	HCL Reaction (None, Weak, Moderate, Strong)	Visual Color	Comments
		From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	%Fines									
56 to 61	sandy loam, SM	56	56.5	C	Moist	1	69	23	7	30	1	71	23	5	28	Well	Fine	Low	sandy loam	SM	2	None	brown	Less fines, not very sticky. Silty sand.
61 to 71	loamy sand, SM	61	61.5	C	Moist	2	76	18	4	22	2	80	15	3	18	Well	Fine	None	loamy sand	SM	1	None	yellowish brown	Fine sand
		66	66.5	C	Moist	0	74	20	6	26	0	77	19	4	23	Well	Fine	None	loamy sand	SM	1	None	dark yellowish brown	Slightly finer than above. Longer ribbon. Fine sand with some fines
71 to 86	sandy loam, SM	71	71.5	C	Moist	0	63	30	7	37	0	63	32	5	37	Well	Very Fine	Low	sandy loam	SM	2	None	dark yellowish brown	More silt. Fine sand and silty material.
		76	76.5	C	Moist	2	69	23	7	29	2	70	23	5	28	Well	Fine	Low	sandy loam	SM	2	None	yellowish brown	Fine sand with silt. Driller: small layers of gravel
		81	81.5	C	Moist	15	47	26	13	38	15	42	34	8	43	Well	Fine	Low	sandy loam	SM	2	None	dark yellowish brown	Finer. More sticky. Malleable.
86 to 99	sand, SW and GM	86	86.5	C	Slightly Moist	15	81	4	0	4	15	81	4	0	4	Well	Medium	None	sand	SW	1	None	light yellowish brown	Slightly dirty medium sand. Some gravel. Hard to drill through, possibly due to gravels
		91	91.5	C	Slightly Moist	25	73	2	0	2	25	73	2	0	2	Well	Medium	None	sand	SW	1	None	very pale brown	Clean sand with gravel. Rock fragments up to 1-1.5 inches.
		95	95.3	C	Slightly Moist	50	38	9	4	13	50	31	17	2	19	Poor	Coarse	None	Gravelly loamy sand	GM	1	None	brown	Gravelly material between 90 and 95 ft bgs. Rock fragments up to 2-2.5 inches in cuttings. Difficult drilling. High amount of rock fragments. Sandy gravels with fines. Sticky, can make ribbon. Bottom cylinder about half full. Rock stuck in core sampler shoe.
99 to 105	No Recovery	99	99.5																					No recovery. Rocky material based on driller.
105 to 111	Gravelly sand, GP	105	105.5	C	Saturated	60	36	4	0	4	60	36	4	0	4	Poor	Coarse	None	Gravelly sand	GP	1	None	yellowish brown	Predominantly gravel with dirty coarse sand. Rock fragments up to 1.5 inches. Saturated wet material. Groundwater likely at approximately 105 ft bgs. Max 50 blows for 6 inches of penetration as a result logged 105 to 105.5 ft.
111 to 111.5	loam, ML	111	111.5	C	Moist	5	48	29	19	48	5	43	39	13	52	Well	Fine	Low	loam	ML	3	None	dark yellowish brown	Sticky malleable material. Fine medium sand. Not as wet as sand above.

[1]Coordinates are in World Geodetic System 1984, Universal Transverse Mercator System, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Goup | **Location:** Behl Agriculture Field | **Drilling Company:** Consolidated Testing Laboratory | **Drilling Completion Date:** 11/16/2020 | **Drilling Method:** Hollow Stem Auger, Core Sampling every 5 feet

Borehole ID: MW-3 | **Easting[1]:** 310059 | **Northing[1]:** 3988492 | **Elevation (ft amsl):** N/A | **Logged By:** Jaime Bañuelos (GSA)

Summary Depth Interval (feet)	Summary Soil Classification (USDA texture, USCS code)	Logged Drill Sample Depth Interval (feet)		Sample Type: Core (C), Drill Cuttings (DC)	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Group	Hydrologic Unit[3]	HCL Reaction (None, Weak, Moderate, Strong)	Visual Color	Comments
		From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	%Fines									
0 to 46	sand, SW-SM	0	1	DC	Dry	1	86	12	1	13	1	93	5	1	6	Well	Fine	None	sand	SW-SM	1	None	dark yellowish brown	Fine sand, little fines.
		2	2.5	C	Slightly Moist	4	90	6	0	6	4	90	6	0	6	Well	Fine	None	sand	SW-SM	1	None	yellowish brown	Fine sand. Less fines. Rock fragments up to 0.25 inches
		6	6.5	C	Slightly Moist	1	96	3	0	3	1	96	3	0	3	Well	Fine	None	sand	SW	1	None	yellowish brown	Fine sand. Less fines. Cleaner sand
		11	11.5	C	Slightly Moist	4	91	5	0	5	4	91	5	0	5	Well	Fine	None	sand	SW	1	None	dark yellowish brown	Fine sand. Slightly more fines. Rock fragments up to 0.25 inches.
		16	16.5	C	Slightly Moist	15	82	3	0	3	15	82	3	0	3	Well	Medium	None	sand	SW	1	None	yellowish brown	Coarser sand. Similar fines as above
		21	21.5	C	Moist	0	94	6	0	6	0	94	6	0	6	Well	Fine	None	sand	SW-SM	1	None	dark yellowish brown	Finer sand. No gravel.
		26	26.5	C	Moist	15	82	3	0	3	15	82	3	0	3	Well	Coarse	None	sand	SW	1	None	yellowish brown	Coarser sand. Less fines. Rock fragments up to 0.25 inches
		31	31.5	C	Moist	20	77	3	0	3	20	77	3	0	3	Well	Medium	None	sand	SW	1	None	yellowish brown	Same as above. More gravel. Larger size gravel. Rock fragments up to 0.5 inches.
		36	36.5	C	Moist	20	68	11	1	12	20	70	10	1	10	Well	Very Coarse	None	sand	SW-SM	1	None	dark yellowish brown	Very coarse sand with small gravel. Dirty sand.
		41	41.5	C	Moist	2	78	18	2	20	2	83	14	1	15	Well	Fine	None	loamy sand	SM	1	None	dark yellowish brown	Fine sand with fines.
46 to 48	No Recovery	46	46.5																					No recovery.
48 to 56	sandy loam, SM	48	48.5	G	Moist	0	60	30	10	40	0	59	34	7	41	Well	Fine	Low	sandy loam	SM	2	None	yellowish brown	Perching layer. Finer grained still predominantly sand.
		51	51.5	C	Moist	0	68	25	7	32	0	70	26	5	30	Well	Very Fine	Low	sandy loam	SM	2	None	dark yellowish brown	Center hammer came up showing completely saturated material at 50 ft. Likely perched zone. Core sample is moist but not saturated. Likely small perched zone at approximately 48 ft. This sample is silty fine sand. May have less fines.
56 to 56.5	sand, SW	56	56.5	C	Moist	2	86	11	1	12	2	93	4	1	5	Well	Fine	None	sand	SW	1	None	yellowish brown	Fine sand with some silt. Very saturated material between 56.5 and 60 ft. Saturated material is predominantly sandy with approximately 20% silt and 7% clay.
60 to 66	loamy sand, SM	61	61.5	C	Moist	1	74	20	5	25	1	78	18	3	21	Well	Very Fine	None	loamy sand	SM	1	None	dark yellowish brown	Very fine sand with silt. Not very sticky

[1]Coordinates are in World Geodetic System 1984, Universal Transverse Mercator System, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N. Dodge Blvd.
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Geologic Log Sheet

Client: Renewable Resources Goup | **Location:** Behl Agriculture Field | **Drilling Company:** Consolidated Testing Laboratory | **Drilling Completion Date:** 11/16/2020 | **Drilling Method:** Hollow Stem Auger, Core Sampling every 5 feet

Borehole ID: MW-3 | **Easting[1]:** 310059 | **Northing[1]:** 3988492 | **Elevation (ft amsl):** N/A | **Logged By:** Jaime Bañuelos (GSA)

Summary Depth Interval (feet)	Summary Soil Classification (USDA texture, USCS code)	Logged Drill Sample Depth Interval (feet)		Sample Type: Core (C), Drill Cuttings (DC)	Moisture Content (Dry, Slightly Moist, Moist, Wet)	Particle Size Distribution, Field					Particle Size Distribution, Adjusted					Grading (Well, Poor)	Sand Fraction (Fine, Medium, Coarse)	Plasticity (None, Low, Medium, High)	USDA Soil Classification[2]	USCS Group	Hydrologic Unit[3]	HCL Reaction (None, Weak, Moderate, Strong)	Visual Color	Comments
		From	To			% Gravel (#4)	% Sand	% Silt	% Clay	% Fines	% Gravel (#4)	% Sand	% Silt	% Clay	%Fines									
66 to 101	sand, SW	66	66.5	C	Slightly Moist	2	94	4	0	4	2	94	4	0	4	Well	Medium	None	sand	SW	1	None	light yellowish brown	Medium clean sand. Finer material in top cylinder.
		71	71.5	C	Moist	4	92	4	0	4	4	92	4	0	4	Well	Fine	None	sand	SW	1	None	yellowish brown	Clean fine/medium sand. Rock fragments up to 0.25 inches.
		76	76.5	C	Moist	3	92	5	0	5	3	92	5	0	5	Well	Medium	None	sand	SW	1	None	yellowish brown	Fine medium sand with little fines. Slightly dirty sand.
		81	81.5	C	Moist	2	94	4	0	4	2	94	4	0	4	Well	Medium	None	sand	SW	1	None	yellowish brown	Fine medium sand. Similar as above.
		86	86.5	C	Slightly Moist	4	92	4	0	4	4	92	4	0	4	Well	Medium	None	sand	SW	1	None	yellowish brown	Same as above, fine medium sand. Little fines. 2 inch rock found in top cylinder
		91	91.5	C	Moist	2	82	13	3	16	2	88	8	2	10	Well	Medium	None	sand	SW-SM	1	None	yellowish brown	Driller: starting to hit gravels at approximately 87.5 ft. Silty sand. Slightly sticky.
		96	96.5	C	Saturated	5	84	10	2	11	5	90	4	1	5	Well	Fine	None	sand	SW-SM	1	None	light yellowish brown	Saturated sand. Slight stickiness. Gravel present with one 1.5 inch rock. Hard to estimate texture.
101 to 111.5	Very gravelly sand, GP-GM	101	101.5	C	Saturated	75	19	4	3	6	75	19	4	3	6	Poor	Coarse	None	Very gravelly sand	GP-GM	1	None	brown	Sandy gravel with some fines. Sticky material. Rock fragments up to 2.5 inches. Only the bottom cylinder had material.
		101.5	102	C	Saturated	80	12	6	2	8	80	12	6	2	8	Poor	Medium	None	Very gravelly loamy sand	GM	1	None	yellowish brown	No cylinders in sampler. Looking at the complete 1.5 ft material in core sampler. Clayey gravel. Rock fragments up to 2.5 inches. Rock color is very dark brown. Ribbon is estimated. Material too wet to sieve. Sticky material.
		103	104.5	C	Saturated	40	45	12	3	15	40	40	18	2	20	Poor	Coarse	None	Gravelly loamy sand	SM	1	None	yellowish brown	Wet saturated material. Unable to sieve. Grave and ribbon estimated based on feel.
		105	105.5	C	Saturated	75	20	4	1	5	75	20	4	1	5	Poor	Coarse	None	Very gravelly sand	GP-GM	1	None	yellowish brown	More gravel. Rock fragments up to 2 inches. 50 blows for 6 inches of penetration. Coarse sandy gravel with some fines.
		106.5	108	C	Saturated	55	34	9	2	11	55	26	18	1	19	Well	Coarse	None	Gravelly loamy sand	GM	1	None	yellowish brown	Coarse sand with high gravel. Rock fragments up to 2.5 inches.
		108	109.5	C	Moist	75	20	4	1	5	75	20	4	1	5	Poor	Coarse	None	Very gravelly sand	GP-GM	1	None	yellowish brown	Coarse sandy gravel. Some fines. Rock fragments up to 2 inches. Material drier than above.
		110	110.5	C	Moist	50	41	8	2	9	50	35	14	1	15	Poor	Coarse	None	Gravelly loamy sand	GM	1	None	yellowish brown	Coarse sandy gravel.
		111	111.5	C	Moist	60	33	6	1	7	60	33	6	1	7	Poor	Coarse	None	Gravelly sand	GP-GM	1	None	brown	Coarse sandy gravel. Moist, difficult to estimate gravel. Rock fragments up to 1 inch. 50 blows for approximately 5 inches of penetration.

[1]Coordinates are in World Geodetic System 1984, Universal Transverse Mercator System, Zone 11 S

[2]USDA classifications based on sand fraction particle diameters from USCS 4.75 - 0.075 mm

[3]Hydrologic Unit Classifications: Adjusted Silt and Clay (Fines) <=25% = 1; Adjusted Silt and Clay >25% and <=45% = 2; Adusted Silt and Clay >45% = 3

APPENDIX B

Laboratory Test Results

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N Dodge Blvd
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

DATE:	June 8, 2021
Project #	**92135**
Project Name	**Behl Site Infill Boreholes**
TO:	Renewable Resources Group 113 S. La Brea Ave. Los Angeles, CA 90036
Project Contact	Kel Mitchel
Enclosed are results for:	Physical and Hydraulic Tests

Test	***Method***	***Qty***
Dry Bulk Density	ASTM D 2937-17e2	2
Particle Size Analysis with Hydrometer	ASTM D 6913-17 / ASTM C136-14	5
Rigid-Wall Saturated Hydraulic Conductivity	ASTM D5856 - 15	2

Thank you for choosing GeoSystems Analysis for your material testing needs. We look forward to working with you again. If you have any questions or require additional information, please contact us at 1-520-628-9330

Sincerely,

Prepared By: Nate Blevens
Laboratory Project Manager

Reviewed By: Mike Yao
Laboratory Technical Director

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N Dodge Blvd
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Laboratory Test Results - Soil Particle Size Distribution with Hydrometer

Date: June 8, 2021
Job No: **92135**
Job Name: **Behl Site Infill Boreholes**
Job Description: Physical and Hydraulic Tests
Company: Renewable Resources Group

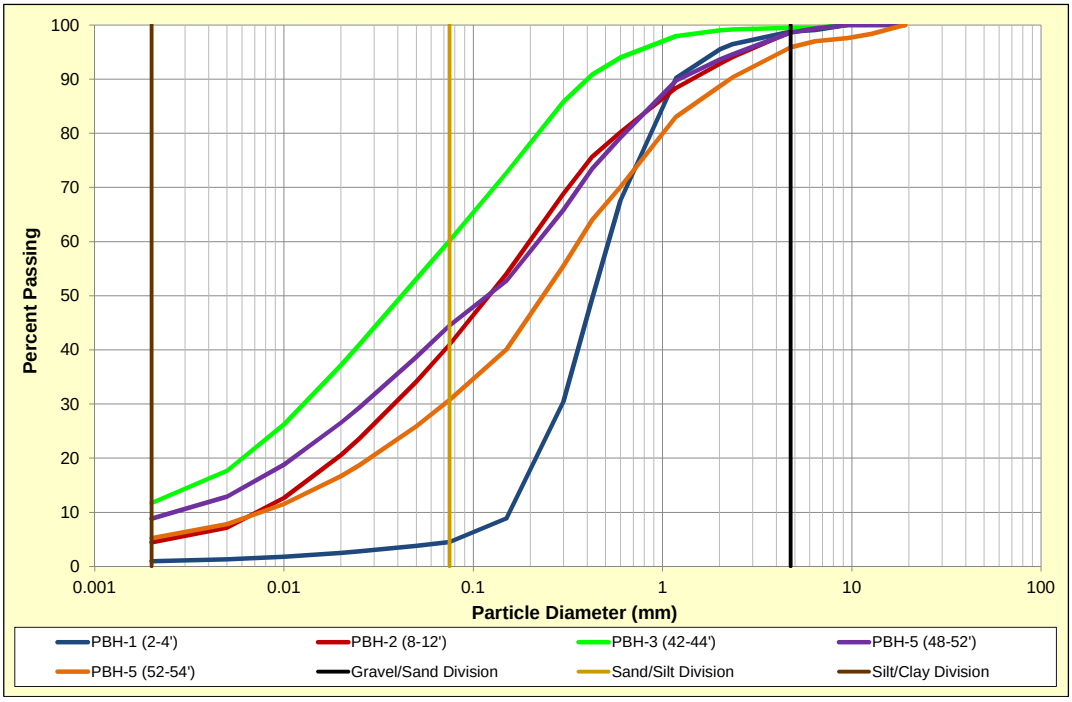
Particle Size Distribution						
Mesh (mm)	Sieve	Sample ID				
		PBH-1 (2-4')	PBH-2 (8-12')	PBH-3 (42-44')	PBH-5 (48-52')	PBH-5 (52-54')
		Percent Passing				
19.05	3/4"	100.0	100.0	100.0	100.0	100.0
12.7	1/2"	100.0	100.0	100.0	100.0	98.4
9.525	3/8"	100.0	100.0	100.0	100.0	97.6
6.4	0.25"	99.1	99.4	99.5	99.4	97.0
4.75	#4	98.8	98.7	99.5	98.6	95.9
2.36	#8	96.5	94.1	99.2	94.6	90.4
2	#10	95.5	92.8	99.0	93.6	88.7
1.18	#16	90.2	88.4	98.0	89.8	83.1
0.6	#30	67.6	80.2	94.0	79.2	70.1
0.425	#40	49.5	75.7	90.8	73.5	64.0
0.3	#50	30.4	68.8	85.9	65.9	55.5
0.15	#100	8.9	54.1	72.7	52.7	40.1
0.075	#200	4.5	41.0	60.1	44.4	30.8
0.05	Hydrometer	3.8	34.1	53.1	38.7	25.9
0.025		2.8	23.6	41.0	29.4	18.7
0.02		2.5	20.6	37.2	26.6	16.7
0.01		1.8	12.7	26.3	18.8	11.5
0.005		1.3	7.2	17.7	12.9	7.8
0.002		0.9	4.4	11.7	8.8	5.2

GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N Dodge Blvd
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Laboratory Test Results - Soil Particle Size Distribution with Hydrometer

Date: June 8, 2021
Job No: **92135**
Job Name: **Behl Site Infill Boreholes**
Job Description: Physical and Hydraulic Tests
Company: Renewable Resources Group



GSA GeoSystems Analysis, Inc.
Innovations in Hydrology

3393 N Dodge Blvd
Tucson, AZ 85716
520-628-9330
Fax: 520-628-1122
www.gsanalysis.com

Laboratory Test Results - Rigid Wall Saturated Hydraulic Conductivity

Date: June 14, 2021
Job No: **92135**
Job Name: **Behl Site Infill Boreholes**
Job Description: Physical and Hydraulic Tests
Company: Renewable Resources Group

Saturated Hydraulic Conductivity - Rigid Wall		
Sample ID	**Dry Bulk Density (g/cm^3)**	**Saturated Hydraulic Conductivity (cm/sec)**
PBH-4 (52.5-53')	1.93	2.0E-06
PBH-1 (55-56')	1.75	9.6E-07

APPENDIX E

2020 Second Semi-Annual and Annual Monitoring Report

2020 SECOND SEMI-ANNUAL AND ANNUAL MONITORING REPORT

FOR

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

February 2021

Prepared for

Tulare County Solid Waste Department
5955 South Mooney Boulevard
Visalia, California 93277

Prepared by

EBA Engineering
825 Sonoma Avenue
Santa Rosa, California 95404
EBA Job No. 14-2052 (Task 2)

CERTIFIED ENGINEERING GEOLOGIST
MICHAEL A. DELMANOWSKI
No. 1847
Exp. 8/31/21
STATE OF CALIFORNIA

Dustin Durham, G.I.T.
Staff Geologist

Mike Delmanowski, C.E.G., C.Hg.
Senior Hydrogeologist

COUNTY OF TULARE
SOLID WASTE DEPARTMENT

5955 S. Mooney Blvd.
Visalia, CA 93277

Phone: 559-624-7195
Fax: 559-624-1041

BRYCE HOWARD, DIRECTOR

Mr. Daniel L. Carlson, Senior Engineering Geologist
California Regional Water Quality Control Board
Central Valley Region
1685 "E" Street
Fresno, California 93706

Subject: Submittal of 2020 Second Semi-Annual Period Monitoring Report, Teapot Dome Solid Waste Disposal Site, Tulare County.

Dear Mr. Carlson,

Tulare County Solid Waste Department (County) is submitting this 2020 Second Semi-Annual Monitoring Report, Teapot Dome Solid Waste Disposal Site (SWDS or Landfill) Tulare County, in accordance with Monitoring and Reporting Program order R5-2014-0021. The report was prepared by EBA Engineering on behalf of the County with assistance from Solid Waste Staff.

Semi-Annual Compliance Summary for the Period Ending December 31, 2020;
Water Quality Monitoring for the Semi-Annual Period Ending December 31, 2020;
Solid Waste Monitoring for the Semi-Annual Period Ending December 31, 2020.

By signature of the transmittal letter, I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

If you have any questions regarding this information, please contact Jonah Trevino, Environmental Coordinator at (559) 624-7206.

Sincerely,

Bryce Howard
Director- Tulare County Solid Waste Department

TABLE OF CONTENTS

SECTION **PAGE**

1.0 INTRODUCTION 1-1

1.1 BACKGROUND INFORMATION 1-1
1.1.1 Site Location and Description 1-1
1.1.2 Landfill History and Development 1-2
1.1.3 Regulatory Background 1-2
1.2 GEOLOGY AND HYDROGEOLOGY 1-3

2.0 GROUNDWATER MONITORING PROGRAM 2-1

2.1 SCOPE OF MONITORING ACTIVITIES 2-1
2.1.1 Description of Groundwater Monitoring Network 2-1
2.1.2 Groundwater Elevation Monitoring 2-3
2.1.3 Sampling and Testing 2-3
2.1.4 Statistical Analysis Methodology 2-4
2.2 RESULTS AND FINDINGS 2-6
2.2.1 Groundwater Flow Direction and Gradient 2-6
2.2.2 Groundwater Elevation Hydrographs 2-7
2.2.3 Groundwater Sample Analytical Results 2-7
2.2.4 Cation/Anion Balance 2-7
2.2.5 Statistical Analysis Results 2-7
2.2.6 Groundwater Time Series Plots 2-8
2.2.7 Evaluation of Groundwater Data 2-8
2.2.8 Corrective Action Program (CAP) Monitoring 2-10

3.0 LEACHATE SEEP MONITORING PROGRAM 3-1

3.1 SCOPE OF MONITORING ACTIVITIES 3-1
3.1.1 Description of Leachate Seep Monitoring Approach 3-1
3.1.2 Sampling and Testing 3-1

4.0 FACILITY MONITORING 4-1

5.0 SEMI-ANNUAL AND ANNUAL COMPLIANCE EVALUATION SUMMARY 5-1

6.0 LIMITATIONS 6-1

7.0 REFERENCES 7-1

TABLE OF CONTENTS
(Continued)

LIST OF APPENDICES

Appendix A - Figures
Appendix B - Standard Monitoring Protocols
Appendix C - Groundwater Data Presentation
Appendix C-1 Monitoring Well Construction Details
Appendix C-2 Field Sampling Data Sheets
Appendix C-3 Tabulated Groundwater Elevation Data
Appendix C-4 Groundwater Elevation Hydrographs
Appendix C-5 Tabulated Groundwater Chemistry Data
Appendix C-6 Cation/Anion Balance Summary and Piper Diagrams
Appendix C-7 Statistical Analysis Calculations
Appendix C-8 Groundwater Time Series Plots
Appendix D - Certified Analytical Reports and Chain-of-Custody Documentation
Appendix E - Facility Monitoring Information
Appendix E-1 Standard Observation Forms
Appendix E-2 Solid Waste Disposal Reports

SECTION 1.0

INTRODUCTION

This report presents the results of the Second Semi-Annual and Annual 2020 monitoring activities for the active Teapot Dome Landfill (Landfill) located near the city of Porterville, in Tulare County, California. The monitoring activities were implemented to fulfill requirements set forth in the Landfill's Waste Discharge Requirements Order No. R5-2014-0021 (WDR) and associated Monitoring and Reporting Program No. R5-2014-0021 (M&RP). The WDR was issued and adopted by the California Regional Water Quality Control Board, Central Valley Region (RWQCB) on February 7, 2014. This report presents the results for the groundwater, leachate, and facility monitoring activities conducted at the Landfill during the 2020 calendar year (i.e., January through December), as well as corrective action and compliance evaluation summaries. Unsaturated zone and surface water monitoring are not required under the M&RP. Supporting documentation includes figures, groundwater elevation information and hydrographs, tabulated data summaries, statistical analysis results, copies of Certified Analytical Reports (CARs), time series plots of groundwater monitoring data, and facility monitoring inspection reports. This report was prepared on behalf of the Tulare County Solid Waste Department (County), owner and operator of the Landfill.

Whereas this report provides an annual summary of monitoring activities, only the supporting documentation (i.e., field sampling data sheets, copies of CARs, standard observation forms, etc.) for the second semester 2020 monitoring period is presented herein. Please refer to the previous 2020 semi-annual report submittal (EBA Engineering [EBA], 2020) for copies of supporting documentation for the first semester monitoring period.

As stipulated in Section B of the M&RP, all data must be submitted in an electronic format to the RWQCB. In addition, the RWQCB has implemented a Paperless Office System. As a means of complying with these requirements, a copy of this report is uploaded to the State Water Resources Control Board's GeoTracker system. The electronic data, in turn, is submitted via email to the RWQCB staff person responsible for Landfill oversight.

1.1 BACKGROUND INFORMATION

1.1.1 ***Site Location and Description***

The Landfill is located approximately four miles southwest of Porterville, California at the southeast corner of the intersection of Road 208 and Avenue 128 in Section 18 of Township 22 South, Range 27 East, Mount Diablo Base and Meridian (MDB&M). A location map showing the approximate location of the Landfill is presented as Figure 1 (Appendix A). The Landfill property is approximately 125.5 acres in size and is identified

as Assessor's Parcel Numbers (APNs) 302-130-001 and 302-130-002. The Landfill consists of a single unlined Class III waste management unit (WMU) that is approximately 71 acres in size. Ground surface elevations within the footprint of the WMU range from approximately 395 to 450 feet mean sea level (MSL). The WMU is equipped with an active landfill gas (LFG) collection system that collects and conveys LFG to a flare station located at the northeast corner of the site. Other site features include a stormwater retention basin and a 22-acre borrow area situated in the northwest corner and western portion of the property, respectively. A site plan showing the general site configuration is presented as Figure 2 (Appendix A).

The Landfill property's eastern and southern boundary is bounded by the Friant-Kern Canal. Immediately southeast of this canal and the Landfill property is the City of Porterville's wastewater treatment plant effluent disposal field. The remaining adjoining properties to the site and beyond are comprised of agricultural properties. A single family dwelling is situated west across the street from the Landfill on the west side of Road 208. Several additional single family dwellings are located to the north, west, and southwest at distances ranging from approximately 400 to 1,900 feet.

The closest surface water feature to the site corresponds to the Friant-Kern Canal. As described above, this canal trends along the eastern and southern boundary of the Landfill property (see Figure 2).

1.1.2 ***Landfill History and Development***

The facility operated as a burn dump beginning in 1950, then was converted to a landfill using area fill methods in the early 1970's. The Landfill has historically operated and continues to operate as a Class III solid waste disposal facility that accepts non-hazardous waste and municipal solid waste. The Landfill receives on average approximately 250 to 400 tons of waste per day. As noted in the previous subsection, the WMU is equipped with an active LFG collection system. This system has been in operation since January 2001.

1.1.3 ***Regulatory Background***

Groundwater impacts by chlorinated volatile organic compounds (VOCs) and inorganic parameters have been detected at the site since 1986. In 2003, the RWQCB issued WDR Order No. R5-2003-0115 that mandated the implementation of an Evaluation Monitoring Program (EMP) to delineate the nature and extent of the release(s). An EMP investigation was subsequently performed in 2005 that determined that the lateral extent of the chlorinated VOC plume in the unconfined aquifer extended approximately 1.7 miles southwest and approximately 1.1 miles west of the Point of Compliance. The extent of the chlorinated VOC plume in the upper semi-confined aquifer, in turn, extended approximately two miles southwest and approximately 1.1 miles west of the Point of Compliance. The inorganic impacts, which were all below applicable Primary Maximum Contaminant Levels (PMCLs), were determined to be generally confined to the Landfill property (Malcolm Pirnie, Inc., 2005).

Following completion of the EMP investigation, a series of Engineering Feasibility Studies (EFSs) were prepared for corrective action. The Final EFS to establish a corrective action program (CAP) was approved by the RWQCB in a letter dated September 6, 2006 (RWQCB, 2006). The CAP identified monitored natural attenuation (MNA) as the primary corrective action measure based on the low levels and decreasing trend in the chlorinated VOC component. This approach may remain enforce as long as the sum of the total chlorinated VOC concentration does not exceed 10 micrograms per liter (µg/L) for two consecutive monitoring events. Other provisions of the CAP include:

- Mitigation of groundwater-waste separation via establishment of a Groundwater-Waste Separation Mitigation Plan;
- Destruction of the Landfill's existing water supply well to prevent the ongoing downward movements of waste constituents by eliminating the vertical conduit between the unconfined and upper semi-confined aquifers;
- Monitoring of water quality in downgradient water supply wells; and
- Installing a new Landfill operations water supply well on-site within the plume and pumping this well for use as dust control within the footprint of the WMU.

It should be noted that there are two variables that influence CAP evaluations for the Landfill. The first variable is the presence of a trihalomethane plume (Chloroform, Chloromethane, Bromodichloromethane, Dibromochloromethane, and Iodomethane) derived from the City of Porterville's (COP's) wastewater treatment plant located northeast and upgradient from the Landfill in the City of Porterville. The second variable corresponds to the presence of 1,2-dibromo-3-chloropropane (DBCP), which is a region-wide groundwater constituent unrelated to the Landfill. Based on these circumstances, these compounds are excluded from the total chlorinated VOC concentration summation that is used to determine the MNA effectiveness and the potential need for active remediation.

1.2 GEOLOGY AND HYDROGEOLOGY

The geologic units of interest at the Landfill are alluvial deposits in the upper 300 feet below ground surface (BGS). Alluvial deposits are characterized as having an upper young alluvium, up to 100 feet thick, and a lower, old alluvium, approximately 200 feet in thickness. The young alluvium, although generally unsaturated, is moderately to highly permeable. The old alluvium consists of lenticular deposits of brown clay, silt, sand, and gravel, which are comparatively more weathered and cemented than in the young alluvium.

Site investigations have divided the site subsurface into four reasonably distinct water-bearing units. These units are identified as follows in descending order:

- Unconfined aquifer in young alluvium that extends from the water table to approximately 110 feet BGS (identified herein as the “unconfined groundwater zone”);

- Semi-confining unit in old alluvium that extends from 110 feet BGS to approximately 150 feet BGS;

- Semi-confined aquifer in old alluvium that extends from approximately 150 to 310 feet BGS (identified herein as the “upper semi-confined groundwater zone”); and

- Semi-confined aquifer of oxidized continental deposits that extends from approximately 310 feet BGS to greater than 400 feet BGS (identified herein as the “lower semi-confined aquifer”).

Groundwater flow directions generally range from west to southwest. Based on recent water levels, projection of the hydraulic gradient west of the Landfill site indicates that the water table will be encountered within the confining layer at the top of the upper semi-confined aquifer. Thus, the unconfined aquifer, defined under the Landfill as saturated intervals of the young alluvium, is absent southwest of the Landfill site. Groundwater flow directions in the upper semi-confined aquifer generally range from west to north.

SECTION 2.0

GROUNDWATER MONITORING PROGRAM

A Groundwater Monitoring Program has been developed for the Landfill to meet the minimum requirements set forth in Sections A(1) and A(4) of the M&RP. Details regarding the scope of monitoring activities and corresponding results and findings are summarized in the following subsections. Please refer to the County's standard monitoring protocols enclosed in Appendix B for supplemental information regarding the procedures and protocols employed as part of the Groundwater Monitoring Program.

2.1 SCOPE OF MONITORING ACTIVITIES

2.1.1 *Description of Groundwater Monitoring Network*

The groundwater monitoring network at the site is comprised of 29 monitoring wells positioned at locations upgradient and downgradient from the WMU and completed either in the unconfined groundwater zone or the upper semi-confined groundwater zone. Multiple monitoring wells completed at different depths are present at selected monitoring locations. There are 16 monitoring locations in total. In accordance with 27CCR, §20415, the monitoring wells are utilized to monitor background conditions and water quality characteristics along the Point of Compliance (vertical surface located at the hydraulically downgradient limit of a WMU and that extends through the uppermost aquifer underlying the unit) and additional locations ("other" monitoring wells). Furthermore, selected off-site domestic and agricultural water supply wells are monitored as part of the Landfill's CAP. The following table provides a summary of the groundwater monitoring network for the Landfill and their corresponding designations.

SUMMARY OF GROUNDWATER MONITORING NETWORK
UNCONFINED GROUNDWATER ZONE[1,2] ***Background Monitoring Wells:*** ***M-1A***, ***M-1S***, ***M-5***, and M-13A ***Point of Compliance Monitoring Wells / Corrective Action Monitoring Wells:*** ***M-3A***, ***M-4A***, M-6A[4], ***M-7***, M-8, and ***M-14A*** ***Corrective Action Program Wells:*** ***M-10A*** ***Other Monitoring Wells:*** ***M-2A***, ***M-9***, ***M-11A***, and M-12A*

(Continued)

SUMMARY OF GROUNDWATER MONITORING NETWORK *(Continued)*
UPPER SEMI-CONFINED GROUNDWATER ZONE[1,2] ***Background Monitoring Wells:*** M-1B, M-1C, M-13B, and M-13C ***Point of Compliance Monitoring Wells:*** M-4B, M-6B[4], and M-14B ***Corrective Action Program Wells:*** M-3C, M-10B, M-10C, M-11C, M-15C, and M-16B ***Other Monitoring Wells:*** M-3B **OFF-SITE CORRECTIVE ACTION PROGRAM WELLS**[3] Off-site domestic and agricultural supply wells listed in Section A(1) of M&RP No. R5-2014-0021 and/or Appendix C-5.

M&RP: Monitoring and Reporting Program

Notes:

(1) Monitoring wells highlighted in bold and italic were dry at the time of the July and October, 2020 monitoring events, whereas those marked with an asterisk (*) were dry at the time of the July or October, 2020 monitoring event only.

(2) Monitoring wells screened in the unconfined groundwater zone either have no letter designation, or have the letter designation “A” or “S”. Monitoring wells screened in the upper semi-confined groundwater zone have the letter designation “B” or “C”.

(3) Off-site domestic and agricultural corrective action wells are sampled as accessible.

(4) Monitoring wells were unable to be accessed due to safety concerns related to nearby heavy equipment operations at the time of the October 2020 monitoring event.

The monitoring wells for the unconfined groundwater zone are completed at depths ranging from approximately 57 to 123 feet as referenced from the top of the well guard, which corresponds to completion elevations of approximately 278 to 342 feet MSL. The monitoring wells for the upper semi-confined groundwater zone, in turn, are completed at depths ranging from approximately 128 to 217 feet as referenced from the top of the well guard, which corresponds to completion elevations of approximately 186 to 283 feet MSL. The monitoring wells are constructed of either 2-inch or 4-inch diameter polyvinyl chloride (PVC) casing. The majority of the monitoring wells are equipped with dedicated pumps. Details summarizing the respective monitoring well construction characteristics are presented in Appendix C-1.

Please refer to Figure 2 (Appendix A) for the locations of the respective on-site monitoring wells, and Figure 3 (Appendix A) for the off-site domestic and agrictultural well locations described herein.

2.1.2 ***Groundwater Elevation Monitoring***

Quarterly groundwater elevation data were collected by Moore Twining Associates, Inc. (MTA) of Fresno, California on July 13, 2020 (Third Quarter) and October 16, 2020 (Fourth Quarter). The data were collected using an electronic sounder as measured from the top of the well guard for each monitoring well. The corresponding depth to groundwater data is subtracted from the respective top of the well guard elevations to calculate the groundwater elevation at each location. The resulting groundwater elevation data is then used collectively to determine groundwater flow direction and gradient conditions across the site. The groundwater elevation data is presented in Appendix C-3.

2.1.3 ***Sampling and Testing***

The groundwater sampling event performed during this monitoring period was conducted by MTA on July 13 through 15, and 17, 2020 (Third Quarter). As previously presented in Subsection 2.1.1 (*Description of Groundwater Monitoring Network*), well clusters are present at selected locations that are comprised of monitoring wells completed at different depths. As part of the standard sampling protocols, the shallowest monitoring well in the cluster with groundwater present is targeted for sampling. This protocol applies to well clusters completed within the unconfined groundwater zone and the upper semi-confined groundwater zone. Based on these protocols and the presence of dry conditions at selected locations, a total of three monitoring wells (M-6A, M-8, and M-13A) could be sampled in the unconfined groundwater zone during this monitoring period, while ten monitoring wells (M-1B, M-3C, M-4B, M-6B, M-10B, M-11C, M-13B, M-14B, M-15C, and M-16B) could be sampled in the upper semi-confined groundwater zone.

The sampling was performed using either low flow or three casing volume (attempted) pre-sampling purging methods. Please refer to the standard monitoring protocols in Appendix B for further details regarding the pre-sampling purging methods, as well as procedures for sample collection, preservation, and subsequent transport to the laboratory. Appendix C-2, in turn, presents copies of the field data sheets documenting the field data and observations (i.e., purge volumes, stabilization parameter readings, sample appearance, etc.) associated with the aforementioned sampling activities. Also provided on the field data sheets are details regarding the well completion depth, pump setting, pump tubing diameter, parameter instrumentation and purge equipment.

Field and laboratory testing of the groundwater samples were conducted in accordance with Table I of the M&RP. Selected additional parameters were also included at the

County's discretion. The following table provides a summary of the scope of testing for this semi-annual monitoring event:

SUMMARY OF FIELD AND LABORATORY TESTING FOR GROUNDWATER M&RP No. R5-2014-0021
SEMI-ANNUAL EVENT
Field Parameters(1): Temperature, Electrical Conductivity (EC), pH, Turbidity, Dissolved Oxygen (DO), and Oxidation-Reduction Potential (ORP) ***Monitoring Parameters (per Table I of M&RP):*** Total Dissolved Solids, Chloride, Carbonate, Bicarbonate, Nitrate, Sulfate, Calcium, Magnesium, Potassium, and Sodium ***Inorganic COCs (per Table IV of M&RP) and Additional Parameters:*** Dissolved Inorganics (per Table IV), Hardness, Hydroxide, Total Alkalinity, and Total Organic Carbon

M&RP: Monitoring and Reporting Program
COC(s): Constituents of Concern

(1) Measurement by calibrated portable meters.

Following sample collection, the groundwater samples were delivered to MTA's analytical laboratory for chemical analysis. Copies of the chain-of-custody documentation recording the handling and delivery of the groundwater samples are attached to the CARs enclosed in Appendix D of this report. MTA is State-certified for the analyses required as part of the Groundwater Monitoring Program.

In addition to the aforementioned sampling, groundwater samples were collected from selected off-site domestic/agricultural wells not owned by the County during the course of this monitoring period as part of the CAP monitoring. The groundwater sampling events were conducted in November and December, 2020 by the Tulare County Health and Human Services Agency, in cooperation with the County. As with the monitoring wells, the groundwater samples collected during these sampling events were delivered to MTA's analytical laboratory for chemical analysis. The scope of laboratory testing for these groundwater samples included VOCs using Environmental Protection Agency (EPA) Method 524.2.

2.1.4 ***Statistical Analysis Methodology***

Statistical analysis is performed in support of the groundwater Detection Monitoring Program (DMP) in order to identify possible changes in water quality conditions or a

release from the site. The unconfined and upper semi-confined groundwater zones are analyzed separately due to differing hydrogeologic characteristics.

For statistical evaluation purposes, the following wells are evaluated and are identified as either background (b) or Point of Compliance (c) monitoring wells. Point of Compliance monitoring wells are those listed in Section A(1) (*Point of Compliance Monitoring Wells*) of the M&RP. Background and Point of Compliance monitoring wells that were dry or not sampled during the current monitoring period are indicated and, in the case of Point of Compliance monitoring wells, not included in the statistical analysis for the current monitoring period.

<u>Unconfined Groundwater Zone</u>

- M-1A (b) <dry>
- M-1S (b) <dry>
- M-3A (c) <dry>
- M-4A (c) <dry>
- M-5 (b) <dry>
- M-6A (c)
- M-7 (c) <dry>
- M-8 (c)
- M-13A (b)
- M-14A (c) <dry>

<u>Upper Semi-confined Groundwater Zone</u>

- M-1B (b)
- M-1C (b) <not sampled since groundwater present in M-1B>
- M-4B (c)
- M-6B (c)
- M-13B (b)
- M-13C (b) <not sampled since groundwater present in M-13B>
- M-14B (c)

Statistically evaluated monitoring parameters are the following ten inorganic groundwater detection monitoring parameters listed in Table I of the M&RP:

- Total Dissolved Solids (TDS)
- Chloride
- Carbonate
- Bicarbonate
- Nitrate as N
- Sulfate
- Calcium
- Magnesium

- Potassium
- Sodium

Sanitas™ statistical software is used to perform the statistical calculations. Per the M&RP and the established statistical protocol for the site (see Appendix C-7 herein), the following calculations are performed on a zone-specific basis:

1. Batch Mode inter-well prediction limits using available data from the previous ten years of monitoring data from background monitoring wells, to test the ten inorganic semi-annual detection monitoring parameters listed above in compliance monitoring wells that were sampled.

2. Interactive Mode inter-well prediction limits, using all available historical background data for any statistical exceedances identified in Batch Mode.

3. Interactive Mode intra-well prediction limits and Sen's Slope/Mann Kendall Test for Trend for any Interactive Mode inter-well prediction limit exceedances to further examine natural spatial variability and to determine if a new exceedance is indicated.

Calculations performed in Interactive Mode allow the following statistical variables to be further evaluated in the background data sets in order to control possible biases:

- Outliers (using EPA 1989 outlier test)
- Seasonality (using the Kruskal-Wallis test)
- Normality (using the Shapiro-Wilk test combined with the Ladder-of-Powers transformation method, if needed)

2.2 RESULTS AND FINDINGS

2.2.1 ***Groundwater Flow Direction and Gradient***

Groundwater elevation data collected on July 13, 2020 (Third Quarter) and October 16, 2020 (Fourth Quarter) were used to calculate groundwater flow direction and gradient conditions across the Landfill property. A tabulated summary of the groundwater elevation data from these monitoring events is presented in Appendix C-3. As presented in Appendix C-3, groundwater elevations in the unconfined groundwater zone ranged from approximately 290 to 323 feet MSL during the Third Quarter monitoring event and 289 to 324 feet MSL during the Fourth Quarter monitoring event. In regards to the upper semi-confined groundwater zone, groundwater elevations during the Third and Fourth Quarter monitoring events ranged from approximately 256 to 286 feet MSL and 255 to 287 feet MSL, respectively.

Groundwater potentiometric surface maps (PSMs) were prepared for the respective quarterly monitoring periods and are enclosed as Figures 4 through 7 (Appendix A). As

shown on Figures 4 and 5, the groundwater flow direction in the unconfined groundwater zone at the time of the Third Quarter monitoring event was towards the west at a hydraulic gradient of approximately 0.008 foot per foot (ft/ft), whereas a southwesterly groundwater flow direction was present at the time of the Fourth Quarter monitoring event at a hydraulic gradient of approximately 0.009 ft/ft. In regards to the upper semi-confined groundwater zone, the groundwater flow direction at the time of both monitoring events was more variable as exhibited by west-northwesterly groundwater flow directions beneath the western portion of the WMU, whereas flow beneath the central and eastern portions of the WMU was generally to the north (see Figures 6 and 7). The corresponding hydraulic gradients ranged from approximately 0.009 to 0.04 ft/ft.

2.2.2 ***Groundwater Elevation Hydrographs***

Groundwater elevation hydrographs illustrating groundwater elevations for the respective monitoring wells over the previous five years are presented in Appendix C-4. For presentation purposes, the hydrographs are separated into the unconfined and upper semi-confined groundwater zones. Also included in Appendix C-4 is well construction information with regard to the top and bottom screen elevations and the approximate pump intake elevation for each of the monitoring wells.

2.2.3 ***Groundwater Sample Analytical Results***

Tabulated summaries of the groundwater sample analytical results for both the first and second semester monitoring periods are presented in Appendix C-5. Appendix D, in turn, includes copies of the laboratory certification letters and chain-of-custody forms, as well as portable document format (PDF) copies of the entire CARs for the current monitoring period. Please refer to the CARs for information regarding the analytical methods used, method detection limits (MDLs), reporting limits (RLs), and associated quality assurance/quality control (QA/QC) testing performed by the laboratory.

2.2.4 ***Cation/Anion Balance***

Section B(2)(b) of the M&RP requires determination of the cation/anion balance, coupled with a graphical presentation in the form of a Stiff diagram, a Piper diagram, or Schoeller plot. A summary of the cation/anion balances for the monitoring wells sampled during this monitoring period and corresponding Piper diagrams (one each for the unconfined and upper semi-confined groundwater zones) are included in Appendix C-6. As illustrated on the Piper diagrams, monitoring wells from both groundwater zones generally exhibit predominantly calcium-bicarbonate groundwater compositions with varying degrees of a sodium-chloride component.

2.2.5 ***Statistical Analysis Results***

Results and supporting documentation/data associated with the statistical analysis calculations, including applicable output summaries from Sanitas™ and a detailed

description of the established statistical protocol for the site, are enclosed in Appendix C-7. The following provides a summary of the corresponding findings for compliance monitoring wells completed in the respective groundwater zones:

Unconfined Groundwater Zone: Semi-Annual Parameters

1. Batch Mode inter-well prediction limit test results: No exceedances for Point of Compliance monitoring wells M-6A and M-8.

Upper Semi-confined Groundwater Zone: Semi-Annual Parameters

1. Batch Mode inter-well prediction limit test results: No exceedances for Point of Compliance monitoring wells M-4B, M-6B, and M-14B.

Based on nothing exceeding prediction limits in Batch Mode, no further analysis of semi-annual monitoring parameters using Interactive Mode is necessary for this monitoring period.

2.2.6 *Groundwater Time Series Plots*

Time series plots illustrating groundwater chemistry characteristics for selected monitoring wells are enclosed in Appendix C-8. The time series plots are provided for those monitoring wells that have chemistry data during the previous five years. Please note that time series plots have only been prepared for those parameters that have been detected at least once over the course of the monitoring period in question. Furthermore, only detections above the laboratory RLs are illustrated on the time series plots. Trace detections are not considered appropriate for plotting purposes since the reported concentrations represent estimated values that cannot be certified by the laboratory. As such, trace detections are shown as nondetect values equal to the RL.

2.2.7 *Evaluation of Groundwater Data*

As presented in the previous subsection, no statistical exceedances were identified for the semi-annual inorganic detection monitoring parameters for detection monitoring wells sampled in either the unconfined groundwater zone or the upper semi-confined groundwater zone. In regards to organic parameters in the monitoring wells sampled in the unconfined groundwater zone, a single reoccurring detection of cis-1,2-Dichloroethene (0.63 µg/L) was detected in M-6A and a first-time detection of Methylene Chloride was detected in M-13A. However, Methylene Chloride was also detected in the corresponding field blank of M-13A, thereby indicating a “false” positive detection for this compound. Trace to low concentrations of miscellaneous VOCs were detected at selected monitoring well locations in the upper semi-confined groundwater zone. The following table provides a summary of the various organic detections during this monitoring period.

SUMMARY OF ORGANIC DETECTIONS SECOND SEMI-ANNUAL 2020 MONITORING PERIOD		
UNCONFINED GROUNDWATER ZONE		
Parameter	***Monitoring Well***	***Concentration (µg/L)***
VOC Detections:		
- cis-1,2-Dichloroethene	M-6A	0.63
- Methylene Chloride	M-13A[3]	1.2
UPPER SEMI-CONFINED GROUNDWATER ZONE		
Parameter	***Monitoring Well [1]***	***Concentration (µg/L)***
VOC Detections:		
- 1,1-Dichloroethane	M-10B, M-14B	0.37J, 0.31J
- Chloroform[2]	M-3C, M-11C, M-15C	0.42J, 0.31J, 0.42J
- cis-1,2-Dichloroethene	M-4B, M-10B, M-14B, M-16B	1.6, 0.31J, 1.4, 0.76
- 1,2-Dibromo-3-chloropropane[1]	M-6B	0.30J
- Tetrachloroethylene	M-10B, M-14B, M-16B	0.51, 1.2, 0.62
- Trichloroethylene	M-14B	0.50

µg/L: Micrograms per Liter
MK: Map Key
J: Trace Detection ("J Flag") between the Method Detection Limit and Reporting Limit. Concentration represents an estimated value that cannot be certified by the laboratory.

(1) Constituent is part of a region-wide groundwater plume unrelated to the Landfill.

(2) Trihalomethanes (Chloroform, Chloromethane, Bromodichloromethane, Dibromochloromethane, and Iodomethane) have been determined to be related to off-site source (WDR No. R5-2014-0021[41]). Although Bromoform is not listed in the WDR, it is a trihalomethane and is likely related to the off-site source.

(3) Constituent was also detected in corresponding Field Blank sample.

Overall, findings from the VOC testing for the on-site monitoring wells are generally consistent with historical trends and there were no new VOC detections. In addition, no VOCs were detected in the off-site CAP water supply wells. Based on these findings, there are no indications of a new release from the WMU during this monitoring period. It should be noted that the DBCP and Chloroform detections in the on-site monitoring wells have been attributed to off-site sources (WDR No. R5-2014-002[41]).

In addition to the above evaluation of those parameters listed in Table I of the M&RP, the inorganic COCs at those locations not subject to statistical analysis and additional parameters tested at the County's discretion were compared to historical data to identify any new trends or conditions. Findings from this comparison revealed first-time detections above the laboratory RL of selenium in M-10B and M-13A. In addition, historical high concentrations for selected parameters were detected at the following locations:

- Hardness (M-6A)
- Iron (M-1B, M-3C, M-6A, M-6B, M-10B, M-11C, M-13A, M-14B, M-15C, and M-16B)
- Total Organic Carbon (M-6A and M-6B)
- Vanadium (M-6A and M-11C)
- Zinc (M-13B)

It should be noted that the historical high concentrations for aluminum (M-1B and M-6B), cobalt (M-4B), iron (M-4B), and zinc (M-6B) as observed during the previous semester all declined as part of the most recent monitoring activities.

2.2.8 ***Corrective Action Program (CAP) Monitoring***

The CAP for the Landfill has been in existence since September 2006 and entails the implementation of MNA to address the identified chlorinated VOC impacts to groundwater in both the unconfined and upper semi-confined groundwater zones. In accordance with 27CCR, §20430(c), the CAP has been developed for the purpose of restoring groundwater quality to meet the Landfill's water quality protection standard (WQPS). A water quality monitoring program has also been established to allow for evaluation as to the effectiveness of the CAP as required under 27CCR, §20430(d). This program includes the monitoring of groundwater quality on the Landfill property and on properties hydraulically downgradient of the WMU.

In accordance with WDR Corrective Action Program Specification H(1), a CAP evaluation report (ARCADIS U.S., Inc. [ARCADIS], 2015) was submitted to the RWQCB in June 2015 that evaluated the progress to date of MNA as a corrective action measure at the Landfill to reduce the chlorinated VOC component in groundwater, and whether alternative/additional corrective action methods should be utilized. Conclusions and recommendations outlined in this report can be summarized as follows:

- The data demonstrate that since approval of the CAP in September 2006, concentrations of total landfill-derived chlorinated VOCs have not exceeded 10 µg/L for two consecutive monitoring events along the western site boundary, and are on a stable to decreasing trend. Based on these conditions, the CAP is successfully reducing VOC concentrations in the Point of Compliance monitoring wells. As such, the current CAP groundwater sampling program should continue accordingly.

- Data from the groundwater-waste separation mitigation program indicates that groundwater levels have encroached the trigger elevation on occasion in M-1S, including over a 6-month consecutive period in 2014. These occurrences appear to coincide with the application of wastewater on irrigated fields operated by the COP. The report recommends researching irrigation records to verify this correlation and working with the COP to determine an acceptable irrigation rate that limits the occurrence of perched groundwater at M-1S.

- The CAP is performing as expected in areas off-site from the Landfill and the County should therefore continue to implement the semi-annual sampling program of off-site water supply wells. While decreasing trends have been observed in most of the off-site wells, this is likely partially attributable to declining groundwater levels in the region. As such, chlorinated VOC concentrations could increase if groundwater levels recover under wetter climatic conditions.

- The off-site chlorinated VOC plume is not fully delineated by post-EMP sampling along the north side (Avenue 128) and west side (Road 200), as well as to the southwest. Based on this circumstance, the report recommends that the County obtain permission to sample additional water supply wells further to the north, west, and southwest to determine if the chlorinated VOC plume has expanded in these directions.

Please refer to ARCADIS's June 2015 report for further details and supporting documentation with regard to the CAP evaluation. The recommendations outlined in the report were subsequently approved by the RWQCB in a letter dated July 14, 2015 (RWQCB, 2015). In accordance with the above recommendations, provisions to sample additional off-site water supply wells to the west and southwest commenced in 2016, while the sampling of northern off-site water supply wells began in 2017. The corresponding results since the additional sampling provisions have been employed have revealed no chlorinated VOC detections at the new sampling locations, thereby indicating that the off-site chlorinated VOC plume has not expanded to these respective wells.

As previously noted, MNA per the CAP may remain enforce as long as the sum of the total chlorinated VOC concentration along the western site boundary does not exceed 10 µg/L for two consecutive monitoring events. In this regard, the sum of the total chlorinated VOC detections in applicable corrective action and other monitoring wells during this monitoring period was less than 2 µg/L, thereby demonstrating compliance with the CAP criteria. Please note that the total chlorinated VOC concentration calculation is based on detections above the laboratory RL and excludes trihalomethane (Chloroform, Chloromethane, Bromodichloromethane, Bromoform, Dibromochloromethane, and Iodomethane) and DBCP detections, which are associated with off-site sources unrelated to the Landfill.

SECTION 3.0

LEACHATE SEEP MONITORING PROGRAM

A Leachate Seep Monitoring Program has been developed for the Landfill to meet the minimum requirements set forth in Section A(2) of the M&RP. Details regarding the scope of monitoring activities and corresponding results and findings are summarized in the following subsections.

3.1 SCOPE OF MONITORING ACTIVITIES

3.1.1 ***Description of Leachate Seep Monitoring Approach***

In accordance with Section A(3) of the M&RP, the WMU surface is inspected by County staff on a monthly (wet season) or quarterly (dry season) basis for the presence of active leachate seeps. County personnel traverse the site in a regular pattern that allows for visual observance of the entire WMU surface. In the event an active leachate seep is identified, the leachate flow rate is estimated (in gallons per day) and recorded, whereupon a leachate sample is collected for laboratory chemical analysis.

3.1.2 ***Sampling and Testing***

No active leachate seeps were identified on the WMU surface by the County during this monitoring period. Based on this circumstance, there are no leachate data or analytical results to report for this monitoring period.

SECTION 4.0

FACILITY MONITORING

As stipulated in Section A(3) and B(1)(g) of the M&RP, facility monitoring shall be conducted to monitor the integrity of facility components and receiving areas. In this regard, standard observation inspections were performed during this monitoring period by County staff that focused on site conditions within the limits of the WMU, at its perimeter, and of the receiving waters beyond its limits. Also performed were evaluations as to the effectiveness of run-on and run-off controls and groundwater-waste separation mitigation monitoring. In addition, Section B(2)(f) of the M&RP requires information regarding the area of waste placement and elevations during the previous calendar year, a comparison of existing grades to final closure grades, and an estimate as to when the existing active waste cell will be filled. Details regarding each of these tasks, as well as documentation of groundwater-waste separation mitigation monitoring, are provided in the following subsections.

Please note that Section B(1)(h) of the M&RP requires a summary of inspections, leak searches, and repairs of final cover system components on any closed WMU. Since the lone WMU at the Landfill is still in operation, this issue is not addressed herein.

Standard Observations

County staff performed visual inspections of the Landfill during this monitoring period on the following dates:

- July 2, 20, and 29, 2020
- August 24, 2020
- September 5 and 12, 2020
- October 3, 10, and 31, 2020
- November 12 and 20, 2020
- December 9 and 22, 2020

Based on the reports from these events, the County observed no areas of concern or conditions that warranted repair. Overall, the County did not report observing evidence of stressed vegetation, ponding on the WMU (excluding the aforementioned puddles), odors, liquid leaving or entering the WMU, or drainage system problems. Copies of the inspection forms documenting the standard observation events are enclosed in Appendix E-1.

Run-on and Run-off Controls

Surface waters in the area of the Landfill drain in a northwesterly direction. The water is prevented from entering the waste disposal areas by means of perimeter berms. Because the Landfill is relatively flat, minor grading along the periphery prevents impoundment at the easterly boundary and allows surface water to be contained in the large on-site stormwater retention basin to the northwest of the waste area. The Friant-Kern Canal controls surface water from entering from the east and south. The

intermediate fill grading is designed to drain on-site surface run-off from the waste area to the stormwater retention basin to the northwest of the Landfill. The capacity of the stormwater retention basin provides sufficient capacity to contain a 100-year, 24-hour storm event in addition to the annual accumulation of run-off from normal precipitation events.

According to County staff, the current drainage system components, which include the temporary drainage structures, vegetative cover, graded ditches, and culverts, are functioning as designed and in an effective manner.

Waste Disposal Information

In accordance with Section B(2)(f) of the M&RP, Figure 8 (Appendix A) shows the approximate location of waste placement during the 2020 calendar year. Copies of the corresponding certified solid waste disposal reports prepared by the County for the Third and Fourth Quarter, 2020 are enclosed in Appendix E-2. The elevations of waste placement in the area depicted on Figure 8 ranged from approximately 400 to 450 feet MSL. It is estimated that the WMU has a remaining capacity of approximately two years (2022 or 2023) based on the current final grades.

Section B(2)(f) of the M&RP also requires a comparison of existing grades in the active waste cell to the final closure design contours. Based on a comparative analysis performed by the County, the existing site grades are considered to be generally compliant with the final design. A more rigorous comparison and any necessary adjustments will be performed as part of the final closure design.

Groundwater-Waste Separation Mitigation Monitoring

The County has implemented a Mitigation Plan based on a review of groundwater levels that had, in the past, exceeded the groundwater-waste separation distance of five feet, which is required by Title 27 CCR §20240(c). Elevated groundwater levels beneath portions of the Landfill are temporal in nature and related to groundwater recharge associated with the COP's wastewater seepage ponds located upgradient of the Landfill. The Mitigation Plan identifies proactive mitigation measures to be conducted by the County and the COP in the event of water elevations exceeding a trigger elevation of 340 feet MSL at monitoring wells M-1A, M-1S, or M-9. The time schedule for the mitigation plan monitoring was accepted by the RWQCB in a letter dated February 26, 2008.

As previously presented in Subsection 2.1.1 (*Description of Groundwater Monitoring Network*), M-1A, M-1S, and M-9 were dry during both the Third and Fourth Quarter monitoring events. However, subsequent depth to groundwater measurements performed by the County on December 22, 2020 as part of the monthly groundwater-waste separation mitigation monitoring provisions identified the presence of groundwater in all three monitoring wells. Whereas the groundwater elevations in M-1A and M-9 were below the 340 feet MSL trigger elevation, the groundwater elevation in M-1S was measured to be above the trigger elevation at approximately 370 feet MSL. The exceedance of the trigger elevation requires tasks and processes to be initiated

according to the *Groundwater-Waste Separation Mitigation Plans* (Mitigation Plans) [Malcolm Pirnie, 2006 and 2008]. The Mitigation Plans require notification to the RWQCB and weekly groundwater level monitoring in M-1A, M-1S, and M-9. In this regard, the County notified the RWQCB of the trigger value exceedance on February 4, 2021 and began weekly groundwater level monitoring on December 29, 2020. Weekly groundwater measurements and monthly status reports will continue until a downward-trending seasonal groundwater level is observed. The monthly status report will include a summary of the weekly measurements and an update of additional tasks required by the Mitigation Plans. Findings from the additional monitoring, as well as the outcome of correspondence with the COP and RWQCB, will be summarized in the 2021 First Semi-Annual Monitoring Report to be submitted in August 2021.

SECTION 5.0

SEMI-ANNUAL AND ANNUAL COMPLIANCE EVALUATION SUMMARY

The following information provides a compliance evaluation summary for the monitoring and inspection services performed during this monitoring period (i.e., July through December, 2020). Please note that this information represents a general synopsis of the results and findings presented in the previous sections.

- The environmental monitoring (i.e., groundwater and leachate seeps) and facility monitoring were performed and completed in general conformance with the specifications outlined in the M&RP.

- Dry conditions were observed at selected monitoring well locations at the time of the July 2020 (Third Quarter) groundwater sampling event. As a result of these conditions, a total of three monitoring wells (M-6A, M-8, and M-13A) could be sampled in the unconfined groundwater zone during this monitoring period, while ten monitoring wells (M-1B, M-3C, M-4B, M-6B, M-10B, M-11C, M-13B, M-14B, M-15C, and M-16B) could be sampled in the upper semi-confined groundwater zone.

- The groundwater flow direction in the unconfined groundwater zone at the time of the Third Quarter monitoring event was towards the west at a hydraulic gradient of approximately 0.008 ft/ft, whereas a southwesterly groundwater flow direction was present at the time of the Fourth Quarter monitoring event at a hydraulic gradient of approximately 0.009 ft/ft.

- The groundwater flow direction in the upper semi-confined groundwater zone at the time of both monitoring events was more variable as exhibited by west-northwesterly groundwater flow directions beneath the western portion of the WMU, whereas flow beneath the central and eastern portions of the WMU was generally to the north. The corresponding hydraulic gradients ranged from approximately 0.009 to 0.04 ft/ft.

- Monitoring wells from both groundwater zones generally exhibited predominately calcium-bicarbonate groundwater compositions with varying degrees of a sodium-chloride component. These characteristics are consistent with previous observations.

- No semi-annual inorganic groundwater detection monitoring parameters exceeded statistical prediction limits for either the unconfined groundwater zone or the upper semi-confined groundwater zone.

- Findings from the VOC testing for the on-site monitoring wells revealed a single reoccurring detection of cis-1,2-Dichloroethene (0.63 µg/L) in M-6A and a first-

time detection of Methylene Chloride in M-13A. However, Methylene Chloride was also detected in the corresponding field blank of M-13A, thereby indicating a "false" positive detection for this compound. Trace to low concentrations of miscellaneous VOCs were detected at selected monitoring well locations in the upper semi-confined groundwater zone. Overall, the VOC detections observed during this monitoring period are generally consistent with historical trends and there were no new VOC detections. In addition, no VOCs were detected in the off-site CAP water supply wells. Based on these findings, there were no indications of a new release from the WMU during this monitoring period.

- DBCP and Chloroform were detected in selected on-site monitoring wells. The presence of these compounds has been attributed to an off-site source and is therefore not indicative of a new release from the WMU.

- Findings from the inorganic parameters testing revealed that there were first-time detections above the laboratory RL of selenium in M-10B and M-13A. In addition, historical high concentrations detected for selected parameters included hardness (M-6A), iron (M-1B, M-3C, M-6A, M-6B, M-10B, M-11C, M-13A, M-14B, M-15C, and M-16B), total organic carbon (M-6A and M-6B), vanadium (M-6A and M-11C), and zinc (M-13B).

- The historical high concentrations for aluminum (M-1B and M-6B), cobalt (M-4B), iron (M-4B), and zinc (M-6B) as observed during the previous semester all declined as part of the most recent monitoring activities.

- The sum of the total chlorinated VOC detections in applicable corrective action and other monitoring wells during this monitoring period was less than 2 µg/L, thereby demonstrating compliance with the CAP criteria of less than 10 µg/L along the western site boundary.

- No leachate seeps were identified on the WMU surface during this monitoring period.

- Standard observations were conducted by County staff in accordance with the M&RP. The Landfill was observed to be in satisfactory condition over the course of this monitoring period.

- The run-off and run-on control facilities appeared to operate effectively over the course of this monitoring period.

- The elevations of waste placement during the 2020 calendar year ranged from approximately 400 to 450 feet MSL. A comparative analysis of the existing and final closure design grades performed by the County reportedly revealed that the existing site grades are considered to be generally compliant with the final design. A more rigorous comparison and any necessary adjustments will be performed as part of the final closure design. It is estimated that the WMU has a remaining capacity of approximately two years (2022 or 2023).

- Groundwater-waste separation mitigation monitoring provisions were implemented this semester upon discovering that the groundwater elevation in M-1S exceeded the 340 feet MSL trigger elevation on December 22, 2020. The Mitigation Plans monitoring provisions include weekly groundwater level monitoring and corresponding with the COP regarding irrigation schedules and application rates. Findings and outcomes from these provisions will be summarized in the 2021 First Semi-Annual Monitoring Report to be submitted in August 2021.

In addition to the semi-annual compliance summary outlined above, Section B(2)(e) of the M&RP requires a discussion of the compliance record for the entire calendar year. In this regard, aside from the groundwater-waste separation issue described herein, findings from the various monitoring programs and facility inspections did not identify any problems or conditions requiring corrective action during the course of the year. As previously outlined herein, groundwater quality conditions at the site have remained generally consistent with historical trends with no indications of a new release to groundwater from the WMU. No substantive changes were made to the monitoring program since the submittal of the previous annual report.

Based on the data and information presented herein, as well as the absence of any noted violations, it can be concluded that the Landfill was operated in general compliance with its WDRs during the 2020 calendar year.

SECTION 6.0

LIMITATIONS

The findings presented herein are professional opinions based on the data presented in this report and are intended only for the indicated purpose and project site. Furthermore, the findings presented herein apply to site conditions existing at the time that the work was performed. Changes in the conditions of the subject property can occur with time because of natural processes or the works of man on the project site or on adjacent properties. Changes in applicable standards can also occur as the result of legislation or from the broadening of knowledge. Accordingly, the findings of this report may be invalidated, wholly or in part, by changes beyond our control.

This work was performed for the sole use of EBA's client and appropriate regulatory agencies. Any reliance on this report by a third party is at such party's sole risk. Please note that the findings and evaluations presented herein are based, in part, on data and information generated and/or provided by others. As a result, EBA cannot guarantee the precision or accuracy of data and information generated and/or provided by other entities.

EBA's professional services were performed and findings obtained, and recommendations prepared in accordance with generally accepted engineering principles and practices. This warranty is in lieu of all other warranties, either expressed or implied.

SECTION 7.0

REFERENCES

ARCADIS U.S., Inc., June 2015, *Corrective Action Program Evaluation Report, Teapot Dome Landfill, Tulare County, California, Project No. 02966055.0001;* Prepared for Tulare County Solid Waste Department by ARCADIS U.S., Inc., Emeryville, California.

California Regional Water Quality Control Board, Central Valley Region (RWQCB), September 6, 2006, *Report Review – Proposed Revisions to Approved Corrective Action Program, Teapot Dome Solid Waste Disposal Site*.

California Regional Water Quality Control Board, Central Valley Region (RWQCB), July 14, 2015, *Response to Corrective Action Program Evaluation Report, Teapot Dome Landfill, Tulare County*.

EBA Engineering, August 2020, *2020 First Semi-Annual Monitoring Report for Teapot Dome Landfill, Tulare County, California, EBA Job No. 14-2052 (Task 2);* Prepared for Tulare County Solid Waste Department by EBA Engineering, Santa Rosa, California.

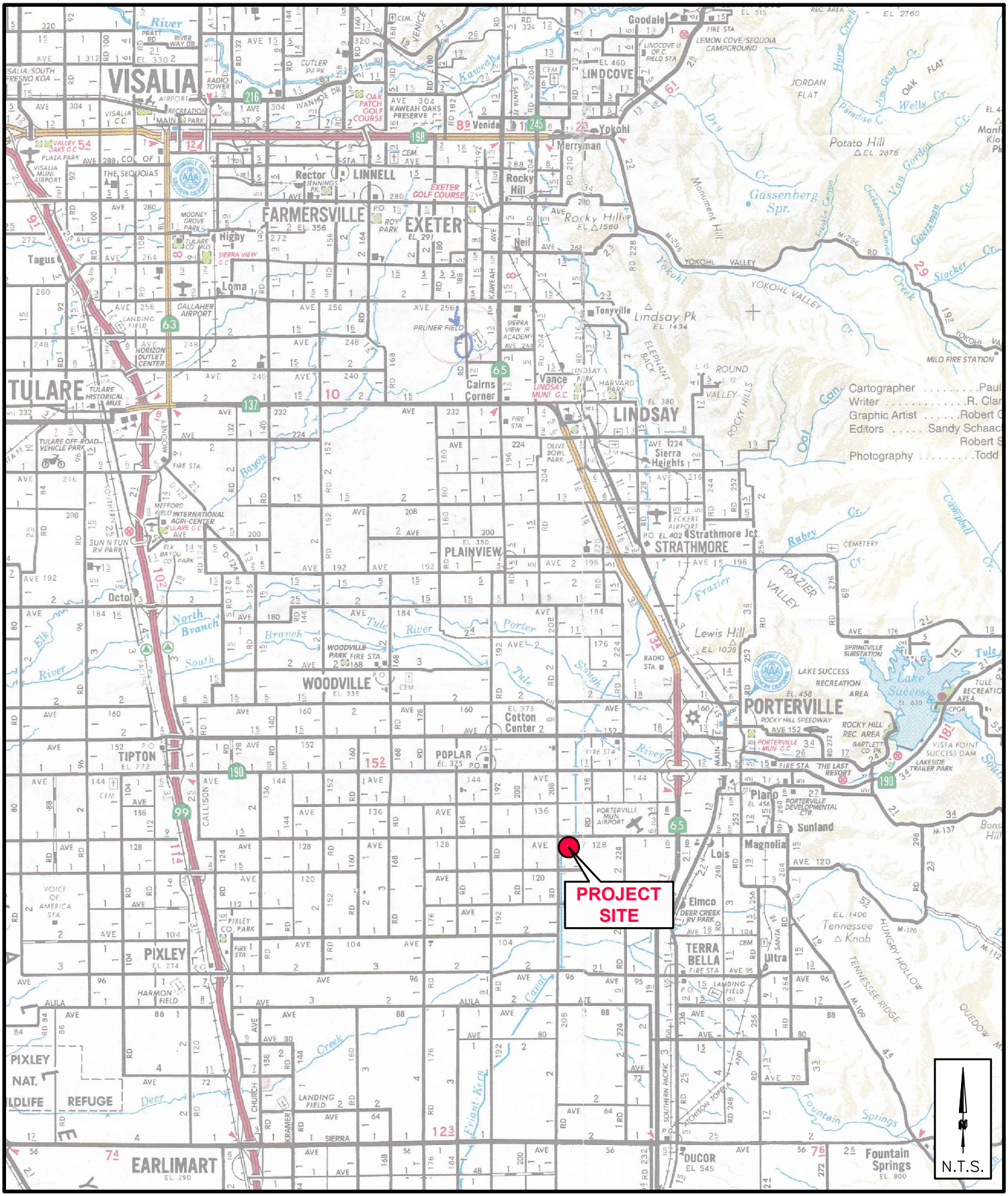
Malcolm Pirnie, Inc., August 2005, *Revised Engineering Feasibility Study for Corrective Action, Teapot Dome Solid Waste Disposal Site, Porterville, California;* Prepared for Tulare County Solid Waste Department by Malcolm Pirnie, Inc., Emeryville, California (updated December 2005).

Malcolm Pirnie, Inc., 2006, *Revised Groundwater - Waste Separation Mitigation Plan*, Teapot Dome Solid Waste Disposal Site, Porterville, California, November

Malcolm Pirnie, Inc., 2008, *Revised Time Schedule for the Groundwater-Waste Separation Mitigation Plan*, Teapot Dome Solid Waste Disposal Site, Porterville, California, January 31.

APPENDIX A

FIGURES



EBA ENGINEERING
825 SONOMA AVENUE
SUITE C
SANTA ROSA, CA 95404
TEL: (707) 544-0784

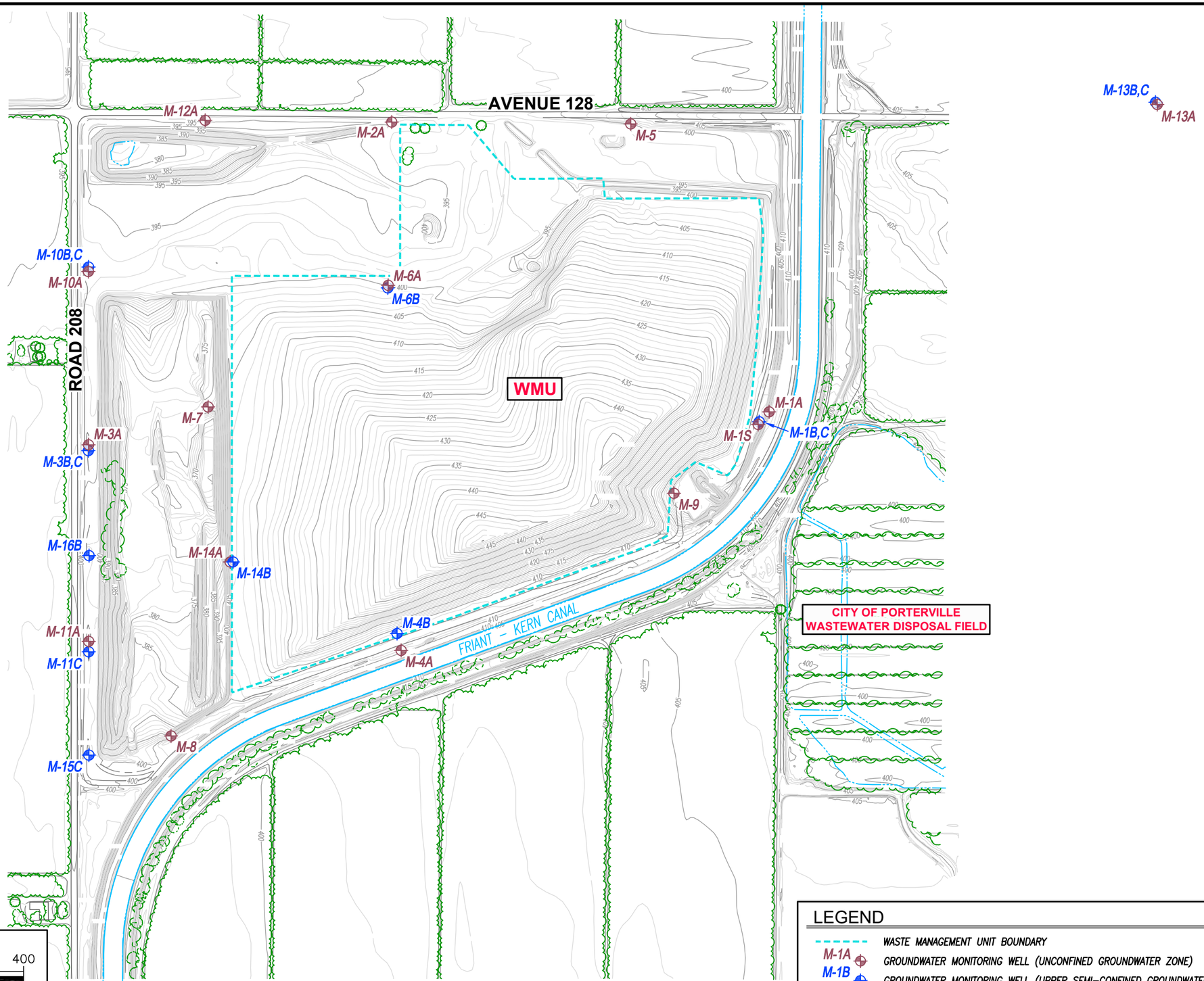
LOCATION MAP

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

FIGURE
1

14–2052

Q:\2052\Teapot Dome\Location Map.dwg, Location Map, 8/12/2016 2:29:15 PM



400 0 400

SCALE : 1" = 400'

LEGEND

	WASTE MANAGEMENT UNIT BOUNDARY
M-1A	GROUNDWATER MONITORING WELL (UNCONFINED GROUNDWATER ZONE)
M-1B	GROUNDWATER MONITORING WELL (UPPER SEMI-CONFINED GROUNDWATER ZONE)
WMU	WASTE MANAGEMENT UNIT

FIGURE 2

14-2052

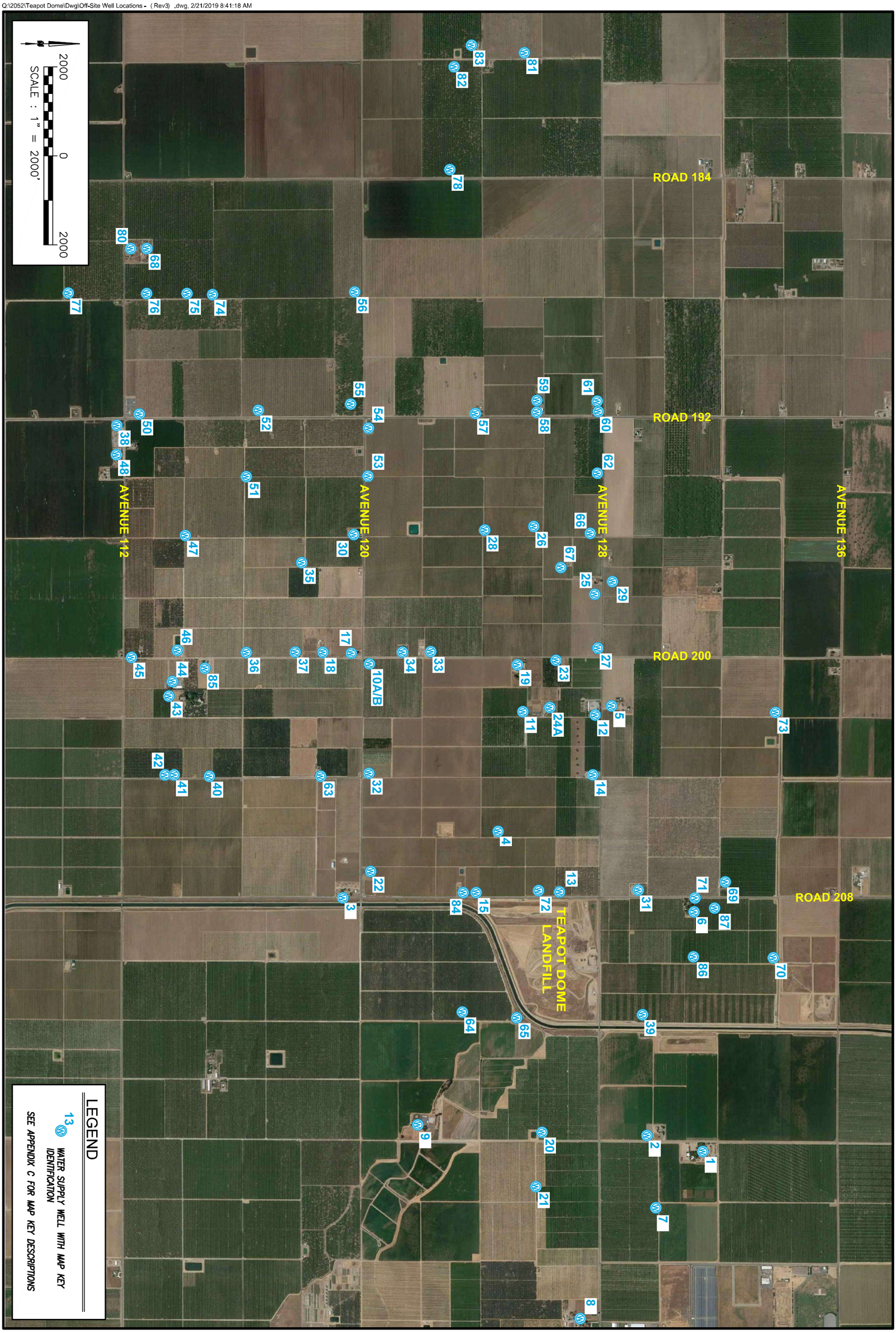
SITE MAP

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

EBA ENGINEERING
825 SONOMA AVENUE
SUITE C
SANTA ROSA, CA 95404
TEL: (707) 544-0784

Q:\2052\Teapot Dome\Dwg\Site Map - Base Map.dwg, 8/12/2019 1:40:54 PM

Q:\2052\Teapot Dome\Dwg\Off-Site Well Locations - (Rev3) .dwg, 2/21/2019 8:41:18 AM



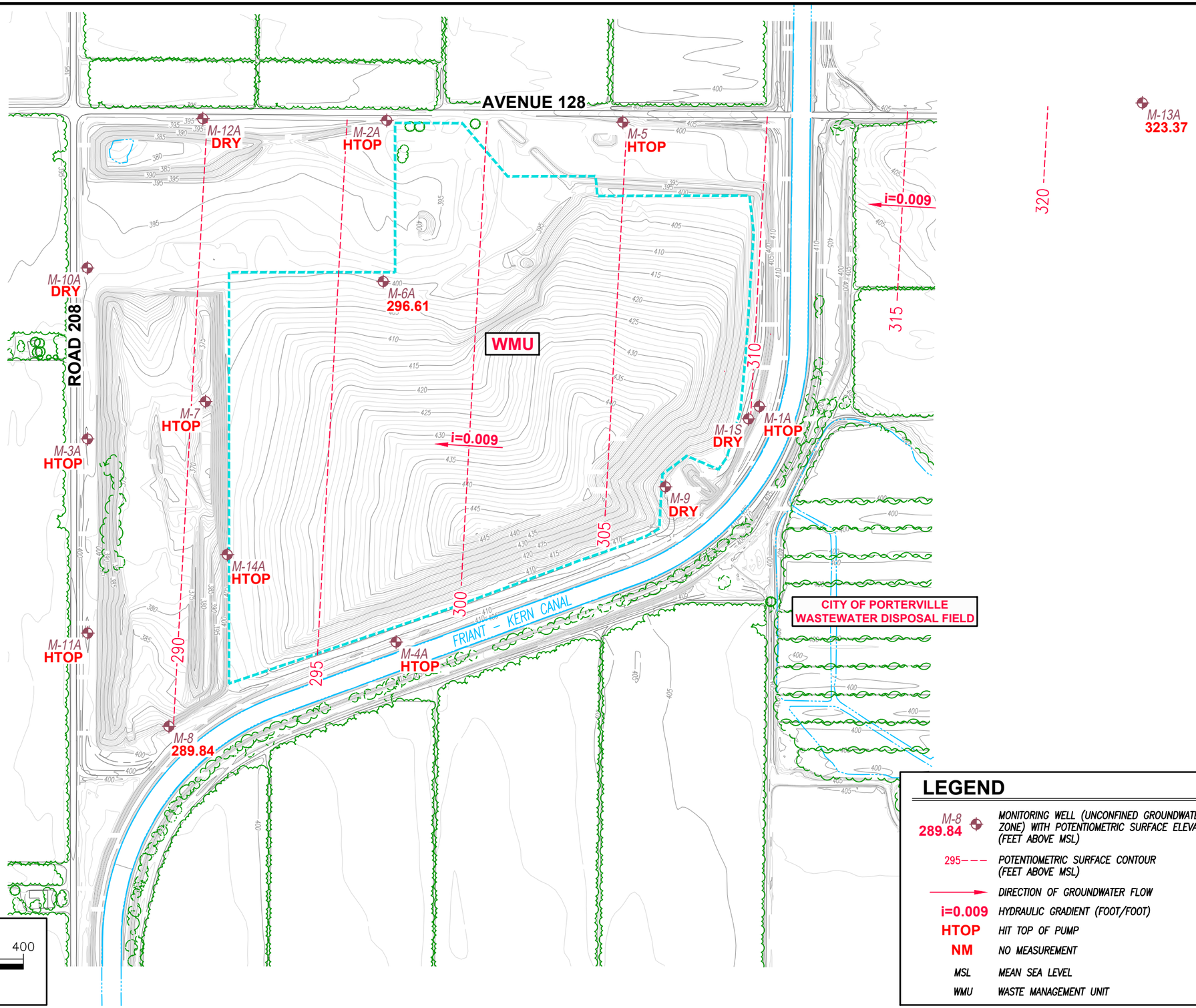
EBA ENGINEERING
825 SONOMA AVENUE
SUITE C
SANTA ROSA, CA 95404
TEL: (707) 544-0784

OFF-SITE WATER SUPPLY WELL LOCATIONS

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

FIGURE
3

14-2052



LEGEND

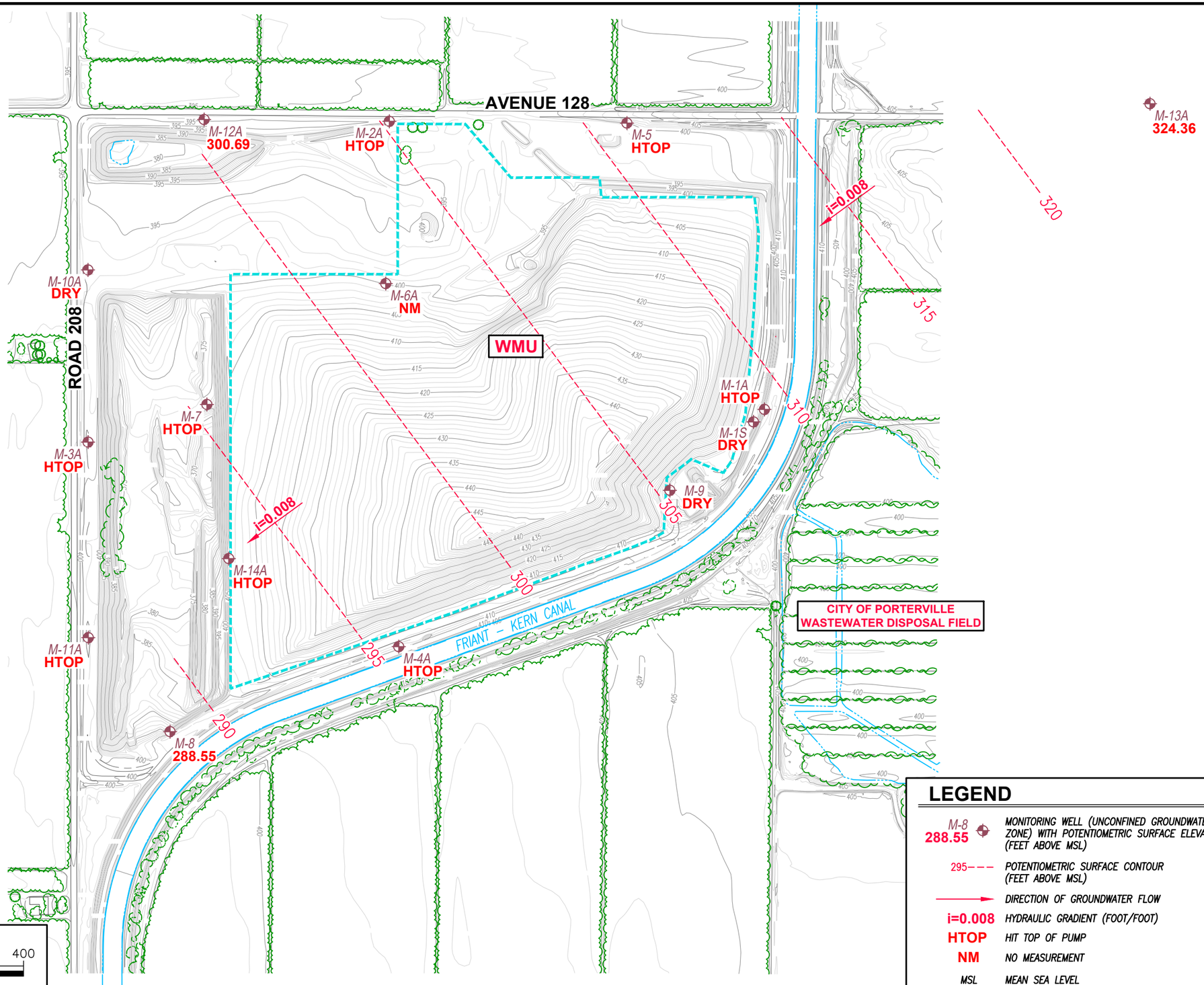
M-8 289.84	MONITORING WELL (UNCONFINED GROUNDWATER ZONE) WITH POTENTIOMETRIC SURFACE ELEVATION (FEET ABOVE MSL)
295 – – –	POTENTIOMETRIC SURFACE CONTOUR (FEET ABOVE MSL)
→	DIRECTION OF GROUNDWATER FLOW
i=0.009	HYDRAULIC GRADIENT (FOOT/FOOT)
HTOP	HIT TOP OF PUMP
NM	NO MEASUREMENT
MSL	MEAN SEA LEVEL
WMU	WASTE MANAGEMENT UNIT

FIGURE
4
14–2052

GROUNDWATER POTIOMETRIC SURFACE MAP
JULY 13, 2020 (UNCONFINED GROUNDWATER ZONE)

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

EBA ENGINEERING
825 SONOMA AVENUE
SUITE C
SANTA ROSA, CA 95404
TEL: (707) 544-0784



400 0 400

SCALE : 1" = 400'

LEGEND

M-8 288.55	MONITORING WELL (UNCONFINED GROUNDWATER ZONE) WITH POTENTIOMETRIC SURFACE ELEVATION (FEET ABOVE MSL)
295 – – –	POTENTIOMETRIC SURFACE CONTOUR (FEET ABOVE MSL)
→	DIRECTION OF GROUNDWATER FLOW
i=0.008	HYDRAULIC GRADIENT (FOOT/FOOT)
HTOP	HIT TOP OF PUMP
NM	NO MEASUREMENT
MSL	MEAN SEA LEVEL
WMU	WASTE MANAGEMENT UNIT

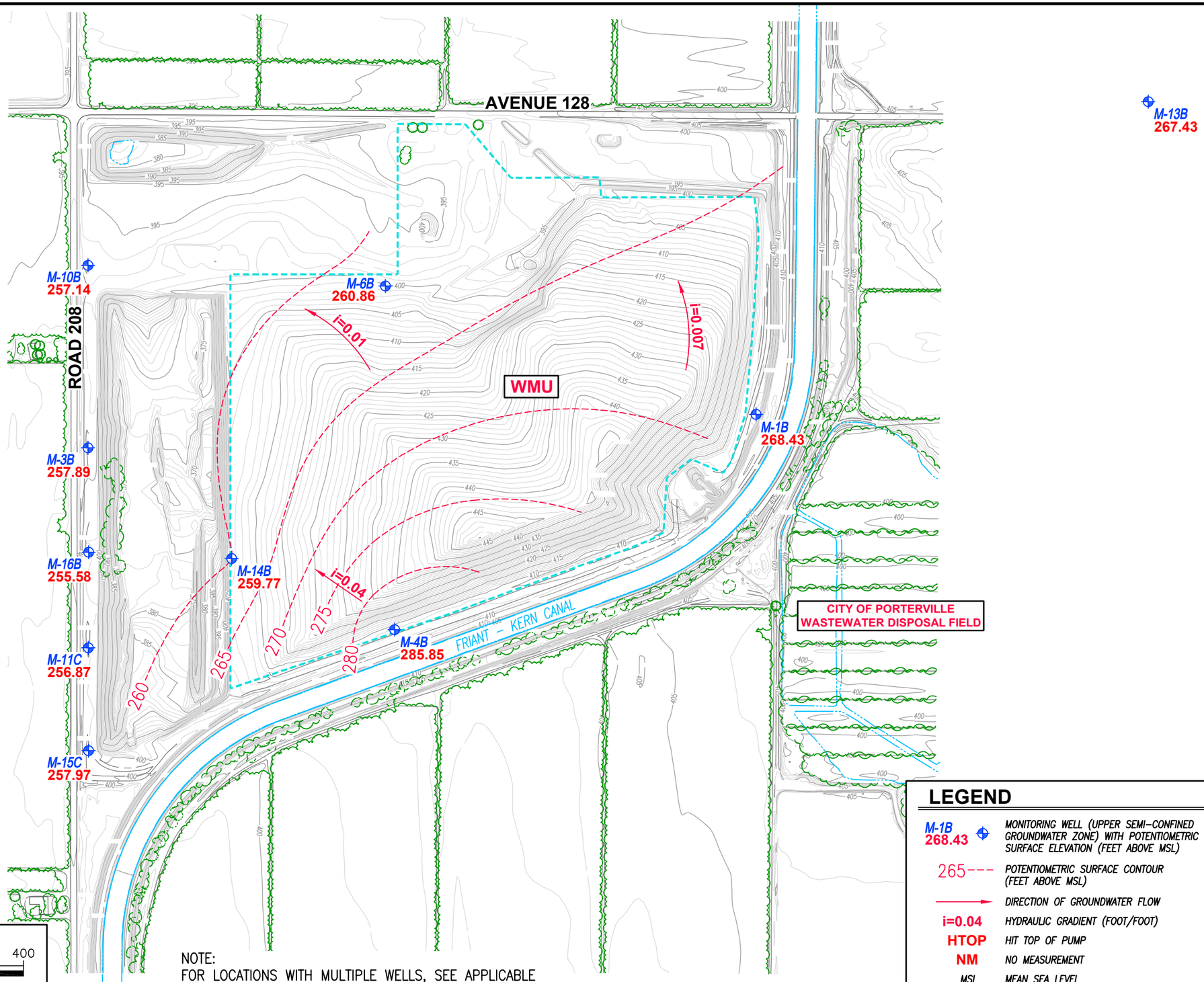
FIGURE 5

14–2052

GROUNDWATER POTIOMETRIC SURFACE MAP
OCTOBER 16, 2020 (UNCONFINED GROUNDWATER ZONE)

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

EBA ENGINEERING
825 SONOMA AVENUE
SUITE C
SANTA ROSA, CA 95404
TEL: (707) 544–0784



400 0 400

SCALE : 1" = 400'

NOTE:
FOR LOCATIONS WITH MULTIPLE WELLS, SEE APPLICABLE TABLE IN APPENDIX C–3 TO MATCH ELEVATION TO CORRESPONDING WELL.

LEGEND

M-1B 268.43	MONITORING WELL (UPPER SEMI–CONFINED GROUNDWATER ZONE) WITH POTENTIOMETRIC SURFACE ELEVATION (FEET ABOVE MSL)
265---	POTENTIOMETRIC SURFACE CONTOUR (FEET ABOVE MSL)
→	DIRECTION OF GROUNDWATER FLOW
i=0.04	HYDRAULIC GRADIENT (FOOT/FOOT)
HTOP	HIT TOP OF PUMP
NM	NO MEASUREMENT
MSL	MEAN SEA LEVEL
WMU	WASTE MANAGEMENT UNIT

FIGURE 6

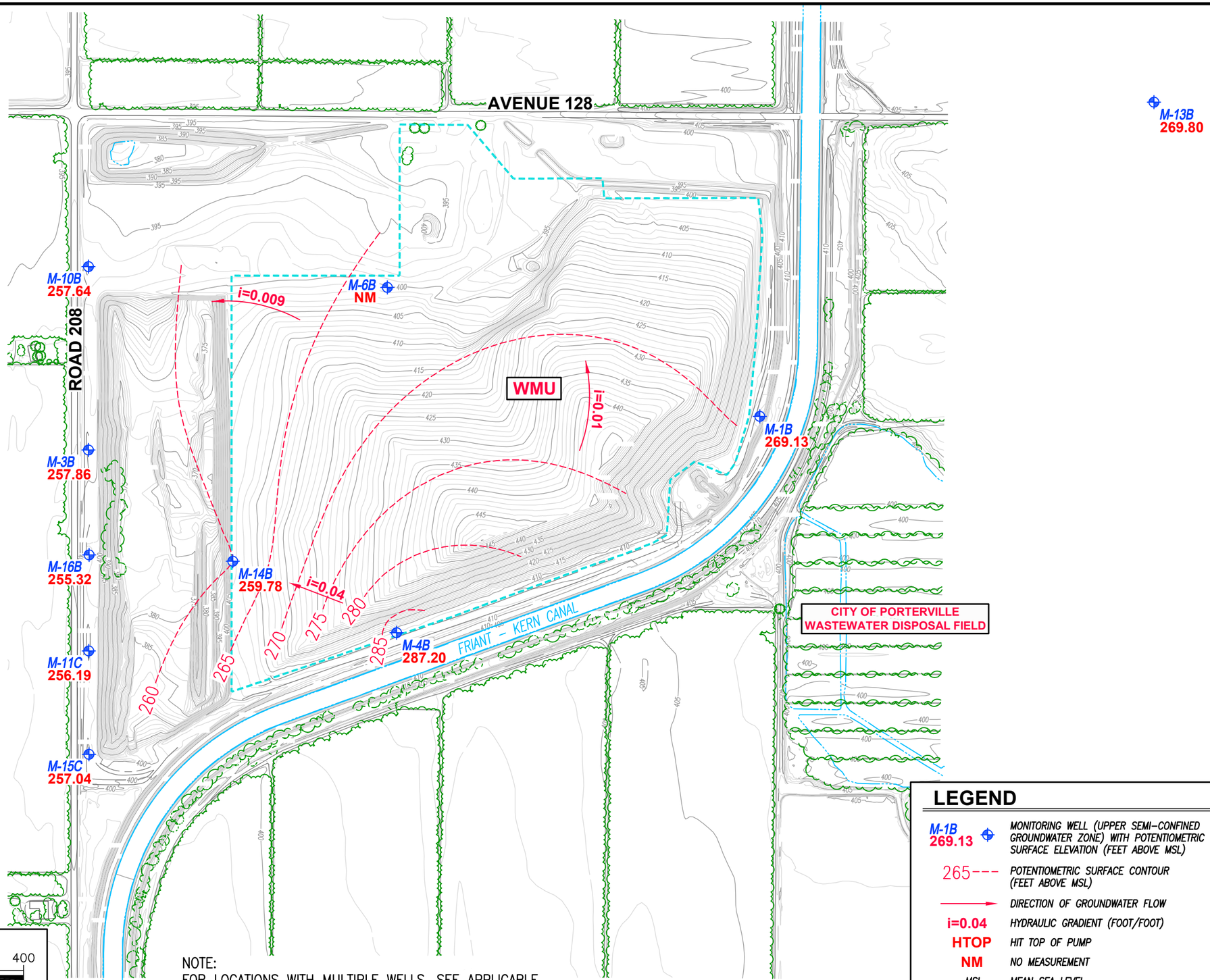
14–2052

GROUNDWATER POTENTIOMETRIC SURFACE MAP
JULY 13, 2020 (UPPER SEMI-CONFINED GROUNDWATER ZONE)

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

EBA ENGINEERING
825 SONOMA AVENUE
SUITE C
SANTA ROSA, CA 95404
TEL: (707) 544–0784

O:\2052\Teapot Dome\Dwg\Fig.6 - PSM - Semi Confined - 7-13-2020 - (Rev.2).dwg, 2/9/2021 2:08:24 PM, Microsoft Print to PDF



400 0 400

SCALE : 1" = 400'

NOTE:
FOR LOCATIONS WITH MULTIPLE WELLS, SEE APPLICABLE TABLE IN APPENDIX C–3 TO MATCH ELEVATION TO CORRESPONDING WELL.

LEGEND

M-1B 269.13	MONITORING WELL (UPPER SEMI–CONFINED GROUNDWATER ZONE) WITH POTENTIOMETRIC SURFACE ELEVATION (FEET ABOVE MSL)
265---	POTENTIOMETRIC SURFACE CONTOUR (FEET ABOVE MSL)
→	DIRECTION OF GROUNDWATER FLOW
i=0.04	HYDRAULIC GRADIENT (FOOT/FOOT)
HTOP	HIT TOP OF PUMP
NM	NO MEASUREMENT
MSL	MEAN SEA LEVEL
WMU	WASTE MANAGEMENT UNIT

FIGURE 7

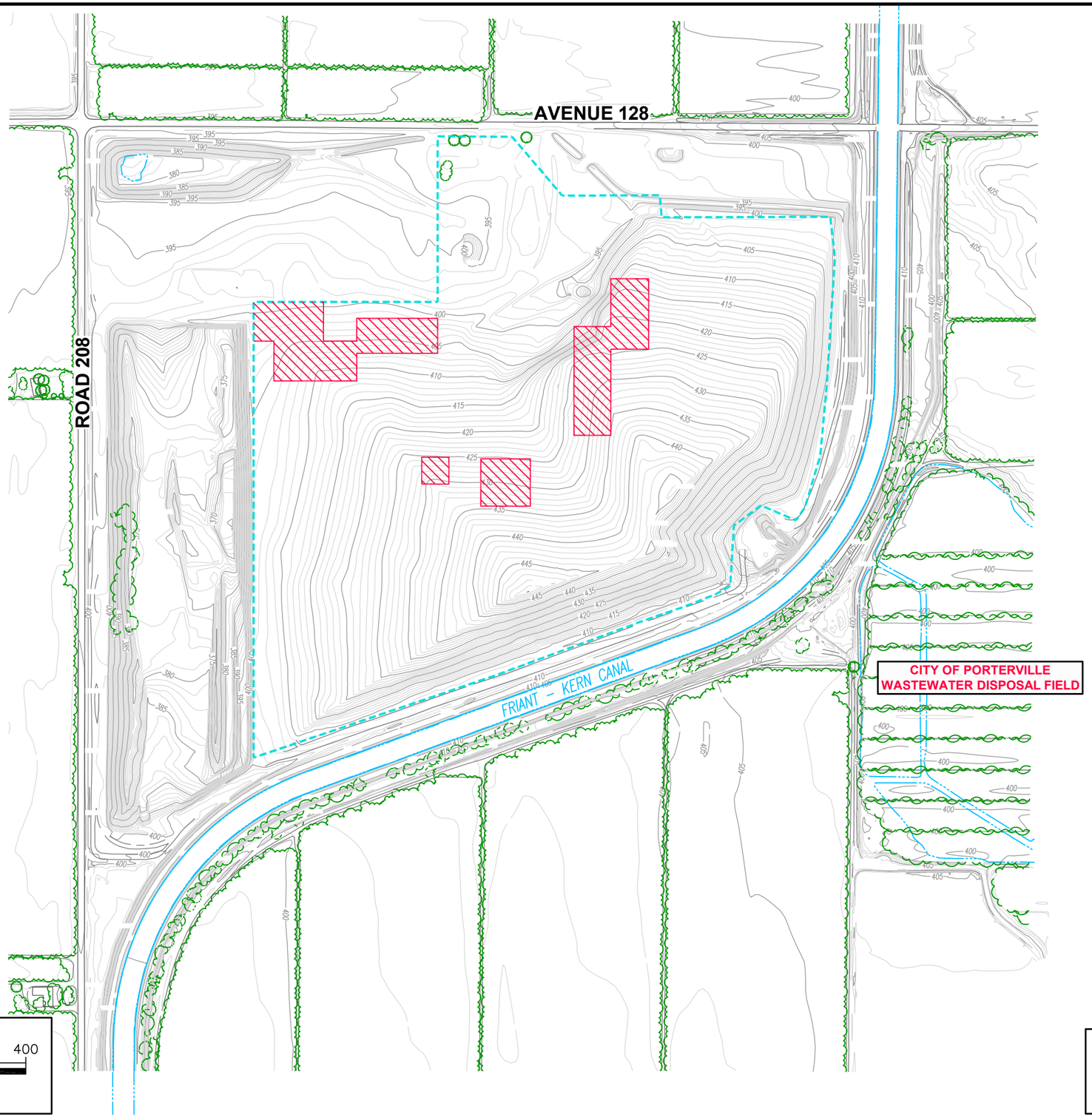
14–2052

GROUNDWATER POTENTIOMETRIC SURFACE MAP
OCTOBER 16, 2020 (UPPER SEMI-CONFINED GROUNDWATER ZONE)

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

EBA ENGINEERING
825 SONOMA AVENUE
SUITE C
SANTA ROSA, CA 95404
TEL: (707) 544–0784

O:\2052\Teapot Dome\Dwg\Fig.7 - PSM - Semi Confined - 10-16-2020 - (Rev.2).dwg, 2/9/2021 2:16:57 PM, Microsoft Print to PDF



400 0 400
SCALE : 1" = 400'

LEGEND

WASTE MANAGEMENT UNIT BOUNDARY

WMU WASTE MANAGEMENT UNIT

FIGURE
8
14–2052

AREAS OF WASTE PLACEMENT
2020 CALENDAR YEAR

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

EBA ENGINEERING
825 SONOMA AVENUE
SUITE C
SANTA ROSA, CA 95404
TEL: (707) 544–0784

O:\2052\Teapot Dome\Dwg\Fig 8 - Areas of Waste Placement 2020 Calendar Year - (Rev. 1).dwg, 2/10/2021 12:03:04 AM, Microsoft Print to PDF

APPENDIX B

STANDARD MONITORING PROTOCOLS

TULARE COUNTY SOLID WASTE DISPOSAL SITES
GROUNDWATER MONITORING PROTOCOL

MONITORING WELL SAMPLING PROGRAM

Monitoring wells located at each solid waste disposal site will be sampled for chemical constituents on a semi-annual or quarterly basis. After the monitoring wells have been developed and purged, groundwater samples will be collected from each monitoring well. Only those wells with extractable amounts of water will be purged and sampled, as determined by the project manager.

WATER LEVEL MEASUREMENT

Water level elevations will be measured for the entire site monthly and/or once before any sampling event takes place at a site. Water level measurements will be observed with reference to the elevation of wellheads using an electronic sounder. Measurements will be made to the nearest 0.01-foot. The sounder will be rinsed with commercially available deionized water between measurements to prevent contamination between monitoring wells. Measurements are taken relative to a surveyed point marked at the top of the guard casing, and recorded on the "Monthly/Quarterly Groundwater monitoring" forms.

MONITORING WELL PRE-SAMPLE PURGING AND SAMPLING

Groundwater monitoring wells are purged prior to collecting samples ("pre-sample purging") in order to obtain representative samples of the groundwater surrounding the well. Pre-sample purging involves removal of the water inside the well casing and/or dedicated pump and tubing to allow fresh water to enter. Field measurement of water quality parameters will be monitored for each well casing volume or more frequently during purging and recorded on a "Water Sampling Record" sheet along with purging time intervals and the purging method used. Measurement of water quality parameters in the field will be performed on a portion of groundwater separate from that to be analyzed by the laboratory. Measurement of turbidity will be accomplished by using a "Hach 2100P Turbidometer". Measurement of specific conductance, pH, temperature, dissolved oxygen and oxidation reduction potential will be accomplished by using a "YSI 6-Series Multi-parameter Water Quality Monitor" with a flow cell.

LOW FLOW PRE-SAMPLE PURGE METHOD

This method of pre-sample purging is only appropriate in monitoring wells with dedicated bladder pump installations.

Pre-sample purging using this method will remove a volume of water sufficient to allow turbidity, temperature, specific conductance, pH, dissolved oxygen (DO), and oxidation reduction potential (ORP) of groundwater to attain stabilized values, but will not be less than the volume of water contained in the dedicated pump bladder and the associated discharge tubing. Parameters should be recorded every 3 minutes or more frequently, depending on the flow rate and purge volume required. The US Environmental Protection Agency recommended stabilization criteria for three (3) successive readings are:

pH:	+/- 0.1	Conductivity:	+/- 3%	ORP:	+/- 10 mV
DO:	+/- 10%	Turbidity:	+/- 10%		

The major difference using this method vs. the three volume method is that the well is pumped at a much slower flow rate (<0.5 liter/minute) with minimal drawdown of the water level in the well (<0.30 feet) as recommended by the Environmental Protection Agency.

Excessive drawdown of the well (>0.30 feet) is an indication that stagnant water from the upper well casing is mixing with formation water in the screened interval of the well. Low flow purging has the advantage of minimizing mixing between the overlying stagnant casing water and water within the screened interval. Drawdown of the well will be monitored frequently with an electronic water level meter and the pump flow rate adjusted to maintain as close to a constant water level in the well as possible. Maintaining the water level in the well combined with a low flow rate of pumping ensures that water being removed from the formation near the pump intake has not mixed with stagnant water in the well casing above.

If the water column in the well is disturbed by excessive drawdown or removal and reinstallation of the pump because of malfunction, the water column will be considered mixed. If the pump was removed and reinstalled, the well shall be

pumped aggressively until water quality parameters have stabilized to remove upper column water from around the pump intake and inside the pump and tubing. Sampling of the well will be postponed for a minimum of 24 hours. This will allow time for the water column to equilibrate again with the water in the adjacent formation.

When two independent samples are to be collected in one day from the same well, the second set of samples will be collected by purging again after the first sample is collected. The water quality parameters (pH, EC, temperature, ORP, DO and turbidity) will again be monitored for stabilization. The second purged volume will not be less than the initial purge volume.

Calibration of field meters will be performed as described in the appropriate equipment manufacturer's manuals and a record maintained.

Sampling equipment constructed of stainless steel or PVC and Teflon will be used for purging and sampling each monitoring well. Dedicated or portable bladder pumps with a Teflon lined discharges or a bailer will be used to collect groundwater samples for chemical analysis at a State of California, Department of Health Services approved laboratory. An air compressor or compressed nitrogen tanks will be used to supply air or nitrogen to the bladder pumps. For monitoring wells that do not have a dedicated bladder pump, a portable bladder pump or submersible air drive pump in combination with a bailer may be used for purging and bailing samples for analysis. The portable air drive pump will not be used for collecting samples to be analyzed for volatile organic analysis. When water samples are bailed, a clean Teflon, stainless steel or PVC bailer will be used to collect samples. To ensure sample integrity and prevent cross contamination of samples, non-dedicated equipment and re-usable bailers will be decontaminated after sampling and purging is completed at each well by washing with Liquonox and rinsing with water from a known contaminant-free source of supply.

THREE VOLUME MINIMUM PRE-SAMPLE PURGE METHOD

Pre-sample purging using this method will remove a volume of water sufficient to allow turbidity, temperature, specific conductance, pH, dissolved oxygen (DO), and oxidation reduction potential (ORP) of groundwater to attain approximately constant values, but will not be less than three (3) well casing volumes. When two independent samples are collected in one day from the same well, the second set of samples will be collected by purging again after the first sample is collected until water quality parameters (pH, EC, temperature, ORP, DO, and turbidity) again stabilize. The second purged well casing volume will not be less than the initial pre-sample purging. Calibration of field meters will be performed as described in the appropriate equipment manufacturer's manuals and a record maintained.

LABORATORY SAMPLE CONTAINER PREPARATION

One week prior to the sampling event, notice shall be given to the laboratory performing the analyses. The laboratory shall provide Chain of Custody forms; container labels, the appropriate number and type of sample containers, field blanks with laboratory prepared organic free water and prepared fresh trip blanks as required for each sampling event. Each sample container shall be prepared by the laboratory for the analysis required. If sample preservatives are necessary, they shall be added to the empty container(s) at the laboratory. Sample containers provided by the laboratory will be checked and verified upon receipt at County of Tulare offices for the correct number of containers and preservatives for the analyses required. The containers shall be received from the laboratory in sealed ice chests.

WATER SAMPLE COLLECTION, STORAGE AND TRANSPORTATION

Non-dedicated wells will be sampled in order from the least contaminated well to the most contaminated well to avoid cross contamination. When groundwater samples are obtained using a bailer, volatile organic analysis samples will be collected first.

Groundwater samples for general mineral constituents and trace metals analysis will be collected in appropriately preserved polyethylene containers. Samples for semi-volatile organic analysis will be collected in amber glass containers with Teflon lined screw top caps. Volatile organic analysis samples will be collected in 40 ml. glass vials with screw top caps and Teflon lined septum lids.

Samples collected for trace metals analysis will be filtered through a disposable 0.45 µm filter when samples are collected. Volatile organic analysis samples will be collected by filling each vial with a slow, steady stream of groundwater from the bailer, portable bladder pump or dedicated bladder pump discharge, to avoid aeration of the sample. Each vial for volatile organic analysis will be filled until a meniscus is formed at the top, capped, lightly tapped and checked to make sure there is no headspace and any air bubbles have been eliminated. Other sample containers will be filled as full as possible (without overfilling preserved containers) to minimize headspace.
A travel blank, laboratory prepared organic free water and containers needed to pour field blanks will be supplied by the laboratory and accompany each volatile organic analysis sample. Travel blanks and field blanks will be designated as such on the Chain-of-Custody and container labels.

Field blanks are collected from laboratory prepared organic free water, which is poured into a laboratory prepared sample container at the time and place of volatile organic analysis sample collection. Each well location will have a field blank poured when a volatile organic analysis sample is collected. Travel blanks are laboratory prepared organic free water which is added to a preserved sample container in the laboratory, stored with the other volatile organic analysis sample containers and "travels" with the sample containers until they are returned to the laboratory.

Each sample container and field blank filled will be labeled as to location, date, monitoring well number, analysis required, personnel collecting the sample and if necessary, designated as a blank and what type. Filled and labeled sample containers and blanks will be placed immediately on ice and cooled to a maximum temperature of four (4) degrees Celsius in a sealed cooler for storage and transportation to the laboratory.

Samples will be relinquished to the laboratory within twenty two (22) hours of collection along with a properly completed Chain-of-Custody. Chain-of-Custody records include: sample type, location, date, job number, sample identification number, number of containers, analyses required, personnel collecting samples, and preservatives added.

LABORATORY ANALYSIS

Laboratory analysis of all samples will be performed by a California State Department of Health Services laboratory certified for each specific method of analysis and constituent requested. Analysis of each sample analyte will be performed by the laboratory within established Environmental Protection Agency holding times. Methods of analysis will be consistent with the requirements of the Regional Water Quality Control Board for each constituent analyzed.

APPENDIX C

GROUNDWATER DATA PRESENTATION

APPENDIX C-1

MONITORING WELL CONSTRUCTION DETAILS

MONITORING WELL
CONSTRUCTION DETAILS

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Well Number	Top of Well Guard Elevation (feet MSL)	Depth of Well (feet BTOWG)	Well Bottom Elevation (feet MSL)	Casing Diameter (inches)	Dedicated Pump	Pump Length (inches)
M-1A	411.86	100.33	311.53	2	YES	40
M-1S	398.82	57.02	341.80	2	YES	40
M-1B	400.42	160.52	239.90	4	YES	40
M-1C	399.06	198.56	200.50	4	YES	40
M-2A	397.46	92.05	305.41	2	YES	40
M-3A	402.81	95.47	307.34	2	YES	40
M-3B	403.07	149.77	253.30	4	YES	40
M-3C	403.29	217.79	185.50	4	YES	40
M-4A	410.65	100.20	310.45	2	YES	40
M-4B	410.04	127.50	282.54	2	NO	N/A
M-5	402.36	102.35	300.01	2	YES	40
M-6A	402.25	112.41	289.84	2	YES	40
M-6B	403.77	161.67	242.10	4	YES	40
M-7	377.79	86.09	291.70	2	YES	40
M-8	401.22	123.10	278.12	2	YES	40
M-9	401.24	94.30	306.94	2	NO	N/A
M-10A	398.61	102.81	295.80	2	NO	N/A
M-10B	398.76	163.65	235.11	4	YES	40
M-10C	398.74	207.24	191.50	4	YES	40
M-11A	404.17	99.17	305.00	2	YES	40
M-11C	404.50	207.30	197.20	4	YES	40
M-12A	397.56	99.76	297.80	2	NO	N/A
M-13A	410.14	92.10	318.04	2	YES	40
M-13B	410.13	154.98	255.15	4	YES	40
M-13C	410.13	211.04	199.09	4	YES	40
M-14A	409.26	107.66	301.60	2	YES	40
M-14B	410.19	179.69	230.50	4	YES	40
M-15C	403.87	216.97	186.90	4	YES	40
M-16B	404.42	180.52	223.90	4	YES	40

MSL: Mean Sea Level
BTOWG: Below Top of Well Guard
N/A: Not Applicable

APPENDIX C-2

FIELD SAMPLING DATA SHEETS

FIELD RECORD OF DEPTH-TO-WATER MEASUREMENTS

Project Name: Teapot Dome - R5-2014-0021

Sounding Event: 2nd Quarter Sounding

Sounding Date: 7/13/2020 Sounder's Name: Amanda Trice / Joe Clark

Tulare County Solid Waste Dept.

Sounding Time: 0900

Well Number	Top of Well Guard Elevation (feet MSL)	Depth of Well (feet BTOWG)	Well Bottom Elevation (feet MSL)	Casing Diameter (inches)	Dedicated Pump	Pump Length (inches)	Trigger Level (feet BTOWG)	Depth to Water (feet BTOWG)
M-1A	411.86	100.33	311.53	2	YES	40	71.86	H-Top
M-1S	398.82	57.02	341.80	2	YES	40	58.82	Dry
M-1B	400.42	160.52	239.90	4	YES	40	--	132.99
M-1C	399.06	198.56	200.50	4	YES	40	--	131.78
M-2A	397.46	92.05	305.41	2	YES	40	--	HTOP
M-3A	402.81	95.47	307.34	2	YES	40	--	HTOP
M-3B	403.07	149.77	253.30	4	YES	40	--	145.18
M-3C	403.29	217.79	185.50	4	YES	40	--	145.71
M-4A	410.65	100.20	310.45	2	YES	40	--	HTOP
? M-4B	410.04	127.50	282.54	2	NO	N/A	--	124.19
M-5	402.36	102.35	300.01	2	YES	40	--	HTOP
M-6A	402.25	112.41	289.84	2	YES	40	--	105.64
M-6B	403.77	161.67	242.10	4	YES	40	--	142.91
M-7	377.79	86.09	291.70	2	YES	40	--	HTOP
? M-8	401.22	123.10	278.12	2	YES	40	--	111.38
M-9	401.24	94.30	306.94	2	NO	N/A	61.24	Dry
M-10A	398.61	102.81	295.80	2	NO	N/A	--	Dry
M-10B	398.76	163.65	235.11	4	YES	40	--	141.62
M-10C	398.74	207.24	191.50	4	YES	40	--	141.68
M-11A	404.17	99.17	305.00	2	YES	40	--	HTOP
M-11C	404.50	207.30	197.20	4	YES	40	--	147.63
M-12A	397.56	99.76	297.80	2	NO	N/A	--	Dry
M-13A	410.14	92.10	318.04	2	YES	40	--	86.97
M-13B	410.13	154.98	255.15	4	YES	40	--	142.70
M-13C	410.13	211.04	199.09	4	YES	40	--	142.01
M-14A	409.26	107.66	301.60	2	YES	40	--	HTOP
M-14B	410.19	179.69	230.50	4	YES	40	--	150.42
M-15C	403.87	216.97	186.90	4	YES	40	--	145.90
M-16B	404.42	180.52	223.90	4	YES	40	--	148.84

If depth-to-water is above Trigger Levels on the indicated wells notify Tulare County immediately.

MSL: Mean Sea Level

BTOWG: Below Top of Well Guard

FIELD RECORD OF WATER SAMPLING

Project Name: Teapot Dome - R5-2014-0021

Sampling Event: 2nd Semi Annual sampling 2020

Sampler's Name: Joe Clark

Well Identification No.: MW-103

Moore Twining Project No.: E94401.03

Sampling Date: 7/14/2020

Sampling Method: discharge hose

Casing Diameter: 4"

Depth of Well (ft. bgs): 15.00

Depth to Water (ft): ~~51.75~~ 90.36

Water Column: 4.64

One Casing Volume: 3.03

Three Casing Volumes: 9.10

Time	Purge Volume (gal)	Temp (°C)	pH	ORP (mV)	EC (µmohs/cm)	DO (mg/L)	Turbidity (NTU)	Comments (appearance, odor...)
								Begin Purge
0923	0							
0924	3	21.25	6.85	180	1340	8.88	0.77	Clear no odor
0925	6	21.90	7.15	212	1410	10.36	0.62	
0926	9	20.65	7.38	244	1420	11.74	0.69	

Total Purge Volume (Gallons): 9

Total Purge Time (min.): 3

Purge Volume Measurement: 5 - Gallon Bucket

Purge Rate (Gal./Min.): 3

Conversion Factors: 2" = 0.164 gal/ft; 4" = 0.654 gal/ft; 5" = 1.02 gal/ft

Sample Containers:
- 1 - 1L non preserve
- 1 - 1L NaOH/ZnAc
- 1 - 250ml non preserve
- 1 - 250ml NaOH
- 3 - VOA HCl + 1 VOA HCl (for Field Blank)
- 3 - VOA H_3PO_4

Measured Parameter	Instrument Used	Notes
Water Level	Solonist	
Water Quality	Horiba - U51	
Turbidity	Lamotte 2020	

Notes:

FIELD RECORD OF WATER SAMPLING

Project Name: Teapot Dome - R5-2014-0021

Sampling Event: 2nd Semi Annual sampling 2020

Well Identification No.: MW-106

Sampler's Name: Joe Clark

Sampling Date: 7/14/2020

Moore Twining Project No.: E94401.03

Sampling Method: discharge hose

Casing Diameter: 5"

Depth of Well (ft. bgs): 106.00

Depth to Water (ft): 68.93

Water Column: 37.07

One Casing Volume: 37.81

Three Casing Volumes: 113.43

Time	Purge Volume (gal)	Temp (°C)	pH	ORP (mV)	EC (µmohs/cm)	DO (mg/L)	Turbidity (NTU)	Comments (appearance, odor...)
								Begin Purge
0834	0							clear no odor
0837	30	20.38	6.14	144	981	8.01	1.21	
0840	60	20.43	6.40	134	991	8.06	0.75	
0843	90	20.45	6.44	131	992	7.73	0.49	
0846	120	20.45	6.54	134	991	9.37	0.54	

Total Purge Volume (Gallons): 120

Total Purge Time (min.): 12

Purge Volume Measurement: 5 - Gallon Bucket

Purge Rate (Gal./Min.): 10

Conversion Factors: 2" = 0.164 gal/ft 4" = 0.654 gal/ft 5" = 1.02 gal/ft

Sample Containers:
- 1 - 1L non preserve
- 1 - 1L NaOH/ZnAc
- 1 - 250ml non preserve
- 1 - 250ml NaOH
- 3 - VOA HCl + 1 VOA HCl (for Field Blank)
- 3 - VOA H_3PO_4

Measured Parameter	Instrument Used	Notes
Water Level	Solonist	
Water Quality	Horiba - U51	
Turbidity	Lamotte 2020	

Notes:

FIELD RECORD OF WATER SAMPLING

Project Name: Teapot Dome - R5-2014-0021

Sampling Event: 2nd Semi Annual sampling 2020

Well Identification No.: MW-107

Sampler's Name: Joe Clark

Sampling Date: 7/14/2020

Moore Twining Project No.: E94401.03

Sampling Method: discharge hose

Casing Diameter: 5"

Depth of Well (ft. bgs): 91.30

Depth to Water (ft): 51.75

Water Column: 39.55

One Casing Volume: 40.34

Three Casing Volumes: 121.02

Time	Purge Volume (gal)	Temp (°C)	pH	ORP (mV)	EC (µmohs/cm)	DO (mg/L)	Turbidity (NTU)	Comments (appearance, odor...)
								Begin Purge
0805	0							
0810	32	19.88	5.93	86	873	5.70	0.90	Clear no odor
0815	64	19.85	5.79	112	874	5.28	0.82	
0820	96	19.75	5.72	122	876	5.47	0.73	
0825	128	19.77	5.71	131	875	5.49	0.71	

Total Purge Volume (Gallons): 128

Total Purge Time (min.): 20

Purge Volume Measurement: 5 - Gallon Bucket

Purge Rate (Gal./Min.): 6.4

Conversion Factors: 2" = 0.164 gal/ft 4" = 0.654 gal/ft 5" = 1.02 gal/ft

Sample Containers:
- 1 - 1L non preserve
- 1 - 1L NaOH/ZnAc
- 1 - 250ml non preserve
- 1 - 250ml NaOH
- 3 - VOA HCl + 1 VOA HCl (for Field Blank)
- 3 - VOA H_3PO_4

Measured Parameter	Instrument Used	Notes
Water Level	Solonist	
Water Quality	Horiba - U51	
Turbidity	Lamotte 2020	

Notes:

FIELD RECORD OF WATER SAMPLING

Project Name: Teapot Dome - R5-2014-0021

Sampling Event: 2nd Semi Annual sampling 2020

Well Identification No.: MW-109

Sampler's Name: Joe Clark

Sampling Date: 7/14/2020

Moore Twining Project No.: E94401.03

Sampling Method: discharge hose

Casing Diameter: 5"

Depth of Well (ft. bgs): 99.00

Depth to Water (ft): 58.62

Water Column: 39.38

One Casing Volume: 40.17

Three Casing Volumes: 120.50

Time	Purge Volume (gal)	Temp (°C)	pH	ORP (mV)	EC (µmohs/cm)	DO (mg/L)	Turbidity (NTU)	Comments (appearance, odor...)
								Begin Purge
0858	0							
0901	32	22.41	6.71	145	901	7.27	0.49	Clear no odor
0904	64	22.63	6.68	146	896	7.19	0.20	
0907	96	22.46	6.68	146	903	7.63	0.68	
0910	128	22.64	6.62	145	902	7.17	0.77	

Total Purge Volume (Gallons): 128

Total Purge Time (min.): 12

Purge Volume Measurement: 5 - Gallon Bucket

Purge Rate (Gal./Min.): 10.67

Conversion Factors: 2" = 0.164 gal/ft 4" = 0.654 gal/ft 5" = 1.02 gal/ft

Sample Containers:
- 1 - 1L non preserve
- 1 - 1L NaOH/ZnAc
- 1 - 250ml non preserve
- 1 - 250ml NaOH
- 3 - VOA HCl + 1 VOA HCl (for Field Blank)
- 3 - VOA H_3PO_4

Measured Parameter	Instrument Used	Notes
Water Level	Solonist	
Water Quality	Horiba - U51	
Turbidity	Lamotte 2020	

Notes:

FIELD RECORD OF WATER SAMPLING
Low Flow Purging and Sampling

Project Name: Teapot Dome - WDR Order No. R5-2014-0021

Sampling Event: 2nd Semi-Annual sampling 2020

Well Identification No.: M-1B

Sampler's Name: Joe Clark

Sampling Date: 7/15/2020

Moore Twining Project No.: E94401.03

Depth to Water (ft - well guard): 132.99

Casing Diameter (in): 4"

Pump Tubing (I.D. - in): 3/8"

Depth of Well (ft): 160.52

Pump Location (ft): 158.52

Pump Tubing Vol. (L): 3.49

Time	Depth to Water (ft)	Purge Volume (Liters)	Temp (°C)	pH	ORP (mV)	EC (µS/cm)	DO (mg/L)	Turbidity (NTU)	Comments (appearance, odor...)
									start purge
0801	132.99	0							
0810	133.01	3	21.04	6.19	152	916	11.09	0.19	Clear no odor
0813		4	20.83	6.14	165	994	10.34	1.34	
0816		5	20.82	6.17	170	1010	9.94	0.24	
0818		6	20.82	6.18	173	1020	9.77	1.09	
Stabilization Criteria	<0.30 feet	<0.5 L/min or 0.13 gal/min	+/- 3%	+/- 0.1 pH units	+/- 10 mV	+/- 3%	+/- 10% or less than 0.5 mg/L	+/- 10% or less than 5 NTUs	

Total Purge Volume (L): 6

Total Purge Time (min.): 17

Purge Rate (L/Min.): 353 mL/min

Pump Settings:

pressure (PSI): 90

discharge (seconds): 20

fill (seconds): 40

Sample Containers:
- 1 - 1L non preserve
- 1 - 1L NaOH/ZnAc
- 1 - 250ml non preserve
- 1 - 125ml NaOH
- 3 - VOA HCl + 1 VOA HCl (for Field Blank)
- 3 - VOA H_3PO_4

Conversion Factors:

1/4 in = 0.010 L/ft

3/8 in = 0.022 L/ft

1/2 in = 0.039 L/ft

2 in = 0.618 L/ft

4 in = 2.471 L/ft

1 gal = 3.785 L

% difference =

((value at time *b* / value at time *a*) -1) x 100

Measured Parameter	Instrument Used	Notes
Water Level	Solonist	
Water Quality	Horiba - U51	
Turbidity	Lamotte 2020	

Purge Equipment	Equipment Used	Notes
Pump Controller	Micro Purge MP-10	
Air Source	nitrogen	

If water level draw down exceeds 0.30 ft, use the following formula to calculate additional purge volume:

(initial water lavel - stable water level) x conversion factor for well casing diameter _____

pump tubing volume + _____

volume purged before stable waer level + _____

total additional purge volume after water level stabilization = _____

Notes:

FIELD RECORD OF WATER SAMPLING
Low Flow Purging and Sampling

Project Name: Teapot Dome - WDR Order No. R5-2014-0021

Sampling Event: 2nd Semi-Annual sampling 2020

Well Identification No.: M-3B

Sampler's Name: Joe Clark

Sampling Date: 7/17/2020

Moore Twining Project No.: E94401.03

Depth to Water (ft - well guard): 145.18

Casing Diameter (in): 4"

Pump Tubing (I.D. - in): 3/8"

Depth of Well (ft): 149.77

Pump Location (ft): 147.77

Pump Tubing Vol. (L): 3.25

Time	Depth to Water (ft)	Purge Volume (Liters)	Temp (°C)	pH	ORP (mV)	EC (µS/cm)	DO (mg/L)	Turbidity (NTU)	Comments (appearance, odor...)
1045	145.18	0							start purge
1100	no	Water	produced						
			NO	Sample					
Stabilization Criteria	<0.30 feet	<0.5 L/min or 0.13 gal/min	+/- 3%	+/- 0.1 pH units	+/- 10 mV	+/- 3%	+/- 10% or less than 0.5 mg/L	+/- 10% or less than 5 NTUs	

Total Purge Volume (L): _____ Total Purge Time (min.): _____ Purge Rate (L/Min.): _____

Pump Settings:

pressure (PSI): ~~75~~ ~~100~~ 75-110 discharge (seconds): ~~100~~ 10 fill (seconds): 20

Sample Containers:
- 1 - 1L non preserve
- 1 - 1L NaOH/ZnAc
- 1 - 250ml non preserve
- 1 - 125ml NaOH
- 3 - VOA HCl + 1 VOA HCl (for Field Blank)
- 3 - VOA H_3PO_4

Conversion Factors:

1/4 in = 0.010 L/ft	2 in = 0.618 L/ft
3/8 in = 0.022 L/ft	4 in = 2.471 L/ft
1/2 in = 0.039 L/ft	1 gal = 3.785 L

% difference =

((value at time *b* / value at time *a*) -1) x 100

Measured Parameter	Instrument Used	Notes
Water Level	Solonist	
Water Quality	Horiba - U51	
Turbidity	Lamotte 2020	

Purge Equipment	Equipment Used	Notes
Pump Controller	Micro Purge MP-10	
Air Source	nitrogen	

If water level draw down exceeds 0.30 ft, use the following formula to calculate additional purge volume:

(initial water lavel - stable water level) x conversion factor for well casing diameter _____

pump tubing volume + _____

volume purged before stable waer level + _____

total additional purge volume after water level stabilization = _____

Notes: _____

FIELD RECORD OF WATER SAMPLING
Low Flow Purging and Sampling

Project Name: Teapot Dome - WDR Order No. R5-2014-0021

Sampling Event: 2nd Semi-Annual sampling 2020

Well Identification No.: M-3C

Sampler's Name: Joe Clark

Sampling Date: 7/17/2020

Moore Twining Project No.: E94401.03

Depth to Water (ft - well guard): 145.71

Casing Diameter (in): 4"

Pump Tubing (I.D. - in): 3/8"

Depth of Well (ft): 217.79

Pump Location (ft): 215.79

Pump Tubing Vol. (L): ~~46~~ 4.75

Time	Depth to Water (ft)	Purge Volume (Liters)	Temp (°C)	pH	ORP (mV)	EC (µS/cm)	DO (mg/L)	Turbidity (NTU)	Comments (appearance, odor...)
1103	145.71	0							start purge
1108	145.87	0	water reached surface						
1119		5	22.97	7.15	213	885	9.44	0.88	clear no odor
1121		6	23.19	7.18	213	884	9.29	0.69	
1123		7	23.12	7.21	213	883	9.18	0.47	
Stabilization Criteria	<0.30 feet	<0.5 L/min or 0.13 gal/min	+/- 3%	+/- 0.1 pH units	+/- 10 mV	+/- 3%	+/- 10% or less than 0.5 mg/L	+/- 10% or less than 5 NTUs	

Total Purge Volume (L): 7

Total Purge Time (min.): 15

Purge Rate (L/Min.): 467 mL/min

Pump Settings:

pressure (PSI): 110

discharge (seconds): 10

fill (seconds): 20

Sample Containers:
- 1 - 1L non preserve
- 1 - 1L NaOH/ZnAc
- 1 - 250ml non preserve
- 1 - 125ml NaOH
- 3 - VOA HCl + 1 VOA HCl (for Field Blank)
- 3 - VOA H_3PO_4

Conversion Factors:

1/4 in = 0.010 L/ft

3/8 in = 0.022 L/ft

1/2 in = 0.039 L/ft

2 in = 0.618 L/ft

4 in = 2.471 L/ft

1 gal = 3.785 L

% difference =

((value at time *b* / value at time *a*) -1) x 100

Measured Parameter	Instrument Used	Notes
Water Level	Solonist	
Water Quality	Horiba - U51	
Turbidity	Lamotte 2020	

Purge Equipment	Equipment Used	Notes
Pump Controller	Micro Purge MP-10	
Air Source	nitrogen	

If water level draw down exceeds 0.30 ft, use the following formula to calculate additional purge volume:

(initial water lavel - stable water level) x conversion factor for well casing diameter _____

pump tubing volume + _____

volume purged before stable waer level + _____

total additional purge volume after water level stabilization = _____

Notes:

FIELD RECORD OF WATER SAMPLING

Project Name: Teapot Dome - R5-2014-0021

Sampling Event: 2nd Semi Annual sampling 2020

Well Identification No.: M-4B

Sampler's Name: Joe Clark

Sampling Date: 7/15/2020

Moore Twining Project No.: E94401.03

Sampling Method: disposable bailer

Casing Diameter: 2"

Depth of Well (ft. bgs): 126.74

Depth to Water (ft): 124.19

Water Column: 2.55

One Casing Volume: 0.42

Three Casing Volumes: 1.25

Time	Purge Volume (gal)	Temp (°C)	pH	ORP (mV)	EC (µmohs/cm)	DO (mg/L)	Turbidity (NTU)	Comments (appearance, odor...)
								Begin Purge
0850	0							
0852	0.5	21.53	7.63	-53	414	9.88	over range	brown & cloudy
0858	0.9 ~~1.0~~							Dry
	~~1.25~~							
7/17/20								
0805								Sampled

Total Purge Volume (Gallons): 0.9

Total Purge Time (min.): 8

Purge Volume Measurement: 5 - Gallon Bucket

Purge Rate (Gal./Min.): 0.11

Conversion Factors: 2" = 0.164 gal/ft 4" = 0.654 gal/ft 5" = 1.02 gal/ft

Sample Containers:
- 1 - 1L non preserve
- 1 - 1L NaOH/ZnAc
- 1 - 250ml non preserve
- 1 - 250ml NaOH
- 3 - VOA HCl + 1 VOA HCl (for Field Blank)
- 3 - VOA H_3PO_4

Measured Parameter	Instrument Used	Notes
Water Level	Solonist	
Water Quality	Horiba - U51	
Turbidity	Lamotte 2020	

Notes: 7/15/20 1520, well recovered to 124.91', less than 80% recovery & not enough water in well to sample yet. return another day to collect sample

7/17/20 0805 well fully recovered, sample collected

FIELD RECORD OF WATER SAMPLING
Low Flow Purging and Sampling

Project Name: Teapot Dome - WDR Order No. R5-2014-0021

Sampling Event: 2nd Semi-Annual sampling 2020

Well Identification No.: M-6A

Sampler's Name: Joe Clark

Sampling Date: 7/15/2020

Moore Twining Project No.: E94401.03

Depth to Water (ft - well guard): 105.64

Casing Diameter (in): 2"

Pump Tubing (I.D. - in): 3/8"

Depth of Well (ft): 112.41

Pump Location (ft): 110.41

Pump Tubing Vol. (L): 2.43

Time	Depth to Water (ft)	Purge Volume (Liters)	Temp (°C)	pH	ORP (mV)	EC (µS/cm)	DO (mg/L)	Turbidity (NTU)	Comments (appearance, odor...)
1100	105.64	0							start purge
1106		2	25.13	7.12	103	432	5.77	0.67	Clear no odor
1108		3	24.59	7.10	83	922	3.06	0.71	
1110		4	24.28	7.11	88	922	2.63	0.74	
1112		5	24.07	7.15	94	919	2.57	0.73	
1114		6	24.04	7.18	97	918	2.58	0.72	
Stabilization Criteria	<0.30 feet	<0.5 L/min or 0.13 gal/min	+/- 3%	+/- 0.1 pH units	+/- 10 mV	+/- 3%	+/- 10% or less than 0.5 mg/L	+/- 10% or less than 5 NTUs	

Total Purge Volume (L): 6

Total Purge Time (min.): 14

Purge Rate (L/Min.): 428 ml/min

Pump Settings:

pressure (PSI): 60

discharge (seconds): 8

fill (seconds): 22

Sample Containers:
- 1 - 1L non preserve
- 1 - 1L NaOH/ZnAc
- 1 - 250ml non preserve
- 1 - 125ml NaOH
- 3 - VOA HCl + 1 VOA HCl (for Field Blank)
- 3 - VOA H_3PO_4

Conversion Factors:

1/4 in = 0.010 L/ft

3/8 in = 0.022 L/ft

1/2 in = 0.039 L/ft

2 in = 0.618 L/ft

4 in = 2.471 L/ft

1 gal = 3.785 L

% difference =

((value at time *b* / value at time *a*) -1) x 100

Measured Parameter	Instrument Used	Notes
Water Level	Solonist	
Water Quality	Horiba - U51	
Turbidity	Lamotte 2020	

Purge Equipment	Equipment Used	Notes
Pump Controller	Micro Purge MP-10	
Air Source	nitrogen	

If water level draw down exceeds 0.30 ft, use the following formula to calculate additional purge volume:

(initial water lavel - stable water level) x conversion factor for well casing diameter _____

pump tubing volume + _____

volume purged before stable waer level + _____

total additional purge volume after water level stabilization = _____

Notes: _____

FIELD RECORD OF WATER SAMPLING
Low Flow Purging and Sampling

Project Name: Teapot Dome - WDR Order No. R5-2014-0021

Sampling Event: 2nd Semi-Annual sampling 2020

Well Identification No.: M-613 | Sampler's Name: Joe Clark

Sampling Date: 7/15/2020 | Moore Twining Project No.: E94401.03

Depth to Water (ft - well guard): 142.91 | Casing Diameter (in): 4" | Pump Tubing (I.D. - in): 3/8"

Depth of Well (ft): 161.67 | Pump Location (ft): 159.0 | Pump Tubing Vol. (L): 3.5l

Time	Depth to Water (ft)	Purge Volume (Liters)	Temp (°C)	pH	ORP (mV)	EC (µS/cm)	DO (mg/L)	Turbidity (NTU)	Comments (appearance, odor...)
1135	142.91	0							start purge
1144		3	24.52	6.62	103	751	3.65	2.04	Clear
1146		4	23.92	6.93	99	765	4.37	1.70	
1149		5	23.73	7.22	107	759	5.10	1.80	
1200		6	25.62	7.36	144	753	5.71	1.68	
1202		7	23.70	7.35	147	747	6.50	1.36	light pink color
1203		8	23.27	7.34	149	743	6.70	1.22	light pink color
1204		9	23.07	7.32	152	739	7.04	1.39	light pink color
1205		10	22.61	7.34	154	737	7.15	1.27	light pink color
Stabilization Criteria	<0.30 feet	<0.5 L/min or 0.13 gal/min	+/- 3%	+/- 0.1 pH units	+/- 10 mV	+/- 3%	+/- 10% or less than 0.5 mg/L	+/- 10% or less than 5 NTUs	

Total Purge Volume (L): 10 | Total Purge Time (min.): 23 | Purge Rate (L/Min.): 435 mL/min

Pump Settings:

pressure (PSI): 80 | discharge (seconds): 8 | fill (seconds): 22

Sample Containers:
- 1 - 1L non preserve
- 1 - 1L NaOH/ZnAc
- 1 - 250ml non preserve
- 1 - 125ml NaOH
- 3 - VOA HCl + 1 VOA HCl (for Field Blank)
- 3 - VOA H_3PO_4

Conversion Factors:

1/4 in = 0.010 L/ft | 2 in = 0.618 L/ft

3/8 in = 0.022 L/ft | 4 in = 2.471 L/ft

1/2 in = 0.039 L/ft | 1 gal = 3.785 L

% difference =

((value at time *b* / value at time *a*) -1) x 100

Measured Parameter	Instrument Used	Notes
Water Level	Solonist	
Water Quality	Horiba - U51	
Turbidity	Lamotte 2020	

Purge Equipment	Equipment Used	Notes
Pump Controller	Micro Purge MP-10	
Air Source	nitrogen	

If water level draw down exceeds 0.30 ft, use the following formula to calculate additional purge volume:

(initial water lavel - stable water level) x conversion factor for well casing diameter _____

pump tubing volume + _____

volume purged before stable waer level + _____

total additional purge volume after water level stabilization = _____

Notes: 1152 5.5 L purged, Nitrogen tank ran out 1159, purge restarted

not stable, sampled after 10L

FIELD RECORD OF WATER SAMPLING
Low Flow Purging and Sampling

Project Name: Teapot Dome - WDR Order No. R5-2014-0021

Sampling Event: 2nd Semi-Annual sampling 2020

Well Identification No.: M-8 | Sampler's Name: Joe Clark

Sampling Date: 7/17/2020 | Moore Twining Project No.: E94401.03

Depth to Water (ft - well guard): 111.38 | Casing Diameter (in): 2" | Pump Tubing (I.D. - in): 3/8"

Depth of Well (ft): 123.10 | Pump Location (ft): 121.80 | Pump Tubing Vol. (L): 2.6

Time	Depth to Water (ft)	Purge Volume (Liters)	Temp (°C)	pH	ORP (mV)	EC (µS/cm)	DO (mg/L)	Turbidity (NTU)	Comments (appearance, odor...)
0924	111.38	0							start purge
0938	11.53	2	22.39	6.05	227	125	10.16	0.79	clear no odor
0943		3	22.02	5.92	240	109	10.12	0.71	
0949		4	21.74	5.93	252	098	9.88	3.58	
0956		5	21.69	6.17	262	95	9.49	2.10	
1000		6	21.70	6.28	268	95	9.48	0.85	
1004		7	21.78	6.39	280	95	9.38	0.48	
1009		8	21.76	6.43	268	95	9.33	0.39	
1015		9	21.81	6.48	277	95	8.57	0.30	
Stabilization Criteria	<0.30 feet	<0.5 L/min or 0.13 gal/min	+/- 3%	+/- 0.1 pH units	+/- 10 mV	+/- 3%	+/- 10% or less than 0.5 mg/L	+/- 10% or less than 5 NTUs	

Total Purge Volume (L): 9 | Total Purge Time (min.): 51 | Purge Rate (L/Min.): 176 mL/min

Pump Settings:

pressure (PSI): 65 | discharge (seconds): 7 | fill (seconds): 53

Sample Containers:
- 1 - 1L non preserve
- 1 - 1L NaOH/ZnAc
- 1 - 250ml non preserve
- 1 - 125ml NaOH
- 3 - VOA HCl + 1 VOA HCl (for Field Blank)
- 3 - VOA H_3PO_4

Conversion Factors:

1/4 in = 0.010 L/ft | 2 in = 0.618 L/ft

3/8 in = 0.022 L/ft | 4 in = 2.471 L/ft

1/2 in = 0.039 L/ft | 1 gal = 3.785 L

% difference =

((value at time *b* / value at time *a*) -1) x 100

Measured Parameter	Instrument Used	Notes
Water Level	Solonist	
Water Quality	Horiba - U51	
Turbidity	Lamotte 2020	

Purge Equipment	Equipment Used	Notes
Pump Controller	Micro Purge MP-10	
Air Source	nitrogen	

If water level draw down exceeds 0.30 ft, use the following formula to calculate additional purge volume:

(initial water lavel - stable water level) x conversion factor for well casing diameter _____

pump tubing volume + _____

volume purged before stable waer level + _____

total additional purge volume after water level stabilization = _____

Notes:

FIELD RECORD OF WATER SAMPLING
Low Flow Purging and Sampling

Project Name: Teapot Dome - WDR Order No. R5-2014-0021

Sampling Event: 2nd Semi-Annual sampling 2020

Well Identification No.: M-10B

Sampler's Name: Joe Clark

Sampling Date: 7/17/2020

Moore Twining Project No.: E94401.03

Depth to Water (ft - well guard): 141.62

Casing Diameter (in): 4"

Pump Tubing (I.D. - in): 3/8"

Depth of Well (ft): 163.65

Pump Location (ft): 161.65

Pump Tubing Vol. (L): 3.56

Time	Depth to Water (ft)	Purge Volume (Liters)	Temp (°C)	pH	ORP (mV)	EC (µS/cm)	DO (mg/L)	Turbidity (NTU)	Comments (appearance, odor...)
1151	141.62	0							start purge
1156	141.65	0	water reached surface						
1209		4	23.66	7.73	218	772	9.54	4.78	Clear no odor
1212		5	22.[illegible]	7.75	223	772	9.79	1.21	
1215		6	22.92	7.76	226	772	9.58	0.93	
Stabilization Criteria	<0.30 feet	<0.5 L/min or 0.13 gal/min	+/- 3%	+/- 0.1 pH units	+/- 10 mV	+/- 3%	+/- 10% or less than 0.5 mg/L	+/- 10% or less than 5 NTUs	

Total Purge Volume (L): 6

Total Purge Time (min.): 24

Purge Rate (L/Min.): 250 mL/min

Pump Settings:

pressure (PSI): 90

discharge (seconds): 8

fill (seconds): 22

Sample Containers:
- 1 - 1L non preserve
- 1 - 1L NaOH/ZnAc
- 1 - 250ml non preserve
- 1 - 125ml NaOH
- 3 - VOA HCl + 1 VOA HCl (for Field Blank)
- 3 - VOA H_3PO_4

Conversion Factors:

1/4 in = 0.010 L/ft

3/8 in = 0.022 L/ft

1/2 in = 0.039 L/ft

2 in = 0.618 L/ft

4 in = 2.471 L/ft

1 gal = 3.785 L

% difference =

((value at time *b* / value at time *a*) -1) x 100

Measured Parameter	Instrument Used	Notes
Water Level	Solonist	
Water Quality	Horiba - U51	
Turbidity	Lamotte 2020	

Purge Equipment	Equipment Used	Notes
Pump Controller	Micro Purge MP-10	
Air Source	nitrogen	

If water level draw down exceeds 0.30 ft, use the following formula to calculate additional purge volume:

(initial water lavel - stable water level) x conversion factor for well casing diameter _____

pump tubing volume + _____

volume purged before stable waer level + _____

total additional purge volume after water level stabilization = _____

Notes:

FIELD RECORD OF WATER SAMPLING
Low Flow Purging and Sampling

Project Name: Teapot Dome - WDR Order No. R5-2014-0021

Sampling Event: 2nd Semi-Annual sampling 2020

Well Identification No.: M-11C

Sampler's Name: Joe Clark

Sampling Date: 7/15/2020

Moore Twining Project No.: E94401.03

Depth to Water (ft - well guard): 147.63

Casing Diameter (in): 4

Pump Tubing (I.D. - in): 3/8"

Depth of Well (ft): 207.30

Pump Location (ft): 205.30

Pump Tubing Vol. (L): 4.52

Time	Depth to Water (ft)	Purge Volume (Liters)	Temp (°C)	pH	ORP (mV)	EC (µS/cm)	DO (mg/L)	Turbidity (NTU)	Comments (appearance, odor...)
0946	147.63	0							start purge
0956	147.68	—				water	reached	Surface	—
1013		5	21.99	7.40	134	961	7.70	0.57	Clear mod
1016		6	21.97	7.42	136	961	7.59	0.25	
1018		7	21.97	7.43	137	962	7.42	0.66	
Stabilization Criteria	<0.30 feet	<0.5 L/min or 0.13 gal/min	+/- 3%	+/- 0.1 pH units	+/- 10 mV	+/- 3%	+/- 10% or less than 0.5 mg/L	+/- 10% or less than 5 NTUs	

Total Purge Volume (L): 7

Total Purge Time (min.): 22

Purge Rate (L/Min.): 389 ml/min

Pump Settings:

pressure (PSI): 105

discharge (seconds): 15

fill (seconds): 45

Sample Containers:
- 1 - 1L non preserve
- 1 - 1L NaOH/ZnAc
- 1 - 250ml non preserve
- 1 - 125ml NaOH
- 3 - VOA HCl + 1 VOA HCl (for Field Blank)
- 3 - VOA H_3PO_4

Conversion Factors:

1/4 in = 0.010 L/ft

3/8 in = 0.022 L/ft

1/2 in = 0.039 L/ft

2 in = 0.618 L/ft

4 in = 2.471 L/ft

1 gal = 3.785 L

% difference =

((value at time *b* / value at time *a*) -1) x 100

Measured Parameter	Instrument Used	Notes
Water Level	Solonist	
Water Quality	Horiba - U51	
Turbidity	Lamotte 2020	

Purge Equipment	Equipment Used	Notes
Pump Controller	Micro Purge MP-10	
Air Source	nitrogen	

If water level draw down exceeds 0.30 ft, use the following formula to calculate additional purge volume:

(initial water lavel - stable water level) x conversion factor for well casing diameter _____

pump tubing volume + _____

volume purged before stable waer level + _____

total additional purge volume after water level stabilization = _____

Notes:

FIELD RECORD OF WATER SAMPLING
Low Flow Purging and Sampling

Project Name: Teapot Dome - WDR Order No. R5-2014-0021

Sampling Event: 2nd Semi-Annual sampling 2020

Well Identification No.: M-13A

Sampler's Name: Joe Clark

Sampling Date: 7/14/2020

Moore Twining Project No.: E94401.03

Depth to Water (ft - well guard): 86.77

Casing Diameter (in): 2"

Pump Tubing (I.D. - in): 3/8"

Depth of Well (ft): 92.10

Pump Location (ft): 90.10

Pump Tubing Vol. (L): 1.98

Time	Depth to Water (ft)	Purge Volume (Liters)	Temp (°C)	pH	ORP (mV)	EC (µS/cm)	DO (mg/L)	Turbidity (NTU)	Comments (appearance, odor...)
0952	86.77	0							start purge
0956		2	21.68	7.05	134	1400	7.53	1.42	Clear no odor
0958		3	21.20	7.04	140	1490	6.87	1.46	
1000		4	21.05	7.06	144	1500	6.57	1.57	
1002		5	20.94	7.08	148	1500	6.54	1.01	
Stabilization Criteria	<0.30 feet	<0.5 L/min or 0.13 gal/min	+/- 3%	+/- 0.1 pH units	+/- 10 mV	+/- 3%	+/- 10% or less than 0.5 mg/L	+/- 10% or less than 5 NTUs	

Total Purge Volume (L): 5

Total Purge Time (min.): 10

Purge Rate (L/Min.): 500mL/min

Pump Settings:

pressure (PSI): 50

discharge (seconds): 5

fill (seconds): 10

Sample Containers:
- 1 - 1L non preserve
- 1 - 1L NaOH/ZnAc
- 1 - 250ml non preserve
- 1 - 125ml NaOH
- 3 - VOA HCl + 1 VOA HCl (for Field Blank)
- 3 - VOA H_3PO_4

Conversion Factors:

1/4 in = 0.010 L/ft

3/8 in = 0.022 L/ft

1/2 in = 0.039 L/ft

2 in = 0.618 L/ft

4 in = 2.471 L/ft

1 gal = 3.785 L

% difference =

((value at time *b* / value at time *a*) -1) x 100

Measured Parameter	Instrument Used	Notes
Water Level	Solonist	
Water Quality	Horiba - U51	
Turbidity	Lamotte 2020	

Purge Equipment	Equipment Used	Notes
Pump Controller	Micro Purge MP-10	
Air Source	nitrogen	

If water level draw down exceeds 0.30 ft, use the following formula to calculate additional purge volume:

(initial water lavel - stable water level) x conversion factor for well casing diameter _____

pump tubing volume + _____

volume purged before stable waer level + _____

total additional purge volume after water level stabilization = _____

Notes:

FIELD RECORD OF WATER SAMPLING
Low Flow Purging and Sampling

Project Name: Teapot Dome - WDR Order No. R5-2014-0021

Sampling Event: 2nd Semi-Annual sampling 2020

Well Identification No.: M-13B

Sampler's Name: Joe Clark

Sampling Date: 7/14/2020

Moore Twining Project No.: E94401.03

Depth to Water (ft - well guard): 142.70

Casing Diameter (in): 4"

Pump Tubing (I.D. - in): 3/8"

Depth of Well (ft): 154.98

Pump Location (ft): 152.98

Pump Tubing Vol. (L): 3.37

Time	Depth to Water (ft)	Purge Volume (Liters)	Temp (°C)	pH	ORP (mV)	EC (µS/cm)	DO (mg/L)	Turbidity (NTU)	Comments (appearance, odor...)
1018	142.70	0							start purge
1055	143.39	8	22.10	7.83	176	701	8.83	2.16	Clear no odor
1059		9	22.15	7.82	178	701	7.75	2.42	
1102		10	22.14	7.83	180	701	7.47	3.72	
1107		11	22.14	7.83	182	700	7.46	2.38	
Stabilization Criteria	<0.30 feet	<0.5 L/min or 0.13 gal/min	+/- 3%	+/- 0.1 pH units	+/- 10 mV	+/- 3%	+/- 10% or less than 0.5 mg/L	+/- 10% or less than 5 NTUs	

Total Purge Volume (L): 11

Total Purge Time (min.): 49

Purge Rate (L/Min.): 224 mL/min

Pump Settings:

pressure (PSI): 80

discharge (seconds): 10

fill (seconds): 50

Sample Containers:
- 1 - 1L non preserve
- 1 - 1L NaOH/ZnAc
- 1 - 250ml non preserve
- 1 - 125ml NaOH
- 3 - VOA HCl + 1 VOA HCl (for Field Blank)
- 3 - VOA H_3PO_4

Conversion Factors:

1/4 in = 0.010 L/ft

3/8 in = 0.022 L/ft

1/2 in = 0.039 L/ft

2 in = 0.618 L/ft

4 in = 2.471 L/ft

1 gal = 3.785 L

% difference =

((value at time *b* / value at time *a*) -1) x 100

Measured Parameter	Instrument Used	Notes
Water Level	Solonist	
Water Quality	Horiba - U51	
Turbidity	Lamotte 2020	

Purge Equipment	Equipment Used	Notes
Pump Controller	Micro Purge MP-10	
Air Source	nitrogen	

If water level draw down exceeds 0.30 ft, use the following formula to calculate additional purge volume:

(initial water lavel - stable water level) x conversion factor for well casing diameter: 0.69 x 2.471

pump tubing volume +: 3.37

volume purged before stable waer level +: 3.0

total additional purge volume after water level stabilization =: 5.07

Notes:

FIELD RECORD OF WATER SAMPLING
Low Flow Purging and Sampling

Project Name: Teapot Dome - WDR Order No. R5-2014-0021

Sampling Event: 2nd Semi-Annual sampling 2020

Well Identification No.: M-14B

Sampler's Name: Joe Clark

Sampling Date: 7/15/2020

Moore Twining Project No.: E94401.03

Depth to Water (ft - well guard): 150.42

Casing Diameter (in): 4"

Pump Tubing (I.D. - in): 3/8"

Depth of Well (ft): 179.69

Pump Location (ft): 177.69

Pump Tubing Vol. (L): 3.91

Time	Depth to Water (ft)	Purge Volume (Liters)	Temp (°C)	pH	ORP (mV)	EC (µS/cm)	DO (mg/L)	Turbidity (NTU)	Comments (appearance, odor...)
1236	150.42	0							start purge
1245		no	water		product				
Stabilization Criteria	<0.30 feet	<0.5 L/min or 0.13 gal/min	+/- 3%	+/- 0.1 pH units	+/- 10 mV	+/- 3%	+/- 10% or less than 0.5 mg/L	+/- 10% or less than 5 NTUs	

Total Purge Volume (L) _____ Total Purge Time (min.) _____ Purge Rate (L/Min.) _____

Pump Settings:

pressure (PSI): 90 discharge (seconds): 10 fill (seconds): 20

Sample Containers:
- 1 - 1L non preserve
- 1 - 1L NaOH/ZnAc
- 1 - 250ml non preserve
- 1 - 125ml NaOH
- 3 - VOA HCl + 1 VOA HCl (for Field Blank)
- 3 - VOA H_3PO_4

Conversion Factors:

1/4 in = 0.010 L/ft
3/8 in = 0.022 L/ft
1/2 in = 0.039 L/ft
2 in = 0.618 L/ft
4 in = 2.471 L/ft
1 gal = 3.785 L

% difference =
((value at time *b* / value at time *a*) -1) x 100

Measured Parameter	Instrument Used	Notes
Water Level	Solonist	
Water Quality	Horiba - U51	
Turbidity	Lamotte 2020	

Purge Equipment	Equipment Used	Notes
Pump Controller	Micro Purge MP-10	
Air Source	nitrogen	

If water level draw down exceeds 0.30 ft, use the following formula to calculate additional purge volume:

(initial water lavel - stable water level) x conversion factor for well casing diameter _____

pump tubing volume + _____

volume purged before stable waer level + _____

total additional purge volume after water level stabilization = _____

Notes: no water, pump pulled, water in air line, pump replaced, Quick connect leaking?

FIELD RECORD OF WATER SAMPLING
Low Flow Purging and Sampling

Project Name: Teapot Dome - WDR Order No. R5-2014-0021

Sampling Event: 2nd Semi-Annual sampling 2020

Well Identification No.: M-14B

Sampler's Name: Joe Clark

Sampling Date: 7/17/2020

Moore Twining Project No.: E94401.03

Depth to Water (ft - well guard): 150.42

Casing Diameter (in): 4"

Pump Tubing (I.D. - in): 3/8"

Depth of Well (ft): 177.69

Pump Location (ft): 177.69

Pump Tubing Vol. (L): 3.91

Time	Depth to Water (ft)	Purge Volume (Liters)	Temp (°C)	pH	ORP (mV)	EC (µS/cm)	DO (mg/L)	Turbidity (NTU)	Comments (appearance, odor...)
0836	150.42	0							start purge
0842	water	reaches	Surface						
0851		4	23.92	6.63	184	896	9.67	0.19	Clear no odor
0853		5	23.83	6.62	192	896	9.61	0.56	
0854		6	23.79	6.61	198	900	9.55	0.48	
0856		7	23.74	6.61	200	895	9.52	0.37	
Stabilization Criteria	<0.30 feet	<0.5 L/min or 0.13 gal/min	+/- 3%	+/- 0.1 pH units	+/- 10 mV	+/- 3%	+/- 10% or less than 0.5 mg/L	+/- 10% or less than 5 NTUs	

Total Purge Volume (L): 7

Total Purge Time (min.): 14

Purge Rate (L/Min.): 500 mL/min

Pump Settings:

pressure (PSI): 90

discharge (seconds): 10

fill (seconds): 20

Sample Containers:
- 1 - 1L non preserve
- 1 - 1L NaOH/ZnAc
- 1 - 250ml non preserve
- 1 - 125ml NaOH
- 3 - VOA HCl + 1 VOA HCl (for Field Blank)
- 3 - VOA H_3PO_4

Conversion Factors:

1/4 in = 0.010 L/ft

3/8 in = 0.022 L/ft

1/2 in = 0.039 L/ft

2 in = 0.618 L/ft

4 in = 2.471 L/ft

1 gal = 3.785 L

% difference =

((value at time *b* / value at time *a*) -1) x 100

Measured Parameter	Instrument Used	Notes
Water Level	Solonist	
Water Quality	Horiba - U51	
Turbidity	Lamotte 2020	

Purge Equipment	Equipment Used	Notes
Pump Controller	Micro Purge MP-10	
Air Source	nitrogen	

If water level draw down exceeds 0.30 ft, use the following formula to calculate additional purge volume:

(initial water lavel - stable water level) x conversion factor for well casing diameter _____

pump tubing volume + _____

volume purged before stable waer level + _____

total additional purge volume after water level stabilization = _____

Notes:

FIELD RECORD OF WATER SAMPLING
Low Flow Purging and Sampling

Project Name: Teapot Dome - WDR Order No. R5-2014-0021

Sampling Event: 2nd Semi-Annual sampling 2020

Well Identification No.: M-15C

Sampler's Name: Joe Clark

Sampling Date: 7/15/2020

Moore Twining Project No.: E94401.03

Depth to Water (ft - well guard): 145.90

Casing Diameter (in): 4"

Pump Tubing (I.D. - in): 3/8"

Depth of Well (ft): 216.97

Pump Location (ft): 214.97

Pump Tubing Vol. (L): 3.93

Time	Depth to Water (ft)	Purge Volume (Liters)	Temp (°C)	pH	ORP (mV)	EC (µS/cm)	DO (mg/L)	Turbidity (NTU)	Comments (appearance, odor...)
0910	145.90	0							start purge
0917	146.27	4	20.64	7.38	95	907	7.02	1.57	Clear no odor
0920		6	20.73	7.44	90	954	4.92	1.31	
0922		7	20.73	7.47	90	959	4.84	0.40	
0923		8	20.72	7.47	90	962	4.67	0.12	
0924		9	20.74	7.48	92	962	4.54	0.10	
Stabilization Criteria	<0.30 feet	<0.5 L/min or 0.13 gal/min	+/- 3%	+/- 0.1 pH units	+/- 10 mV	+/- 3%	+/- 10% or less than 0.5 mg/L	+/- 10% or less than 5 NTUs	

Total Purge Volume (L): 9

Total Purge Time (min.): 14

Purge Rate (L/Min.): 643 mL/min

Pump Settings:

pressure (PSI): 110

discharge (seconds): 10

fill (seconds): 20

Sample Containers:
- 1 - 1L non preserve
- 1 - 1L NaOH/ZnAc
- 1 - 250ml non preserve
- 1 - 125ml NaOH
- 3 - VOA HCl + 1 VOA HCl (for Field Blank)
- 3 - VOA H_3PO_4

Conversion Factors:

1/4 in = 0.010 L/ft

3/8 in = 0.022 L/ft

1/2 in = 0.039 L/ft

2 in = 0.618 L/ft

4 in = 2.471 L/ft

1 gal = 3.785 L

% difference =

((value at time *b* / value at time *a*) -1) x 100

Measured Parameter	Instrument Used	Notes
Water Level	Solonist	
Water Quality	Horiba - U51	
Turbidity	Lamotte 2020	

Purge Equipment	Equipment Used	Notes
Pump Controller	Micro Purge MP-10	
Air Source	nitrogen	

If water level draw down exceeds 0.30 ft, use the following formula to calculate additional purge volume:

(initial water lavel - stable water level) x conversion factor for well casing diameter: 0.37 x 2.471

pump tubing volume +: 3.93

volume purged before stable waer level +: 4

total additional purge volume after water level stabilization =: 8.84

Notes:

FIELD RECORD OF WATER SAMPLING
Low Flow Purging and Sampling

Project Name: Teapot Dome - WDR Order No. R5-2014-0021

Sampling Event: 2nd Semi-Annual sampling 2020

Well Identification No.: M-16B

Sampler's Name: Joe Clark

Sampling Date: 7/15/2020

Moore Twining Project No.: E94401.03

Depth to Water (ft - well guard): 148.84

Casing Diameter (in): 4"

Pump Tubing (I.D. - in): 3/8"

Depth of Well (ft): 180.52

Pump Location (ft): 178.52

Pump Tubing Vol. (L): 3.93

Time	Depth to Water (ft)	Purge Volume (Liters)	Temp (°C)	pH	ORP (mV)	EC (µS/cm)	DO (mg/L)	Turbidity (NTU)	Comments (appearance, odor...)
1439	148.84	0							start purge
1450		4	23.17	7.49	139	873	9.58	1.96	Clear no odor
1452		5	22.77	7.47	145	873	9.78	1.25	
1454		6	22.74	7.45	149	873	9.64	1.49	
Stabilization Criteria	<0.30 feet	<0.5 L/min or 0.13 gal/min	+/- 3%	+/- 0.1 pH units	+/- 10 mV	+/- 3%	+/- 10% or less than 0.5 mg/L	+/- 10% or less than 5 NTUs	

Total Purge Volume (L): 6

Total Purge Time (min.): 15

Purge Rate (L/Min.): 400 mL/min

Pump Settings:

pressure (PSI): 110

discharge (seconds): 10

fill (seconds): 20

Sample Containers:
- 1 - 1L non preserve
- 1 - 1L NaOH/ZnAc
- 1 - 250ml non preserve
- 1 - 125ml NaOH
- 3 - VOA HCl + 1 VOA HCl (for Field Blank)
- 3 - VOA H_3PO_4

Conversion Factors:

1/4 in = 0.010 L/ft

3/8 in = 0.022 L/ft

1/2 in = 0.039 L/ft

2 in = 0.618 L/ft

4 in = 2.471 L/ft

1 gal = 3.785 L

% difference =

((value at time *b* / value at time *a*) -1) x 100

Measured Parameter	Instrument Used	Notes
Water Level	Solonist	
Water Quality	Horiba - U51	
Turbidity	Lamotte 2020	

Purge Equipment	Equipment Used	Notes
Pump Controller	Micro Purge MP-10	
Air Source	nitrogen	

If water level draw down exceeds 0.30 ft, use the following formula to calculate additional purge volume:

(initial water lavel - stable water level) x conversion factor for well casing diameter _____

pump tubing volume + _____

volume purged before stable waer level + _____

total additional purge volume after water level stabilization = _____

Notes:

FIELD RECORD OF DEPTH-TO-WATER MEASUREMENTS

Project Name: Teapot Dome - R5-2014-0021

Sounding Event: 4th Quarter Sounding

Sounding Date: 10/16/2020 Sounder's Name: Amanda Trice

Sounding Time: 1200 Tulare County Solid Waste Dept.

Well Number	Top of Well Guard Elevation (feet MSL)	Depth of Well (feet BTOWG)	Well Bottom Elevation (feet MSL)	Casing Diameter (inches)	Dedicated Pump	Pump Length (inches)	Trigger Level (feet BTOWG)	Depth to Water (feet BTOWG)
M-1A	411.86	100.33	311.53	2	YES	40	71.86	HTOP
M-1S	398.82	57.02	341.80	2	YES	40	58.82	Dry
M-1B	400.42	160.52	239.90	4	YES	40	--	132.29
M-1C	399.06	198.56	200.50	4	YES	40	--	131.13
M-2A	397.46	92.05	305.41	2	YES	40	--	HTOP
M-3A	402.81	95.47	307.34	2	YES	40	--	HTOP
M-3B	403.07	149.77	253.30	4	YES	40	--	145.21
M-3C	403.29	217.79	185.50	4	YES	40	--	145.51
M-4A	410.65	100.20	310.45	2	YES	40	--	HTOP
M-4B	410.04	127.50	282.54	2	NO	N/A	--	122.84
M-5	402.36	102.35	300.01	2	YES	40	--	HTOP
M-6A	402.25	112.41	289.84	2	YES	40	--	unable to sound due to safety concerns
M-6B	403.77	161.67	242.10	4	YES	40	--	
M-7	377.79	86.09	291.70	2	YES	40	--	HTOP
M-8	401.22	123.10	278.12	2	YES	40	--	112.67
M-9	401.24	94.30	306.94	2	NO	N/A	61.24	Dry
M-10A	398.61	102.81	295.80	2	NO	N/A	--	Dry
M-10B	398.76	163.65	235.11	4	YES	40	--	141.12
M-10C	398.74	207.24	191.50	4	YES	40	--	141.19
M-11A	404.17	99.17	305.00	2	YES	40	--	HTOP
M-11C	404.50	207.30	197.20	4	YES	40	--	148.31
M-12A	397.56	99.76	297.80	2	NO	N/A	--	96.87
M-13A	410.14	92.10	318.04	2	YES	40	--	85.78
M-13B	410.13	154.98	255.15	4	YES	40	--	140.33
M-13C	410.13	211.04	199.09	4	YES	40	--	140.43
M-14A	409.26	107.66	301.60	2	YES	40	--	HTOP
M-14B	410.19	179.69	230.50	4	YES	40	--	150.41
M-15C	403.87	216.97	186.90	4	YES	40	--	146.83
M-16B	404.42	180.52	223.90	4	YES	40	--	149.10

If depth-to-water is above Trigger Levels on the indicated wells notify Tulare County immediately.

MSL: Mean Sea Level

BTOWG: Below Top of Well Guard

APPENDIX C-3

TABULATED GROUNDWATER ELEVATION DATA

GROUNDWATER ELEVATION DATA SUMMARY
UNCONFINED GROUNDWATER ZONE MONITORING WELLS

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Date of Measurement	M-1A		M-1S		M-2A		M-3A		M-4A		M-5		M-6A		M-7	
	DTW (feet)	GW Elev. (feet MSL)	DTW (feet)	GW Elev. (feet MSL)	DTW (feet)	GW Elev. (feet MSL)	DTW (feet)	GW Elev. (feet MSL)	DTW (feet)	GW Elev. (feet MSL)	DTW (feet)	GW Elev. (feet MSL)	DTW (feet)	GW Elev. (feet MSL)	DTW (feet)	GW Elev. (feet MSL)
1/18/2016	HTOP	HTOP	53.85	344.97	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	95.63	306.73	105.73	296.63	HTOP	HTOP
4/25/2016	HTOP	HTOP	34.37	364.45	DRY	DRY	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP
7/19/2016	HTOP	HTOP	53.81	345.01	DRY	DRY	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP
10/18/2016	HTOP	HTOP	DRY	DRY	DRY	DRY	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP
1/26/2017	HTOP	HTOP	DRY	DRY	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	DRY	DRY	HTOP	HTOP	HTOP	HTOP
4/7/2017	HTOP	HTOP	DRY	DRY	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	DRY	DRY	HTOP	HTOP	HTOP	HTOP
7/11/2017	HTOP	HTOP	DRY	DRY	DRY	DRY	HTOP	HTOP	HTOP	HTOP	89.78	312.58	HTOP	HTOP	HTOP	HTOP
10/3/2017	DRY	DRY	DRY	DRY	DRY	DRY	HTOP	HTOP	DRY	DRY	85.23	317.13	DRY	DRY	HTOP	HTOP
1/15/2018	HTOP	HTOP	HTOP	HTOP	DRY	DRY	HTOP	HTOP	DRY	DRY	83.03	319.33	DRY	DRY	HTOP	HTOP
4/12/2018	HTOP	HTOP	DRY	DRY	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	87.19	315.17	NM	NM	HTOP	HTOP
7/6/2018	HTOP	HTOP	DRY	DRY	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	90.18	312.18	NM	NM	HTOP	HTOP
10/15/2018	HTOP	HTOP	DRY	DRY	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	93.89	308.47	102.63	299.73	HTOP	HTOP
1/21/2019	HTOP	HTOP	DRY	DRY	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	95.85	306.51	103.64	298.72	HTOP	HTOP
4/23/2019	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	96.44	305.92	104.54	297.82	HTOP	HTOP
7/9/2019	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	93.54	308.82	104.85	297.40	HTOP	HTOP
10/1/2019	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	93.52	308.84	104.56	297.69	HTOP	HTOP
1/22/2020	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	95.77	306.59	104.79	297.46	HTOP	HTOP
4/1/2020	HTOP	HTOP	DRY	DRY	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	96.47	305.89	105.09	297.16	HTOP	HTOP
7/13/2020	HTOP	HTOP	DRY	DRY	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	105.64	296.61	HTOP	HTOP
10/16/2020	HTOP	HTOP	DRY	DRY	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	NM	NM	HTOP	HTOP

(Continued)

DTW	Depth to Groundwater
GW Elev.:	Groundwater Elevation
MSL:	Mean Sea Level
HTOP:	Hit Top of Pump
NM:	No Measurement

GROUNDWATER ELEVATION DATA SUMMARY
UNCONFINED GROUNDWATER ZONE MONITORING WELLS

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Date of Measurement	M-8		M-9		M-10A		M-11A		M-12A		M-13A		M-14A	
	DTW (feet)	GW Elev. (feet MSL)	DTW (feet)	GW Elev. (feet MSL)	DTW (feet)	GW Elev. (feet MSL)	DTW (feet)	GW Elev. (feet MSL)	DTW (feet)	GW Elev. (feet MSL)	DTW (feet)	GW Elev. (feet MSL)	DTW (feet)	GW Elev. (feet MSL)
1/18/2016	110.09	291.13	DRY	DRY	DRY	DRY	HTOP	HTOP	DRY	DRY	HTOP	HTOP	HTOP	HTOP
4/25/2016	HTOP	HTOP	DRY	DRY	DRY	DRY	HTOP	HTOP	DRY	DRY	HTOP	HTOP	HTOP	HTOP
7/19/2016	105.09	296.13	DRY	DRY	DRY	DRY	HTOP	HTOP	DRY	DRY	HTOP	HTOP	HTOP	HTOP
10/18/2016	107.51	293.71	DRY	DRY	DRY	DRY	HTOP	HTOP	DRY	DRY	HTOP	HTOP	HTOP	HTOP
1/26/2017	HTOP	HTOP	DRY	DRY	HTOP	HTOP	HTOP	HTOP	DRY	DRY	HTOP	HTOP	HTOP	HTOP
4/7/2017	HTOP	HTOP	DRY	DRY	HTOP	HTOP	HTOP	HTOP	DRY	DRY	HTOP	HTOP	HTOP	HTOP
7/11/2017	110.42	290.80	DRY	DRY	HTOP	HTOP	HTOP	HTOP	DRY	DRY	HTOP	HTOP	HTOP	HTOP
10/3/2017	109.46	291.76	DRY	DRY	HTOP	HTOP	HTOP	HTOP	DRY	DRY	HTOP	HTOP	HTOP	HTOP
1/15/2018	HTOP	HTOP	HTOP	HTOP	DRY	DRY	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP	HTOP
4/12/2018	114.82	286.40	DRY	DRY	DRY	DRY	HTOP	HTOP	93.73	303.83	82.87	327.27	HTOP	HTOP
7/6/2018	113.93	287.29	DRY	DRY	DRY	DRY	HTOP	HTOP	95.05	302.51	84.28	325.86	HTOP	HTOP
10/15/2018	108.38	292.84	DRY	DRY	DRY	DRY	HTOP	HTOP	96.59	300.91	HTOP	HTOP	HTOP	HTOP
1/21/2019	110.08	291.14	DRY	DRY	DRY	DRY	HTOP	HTOP	97.68	299.88	84.63	325.51	HTOP	HTOP
4/23/2019	112.67	288.55	86.76	314.48	DRY	DRY	HTOP	HTOP	96.43	301.13	85.63	324.51	HTOP	HTOP
7/9/2019	110.67	290.55	88.27	312.97	DRY	DRY	HTOP	HTOP	93.69	303.87	83.58	326.56	HTOP	HTOP
10/1/2019	108.46	292.76	89.32	311.92	DRY	DRY	HTOP	HTOP	94.15	303.41	83.86	326.28	HTOP	HTOP
1/22/2020	112.38	288.84	DRY	DRY	DRY	DRY	HTOP	HTOP	95.68	301.88	86.01	324.13	HTOP	HTOP
4/1/2020	113.13	288.09	DRY	DRY	DRY	DRY	HTOP	HTOP	96.42	301.14	87.01	323.13	HTOP	HTOP
7/13/2020	111.38	289.84	DRY	DRY	DRY	DRY	HTOP	HTOP	DRY	DRY	86.77	323.37	HTOP	HTOP
10/16/2020	112.67	288.55	DRY	DRY	DRY	DRY	HTOP	HTOP	96.87	300.69	85.78	324.36	HTOP	HTOP

DTW	Depth to Groundwater
GW Elev.:	Groundwater Elevation
MSL:	Mean Sea Level
HTOP:	Hit Top of Pump
NM:	No Measurement

GROUNDWATER ELEVATION DATA SUMMARY
UPPER SEMI-CONFINED GROUNDWATER ZONE MONITORING WELLS

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Date of Measurement	M-1B		M-1C		M-3B		M-3C		M-4B		M-6B		M-10B		M-10C	
	DTW (feet)	GW Elev. (feet MSL)	DTW (feet)	GW Elev. (feet MSL)	DTW (feet)	GW Elev. (feet MSL)	DTW (feet)	GW Elev. (feet MSL)	DTW (feet)	GW Elev. (feet MSL)	DTW (feet)	GW Elev. (feet MSL)	DTW (feet)	GW Elev. (feet MSL)	DTW (feet)	GW Elev. (feet MSL)
1/18/2016	156.02	244.40	154.56	244.50	HTOP	HTOP	168.97	233.79	122.76	287.81	HTOP	HTOP	HTOP	HTOP	164.08	234.66
4/25/2016	150.54	249.88	149.22	249.84	HTOP	HTOP	149.77	252.99	123.90	286.67	HTOP	HTOP	HTOP	HTOP	162.21	236.53
7/19/2016	155.76	244.66	153.38	245.68	HTOP	HTOP	169.63	233.13	119.56	291.01	HTOP	HTOP	HTOP	HTOP	166.66	232.08
10/18/2016	156.02	244.40	154.66	244.40	HTOP	HTOP	170.46	232.30	119.20	291.37	HTOP	HTOP	HTOP	HTOP	167.40	231.34
1/26/2017	152.95	247.47	151.51	247.55	HTOP	HTOP	167.57	235.19	123.42	287.15	HTOP	HTOP	HTOP	HTOP	164.39	234.35
4/7/2017	149.30	251.12	147.90	251.16	HTOP	HTOP	163.88	238.88	122.45	288.12	160.01	243.64	160.22	238.54	160.15	238.59
7/11/2017	145.56	254.86	144.19	254.87	HTOP	HTOP	159.48	243.28	122.40	288.17	HTOP	HTOP	155.31	243.45	155.28	243.46
10/3/2017	143.92	256.50	142.47	256.59	HTOP	HTOP	156.60	246.16	122.09	288.48	152.27	251.38	152.18	246.58	152.26	246.48
1/15/2018	138.31	262.11	136.91	262.15	HTOP	HTOP	151.51	251.25	HTOP	HTOP	147.01	256.64	147.00	251.76	147.22	251.52
4/12/2018	136.23	264.19	134.84	264.22	148.26	254.30	150.29	252.47	125.23	285.34	145.42	258.23	145.81	252.95	146.02	252.72
7/6/2018	137.10	264.32	135.76	263.30	HTOP	HTOP	151.63	251.13	DRY	DRY	146.43	257.22	146.90	251.86	147.21	251.53
10/15/2018	139.78	261.64	138.46	260.60	HTOP	HTOP	153.29	249.47	123.53	287.04	148.63	255.02	148.69	250.07	148.96	249.78
1/21/2019	136.45	264.97	135.11	263.95	HTOP	HTOP	150.74	252.02	123.17	287.40	146.04	257.61	146.37	252.39	146.59	252.15
4/23/2019	131.89	269.53	130.54	268.52	HTOP	HTOP	147.61	255.15	122.97	287.60	142.08	261.57	143.09	255.67	143.36	255.38
7/9/2019	129.96	271.46	128.60	270.46	HTOP	HTOP	144.93	258.36	122.47	287.57	139.34	264.43	140.07	258.69	140.27	258.47
10/1/2019	129.83	271.59	128.54	270.52	143.69	259.38	143.92	259.37	122.32	287.72	138.48	265.29	139.02	259.74	139.23	259.51
1/22/2020	125.18	276.24	123.88	275.18	139.07	264.00	139.09	264.20	123.02	287.02	133.14	270.63	133.79	264.97	133.97	264.77
4/1/2020	123.73	277.69	122.37	276.69	137.34	265.73	137.57	265.72	123.51	286.53	131.97	271.80	132.38	266.38	132.58	266.16
7/13/2020	132.99	268.43	131.78	267.28	145.18	257.89	145.71	257.58	124.19	285.85	142.91	260.86	141.62	257.14	141.68	257.06
10/16/2020	132.29	269.13	131.13	267.93	145.21	257.86	145.51	257.78	122.84	287.20	NM	NM	141.12	257.64	141.19	257.55

(Continued)

DTW Depth to Groundwater
GW Elev.: Groundwater Elevation
MSL: Mean Sea Level
HTOP: Hit Top of Pump
NM: No Measurement

GROUNDWATER ELEVATION DATA SUMMARY
UPPER SEMI-CONFINED GROUNDWATER ZONE MONITORING WELLS

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Date of Measurement	M-11C		M-13B		M-13C		M-14B		M-15C		M-16B	
	DTW (feet)	GW Elev. (feet MSL)	DTW (feet)	GW Elev. (feet MSL)	DTW (feet)	GW Elev. (feet MSL)	DTW (feet)	GW Elev. (feet MSL)	DTW (feet)	GW Elev. (feet MSL)	DTW (feet)	GW Elev. (feet MSL)
1/18/2016	169.65	234.85	HTOP	HTOP	164.25	245.88	173.13	235.93	176.89	226.62	169.02	234.74
4/25/2016	166.23	238.27	151.34	258.79	160.45	249.68	HTOP	HTOP	164.48	239.03	167.12	236.64
7/19/2016	169.68	234.82	HTOP	HTOP	165.81	244.32	172.62	236.44	167.62	235.89	173.80	229.96
10/18/2016	170.76	233.74	HTOP	HTOP	166.18	243.95	HTOP	HTOP	168.86	234.65	172.95	230.81
1/26/2017	168.67	235.83	HTOP	HTOP	161.91	248.22	171.19	237.87	167.05	236.46	168.67	235.09
4/7/2017	165.56	238.94	HTOP	HTOP	158.20	251.93	167.53	241.53	163.94	239.57	166.58	237.18
7/11/2017	161.21	243.29	HTOP	HTOP	156.91	253.22	163.23	245.83	159.50	244.01	164.34	239.42
10/3/2017	158.62	245.88	HTOP	HTOP	153.92	256.21	160.71	248.35	156.91	246.60	161.36	242.40
1/15/2018	154.11	250.39	148.66	261.47	147.76	262.37	155.69	253.37	152.74	250.77	153.38	250.38
4/12/2018	152.80	251.70	144.27	265.86	145.61	264.52	155.08	253.98	151.28	252.23	152.21	251.55
7/6/2018	154.32	250.18	145.70	264.43	146.98	263.15	156.37	252.69	152.69	250.82	158.62	245.14
10/15/2018	156.25	248.25	147.97	262.16	149.41	260.72	158.35	250.71	154.82	248.69	158.52	245.24
1/21/2019	157.73	246.77	144.01	266.12	144.24	265.89	155.86	253.20	152.41	251.10	152.59	251.17
4/23/2019	150.33	254.17	139.74	270.39	140.63	269.50	152.04	257.02	148.67	254.84	150.61	253.15
7/9/2019	147.92	256.58	138.62	271.51	140.02	270.11	149.61	260.58	146.41	257.46	149.53	254.89
10/1/2019	146.94	257.56	138.45	271.68	138.98	271.15	148.67	261.52	145.48	258.39	147.76	256.66
1/22/2020	142.96	261.54	132.11	278.02	131.88	278.25	144.23	265.96	141.86	262.01	141.38	263.04
4/1/2020	141.34	263.16	130.36	279.77	130.46	279.67	142.62	267.57	140.13	263.74	140.06	264.36
7/13/2020	147.63	256.87	142.70	267.43	142.01	268.12	150.42	259.77	145.90	257.97	148.84	255.58
10/16/2020	148.31	256.19	140.33	269.80	140.43	269.70	150.41	259.78	146.83	257.04	149.10	255.32

DTW	Depth to Groundwater
GW Elev.:	Groundwater Elevation
MSL:	Mean Sea Level
HTOP:	Hit Top of Pump
NM:	No Measurement

APPENDIX C-4

GROUNDWATER ELEVATION HYDROGRAPHS

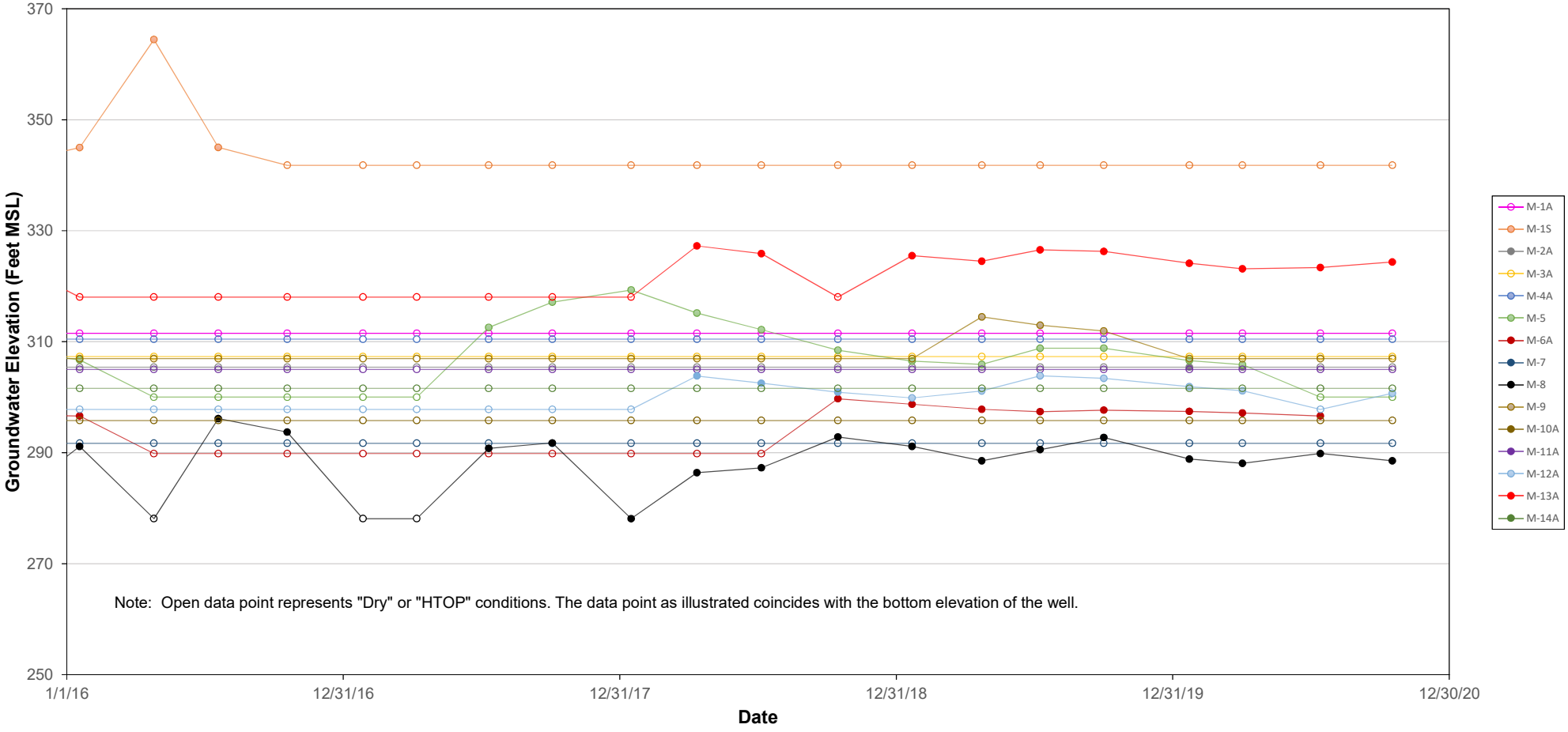
HYDROGRAPH WELL INFORMATION

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

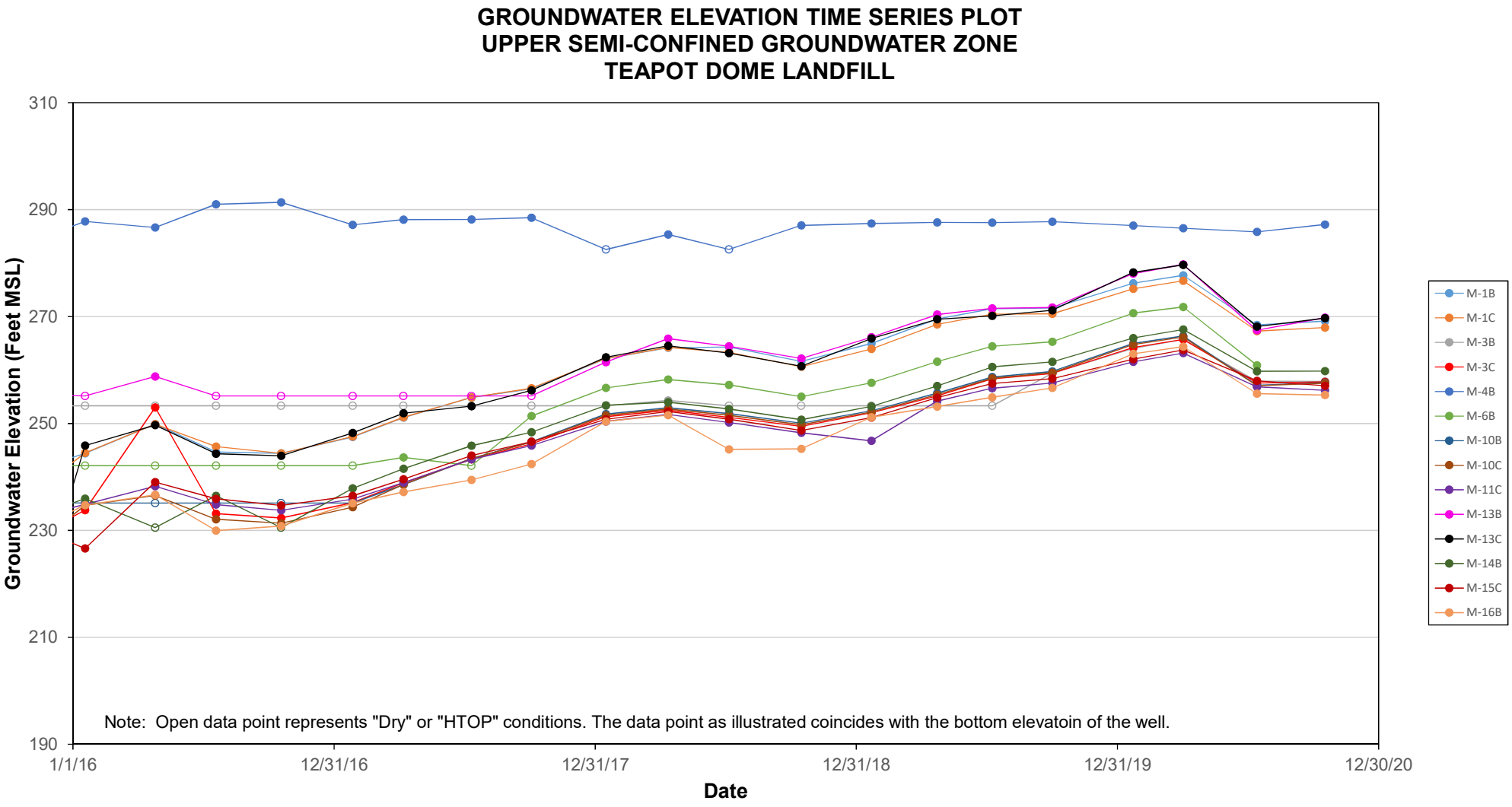
Well Number	Top of Well Guard Elevation (feet MSL)	Top of Screen Elevation (feet MSL)	Bottom of Screen Elevation (feet MSL)	Well Bottom Elevation (feet MSL)	Pump Intake Elevation(1) (feet MSL)
M-1A	411.86	324.71	314.71	311.53	313
M-1S	398.82	371.80	342.20	341.80	344
M-1B	400.42	250.20	240.30	239.90	242
M-1C	399.06	210.90	200.90	200.50	201
M-2A	397.46	325.41	305.81	305.41	307
M-3A	402.81	322.59	307.59	307.34	309
M-3B	403.07	263.70	253.70	253.30	256
M-3C	403.29	195.90	185.90	185.50	188
M-4A	410.65	324.55	314.55	310.45	312
M-4B	410.04	308.31	283.31	282.54	N/A
M-5	402.36	321.42	300.92	300.01	302
M-6A	402.25	310.95	291.95	289.84	292
M-6B	403.77	252.50	242.50	242.10	244
M-7	377.79	313.20	293.20	291.70	294
M-8	401.22	300.26	280.26	278.12	280
M-9	401.24	328.47	308.47	306.94	N/A
M-10A	398.61	315.80	296.20	295.80	N/A
M-10B	398.76	245.51	235.51	235.11	237
M-10C	398.74	201.60	191.60	191.50	196
M-11A	404.17	325.40	305.30	305.00	307
M-11C	404.50	207.61	197.60	197.20	199
M-12A	397.56	318.20	298.20	297.80	N/A
M-13A	410.14	338.28	318.24	318.04	319
M-13B	410.13	265.63	255.65	255.15	257
M-13C	410.13	209.29	199.49	199.09	201
M-14A	409.26	321.60	302.00	301.60	303
M-14B	410.19	240.90	230.90	230.50	233
M-15C	403.87	197.30	187.30	186.90	189
M-16B	404.42	234.30	224.30	223.90	226

MSL: Mean Sea Level
N/A: Not Applicable
(1): Approximate

GROUNDWATER ELEVATION TIME SERIES PLOT
UNCONFINED GROUNDWATER ZONE
TEAPOT DOME LANDFILL



Note: Open data point represents "Dry" or "HTOP" conditions. The data point as illustrated coincides with the bottom elevation of the well.


GROUNDWATER ELEVATION TIME SERIES PLOT
UPPER SEMI-CONFINED GROUNDWATER ZONE
TEAPOT DOME LANDFILL
Groundwater Elevation (Feet MSL)
310
290
270
250
230
210
190
1/1/16
12/31/16
12/31/17
12/31/18
12/31/19
12/30/20
Date
Note: Open data point represents "Dry" or "HTOP" conditions. The data point as illustrated coincides with the bottom elevatoin of the well.
M-1B
M-1C
M-3B
M-3C
M-4B
M-6B
M-10B
M-10C
M-11C
M-13B
M-13C
M-14B
M-15C
M-16B

APPENDIX C-5

TABULATED GROUNDWATER CHEMISTRY DATA

TABULATED CHEMISTRY DATA

LEGEND

Tabulated chemistry data are provided for all applicable data sets, which may or may not include groundwater, soil-pore gas, leachate, pan lysimeter, and/or off-site well data collected during the monitoring period.

Please note that a color designation is provided for all detections above the laboratory Reporting Limit (RL) or for trace detections between the Method Detection Limit (MDL) and the RL for all methods except the general chemistry parameters.

Explanation of Symbols and Acronyms

Concentration detected at or above laboratory RL.

J: Trace detection ("J" flag) between the MDL and RL. The reported concentration represents an estimated value that cannot be certified by the laboratory.

mg/L: Milligrams per Liter

µg/L: Micrograms per Liter

µS/cm: MicroSiemens per Centimeter

mg-e/L: Milligram Equivalents of Calcium Carbonate per Liter

mV: Millivolts

°C: Degrees

ppbv: Parts per Billion by Volume

TCD: Thermal Conductivity Detector

COCs: Constituents of Concern

NA: Not Analyzed

<: Not detected at or above the laboratory RL.

*: Measurements reported are the final parameters taken in the field

GROUNDWATER MONITORING WELLS

2020
ANNUAL SUMMARY OF
GROUNDWATER SAMPLE ANALYTICAL RESULTS
GENERAL CHEMISTRY PARAMETERS

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	M-1B		M-3C		M-4B	
		01/23/2020	07/15/2020	01/27/2020	07/17/2020	01/24/2020	07/17/2020
Bicarbonate	mg/L	**300**	**320**	**250**	**260**	**200**	**230**
Calcium	mg/L	**94**	**97**	**96**	**97**	**49**	**57**
Carbonate	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloride	mg/L	**110**	**110**	**94**	**95**	**4.2**	**3.4**
Magnesium	mg/L	**19**	**20**	**18**	**18**	**11**	**13**
Nitrate as N	mg/L	**11**	**11**	**13**	**13**	**0.31 -J**	**0.17 -J**
pH Test	pH Units	**7.7**	**7.9**	**7.7**	**7.8**	**6.9**	**7.1**
Potassium	mg/L	**3.1**	**3.2**	**3.2**	**3.3**	**2.4**	**2.5**
Sodium	mg/L	**77**	**73**	**53**	**50**	**7.2**	**5.9**
Specific Conductance	µS/cm	**920**	**940**	**830**	**830**	**350**	**380**
Sulfate	mg/L	**35**	**34**	**33**	**32**	**3.7**	**4.1**
Total Dissolved Solids	mg/L	**580**	**550**	**510**	**510**	**310**	**270**

2020
ANNUAL SUMMARY OF
GROUNDWATER SAMPLE ANALYTICAL RESULTS
GENERAL CHEMISTRY PARAMETERS

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	M-5	M-6A		M-6B		M-8	
		01/27/2020	01/24/2020	07/15/2020	01/24/2020	07/15/2020	01/27/2020	07/17/2020
Bicarbonate	mg/L	**330**	**330**	**350**	**250**	**260**	**64**	**57**
Calcium	mg/L	**90**	**98**	**100**	**77**	**83**	**12**	**9.0**
Carbonate	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloride	mg/L	**52**	**68**	**79**	**58**	**53**	**2.0**	**1.1 -J**
Magnesium	mg/L	**19**	**22**	**24**	**17**	**16**	**2.6**	**2.0**
Nitrate as N	mg/L	**6.6**	**3.5**	**4.4**	**9.6**	**9.1**	**0.47**	**0.23 -J**
pH Test	pH Units	**7.8**	**7.2**	**7.5**	**7.6**	**7.7**	**7.2**	**7.1**
Potassium	mg/L	**2.8**	**2.9**	**3.0**	**2.9**	**2.9**	**1.1**	**1.1**
Sodium	mg/L	**46**	**42**	**41**	**43**	**43**	**8.7**	**7.4**
Specific Conductance	µS/cm	**760**	**810**	**840**	**700**	**690**	**110**	**82**
Sulfate	mg/L	**32**	**35**	**34**	**30**	**31**	**2.1**	**1.6 -J**
Total Dissolved Solids	mg/L	**500**	**500**	**510**	**410**	**420**	**150**	**80**

2020
ANNUAL SUMMARY OF
GROUNDWATER SAMPLE ANALYTICAL RESULTS
GENERAL CHEMISTRY PARAMETERS

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	M-10B		M-11C		M-12A	M-13A	
		01/27/2020	07/17/2020	01/23/2020	07/15/2020	01/24/2020	01/23/2020	07/14/2020
Bicarbonate	mg/L	**280**	**290**	**280**	**310**	**200**	**420**	**450**
Calcium	mg/L	**78**	**82**	**91**	**100**	**73**	**130**	**140**
Carbonate	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloride	mg/L	**49**	**52**	**83**	**94**	**29**	**170**	**170**
Magnesium	mg/L	**17**	**17**	**17**	**19**	**18**	**32**	**33**
Nitrate as N	mg/L	**9.8**	**9.2**	**11**	**12**	**20**	**17**	**17**
pH Test	pH Units	**7.7**	**7.9**	**7.7**	**7.8**	**7.8**	**7.6**	**7.8**
Potassium	mg/L	**2.9**	**3.1**	**3.1**	**3.2**	**2.2**	**3.8**	**3.9**
Sodium	mg/L	**50**	**50**	**56**	**60**	**31**	**110**	**120**
Specific Conductance	µS/cm	**710**	**710**	**820**	**880**	**620**	**1300**	**1400**
Sulfate	mg/L	**33**	**32**	**34**	**35**	**48**	**76**	**76**
Total Dissolved Solids	mg/L	**460**	**440**	**500**	**550**	**440**	**800**	**800**

2020
ANNUAL SUMMARY OF
GROUNDWATER SAMPLE ANALYTICAL RESULTS
GENERAL CHEMISTRY PARAMETERS

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	M-13B		M-14B	M-15C		M-16B	
		01/23/2020	07/14/2020	07/17/2020	01/23/2020	07/15/2020	01/23/2020	07/15/2020
Bicarbonate	mg/L	**180**	**200**	**350**	**290**	**300**	**290**	**310**
Calcium	mg/L	**70**	**72**	**99**	**100**	**99**	**94**	**95**
Carbonate	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloride	mg/L	**71**	**66**	**73**	**100**	**97**	**84**	**79**
Magnesium	mg/L	**15**	**16**	**19**	**18**	**18**	**19**	**18**
Nitrate as N	mg/L	**12**	**11**	**6.6**	**12**	**12**	**9.4**	**9.5**
pH Test	pH Units	**7.8**	**8.0**	**7.8**	**7.8**	**7.9**	**7.7**	**7.8**
Potassium	mg/L	**2.7**	**2.7**	**3.3**	**3.2**	**3.2**	**3.3**	**3.4**
Sodium	mg/L	**41**	**41**	**54**	**61**	**61**	**48**	**51**
Specific Conductance	µS/cm	**1900**	**650**	**820**	**900**	**890**	**820**	**820**
Sulfate	mg/L	**34**	**33**	**26**	**35**	**34**	**30**	**28**
Total Dissolved Solids	mg/L	**360**	**400**	**500**	**530**	**560**	**480**	**500**

2020
ANNUAL SUMMARY OF
GROUNDWATER SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8260B)

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	M-1B		M-3C		M-4B	
		01/23/2020	07/15/2020	01/27/2020	07/17/2020	01/24/2020	07/17/2020
1,1,1,2-Tetrachloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,1-Trichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2,2-Tetrachloroethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,3-Trichloropropane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,4-Trichlorobenzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dibromoethane (EDB)	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloropropane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,4-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2-Butanone (MEK)	µg/L	<10	<10	<10	<10	<10	<10
2-Hexanone	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-Methyl-2-pentanone (MIBK)	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acetone	µg/L	<10	<10	<10	<10	<10	<10
Acrylonitrile	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Benzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromochloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromoform	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon disulfide	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Carbon tetrachloride	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	**0.45 -J**	<0.50
Chloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloroform	µg/L	<0.50	<0.50	**0.41 -J**	**0.42 -J**	<0.50	<0.50
Chloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
cis-1,2-Dichloroethene	µg/L	<0.50	<0.50	<0.50	<0.50	**1.3**	**1.6**
cis-1,3-Dichloropropene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromochloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromomethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
di-Isopropyl ether (DIPE)	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethanol	µg/L	<50	<50	<50	<50	<50	<50
Ethylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethyl tert-butyl ether (ETBE)	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

2020
ANNUAL SUMMARY OF
GROUNDWATER SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8260B)

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	M-1B		M-3C		M-4B	
		01/23/2020	07/15/2020	01/27/2020	07/17/2020	01/24/2020	07/17/2020
Hexachlorobutadiene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Hexachloroethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Iodomethane	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methylene chloride	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether (MTBE)	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
o-Xylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Styrene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
tert-Amyl methyl ether (TAME)	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
tert-Butyl alcohol (TBA)	µg/L	<20	<20	<20	<20	<20	<20
Tetrachloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,2-Dichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,3-Dichloropropene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,4-Dichloro-2-butene	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Trichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichlorofluoromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Vinyl acetate	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Vinyl chloride	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Xylenes (total)	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

2020
ANNUAL SUMMARY OF
GROUNDWATER SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8260B)

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	M-5	M-6A		M-6B		M-8	
		01/27/2020	01/24/2020	07/15/2020	01/24/2020	07/15/2020	01/27/2020	07/17/2020
1,1,1,2-Tetrachloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,1-Trichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2,2-Tetrachloroethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,3-Trichloropropane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,4-Trichlorobenzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	<5.0	<5.0	<5.0	**0.45 -J**	**0.30 -J**	<5.0	<5.0
1,2-Dibromoethane (EDB)	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloropropane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,4-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2-Butanone (MEK)	µg/L	<10	<10	<10	<10	<10	<10	<10
2-Hexanone	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-Methyl-2-pentanone (MIBK)	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acetone	µg/L	<10	<10	<10	<10	<10	<10	<10
Acrylonitrile	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Benzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromochloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromoform	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon disulfide	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Carbon tetrachloride	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloroform	µg/L	<0.50	<0.50	<0.50	**0.30 -J**	<0.50	<0.50	<0.50
Chloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
cis-1,2-Dichloroethene	µg/L	<0.50	**0.60**	**0.63**	<0.50	<0.50	<0.50	<0.50
cis-1,3-Dichloropropene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromochloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromomethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
di-Isopropyl ether (DIPE)	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethanol	µg/L	<50	<50	<50	<50	<50	<50	<50
Ethylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethyl tert-butyl ether (ETBE)	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

2020
ANNUAL SUMMARY OF
GROUNDWATER SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8260B)

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	M-5	M-6A		M-6B		M-8	
		01/27/2020	01/24/2020	07/15/2020	01/24/2020	07/15/2020	01/27/2020	07/17/2020
Hexachlorobutadiene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Hexachloroethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Iodomethane	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methylene chloride	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether (MTBE)	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
o-Xylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Styrene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
tert-Amyl methyl ether (TAME)	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
tert-Butyl alcohol (TBA)	µg/L	<20	<20	<20	<20	<20	<20	<20
Tetrachloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,2-Dichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,3-Dichloropropene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,4-Dichloro-2-butene	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Trichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichlorofluoromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Vinyl acetate	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Vinyl chloride	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Xylenes (total)	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

2020
ANNUAL SUMMARY OF
GROUNDWATER SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8260B)

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	M-10B		M-11C		M-12A	M-13A	
		01/27/2020	07/17/2020	01/23/2020	07/15/2020	01/24/2020	01/23/2020	07/14/2020
1,1,1,2-Tetrachloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,1-Trichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2,2-Tetrachloroethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethane	µg/L	**0.33 -J**	**0.37 -J**	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,3-Trichloropropane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,4-Trichlorobenzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dibromoethane (EDB)	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloropropane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,4-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2-Butanone (MEK)	µg/L	<10	<10	<10	<10	<10	<10	<10
2-Hexanone	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-Methyl-2-pentanone (MIBK)	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acetone	µg/L	<10	<10	<10	<10	<10	<10	<10
Acrylonitrile	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Benzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromochloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromoform	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon disulfide	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Carbon tetrachloride	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloroform	µg/L	<0.50	<0.50	<0.50	**0.31 -J**	<0.50	<0.50	<0.50
Chloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
cis-1,2-Dichloroethene	µg/L	<0.50	**0.31 -J**	<0.50	<0.50	<0.50	<0.50	<0.50
cis-1,3-Dichloropropene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromochloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromomethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
di-Isopropyl ether (DIPE)	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethanol	µg/L	<50	<50	<50	<50	<50	<50	<50
Ethylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethyl tert-butyl ether (ETBE)	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

2020
ANNUAL SUMMARY OF
GROUNDWATER SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8260B)

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	M-10B		M-11C		M-12A	M-13A	
		01/27/2020	07/17/2020	01/23/2020	07/15/2020	01/24/2020	01/23/2020	07/14/2020
Hexachlorobutadiene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Hexachloroethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Iodomethane	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methylene chloride	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.2**
Methyl tert-butyl ether (MTBE)	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
o-Xylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Styrene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
tert-Amyl methyl ether (TAME)	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
tert-Butyl alcohol (TBA)	µg/L	<20	<20	<20	<20	<20	<20	<20
Tetrachloroethylene	µg/L	**0.50**	**0.51**	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,2-Dichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,3-Dichloropropene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,4-Dichloro-2-butene	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Trichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichlorofluoromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Vinyl acetate	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Vinyl chloride	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Xylenes (total)	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

2020
ANNUAL SUMMARY OF
GROUNDWATER SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8260B)

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	M-13B		M-14B	M-15C		M-16B	
		01/23/2020	07/14/2020	07/17/2020	01/23/2020	07/15/2020	01/23/2020	07/15/2020
1,1,1,2-Tetrachloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,1-Trichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2,2-Tetrachloroethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethane	µg/L	<0.50	<0.50	**0.31 -J**	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,3-Trichloropropane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,4-Trichlorobenzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dibromoethane (EDB)	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloropropane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,4-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2-Butanone (MEK)	µg/L	<10	<10	<10	<10	<10	<10	<10
2-Hexanone	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-Methyl-2-pentanone (MIBK)	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acetone	µg/L	<10	<10	<10	<10	<10	<10	<10
Acrylonitrile	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Benzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromochloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromoform	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon disulfide	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Carbon tetrachloride	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloroform	µg/L	<0.50	<0.50	<0.50	**0.45 -J**	**0.42 -J**	<0.50	<0.50
Chloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
cis-1,2-Dichloroethene	µg/L	<0.50	<0.50	**1.4**	<0.50	<0.50	**0.51**	**0.76**
cis-1,3-Dichloropropene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromochloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromomethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
di-Isopropyl ether (DIPE)	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethanol	µg/L	<50	<50	<50	<50	<50	<50	<50
Ethylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethyl tert-butyl ether (ETBE)	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

2020
ANNUAL SUMMARY OF
GROUNDWATER SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8260B)

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	M-13B		M-14B	M-15C		M-16B	
		01/23/2020	07/14/2020	07/17/2020	01/23/2020	07/15/2020	01/23/2020	07/15/2020
Hexachlorobutadiene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Hexachloroethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Iodomethane	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methylene chloride	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether (MTBE)	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
o-Xylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Styrene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
tert-Amyl methyl ether (TAME)	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
tert-Butyl alcohol (TBA)	µg/L	<20	<20	<20	<20	<20	<20	<20
Tetrachloroethylene	µg/L	<0.50	<0.50	**1.2**	<0.50	<0.50	**0.55**	**0.62**
Toluene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,2-Dichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,3-Dichloropropene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,4-Dichloro-2-butene	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Trichloroethylene	µg/L	<0.50	<0.50	**0.50**	<0.50	<0.50	<0.50	<0.50
Trichlorofluoromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Vinyl acetate	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Vinyl chloride	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Xylenes (total)	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

2020
ANNUAL SUMMARY OF
GROUNDWATER SAMPLE ANALYTICAL RESULTS
INORGANIC COCs AND ADDITIONAL PARAMETERS

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	M-1B		M-3C		M-4B	
		01/23/2020	07/15/2020	01/27/2020	07/17/2020	01/24/2020	07/17/2020
Aluminum	µg/L	**9.6**	<4.0	**8.6**	<4.0	**3.4 -J**	<4.0
Antimony	µg/L	<2.0	<1.0	**0.67 -J**	<1.0	**0.40 -J**	<1.0
Arsenic	µg/L	<2.0	**0.65 -J**	<1.0	**0.61 -J**	**2.0**	**0.97 -J**
Barium	µg/L	**190**	**230**	**230**	**230**	**360**	**230**
Beryllium	µg/L	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cadmium	µg/L	<0.40	<0.20	<0.20	<0.20	**0.85**	**0.49**
Chromium	µg/L	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cobalt	µg/L	**0.22 -J**	<1.0	**0.19 -J**	<1.0	**12**	<1.0
Copper	µg/L	<4.0	**0.75 -J**	<2.0	**0.57 -J**	<2.0	**0.30 -J**
Cyanide (total)	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Hardness	mg-e/L	**320**	**320**	**310**	**320**	**170**	**190**
Hydroxide	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Iron	µg/L	**320**	**460**	**330**	**470**	**1500**	**290**
Lead	µg/L	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
Manganese	µg/L	<2.0	<1.0	<1.0	<1.0	**1200**	**45**
Mercury	µg/L	<0.40	<0.20	<0.20	<0.20	<0.20	<0.20
Nickel	µg/L	**2.7**	<1.0	**2.8**	<1.0	**12**	**1.7**
Selenium	µg/L	<2.0	**0.74 -J**	<1.0	**1.2**	<1.0	**0.73 -J**
Silver	µg/L	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
Sulfide	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Thallium	µg/L	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tin	µg/L	<30	<15	<15	<15	<15	<15
Total Alkalinity	mg/L	**250**	**260**	**200**	**220**	**160**	**190**
Total Organic Carbon	mg/L	**0.48**	**1.4**	<0.20	**0.23**	**1.2**	**0.58**
Vanadium	µg/L	**7.5**	**8.1**	**7.1**	**7.0**	**1.3**	**11**
Zinc	µg/L	<10	**14**	**13**	**14**	**30**	**20**

2020
ANNUAL SUMMARY OF
GROUNDWATER SAMPLE ANALYTICAL RESULTS
INORGANIC COCs AND ADDITIONAL PARAMETERS

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	M-5	M-6A		M-6B		M-8	
		01/27/2020	01/24/2020	07/15/2020	01/24/2020	07/15/2020	01/27/2020	07/17/2020
Aluminum	µg/L	**5.4**	**3.6 -J**	<4.0	**5.9**	<4.0	**4.7**	<4.0
Antimony	µg/L	**0.63 -J**	**0.60 -J**	<1.0	**0.54 -J**	<1.0	<1.0	<1.0
Arsenic	µg/L	<1.0	<1.0	**0.70 -J**	<1.0	**1.1**	<1.0	**0.46 -J**
Barium	µg/L	**210**	**230**	**240**	**190**	**170**	**99**	**66**
Beryllium	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cadmium	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chromium	µg/L	<1.0	<1.0	<1.0	**1.6**	**0.96 -J**	<1.0	<1.0
Cobalt	µg/L	**0.19 -J**	**0.18 -J**	<1.0	**0.13 -J**	<1.0	<1.0	<1.0
Copper	µg/L	<2.0	<2.0	**0.56 -J**	**0.70 -J**	**0.63 -J**	<2.0	**0.27 -J**
Cyanide (total)	µg/L	**4.6 -J**	<5.0	<5.0	<5.0	<5.0	**3.3 -J**	<5.0
Hardness	mg-e/L	**310**	**340**	**360**	**260**	**270**	**41**	**31**
Hydroxide	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Iron	µg/L	**310**	**300**	**510**	**260**	**390**	**35**	**48**
Lead	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Manganese	µg/L	<1.0	**8.7**	**3.5**	<1.0	**2.1**	<1.0	**1.3**
Mercury	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Nickel	µg/L	**2.6**	**2.6**	<1.0	**1.9**	<1.0	<1.0	<1.0
Selenium	µg/L	<1.0	<1.0	<1.0	<1.0	**0.97 -J**	<1.0	<1.0
Silver	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Sulfide	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Thallium	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tin	µg/L	<15	<15	<15	<15	<15	<15	<15
Total Alkalinity	mg/L	**270**	**270**	**280**	**210**	**220**	**52**	**46**
Total Organic Carbon	mg/L	<0.20	**0.69**	**1.7**	**0.29**	**1.3**	<0.20	<0.20
Vanadium	µg/L	**10**	**5.4**	**6.9**	**7.9**	**8.0**	**5.6**	**7.1**
Zinc	µg/L	**11**	**17**	**16**	**15**	**14**	**16**	**13**

2020
ANNUAL SUMMARY OF
GROUNDWATER SAMPLE ANALYTICAL RESULTS
INORGANIC COCs AND ADDITIONAL PARAMETERS

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	M-10B		M-11C		M-12A	M-13A	
		01/27/2020	07/17/2020	01/23/2020	07/15/2020	01/24/2020	01/23/2020	07/14/2020
Aluminum	µg/L	**8.2**	<4.0	**7.5**	<4.0	**19**	**4.6**	<4.0
Antimony	µg/L	**1.1 -J**	<1.0	<1.0	<1.0	**0.74 -J**	**0.68 -J**	<1.0
Arsenic	µg/L	<2.0	**0.88 -J**	<1.0	**0.68 -J**	**1.1**	<1.0	**0.89 -J**
Barium	µg/L	**200**	**200**	**180**	**250**	**260**	**270**	**320**
Beryllium	µg/L	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cadmium	µg/L	<0.40	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chromium	µg/L	<2.0	**0.92 -J**	<1.0	<1.0	**1.5**	<1.0	<1.0
Cobalt	µg/L	**0.16 -J**	<1.0	**0.20 -J**	<1.0	**0.17 -J**	**0.37 -J**	**0.40 -J**
Copper	µg/L	<4.0	**0.56 -J**	<2.0	**0.60 -J**	**0.77 -J**	**1.3 -J**	**1.4 -J**
Cyanide (total)	µg/L	<5.0	<5.0	<5.0	<5.0	**3.7 -J**	**3.2 -J**	<5.0
Hardness	mg-e/L	**260**	**280**	**300**	**330**	**260**	**460**	**480**
Hydroxide	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Iron	µg/L	**250**	**410**	**330**	**490**	**290**	**490**	**670**
Lead	µg/L	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Manganese	µg/L	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Mercury	µg/L	<0.40	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Nickel	µg/L	**2.1**	<1.0	**2.6**	<1.0	**2.2**	**5.8**	**2.8**
Selenium	µg/L	<2.0	**1.1**	<1.0	**0.95 -J**	<1.0	<1.0	**1.4**
Silver	µg/L	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Sulfide	mg/L	**1.4**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Thallium	µg/L	<2.0	<1.0	**0.084 -J**	<1.0	<1.0	<1.0	<1.0
Tin	µg/L	<30	<15	<15	<15	<15	<15	<15
Total Alkalinity	mg/L	**230**	**240**	**230**	**250**	**170**	**340**	**370**
Total Organic Carbon	mg/L	<0.20	**0.23**	**0.32**	<0.20	**1.0**	**2.5**	**1.2**
Vanadium	µg/L	**7.0**	**8.8**	**6.4**	**7.0**	**9.9**	**8.3**	**9.0**
Zinc	µg/L	**14**	**13**	<5.0	**17**	**19**	**3.7 -J**	**18**

2020
ANNUAL SUMMARY OF
GROUNDWATER SAMPLE ANALYTICAL RESULTS
INORGANIC COCs AND ADDITIONAL PARAMETERS

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	M-13B		M-14B	M-15C		M-16B	
		01/23/2020	07/14/2020	07/17/2020	01/23/2020	07/15/2020	01/23/2020	07/15/2020
Aluminum	µg/L	**5.1**	<4.0	<4.0	**5.2**	<4.0	**4.7**	<4.0
Antimony	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic	µg/L	**1.2**	**1.2**	**0.65 -J**	<1.0	**0.75 -J**	<1.0	**0.55 -J**
Barium	µg/L	**110**	**170**	**230**	**190**	**240**	**180**	**240**
Beryllium	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cadmium	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chromium	µg/L	**0.84 -J**	**0.94 -J**	<1.0	<1.0	<1.0	<1.0	<1.0
Cobalt	µg/L	**0.12 -J**	<1.0	<1.0	**0.20 -J**	<1.0	**0.18 -J**	<1.0
Copper	µg/L	<2.0	**0.50 -J**	**0.57 -J**	**0.98 -J**	**0.59 -J**	<2.0	**0.62 -J**
Cyanide (total)	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Hardness	mg-e/L	**240**	**240**	**330**	**320**	**320**	**310**	**310**
Hydroxide	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Iron	µg/L	**230**	**340**	**500**	**330**	**500**	**320**	**490**
Lead	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Manganese	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Mercury	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Nickel	µg/L	**1.8**	<1.0	<1.0	**3.3**	<1.0	**3.2**	<1.0
Selenium	µg/L	<1.0	<1.0	**0.83 -J**	<1.0	**1.0**	<1.0	**0.86 -J**
Silver	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Sulfide	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Thallium	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tin	µg/L	<15	<15	<15	<15	<15	<15	<15
Total Alkalinity	mg/L	**150**	**170**	**290**	**240**	**250**	**240**	**250**
Total Organic Carbon	mg/L	**0.65**	**0.62**	<0.20	**0.27**	**0.20**	**0.67**	**0.24**
Vanadium	µg/L	**7.6**	**8.9**	**7.2**	**6.8**	**7.3**	**6.6**	**7.3**
Zinc	µg/L	<5.0	**13**	**16**	<5.0	**14**	<5.0	**16**

OFF-SITE WATER SUPPLY WELLS

TEAPOT DOME LANDFILL

OFF-SITE WATER SUPPLY WELLS SAMPLE PLAN

MAP KEY	OWNER	ADDRESS	COMMENTS
2	Nuckels	13009 RD. 216	
4	Merritt, Richard	12467 RD. 206	Sampled cistern or tank, formerly Ferraro
6	Edwards, Nicky	13096 RD. 208	
10	Booth Ranches	12012 RD. 200	Formerly Childress
10A	Booth Ranches	12012 RD. 200	Replaced Well 10
11	Demetriff, Jim	12557 RD. 202	
13	Berra, Tony	12651 RD. 208	Sampled cistern or tank
14	Berra, Tony	20397 AVE. 128	
15	Merritt, Richard	12325 RD. 208	Formerly Zaninovich
17	Cloer, C.W.	11959 RD. 200	Sampled cistern or tank
18	Cloer, W.M.	11863 RD. 200	Formerly Warren, D.
19	Davis, Brian	12528 RD. 200	
22	Saucelito, I.D.	20712 AVE. 120	
24	Merzoian, Neil	12599 RD. 202	
24A	Merzoian, Neil	12599 RD. 202	Replaced Well 24, 30' apart
37	Booth Ranches	11779 RD. 200	Formerly Williams, Childress
38	Merritt, Richard	11188 RD. 192	
48	Merritt, Richard	11188 RD. 192	
52	Merritt, Richard	RD. 192	
54	Merritt, Mark	12014 AVE. 120	
63	Visalia Grape Growers	RD. 204	
68	Scalia, Diego	18688 A & B AVE. 112	
70		Road 208	Located approximately 4,000 north of Landfill on APN 302-100-017
71		Road 208	Located approximately 2,100 north of Landfill on APN 302-100-018
74	Scalia, Diego	18778 AVE. 112	
80	Huanico	18634 AVE. 112	Formerly Foster
85	Isais, Isabel	11480 RD. 200	
86	FLS Interprises, Inc.	Road 208	Located approximately 2,000 north of Landfill on APN 302-100-018
87	FLS Interprises, Inc.	Road 208	Located approximately 2,500 north of Landfill on APN 302-100-017

2020
ANNUAL SUMMARY OF
OFF-SITE GROUNDWATER SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 524.2)

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	Map Key #2		Map Key #4		Map Key #6	Map Key #10A	
		06/02/2020	12/14/2020	06/02/2020	11/17/2020	06/02/2020	05/19/2020	11/18/2020
1,1,1,2-Tetrachloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,1-Trichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2,2-Tetrachloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,3-Trichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,4-Trichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,4-Trimethylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloropropane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3,5-Trimethylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-Dichloropropane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,4-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2,2-Dichloropropane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2-Chlorotoluene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
4-Chlorotoluene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromochloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromoform	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromomethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Carbon tetrachloride	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloroform	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
cis-1,2-Dichloroethene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
cis-1,3-Dichloropropene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromochloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromomethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
di-Isopropyl ether (DIPE)	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethyl tert-butyl ether (ETBE)	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Hexachlorobutadiene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Isobutyl alcohol	µg/L	<10	<10	<10	<10	<10	<10	<10

2020
ANNUAL SUMMARY OF
OFF-SITE GROUNDWATER SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 524.2)

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	Map Key #2		Map Key #4		Map Key 6	Map Key # 10A	
		06/02/2020	12/14/2020	06/02/2020	11/17/2020	06/02/2020	05/19/2020	11/18/2020
Isopropylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methylene chloride	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl tert-butyl ether (MTBE)	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
m,p-Xylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
n-Butylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
n-Propylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
o-Xylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
p-Isopropyltoluene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
sec-Butylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Styrene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
tert-Amyl methyl ether (TAME)	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
tert-Butyl alcohol (TBA)	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
tert-Butylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total 1,3-dichloropropene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total trihalomethanes	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,2-Dichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,3-Dichloropropene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichlorofluoromethane	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Trichlorotrifluoroethane (CFC-113)	µg/L	<10	<10	<10	<10	<10	<10	<10
Vinyl chloride	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Xylenes (total)	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

2020
ANNUAL SUMMARY OF
OFF-SITE GROUNDWATER SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 524.2)

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	Map Key #11		Map Key #13		Map Key #15		Map Key #17	
		05/19/2020	11/18/2020	05/19/2020	11/18/2020	05/19/2020	11/17/2020	05/19/2020	11/18/2020
1,1,1,2-Tetrachloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,1-Trichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2,2-Tetrachloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,3-Trichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,4-Trichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,4-Trimethylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloropropane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3,5-Trimethylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-Dichloropropane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,4-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2,2-Dichloropropane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2-Chlorotoluene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
4-Chlorotoluene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromochloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromoform	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromomethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Carbon tetrachloride	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloroform	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
cis-1,2-Dichloroethene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
cis-1,3-Dichloropropene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromochloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromomethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
di-Isopropyl ether (DIPE)	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethyl tert-butyl ether (ETBE)	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Hexachlorobutadiene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Isobutyl alcohol	µg/L	<10	<10	<10	<10	<10	<10	<10	<10

2020
ANNUAL SUMMARY OF
OFF-SITE GROUNDWATER SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 524.2)

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	Map Key #11		Map Key #13		Map Key #15		Map Key #17	
		05/19/2020	11/18/2020	05/19/2020	11/18/2020	05/19/2020	11/17/2020	05/19/2020	11/18/2020
Isopropylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methylene chloride	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl tert-butyl ether (MTBE)	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
m,p-Xylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
n-Butylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
n-Propylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
o-Xylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
p-Isopropyltoluene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
sec-Butylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Styrene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
tert-Amyl methyl ether (TAME)	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
tert-Butyl alcohol (TBA)	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
tert-Butylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total 1,3-dichloropropene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total trihalomethanes	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,2-Dichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,3-Dichloropropene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichlorofluoromethane	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Trichlorotrifluoroethane (CFC-113)	µg/L	<10	<10	<10	<10	<10	<10	<10	<10
Vinyl chloride	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Xylenes (total)	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

2020
ANNUAL SUMMARY OF
OFF-SITE GROUNDWATER SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 524.2)

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	Map Key #18		Map Key #19		Map Key #22		Map Key #24A	
		05/19/2020	11/18/2020	05/19/2020	11/18/2020	06/03/2020	11/17/2020	06/02/2020	11/17/2020
1,1,1,2-Tetrachloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,1-Trichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2,2-Tetrachloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,3-Trichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,4-Trichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,4-Trimethylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloropropane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3,5-Trimethylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-Dichloropropane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,4-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2,2-Dichloropropane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2-Chlorotoluene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
4-Chlorotoluene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromochloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromoform	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromomethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Carbon tetrachloride	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloroform	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
cis-1,2-Dichloroethene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
cis-1,3-Dichloropropene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromochloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromomethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
di-Isopropyl ether (DIPE)	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethyl tert-butyl ether (ETBE)	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Hexachlorobutadiene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Isobutyl alcohol	µg/L	<10	<10	<10	<10	<10	<10	<10	<10

2020
ANNUAL SUMMARY OF
OFF-SITE GROUNDWATER SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 524.2)

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	Map Key #18		Map Key #19		Map Key #22		Map Key #24A	
		05/19/2020	11/18/2020	05/19/2020	11/18/2020	06/03/2020	11/17/2020	06/02/2020	11/17/2020
Isopropylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methylene chloride	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl tert-butyl ether (MTBE)	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
m,p-Xylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
n-Butylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
n-Propylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
o-Xylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
p-Isopropyltoluene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
sec-Butylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Styrene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
tert-Amyl methyl ether (TAME)	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
tert-Butyl alcohol (TBA)	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
tert-Butylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total 1,3-dichloropropene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total trihalomethanes	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,2-Dichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,3-Dichloropropene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichlorofluoromethane	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Trichlorotrifluoroethane (CFC-113)	µg/L	<10	<10	<10	<10	<10	<10	<10	<10
Vinyl chloride	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Xylenes (total)	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

2020
ANNUAL SUMMARY OF
OFF-SITE GROUNDWATER SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 524.2)

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	Map Key #38		Map Key #52		Map Key #54	
		06/02/2020	12/14/2020	06/02/2020	12/14/2020	06/02/2020	12/14/2020
1,1,1,2-Tetrachloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,1-Trichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2,2-Tetrachloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,3-Trichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,4-Trichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,4-Trimethylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloropropane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3,5-Trimethylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-Dichloropropane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,4-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2,2-Dichloropropane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2-Chlorotoluene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
4-Chlorotoluene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromochloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromoform	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromomethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Carbon tetrachloride	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloroform	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
cis-1,2-Dichloroethene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
cis-1,3-Dichloropropene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromochloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromomethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
di-Isopropyl ether (DIPE)	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethyl tert-butyl ether (ETBE)	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Hexachlorobutadiene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Isobutyl alcohol	µg/L	<10	<10	<10	<10	<10	<10

2020
ANNUAL SUMMARY OF
OFF-SITE GROUNDWATER SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 524.2)

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	Map Key #38		Map Key #52		Map Key #54	
		06/02/2020	12/14/2020	06/02/2020	12/14/2020	06/02/2020	12/14/2020
Isopropylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methylene chloride	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl tert-butyl ether (MTBE)	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
m,p-Xylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
n-Butylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
n-Propylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
o-Xylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
p-Isopropyltoluene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
sec-Butylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Styrene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
tert-Amyl methyl ether (TAME)	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
tert-Butyl alcohol (TBA)	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
tert-Butylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total 1,3-dichloropropene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total trihalomethanes	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,2-Dichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,3-Dichloropropene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichlorofluoromethane	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Trichlorotrifluoroethane (CFC-113)	µg/L	<10	<10	<10	<10	<10	<10
Vinyl chloride	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Xylenes (total)	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

2020
ANNUAL SUMMARY OF
OFF-SITE GROUNDWATER SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 524.2)

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	Map Key #63	Map Key #70	Map Key #71		Map Key #74		Map Key #85	
		06/03/2020	11/17/2020	06/02/2020	11/17/2020	06/02/2020	12/14/2020	05/19/2020	11/17/2020
1,1,1,2-Tetrachloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,1-Trichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2,2-Tetrachloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,3-Trichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,4-Trichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,4-Trimethylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloropropane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3,5-Trimethylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-Dichloropropane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,4-Dichlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2,2-Dichloropropane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2-Chlorotoluene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
4-Chlorotoluene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromochloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromoform	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromomethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Carbon tetrachloride	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chlorobenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloroethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloroform	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
cis-1,2-Dichloroethene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
cis-1,3-Dichloropropene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromochloromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromomethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
di-Isopropyl ether (DIPE)	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethyl tert-butyl ether (ETBE)	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Hexachlorobutadiene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Isobutyl alcohol	µg/L	<10	<10	<10	<10	<10	<10	<10	<10

2020
ANNUAL SUMMARY OF
OFF-SITE GROUNDWATER SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 524.2)

TEAPOT DOME LANDFILL
TULARE COUNTY, CALIFORNIA

Analyte	Units	Map Key #63	Map Key #70	Map Key #71		Map Key #74		Map Key #85	
		06/03/2020	11/17/2020	06/02/2020	11/17/2020	06/02/2020	12/14/2020	05/19/2020	11/17/2020
Isopropylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methylene chloride	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl tert-butyl ether (MTBE)	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
m,p-Xylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
n-Butylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
n-Propylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
o-Xylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
p-Isopropyltoluene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
sec-Butylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Styrene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
tert-Amyl methyl ether (TAME)	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
tert-Butyl alcohol (TBA)	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
tert-Butylbenzene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total 1,3-dichloropropene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total trihalomethanes	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,2-Dichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,3-Dichloropropene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethylene	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichlorofluoromethane	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Trichlorotrifluoroethane (CFC-113)	µg/L	<10	<10	<10	<10	<10	<10	<10	<10
Vinyl chloride	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Xylenes (total)	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

APPENDIX C-6

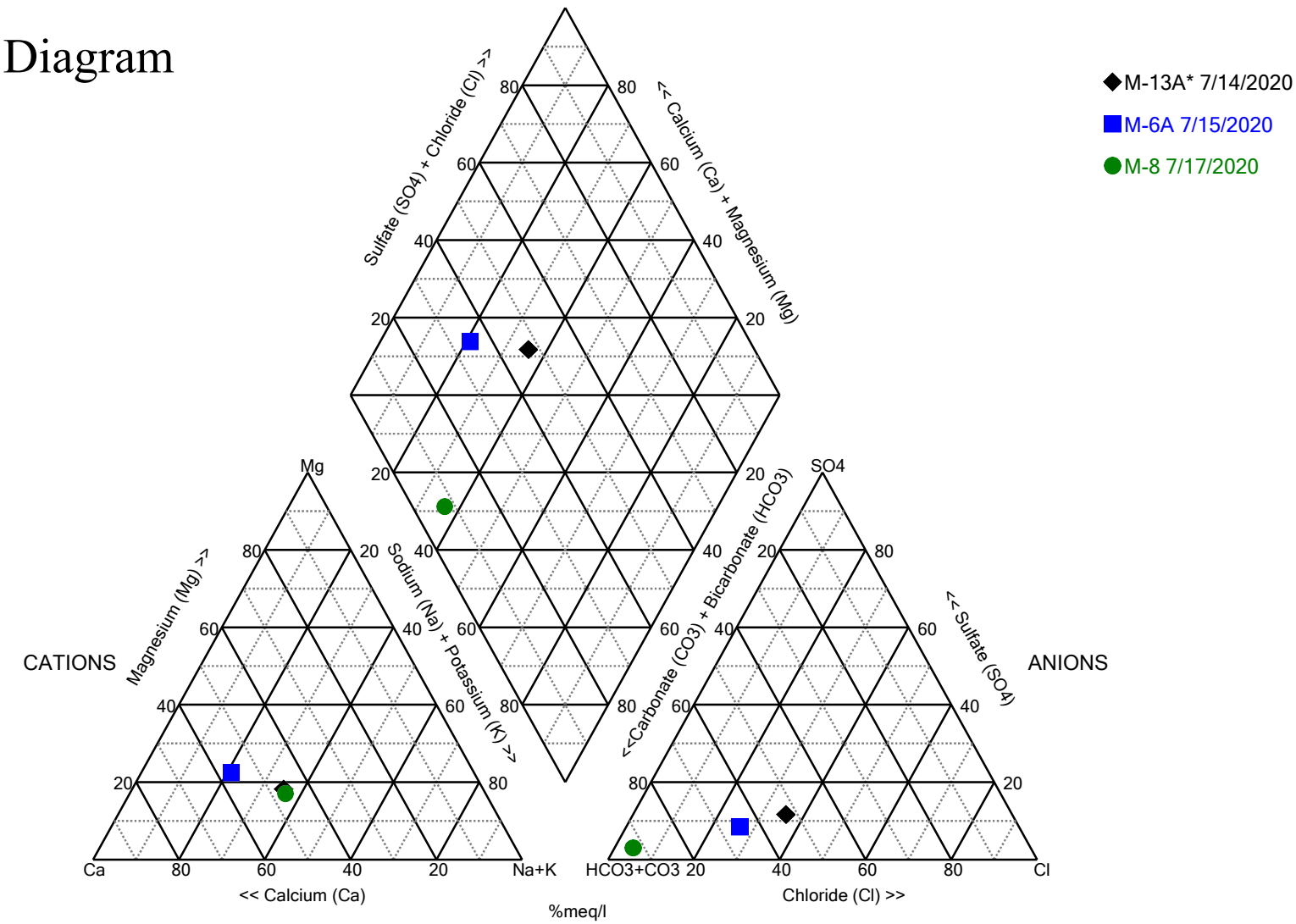
CATION / ANION BALANCE SUMMARY
AND
PIPER DIAGRAMS

Teapot Dome Landfill
Cation-Anion Balance Summary
2nd Semester 2020 Monitoring Data

(calculated using Sanitas™ software)

Well	Zone	Cation-Anion Balance
M-1A	Unconfined	NS
M-1B	Upper Semi-Confined	3.48%
M-1C	Upper Semi-Confined	NS
M-1S	Unconfined	NS
M-2A	Unconfined	NS
M-3A	Unconfined	NS
M-3B	Upper Semi-Confined	NS
M-3C	Upper Semi-Confined	5.80%
M-4A	Unconfined	NS
M-4B	Upper Semi-Confined	3.03%
M-5	Unconfined	NS
M-6A	Unconfined	0.68%
M-6B	Upper Semi-Confined	6.99%
M-7	Unconfined	NS
M-8	Unconfined	3.44%
M-9	Unconfined	NS
M-10A	Unconfined	NS
M-10B	Upper Semi-Confined	5.63%
M-10C	Upper Semi-Confined	NS
M-11A	Unconfined	NS
M-11C	Upper Semi-Confined	4.24%
M-12A	Unconfined	NS
M-13A	Unconfined	4.29%
M-13B	Upper Semi-Confined	7.15%
M-13C	Upper Semi-Confined	NS
M-14A	Unconfined	NS
M-14B	Upper Semi-Confined	3.27%
M-15C	Upper Semi-Confined	4.35%
M-16B	Upper Semi-Confined	3.66%

Piper Diagram

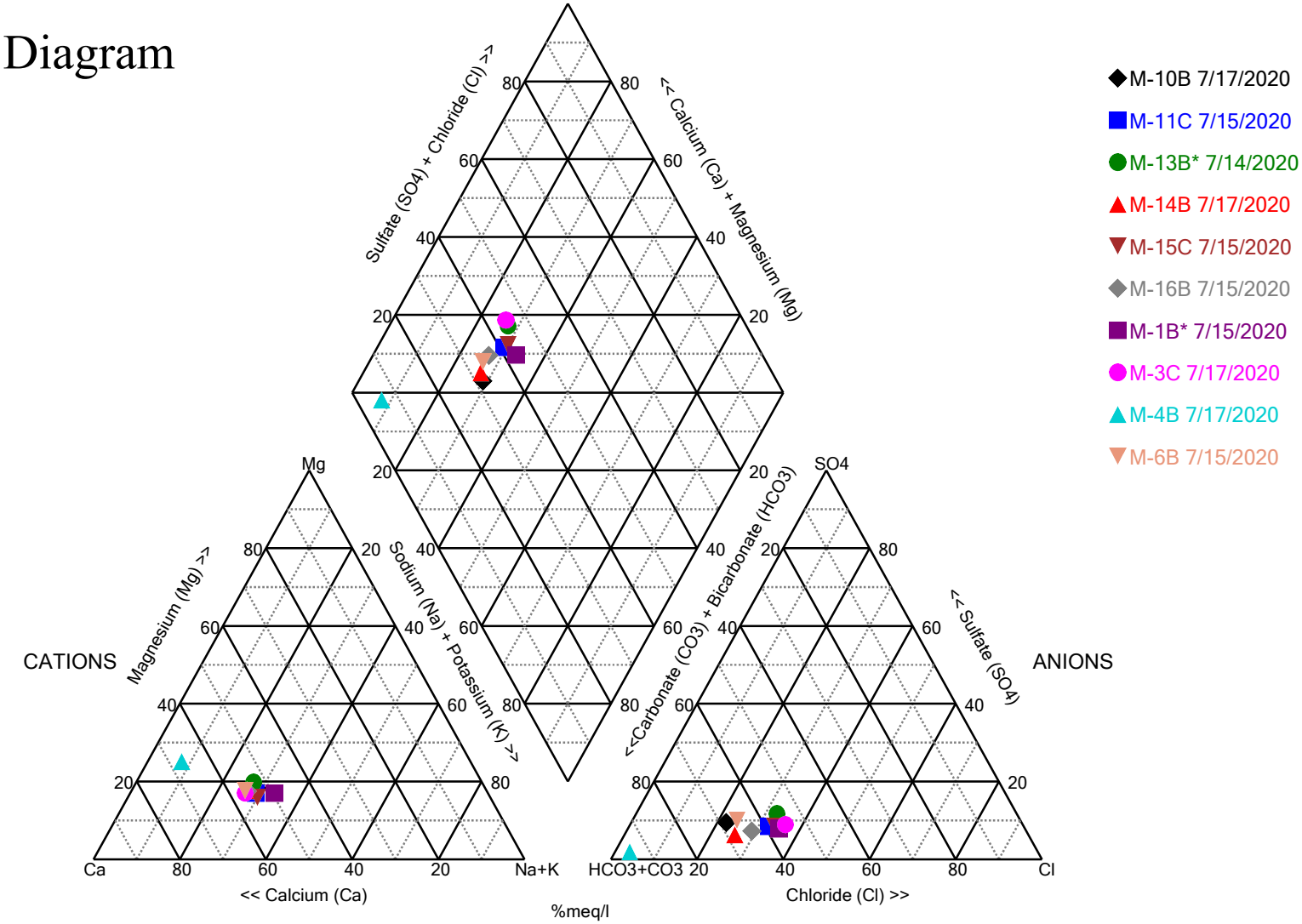


Analysis Run 10/3/2020 2:58 PM View: Unconfined Zone

Teapot Dome Landfill Client: Tulare County RMA Data: TDSanitas.mdb

Sanitas™ v.9.6.12 Software licensed to Tulare County. EPA

Piper Diagram



Analysis Run 10/3/2020 3:02 PM View: Upper Semi-Confined Zone

Teapot Dome Landfill Client: Tulare County RMA Data: TDSanitas.mdb

APPENDIX C-7

STATISTICAL ANALYSIS CALCULATIONS

UNCONFINED GROUNDWATER ZONE

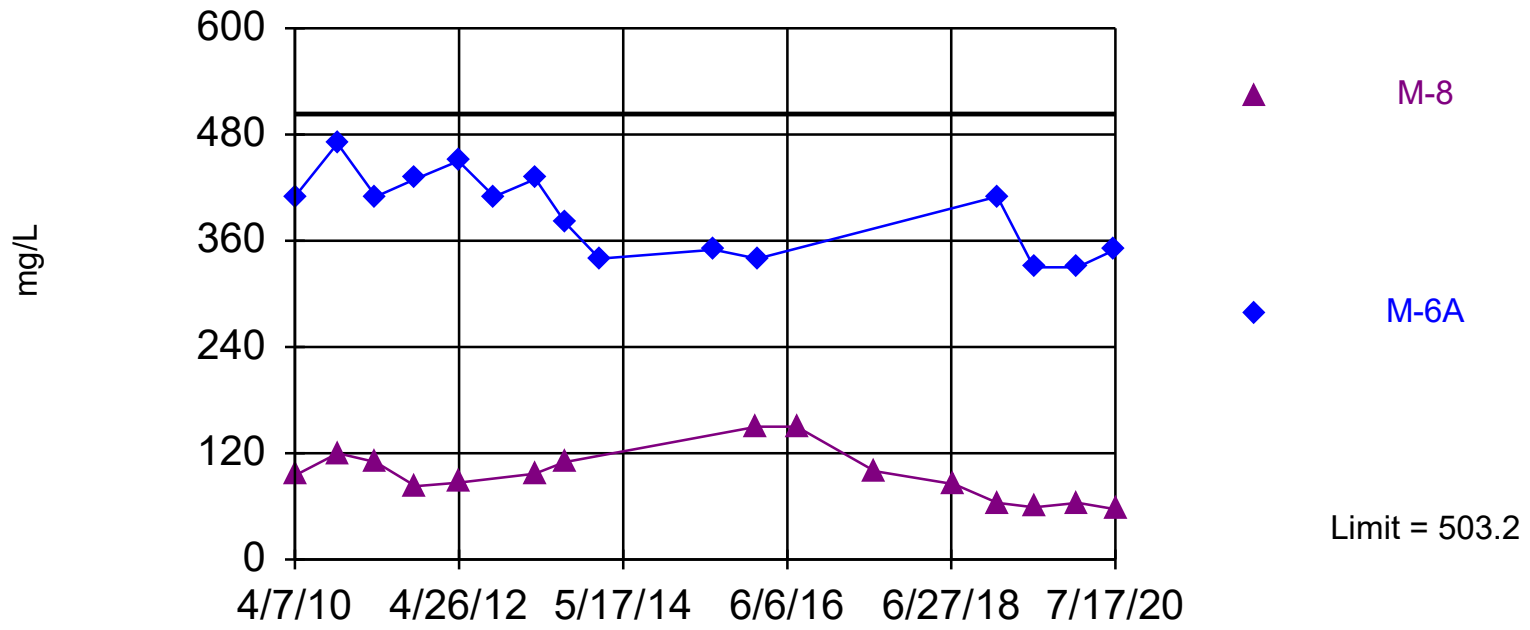
Batch Mode: Inter-Well Prediction Limit

Teapot Dome Landfill Client: Tulare County RMA Data: TDSanitas.mdb Printed 10/3/2020, 2:32 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
BICARBONATE (mg/L)	M-6A	503.2	n/a	7/15/2020	350	No	37	0	x^2	0.025	Param Inter
CALCIUM (mg/L)	M-6A	150	n/a	7/15/2020	100	No	37	0	n/a	0.02598	NP Inter (normality)
CARBONATE (mg/L)	M-6A	86	n/a	7/15/2020	1ND	No	37	97.3	n/a	0.02598	NP Inter (NDs)
CHLORIDE (mg/L)	M-6A	170	n/a	7/15/2020	79	No	37	0	n/a	0.02598	NP Inter (normality)
MAGNESIUM (mg/L)	M-6A	40	n/a	7/15/2020	24	No	37	0	n/a	0.02598	NP Inter (normality)
NITRATE as N (mg/L)	M-6A	18.55	n/a	7/15/2020	4.4	No	35	0	n/a	0.0274	NP Inter (normality)
POTASSIUM (mg/L)	M-6A	6.589	n/a	7/15/2020	3	No	37	0	ln(x)	0.025	Param Inter
SODIUM (mg/L)	M-6A	120	n/a	7/15/2020	41	No	37	0	n/a	0.02598	NP Inter (normality)
SULFATE (mg/L)	M-6A	87	n/a	7/15/2020	34	No	37	0	n/a	0.02598	NP Inter (normality)
TOTAL DISSOLVED SOLIDS (mg/L)	M-6A	900	n/a	7/15/2020	510	No	37	0	n/a	0.02598	NP Inter (normality)
BICARBONATE (mg/L)	M-8	503.2	n/a	7/17/2020	57	No	37	0	x^2	0.025	Param Inter
CALCIUM (mg/L)	M-8	150	n/a	7/17/2020	9	No	37	0	n/a	0.02598	NP Inter (normality)
CARBONATE (mg/L)	M-8	86	n/a	7/17/2020	1ND	No	37	97.3	n/a	0.02598	NP Inter (NDs)
CHLORIDE (mg/L)	M-8	170	n/a	7/17/2020	1.1	No	37	0	n/a	0.02598	NP Inter (normality)
MAGNESIUM (mg/L)	M-8	40	n/a	7/17/2020	2	No	37	0	n/a	0.02598	NP Inter (normality)
NITRATE as N (mg/L)	M-8	18.55	n/a	7/17/2020	0.23	No	35	0	n/a	0.0274	NP Inter (normality)
POTASSIUM (mg/L)	M-8	6.589	n/a	7/17/2020	1.1	No	37	0	ln(x)	0.025	Param Inter
SODIUM (mg/L)	M-8	120	n/a	7/17/2020	7.4	No	37	0	n/a	0.02598	NP Inter (normality)
SULFATE (mg/L)	M-8	87	n/a	7/17/2020	1.6	No	37	0	n/a	0.02598	NP Inter (normality)
TOTAL DISSOLVED SOLIDS (mg/L)	M-8	900	n/a	7/17/2020	80	No	37	0	n/a	0.02598	NP Inter (normality)

Within Limit

Prediction Limit
Interwell Parametric

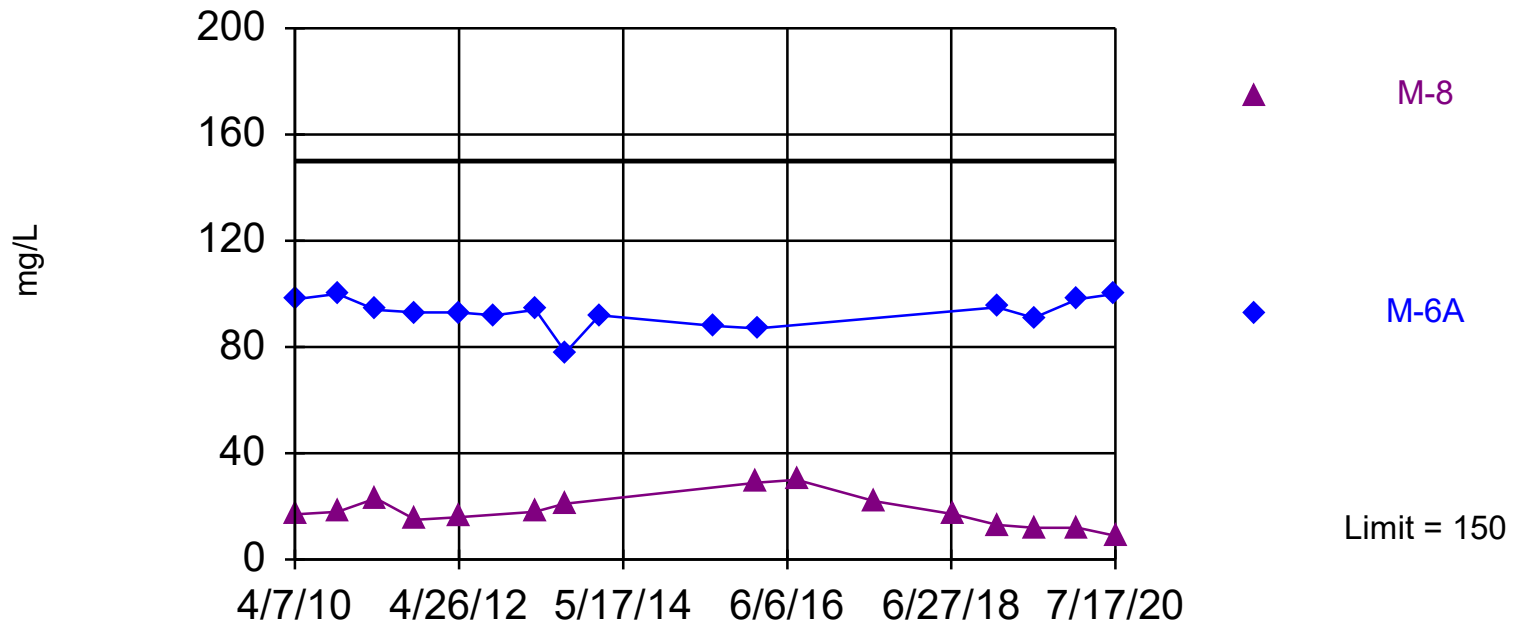


Background Data Summary (based on square transformation): Mean=119795, Std. Dev.=64901, n=37. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9364, critical = 0.936. Report alpha = 0.05. Individual comparison alpha = 0.025. Most recent point for each compliance well compared to limit.

Constituent: BICARBONATE Analysis Run 10/3/2020 2:31 PM View: Unconfined Zone
Teapot Dome Landfill Client: Tulare County RMA Data: TDSanitas.mdb

Within Limit

Prediction Limit
Interwell Non-parametric



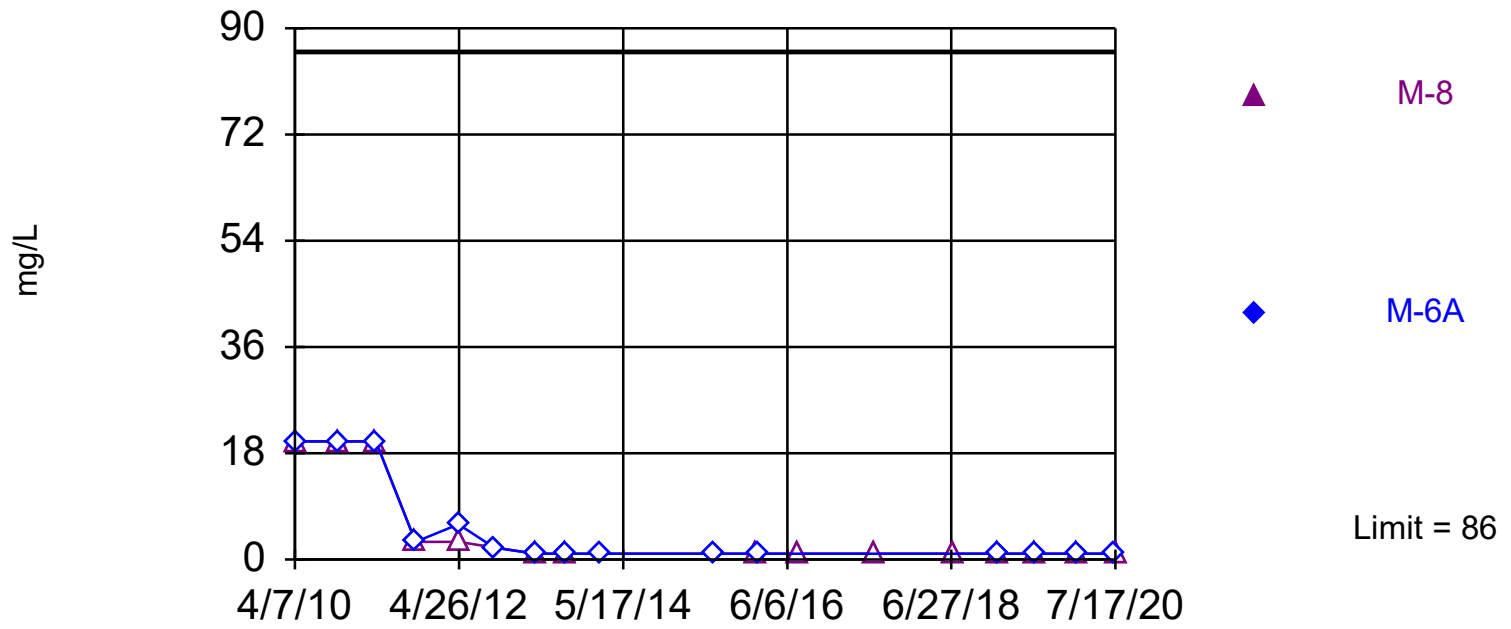
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 37 background values. Report alpha = 0.05128. Individual comparison alpha = 0.02598. Most recent point for each compliance well compared to limit.

Constituent: CALCIUM Analysis Run 10/3/2020 2:31 PM View: Unconfined Zone
Teapot Dome Landfill Client: Tulare County RMA Data: TDSanitas.mdb

Sanitas™ v.9.6.12 Software licensed to Tulare County. EPA
Hollow symbols indicate censored values.

Within Limit

Prediction Limit
Interwell Non-parametric

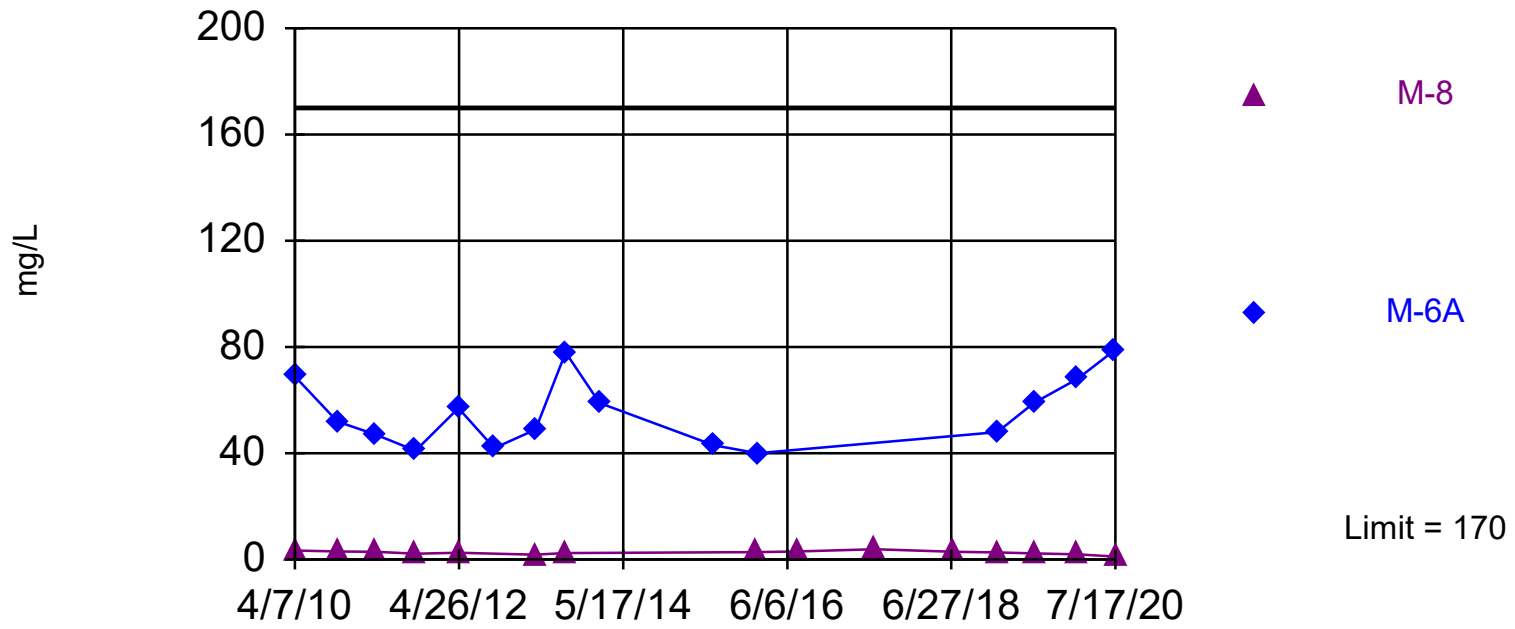


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 37 background values. 97.3% NDs. Report alpha = 0.05128. Individual comparison alpha = 0.02598. Most recent point for each compliance well compared to limit.

Constituent: CARBONATE Analysis Run 10/3/2020 2:31 PM View: Unconfined Zone
Teapot Dome Landfill Client: Tulare County RMA Data: TDSanitas.mdb

Within Limit

Prediction Limit
Interwell Non-parametric

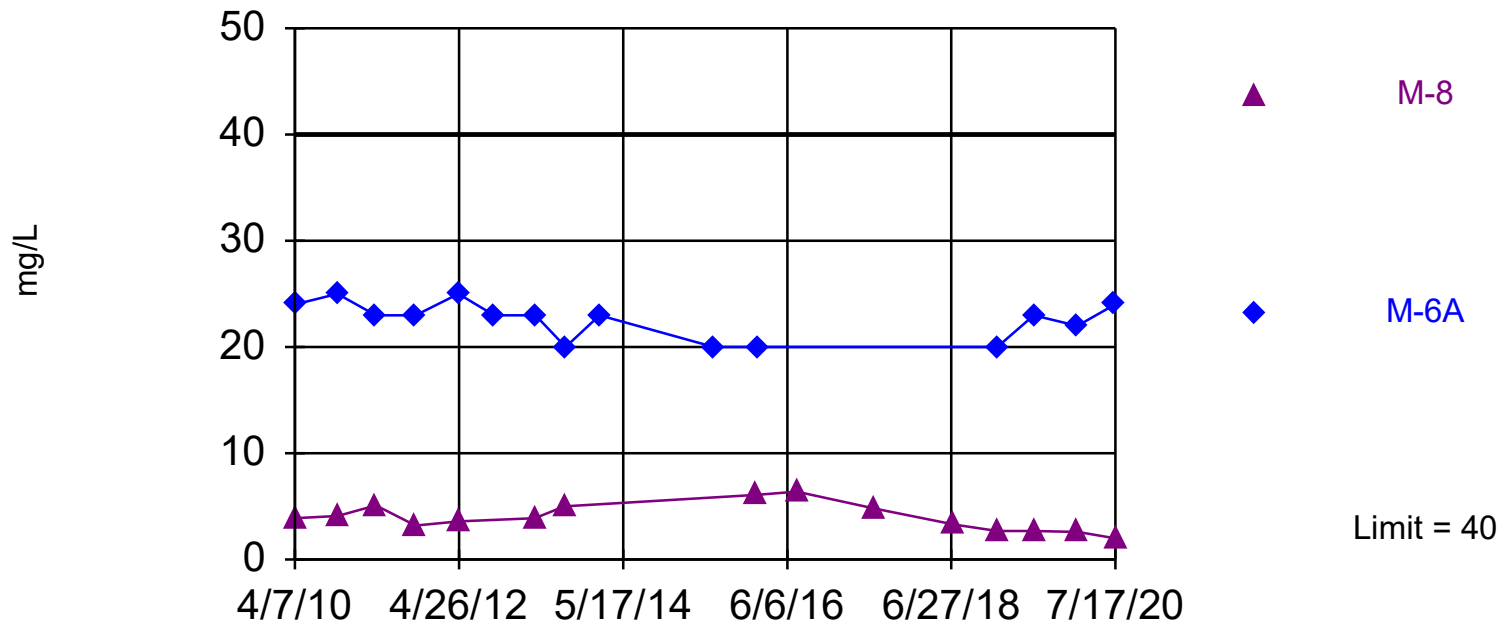


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 37 background values. Report alpha = 0.05128. Individual comparison alpha = 0.02598. Most recent point for each compliance well compared to limit.

Constituent: CHLORIDE Analysis Run 10/3/2020 2:31 PM View: Unconfined Zone
Teapot Dome Landfill Client: Tulare County RMA Data: TDSanitas.mdb

Within Limit

Prediction Limit
Interwell Non-parametric

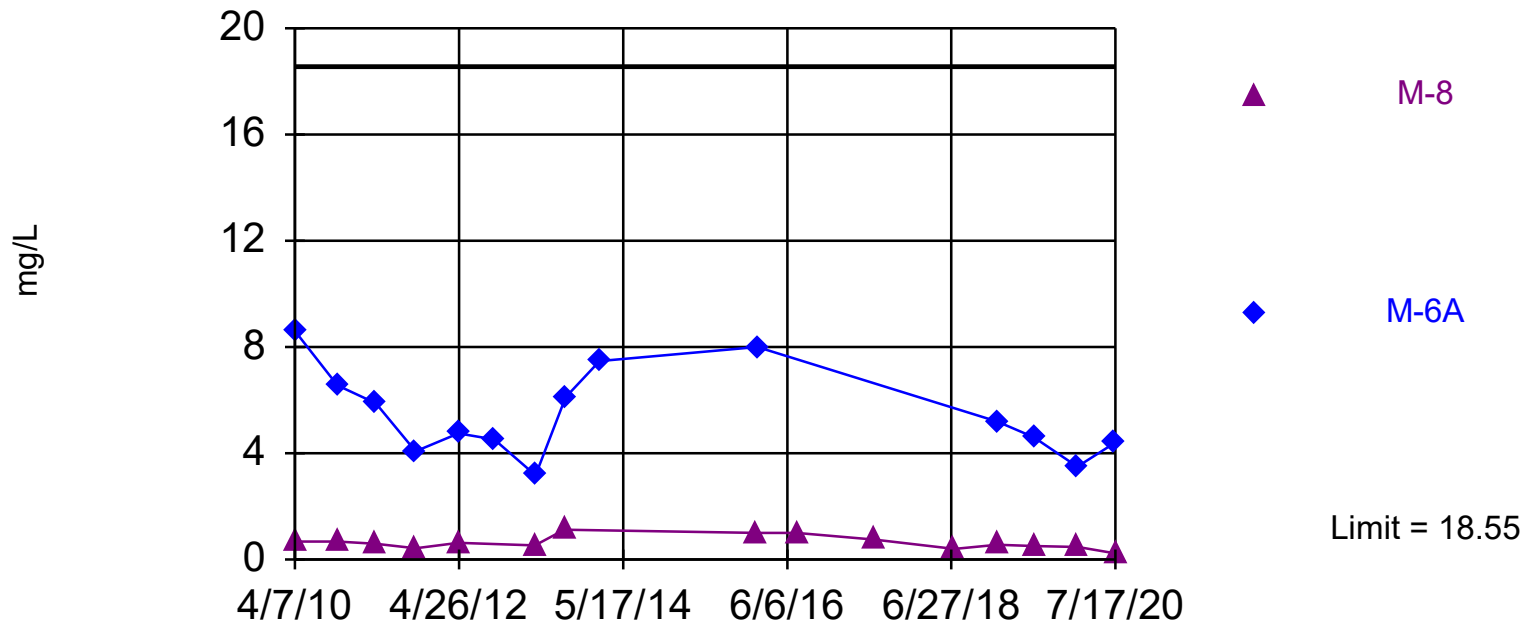


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 37 background values. Report alpha = 0.05128. Individual comparison alpha = 0.02598. Most recent point for each compliance well compared to limit.

Constituent: MAGNESIUM Analysis Run 10/3/2020 2:31 PM View: Unconfined Zone
Teapot Dome Landfill Client: Tulare County RMA Data: TDSanitas.mdb

Within Limit

Prediction Limit
Interwell Non-parametric

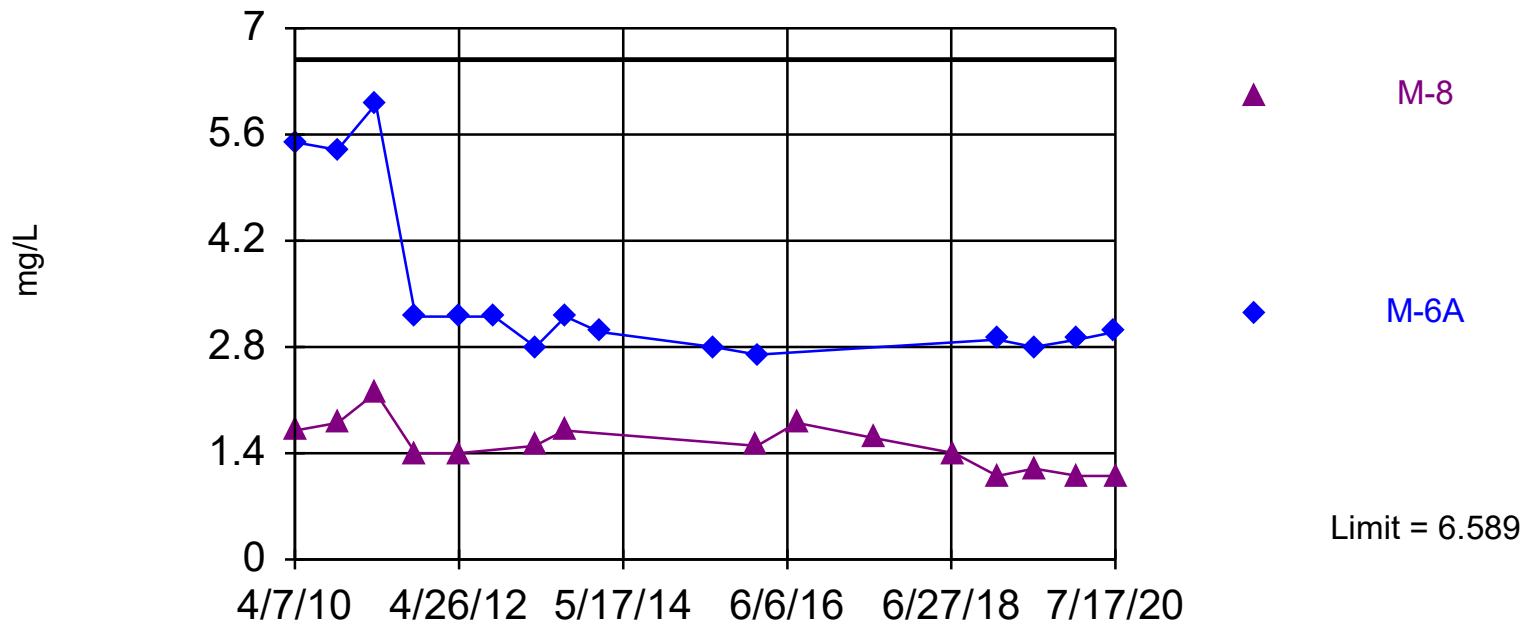


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 35 background values. Report alpha = 0.05405. Individual comparison alpha = 0.0274. Most recent point for each compliance well compared to limit.

Constituent: NITRATE as N Analysis Run 10/3/2020 2:31 PM View: Unconfined Zone
Teapot Dome Landfill Client: Tulare County RMA Data: TDSanitas.mdb

Within Limit

Prediction Limit
Interwell Parametric

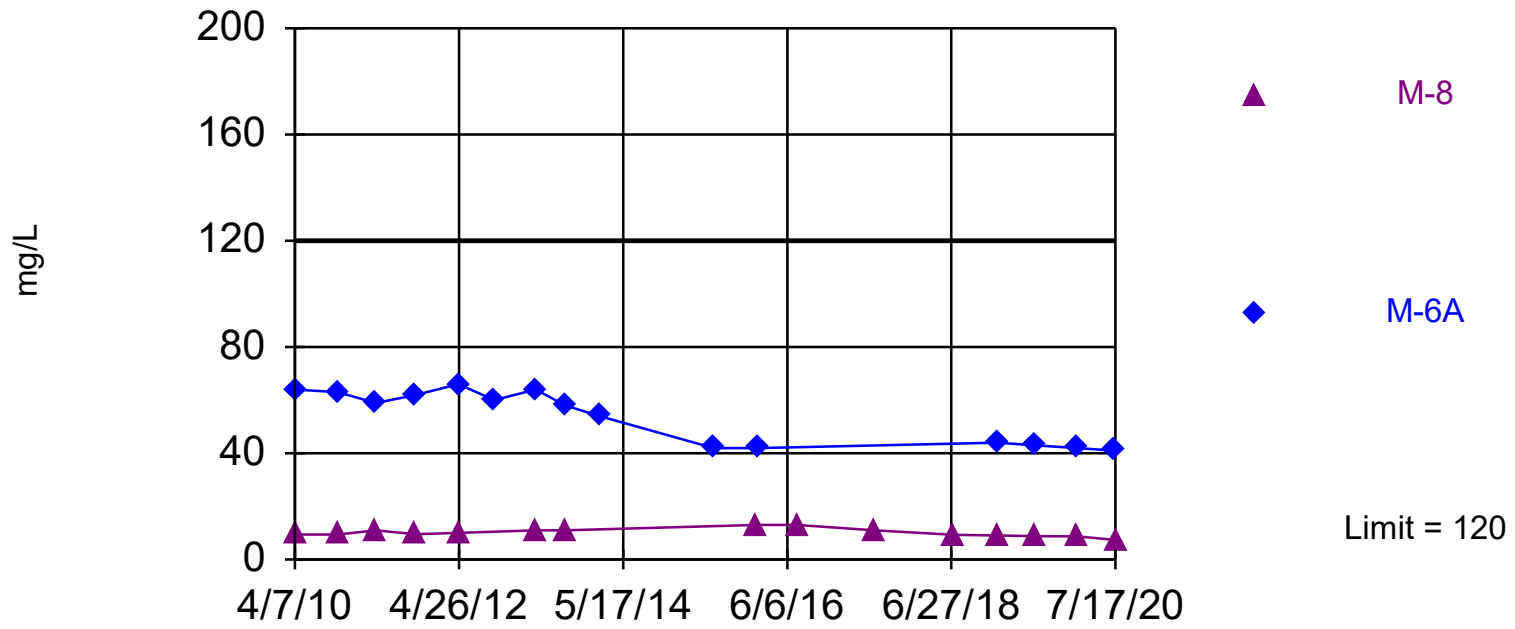


Background Data Summary (based on natural log transformation): Mean=1.234, Std. Dev.=0.3169, n=37. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9365, critical = 0.936. Report alpha = 0.05. Individual comparison alpha = 0.025. Most recent point for each compliance well compared to limit.

Constituent: POTASSIUM Analysis Run 10/3/2020 2:31 PM View: Unconfined Zone
Teapot Dome Landfill Client: Tulare County RMA Data: TDSanitas.mdb

Within Limit

Prediction Limit
Interwell Non-parametric

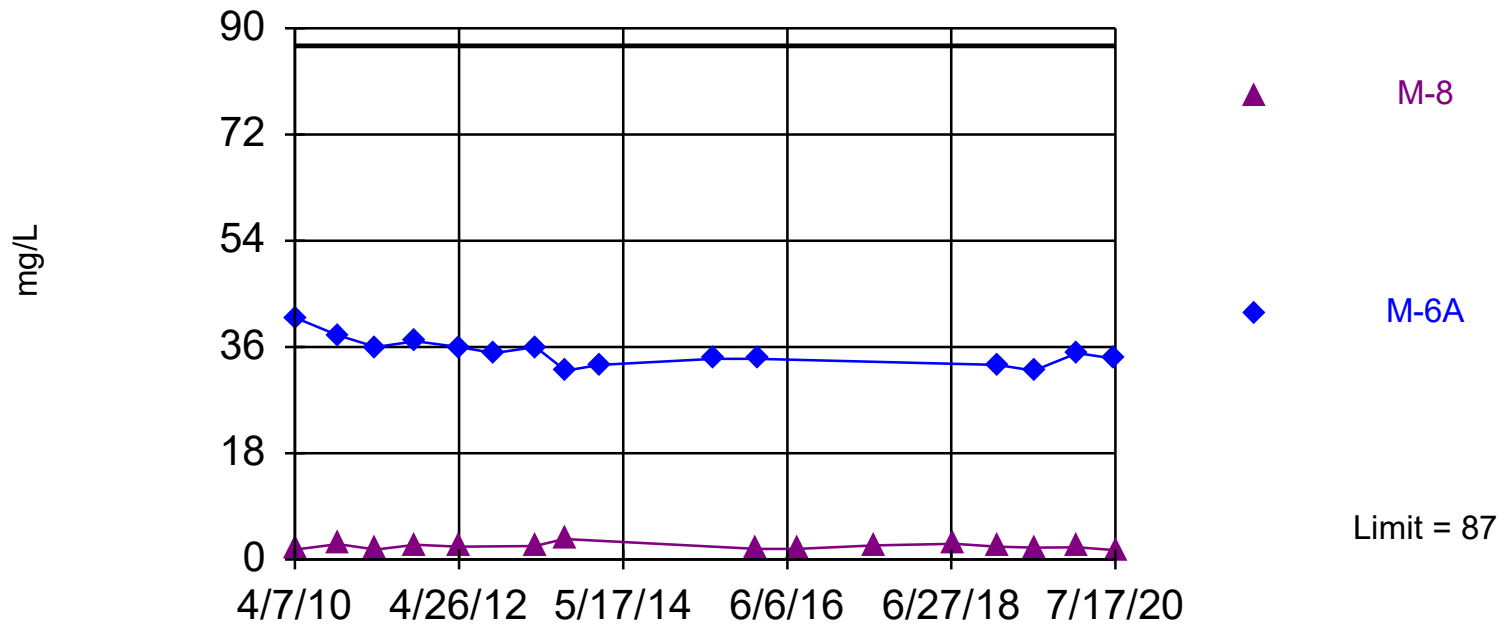


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 37 background values. Report alpha = 0.05128. Individual comparison alpha = 0.02598. Most recent point for each compliance well compared to limit.

Constituent: SODIUM Analysis Run 10/3/2020 2:31 PM View: Unconfined Zone
Teapot Dome Landfill Client: Tulare County RMA Data: TDSanitas.mdb

Within Limit

Prediction Limit
Interwell Non-parametric

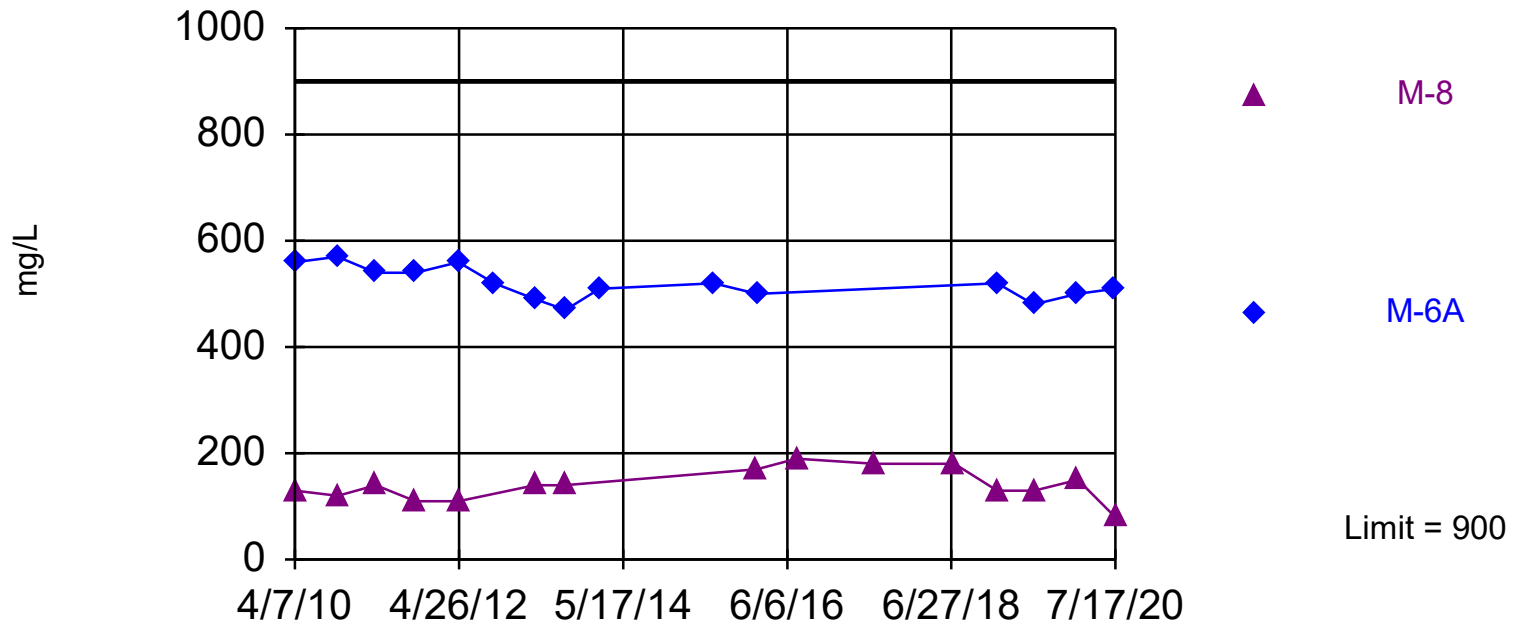


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 37 background values. Report alpha = 0.05128. Individual comparison alpha = 0.02598. Most recent point for each compliance well compared to limit.

Constituent: SULFATE Analysis Run 10/3/2020 2:31 PM View: Unconfined Zone
Teapot Dome Landfill Client: Tulare County RMA Data: TDSanitas.mdb

Within Limit

Prediction Limit
Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 37 background values. Report alpha = 0.05128. Individual comparison alpha = 0.02598. Most recent point for each compliance well compared to limit.

Constituent: TOTAL DISSOLVED SOLIDS Analysis Run 10/3/2020 2:31 PM View: Unc
Teapot Dome Landfill Client: Tulare County RMA Data: TDSanitas.mdb

UPPER SEMI-CONFINED GROUNDWATER ZONE

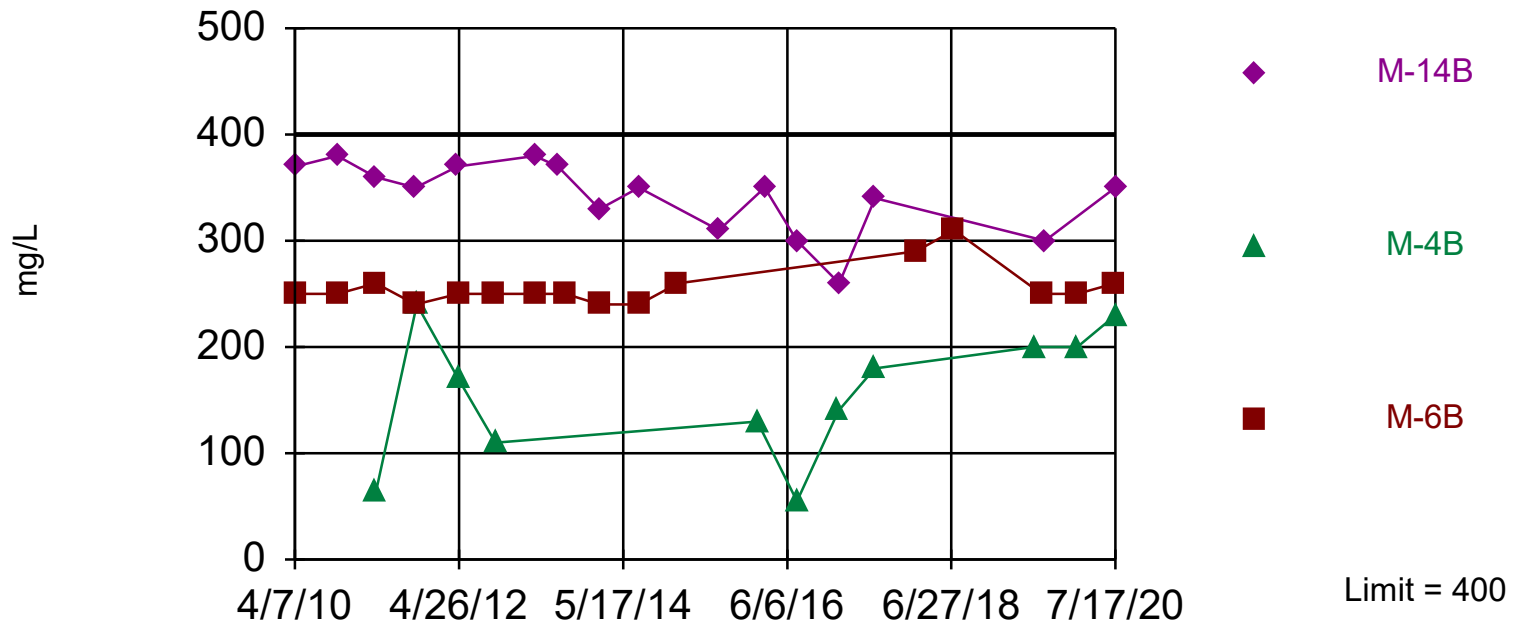
Batch Mode: Inter-Well Prediction Limit

Teapot Dome Landfill Client: Tulare County RMA Data: TDSanitas.mdb Printed 10/3/2020, 2:39 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
BICARBONATE (mg/L)	M-14B	400	n/a	7/17/2020	350	No	66	0	n/a	0.01471	NP Inter (normality)
CALCIUM (mg/L)	M-14B	99.43	n/a	7/17/2020	99	No	67	0	x^6	0.01667	Param Inter
CARBONATE (mg/L)	M-14B	42	n/a	7/17/2020	1ND	No	66	96.97	n/a	0.01471	NP Inter (NDs)
CHLORIDE (mg/L)	M-14B	120	n/a	7/17/2020	73	No	67	0	n/a	0.01449	NP Inter (normality)
MAGNESIUM (mg/L)	M-14B	22	n/a	7/17/2020	19	No	67	0	n/a	0.01449	NP Inter (normality)
NITRATE as N (mg/L)	M-14B	19.68	n/a	7/17/2020	6.6	No	65	0	n/a	0.01493	NP Inter (normality)
POTASSIUM (mg/L)	M-14B	6.2	n/a	7/17/2020	3.3	No	67	0	n/a	0.01449	NP Inter (normality)
SODIUM (mg/L)	M-14B	79	n/a	7/17/2020	54	No	67	0	n/a	0.01449	NP Inter (normality)
SULFATE (mg/L)	M-14B	76	n/a	7/17/2020	26	No	67	0	n/a	0.01449	NP Inter (normality)
TOTAL DISSOLVED SOLIDS (mg/L)	M-14B	634.8	n/a	7/17/2020	500	No	67	0	No	0.01667	Param Inter
BICARBONATE (mg/L)	M-4B	400	n/a	7/17/2020	230	No	66	0	n/a	0.01471	NP Inter (normality)
CALCIUM (mg/L)	M-4B	99.43	n/a	7/17/2020	57	No	67	0	x^6	0.01667	Param Inter
CARBONATE (mg/L)	M-4B	42	n/a	7/17/2020	1ND	No	66	96.97	n/a	0.01471	NP Inter (NDs)
CHLORIDE (mg/L)	M-4B	120	n/a	7/17/2020	3.4	No	67	0	n/a	0.01449	NP Inter (normality)
MAGNESIUM (mg/L)	M-4B	22	n/a	7/17/2020	13	No	67	0	n/a	0.01449	NP Inter (normality)
NITRATE as N (mg/L)	M-4B	19.68	n/a	7/17/2020	0.17	No	65	0	n/a	0.01493	NP Inter (normality)
POTASSIUM (mg/L)	M-4B	6.2	n/a	7/17/2020	2.5	No	67	0	n/a	0.01449	NP Inter (normality)
SODIUM (mg/L)	M-4B	79	n/a	7/17/2020	5.9	No	67	0	n/a	0.01449	NP Inter (normality)
SULFATE (mg/L)	M-4B	76	n/a	7/17/2020	4.1	No	67	0	n/a	0.01449	NP Inter (normality)
TOTAL DISSOLVED SOLIDS (mg/L)	M-4B	634.8	n/a	7/17/2020	270	No	67	0	No	0.01667	Param Inter
BICARBONATE (mg/L)	M-6B	400	n/a	7/15/2020	260	No	66	0	n/a	0.01471	NP Inter (normality)
CALCIUM (mg/L)	M-6B	99.43	n/a	7/15/2020	83	No	67	0	x^6	0.01667	Param Inter
CARBONATE (mg/L)	M-6B	42	n/a	7/15/2020	1ND	No	66	96.97	n/a	0.01471	NP Inter (NDs)
CHLORIDE (mg/L)	M-6B	120	n/a	7/15/2020	53	No	67	0	n/a	0.01449	NP Inter (normality)
MAGNESIUM (mg/L)	M-6B	22	n/a	7/15/2020	16	No	67	0	n/a	0.01449	NP Inter (normality)
NITRATE as N (mg/L)	M-6B	19.68	n/a	7/15/2020	9.1	No	65	0	n/a	0.01493	NP Inter (normality)
POTASSIUM (mg/L)	M-6B	6.2	n/a	7/15/2020	2.9	No	67	0	n/a	0.01449	NP Inter (normality)
SODIUM (mg/L)	M-6B	79	n/a	7/15/2020	43	No	67	0	n/a	0.01449	NP Inter (normality)
SULFATE (mg/L)	M-6B	76	n/a	7/15/2020	31	No	67	0	n/a	0.01449	NP Inter (normality)
TOTAL DISSOLVED SOLIDS (mg/L)	M-6B	634.8	n/a	7/15/2020	420	No	67	0	No	0.01667	Param Inter

Within Limit

Prediction Limit
Interwell Non-parametric

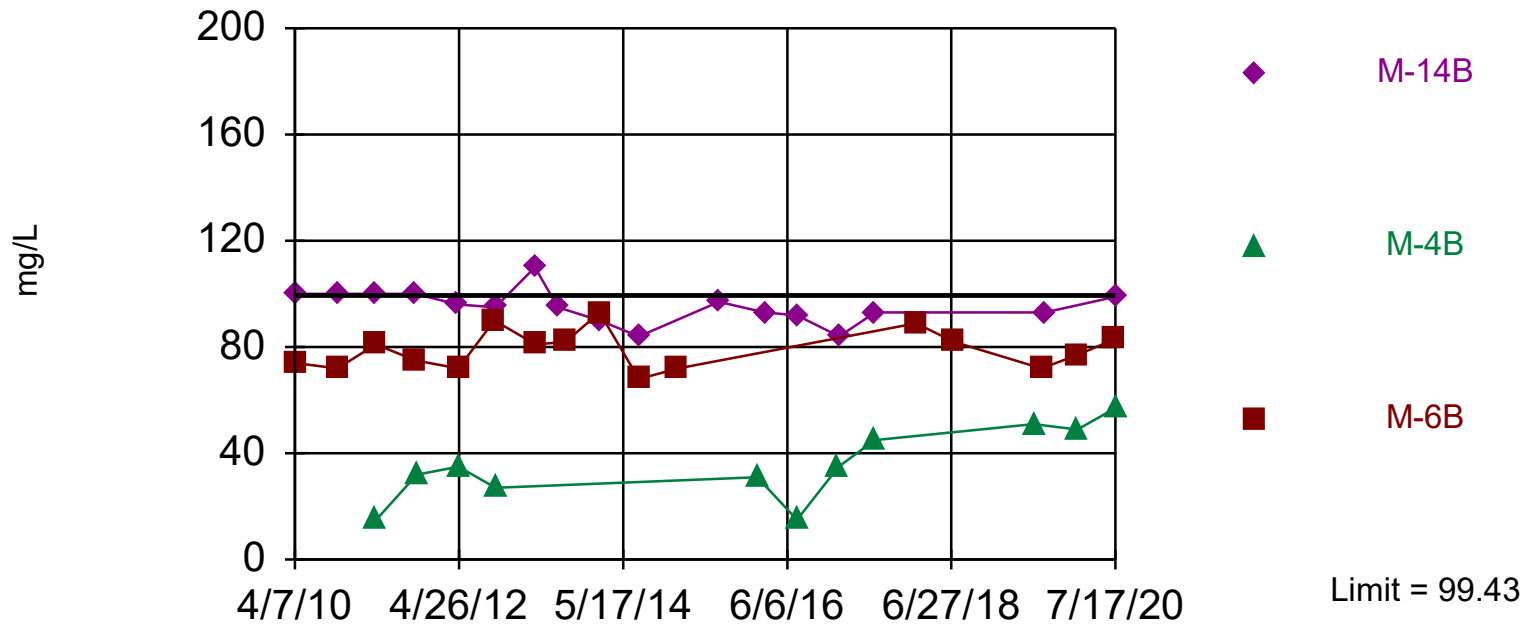


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 66 background values. Report alpha = 0.04348. Individual comparison alpha = 0.01471. Most recent point for each compliance well compared to limit.

Constituent: BICARBONATE Analysis Run 10/3/2020 2:38 PM View: Upper Semi-Confi
Teapot Dome Landfill Client: Tulare County RMA Data: TDSanitas.mdb

Within Limit

Prediction Limit
Interwell Parametric



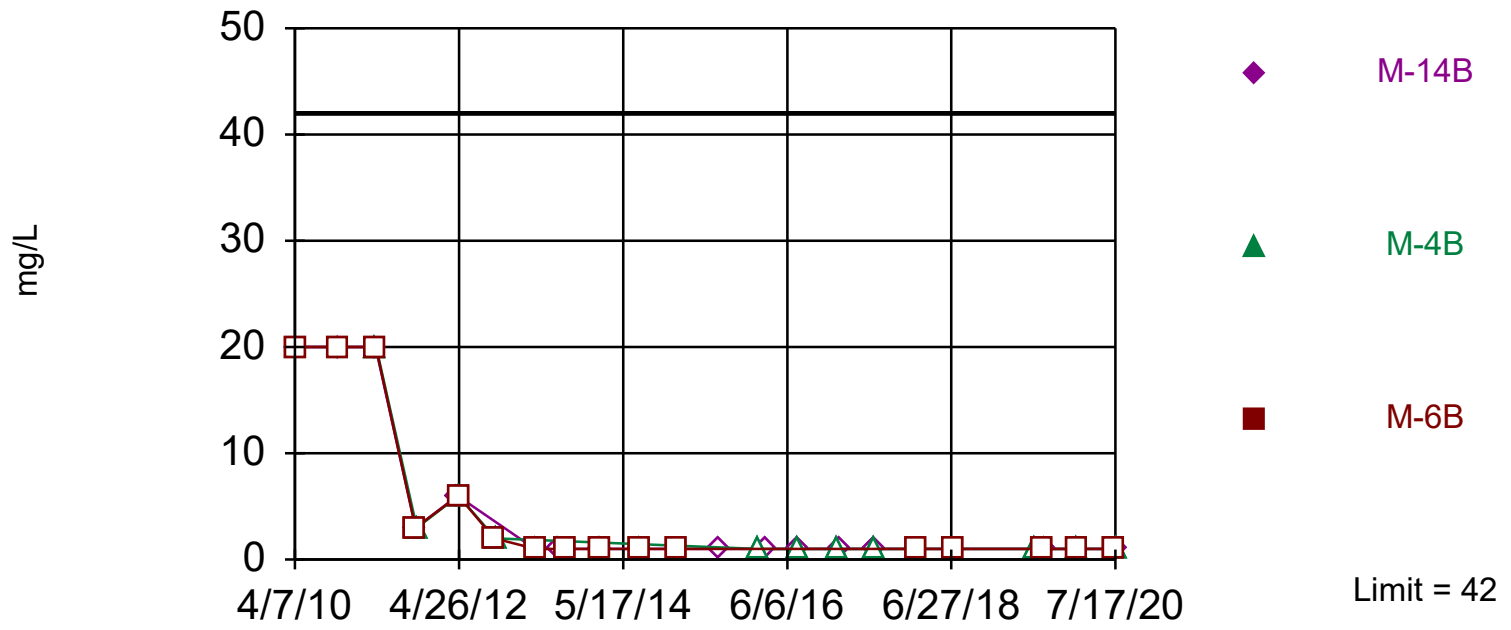
Background Data Summary (based on x^6 transformation): Mean=5.4e11, Std. Dev.=2.0e11, n=67. Normality test: Shapiro Francia @alpha = 0.05, calculated = 0.9737, critical = 0.966. Report alpha = 0.05. Individual comparison alpha = 0.01667. Most recent point for each compliance well compared to limit.

Constituent: CALCIUM Analysis Run 10/3/2020 2:38 PM View: Upper Semi-Confined Z
Teapot Dome Landfill Client: Tulare County RMA Data: TDSanitas.mdb

Sanitas™ v.9.6.12 Software licensed to Tulare County. EPA
Hollow symbols indicate censored values.

Within Limit

Prediction Limit
Interwell Non-parametric

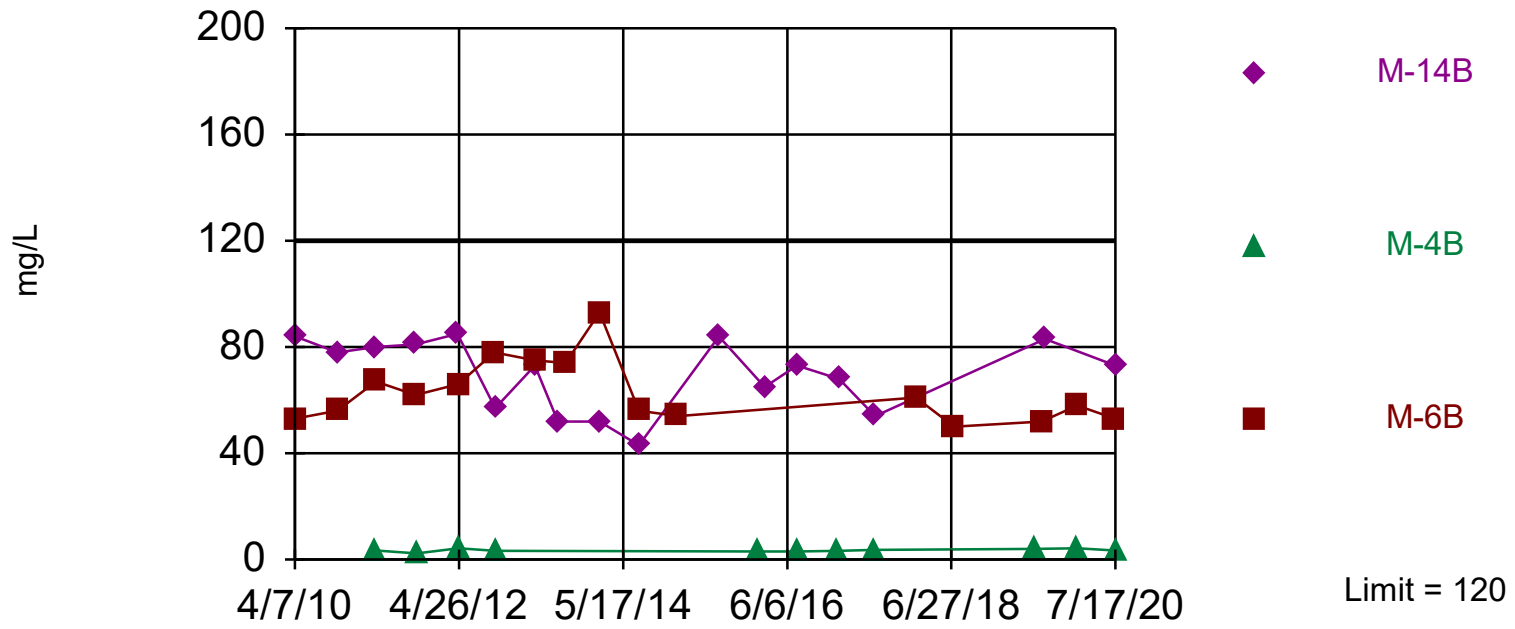


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 66 background values. 96.97% NDs. Report alpha = 0.04348. Individual comparison alpha = 0.01471. Most recent point for each compliance well compared to limit.

Constituent: CARBONATE Analysis Run 10/3/2020 2:38 PM View: Upper Semi-Confine
Teapot Dome Landfill Client: Tulare County RMA Data: TDSanitas.mdb

Within Limit

Prediction Limit
Interwell Non-parametric

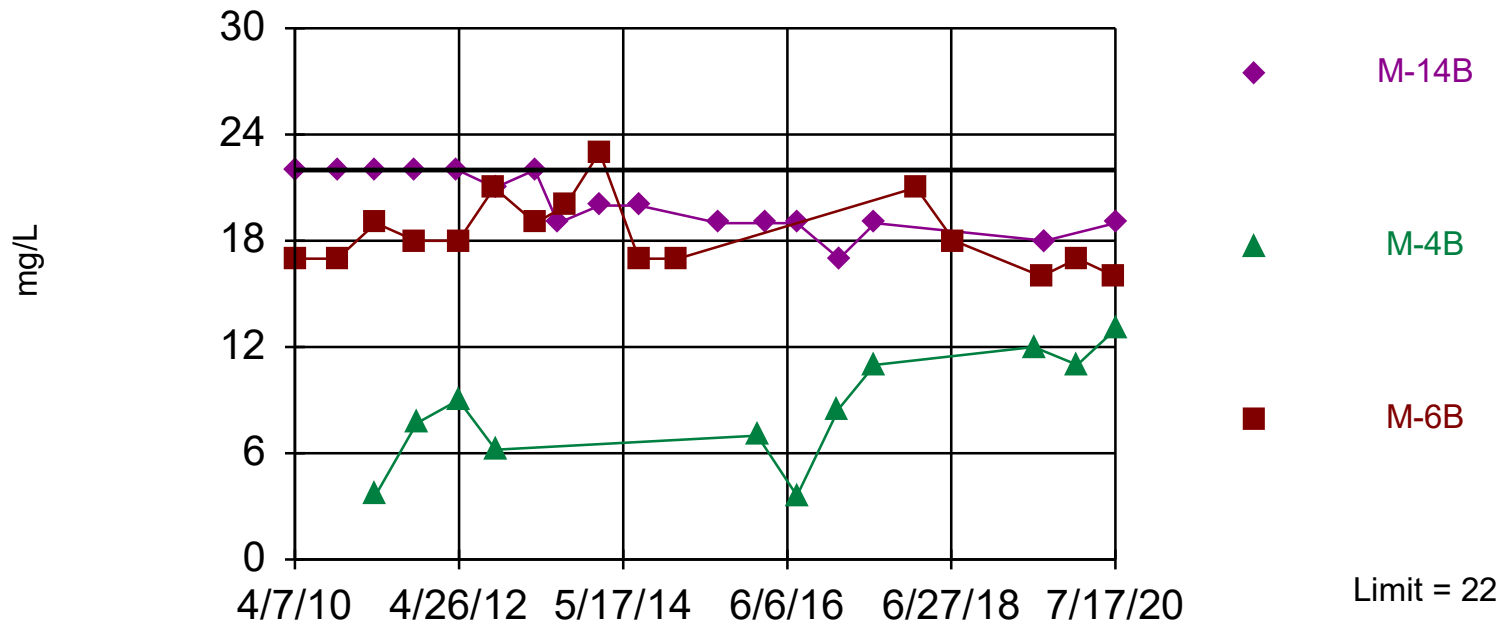


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 67 background values. Report alpha = 0.04286. Individual comparison alpha = 0.01449. Most recent point for each compliance well compared to limit.

Constituent: CHLORIDE Analysis Run 10/3/2020 2:38 PM View: Upper Semi-Confined
Teapot Dome Landfill Client: Tulare County RMA Data: TDSanitas.mdb

Within Limit

Prediction Limit
Interwell Non-parametric

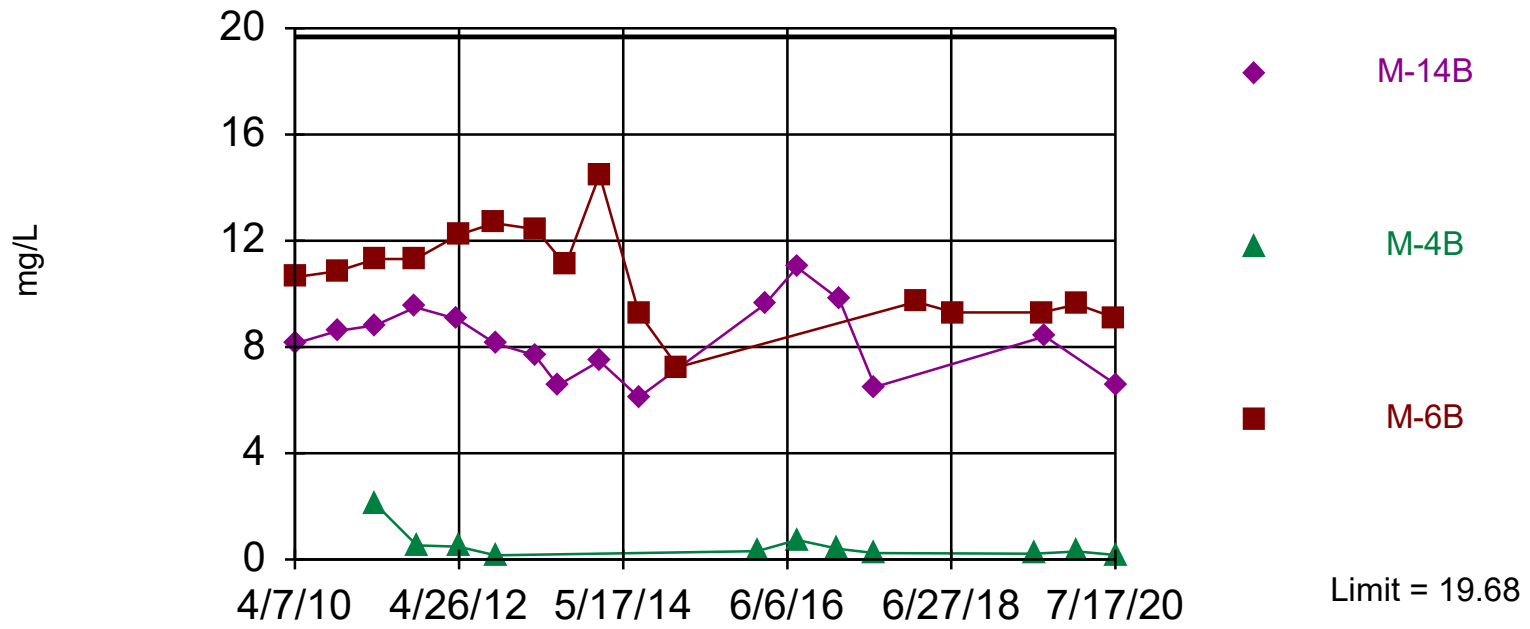


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 67 background values. Report alpha = 0.04286. Individual comparison alpha = 0.01449. Most recent point for each compliance well compared to limit.

Constituent: MAGNESIUM Analysis Run 10/3/2020 2:38 PM View: Upper Semi-Confine
Teapot Dome Landfill Client: Tulare County RMA Data: TDSanitas.mdb

Within Limit

Prediction Limit
Interwell Non-parametric

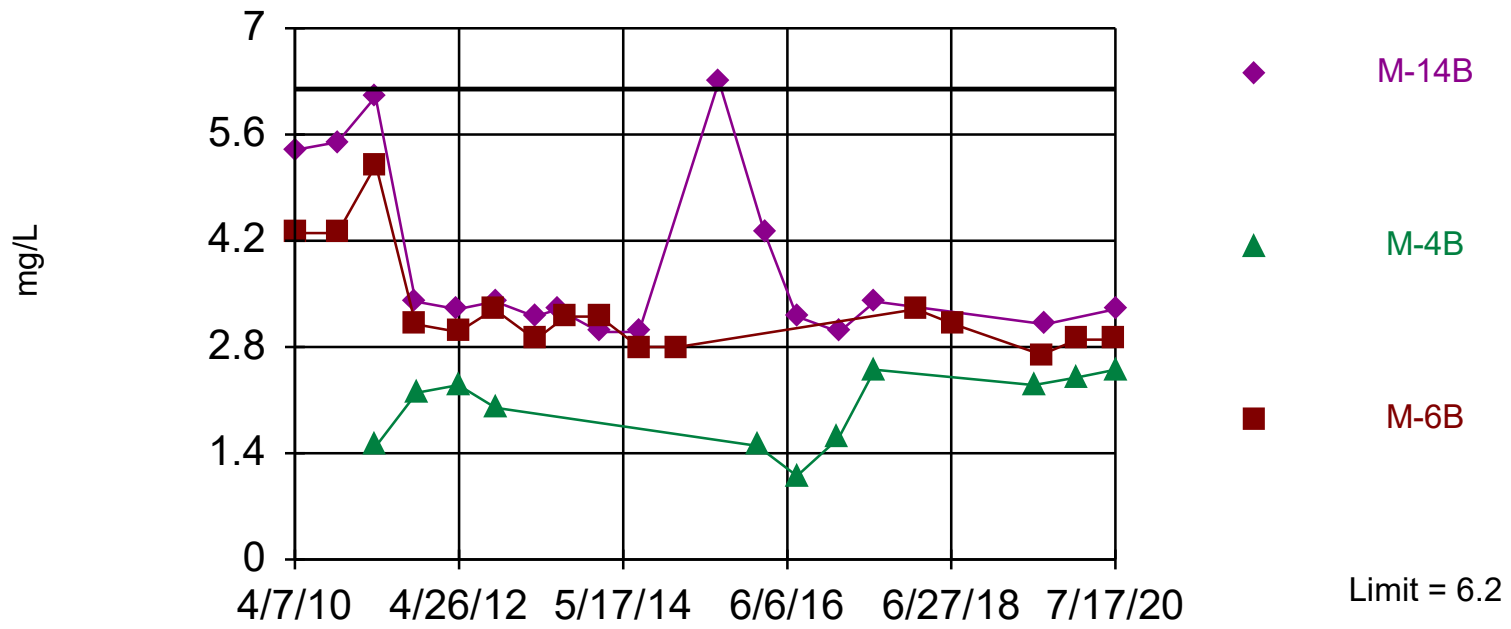


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 65 background values. Report alpha = 0.04412. Individual comparison alpha = 0.01493. Most recent point for each compliance well compared to limit.

Constituent: NITRATE as N Analysis Run 10/3/2020 2:38 PM View: Upper Semi-Confin
Teapot Dome Landfill Client: Tulare County RMA Data: TDSanitas.mdb

Within Limit

Prediction Limit
Interwell Non-parametric

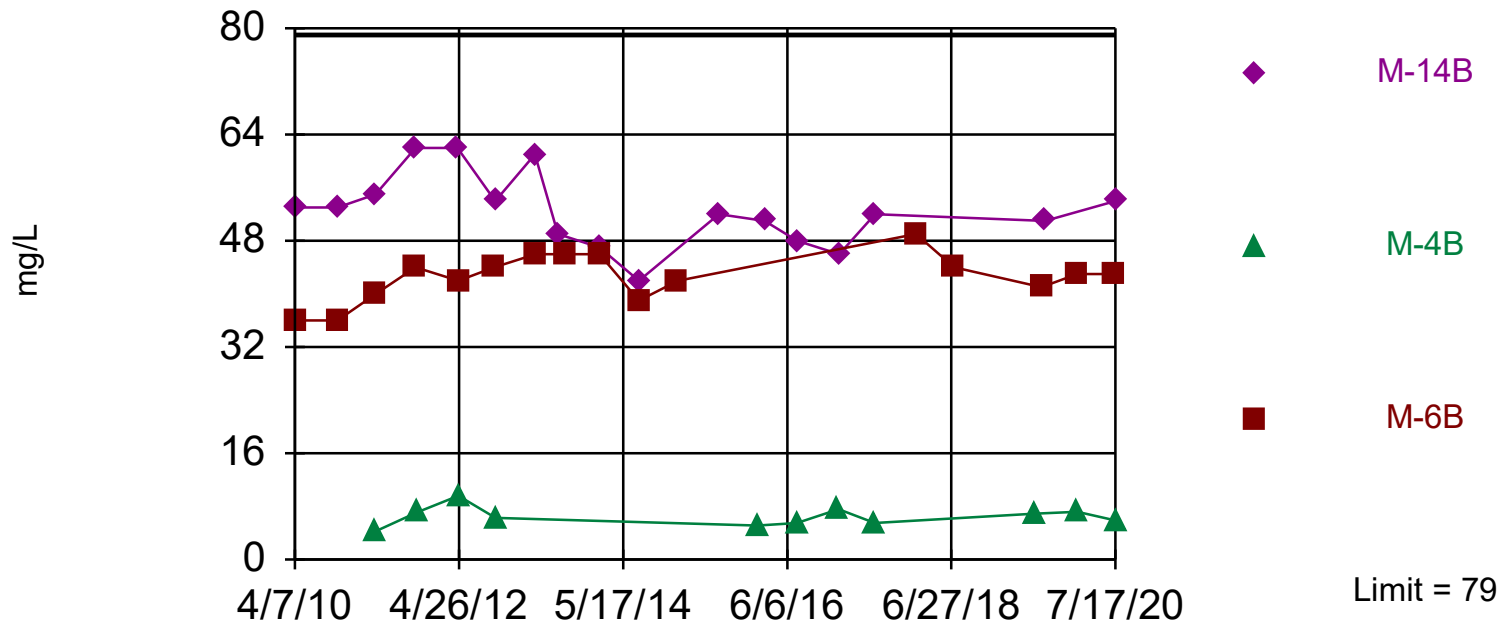


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 67 background values. Report alpha = 0.04286. Individual comparison alpha = 0.01449. Most recent point for each compliance well compared to limit.

Constituent: POTASSIUM Analysis Run 10/3/2020 2:38 PM View: Upper Semi-Confine
Teapot Dome Landfill Client: Tulare County RMA Data: TDSanitas.mdb

Within Limit

Prediction Limit
Interwell Non-parametric

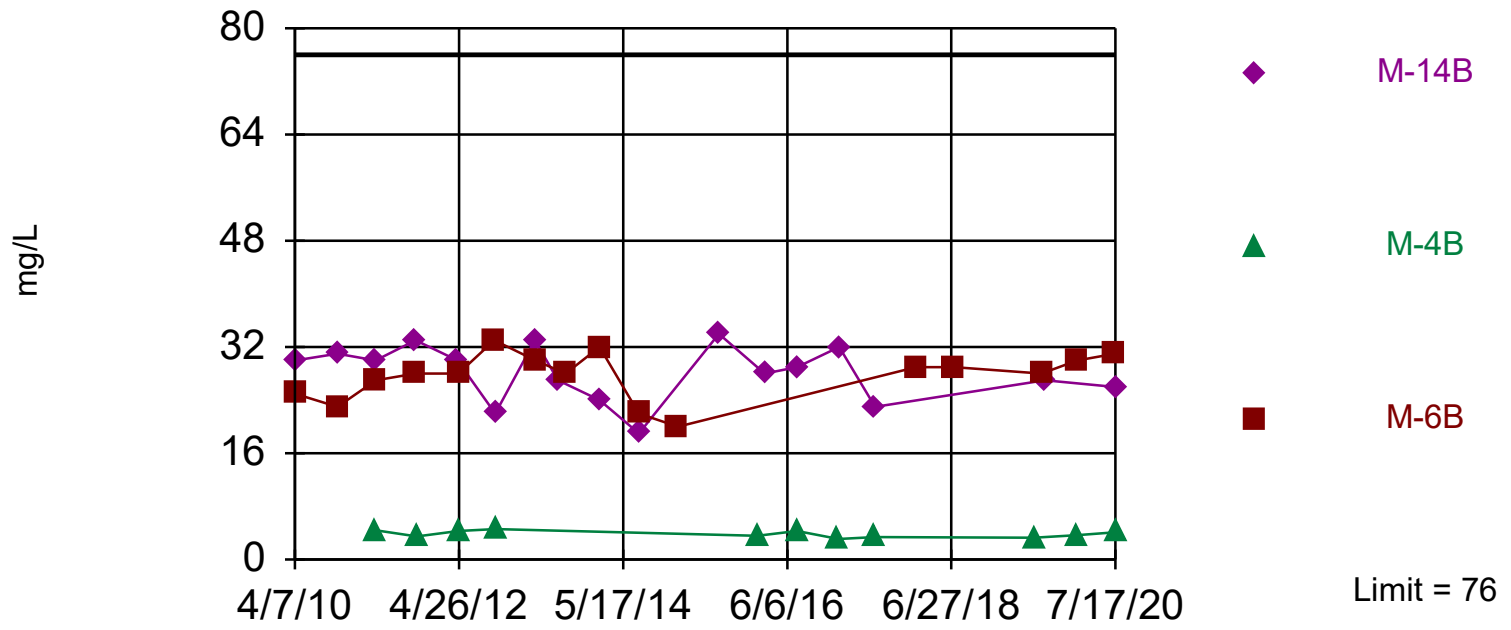


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 67 background values. Report alpha = 0.04286. Individual comparison alpha = 0.01449. Most recent point for each compliance well compared to limit.

Constituent: SODIUM Analysis Run 10/3/2020 2:38 PM View: Upper Semi-Confined Zo
Teapot Dome Landfill Client: Tulare County RMA Data: TDSanitas.mdb

Within Limit

Prediction Limit
Interwell Non-parametric

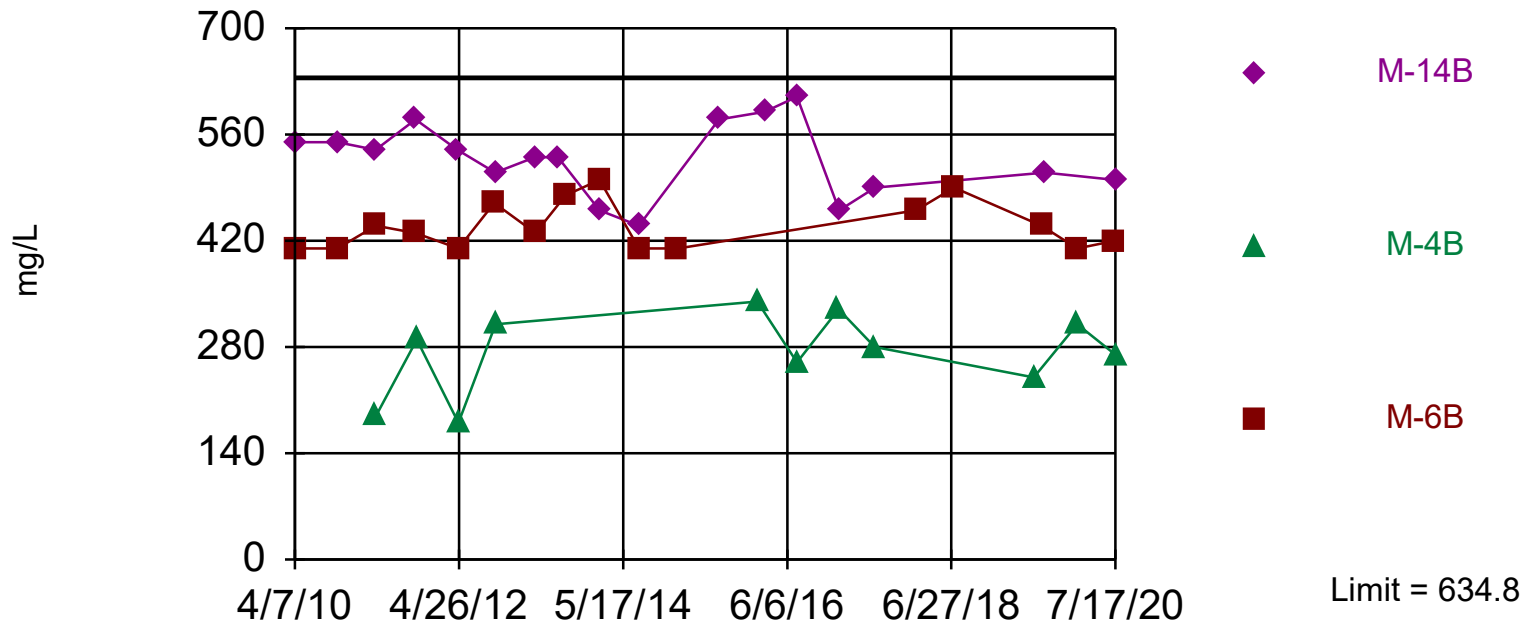


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 67 background values. Report alpha = 0.04286. Individual comparison alpha = 0.01449. Most recent point for each compliance well compared to limit.

Constituent: SULFATE Analysis Run 10/3/2020 2:38 PM View: Upper Semi-Confined Z
Teapot Dome Landfill Client: Tulare County RMA Data: TDSanitas.mdb

Within Limit

Prediction Limit
Interwell Parametric



Background Data Summary: Mean=517.3, Std. Dev.=53.67, n=67. Normality test: Shapiro Francia @alpha = 0.05, calculated = 0.9691, critical = 0.966. Report alpha = 0.05. Individual comparison alpha = 0.01667. Most recent point for each compliance well compared to limit.

Constituent: TOTAL DISSOLVED SOLIDS Analysis Run 10/3/2020 2:38 PM View: Upp
Teapot Dome Landfill Client: Tulare County RMA Data: TDSanitas.mdb

COUNTY OF TULARE
SOLID WASTE DISPOSAL SITES
STATISTICAL ANALYSIS PROTOCOL

Statistical analyses can be performed as inter-well or intra-well comparisons. Inter-well method compares the most recent constituent result(s) at each down-gradient monitoring well to the historical results at the background well(s) or up-gradient well(s) to evaluate if there has been a statistically significant change in the groundwater. Intra-well methods compare the historical concentrations of one well to the recent concentration(s) from the same well to evaluate if there has been a statistically significant change in the groundwater.

According to Title 27 California Code of Regulations § 20415.e.8, the allowable data analysis methods are ANOVA (parametric and nonparametric), Tolerance Intervals (Prediction Intervals), Control Charts, or other statistical methods. For this facility, the Prediction Interval method will be used to determine the upper prediction limit(s) for inter- or intra-well comparisons. There are parametric and nonparametric Prediction Interval tests; the distribution of the data determines which type of test will be used. The parametric method is used when the data are normally distributed. For a constituent where the data is not normally distributed, the nonparametric method is used.

A potential release from a Waste Management Unit is indicated when the most recent constituent result is outside the upper prediction limit(s) calculated from the historical background data. If the recent constituent result is outside the upper prediction limit(s) then verification sampling will occur to verify or refute the original result.

The data will be analyzed using the Sanitas™ program, which is specifically designed to evaluate groundwater quality data at landfill sites in accordance with the requirements of California Code of Regulations Title 27 and has been approved by the Regional Water Quality Control Board for such use. Sanitas™ can be run in interactive or batch mode. The batch mode allows you to run pre-selected statistical tests for multiple constituents. The batch mode analysis is an effective and time-saving way to initially analyze the background data set. When using the batch mode individual observations within each constituent cannot be accessed. As a result, this may not be the best analysis mode to determine all the prediction limits for the facility (e.g., potential outliers, trends, seasonality, and spatial variability are not analyzed). In interactive mode, the background data set can be further analyzed with additional statistical tests to verify that the background is representative of current groundwater quality before performing the Prediction Interval test.

Therefore, Tulare County personnel will follow these general procedures:

- Initially run Sanitas™ in batch mode
- Use interactive mode to further evaluate constituents identified in batch mode as exceeding the Prediction Limits

<u>Batch Mode</u>
In batch mode, the data used in the background will consist of the most recent 20 data points or the previous ten years of data (e.g., February 1998 to February 2008). The approach used in Sanitas™ will be to screen the background data before calculating prediction limits based on United States Environmental Protection Agency guidelines (USEPA, 1989 &1992) and consist of the following:

- **Censored Data.** If less than 15 percent for the background data are below the method detection limit, these results are replaced with one half of the method detection limit before performing the statistical analysis (USEPA, 1989). If more than 15 percent but less than 50 percent of the historical background data are below the method detection limit, the sample mean and sample standard deviation are adjusted according to the Cohen Method (Cohen, 1959). If more than 50 percent but less than 100 percent of the background data are below the method detection limit, a non-parametric prediction limit is calculated. This consists of using the highest value for the background monitoring well data as the prediction limit if there was at least one detectable

observation. If all the data are below the method detection limit, the most recent method detection limit is used as the prediction limit. If, however, there are trace concentrations detected between the method detection limit and the practical quantitation limit the most recent practical quantitation limit for the constituent is used as the prediction limit.

- **Data Distribution.** The background data are tested for normality before calculating the prediction limits. The data distribution is evaluated using the Shapiro-Wilk test for normality (for 50 or fewer observations) [USEPA, 1989] or the Shapiro-Francia test (for greater than 50 observations) [USEPA, 1992]. Non-normally distributed data are transformed using several types of statistically valid transformation methods, including the Ladder-of-Powers method, in an attempt to normalize the data. If all the data transformations reject the assumption of normality, the prediction limits are calculated using non-parametric prediction interval statistical methods. If the raw or transformed data accepts the assumption of normality, the data set with the highest calculated W-statistic is used as the background data set.

<u>Interactive Mode</u>
In interactive mode the data used in the background is all the historical data points for the up-gradient well(s), and then that data set will be further analyzed. The intent of performing this additional analysis is to ensure a background data set is used in the prediction interval test that is representative of the existing groundwater quality. Calculating prediction limits works best when the background data set does not contain outliers, has normalized data, does not exhibit seasonality, and does not show any significant trend. If the background data set contains any one of these conditions, the prediction limit could be biased high or low. When running in interactive mode, it is preferable to base the prediction limits on parametric analyses because nonparametric tests do not make assumptions about the distribution of the background data. Therefore, controlling the false positive rate with this method is difficult.

The approach used in the interactive mode to screen the background data before calculating prediction limits is based on US Environmental Protection Agency guidelines (USEPA, 1989 &1992) and consists of the following steps (the analysis below coordinates with the statistical flow chart presented on Figure 1):

- **Initial Data Management.** Unusual detections or concentrations should be removed (e.g., increase of concentration is shown in multiple wells for the same event, concentrations found in trip/field blank, etc.). When increased concentrations are evident in up-gradient wells, this typically indicates a source other than the landfill has caused the increase and including these elevated concentrations in the background data set will bias the prediction limits. As well, when concentrations are found in the field/trip blanks this indicates that there may have been a problem with the sampling procedures or shipment of the samples to the laboratory. Because the concentrations were found in the field/trip blanks, the reported concentrations in the down-gradient wells may be higher than the actual groundwater quality because of the sampling procedures. Any unusual detection removed from the background will be summarized in the Annual and Semi-Annual groundwater monitoring reports.

- **Outlier Evaluation**. The historical background data is tested for outliers. A statistical outlier is a value that is substantially larger or smaller than the rest of the data. Outliers will be deselected from the background data before calculating prediction limits in accordance with the following procedures:

    - If data set contains ≤ 50% of the data as being below the practical quantitation limit, perform an outlier test in Sanitas™ using one of the following tests:

        - EPA 1989 Outlier Test – assumes the data set (except the suspect observations) is normally or log normally distributed. A minimum of 3 observations is required; a minimum of 8 observations is recommended.
        - Dixon's/Rosner's Outlier Test – Dixon's outlier test is ONLY recommended for sample sizes ≤ 25; it assumes that the data set (except the suspect observations) is normally distributed. Rosner's outlier test is recommended when the sample

size is 20 or larger, and can be used to find no more than 5 outliers. Rosner's outlier test assumes that the data set (except the suspect observations) is normally distributed or can be transformed to be normal.

- If data set contains > 50% of the data less than the practical quantitation limit, manual examination of the data will be performed using the following guidelines to determine if an outlier is present1:
    - A single detection in a data set that exceeds 3 times the practical quantitation limit
    - Any detection that is an order of magnitude greater than the next largest value.

- **Seasonal Evaluation**. The Kruskal-Wallis seasonality test is performed on the background data when there is at least 4 historical data points per season (Gilbert, 1987). If seasonality is present, the data is deseasonalized before calculating the prediction limit.

- **Trend Analysis.** Trends indicate whether there is a significant increase or decrease in the data set over time. This analysis can be used to determine the significance and magnitude of the trend in the background data set.
    - Sen's Slope/Mann Kendall (Sen's Slope Estimator). A simple nonparametric procedure to estimate the true slope of a data set. If a data set exhibits a significant increasing or decreasing trend, then using all of the background data set may not be appropriate for the prediction limit. Further inspection of the data set should be performed to determine if any outliers or suspicious data exist. If a significant trend is observed in the background the prediction limit might be biased high or low by including data that is not representative of the current groundwater quality up-gradient of the facility. It is preferable to use a background data set that does not contain a significant trend.
        - When a trend is present, the older historical background data is removed, so that only the most recent data is included in the up-gradient well(s) background data set. According to 27 California Code of Regualtions §20415(e) (6), the initial background should include at a minimum four data points to implement statistical analysis to evaluate water quality monitoring data. For this protocol the background data set should contain at least 10 data points.

- **Normality Test.** To determine if a parametric or nonparametric test will be performed, the data must be checked for normality.
    - Shapiro–Wilk test. The Ladder-of-Powers method will be used to determine if the background data set possesses a distribution pattern. Any distribution in the ladder of powers that passes the normality test will be considered for use in the background data set. The data set with the highest calculated W-statistic will be used as the background to determine a parametric prediction limit. If all the Ladder-of-Powers data sets fail the normality test, then nonparametric prediction limits will be used. Other data transformations may be considered.

- **Prediction Interval.** After the above analyses have been evaluated, a background data set will be established that is current with the existing groundwater quality of the background. At this time, the parametric or nonparametric prediction limit can be established for the constituent of concern.

---

1 Note: US EPA Guidance, Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Interim Final Guidance, (1989) and the Addendum to the Interim Final Guidance (1992) were used as reference in determining these guidelines for outliers.

The most recent constituent result(s) for the down-gradient well(s) will be compared to the prediction limit established by Sanitas™ using the preselected background. If the most recent constituent result(s) from the down-gradient well(s) exceed the prediction limit established with the preselected background, verification sampling will occur to verify or refute the original exceedence. The verification process will involve the collection of 2 independent samples and be performed in accordance with the facility's Groundwater Monitoring Protocol.

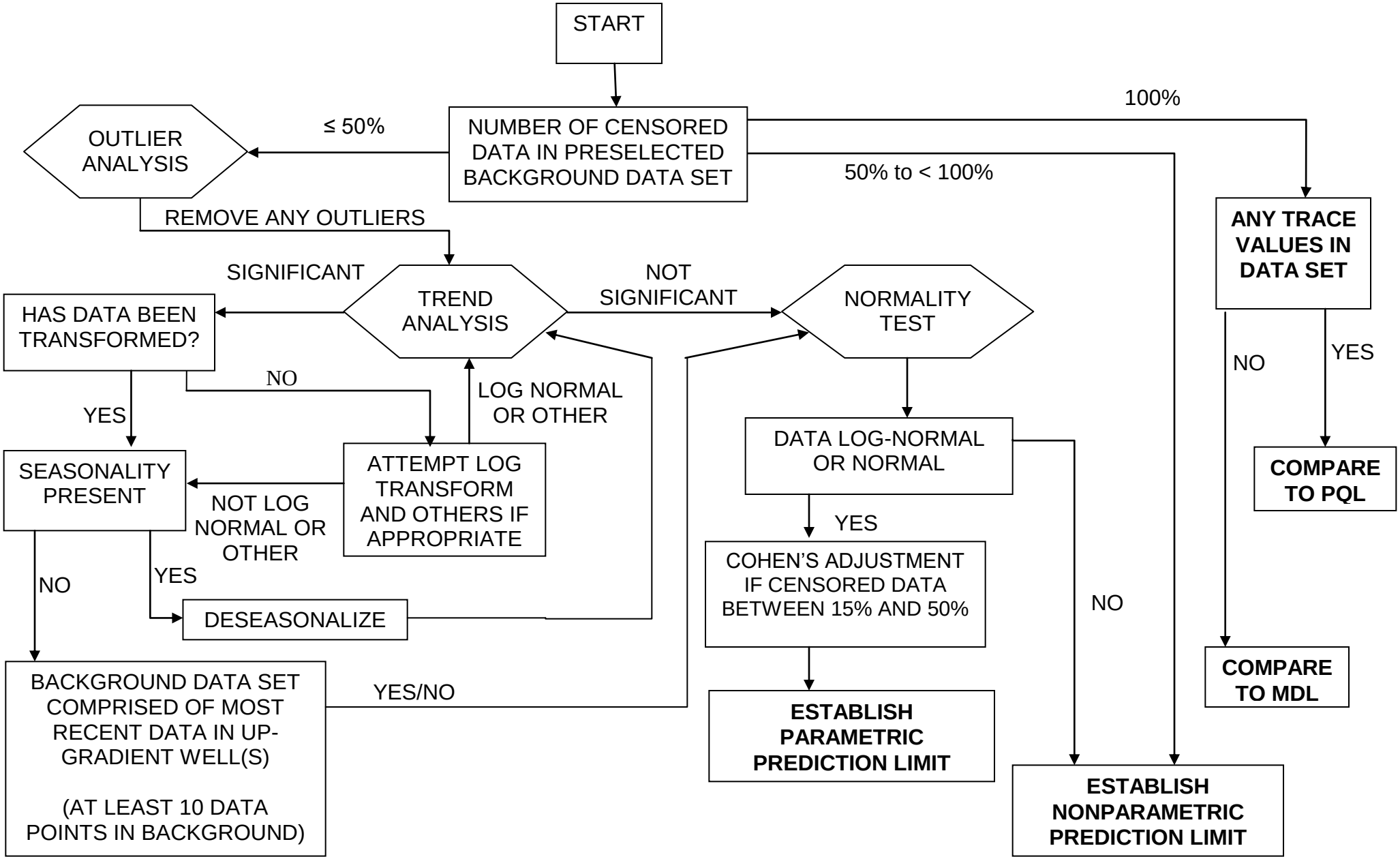
Reporting

The following summary of information will be provided in the Statistical Summaries and Data sections of the annual and semi-annual Groundwater Monitoring Reports:

- All the constituents reported as a trace value.
- The exceedences calculated by Sanitas™ during the batch run.
- Explanation of how the preselected background data set was determined (outliers, trends, unusual detections, etc.).
- Reportable exceedences.

MALCOLM PIRNIE

FIGURE 1
STATISTICAL METHOD FLOWCHART TO UPDATE BACKGROUND



NOTE: CENSORED DATA IS DATA LESS THAN THE PRACTICAL QUANTITATION LIMIT

APPENDIX C-8

GROUNDWATER TIME SERIES PLOTS

CHEMISTRY
TIME SERIES PLOTS

LEGEND

Time series plots are provided for chemistry data collected over the previous five years. If parameter data is not available over the complete 5-year period, the time period for the x-axis is adjusted to cover the time period for which data is available. In cases where the monitoring period includes 5-year Constituent of Concern parameters (i.e., semi-volatile organic compounds, chlorophenoxy herbicides and organophosphorus compounds), the time period is expanded to cover all historical data.

Time series plots are only prepared for those parameters that have been detected at or above the laboratory Reporting Limit (RL) more than once over the course of the monitoring period in question.

Explanation of Symbols and Acronyms

● Concentration detected at or above laboratory RL.

○ Not detected at or above laboratory RL. Trace detections are not considered appropriate for plotting purposes since the reported concentrations represent estimated values that cannot be certified by the laboratory. As such, trace detections are shown on the time series plots as nondetect values equal to the laboratory RL.

mg/L: Milligrams per Liter

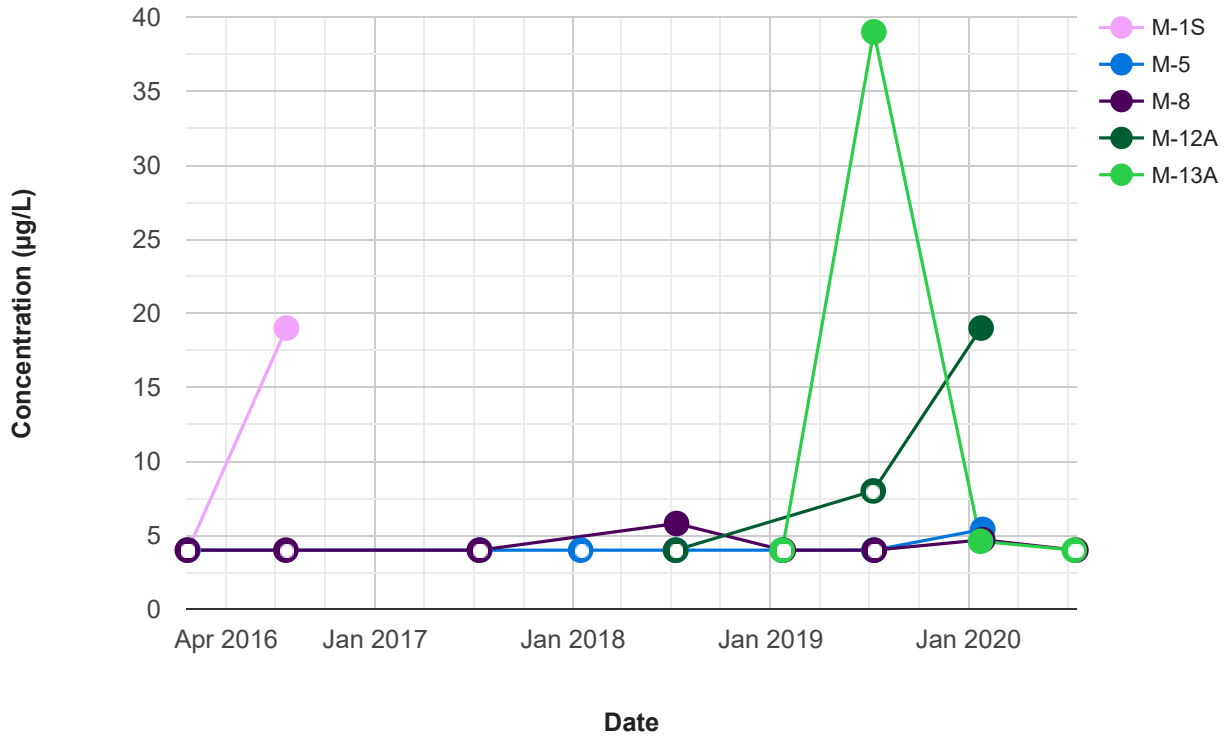
µg/L: Micrograms per Liter

µS/cm: MicroSiemens per Centimeter

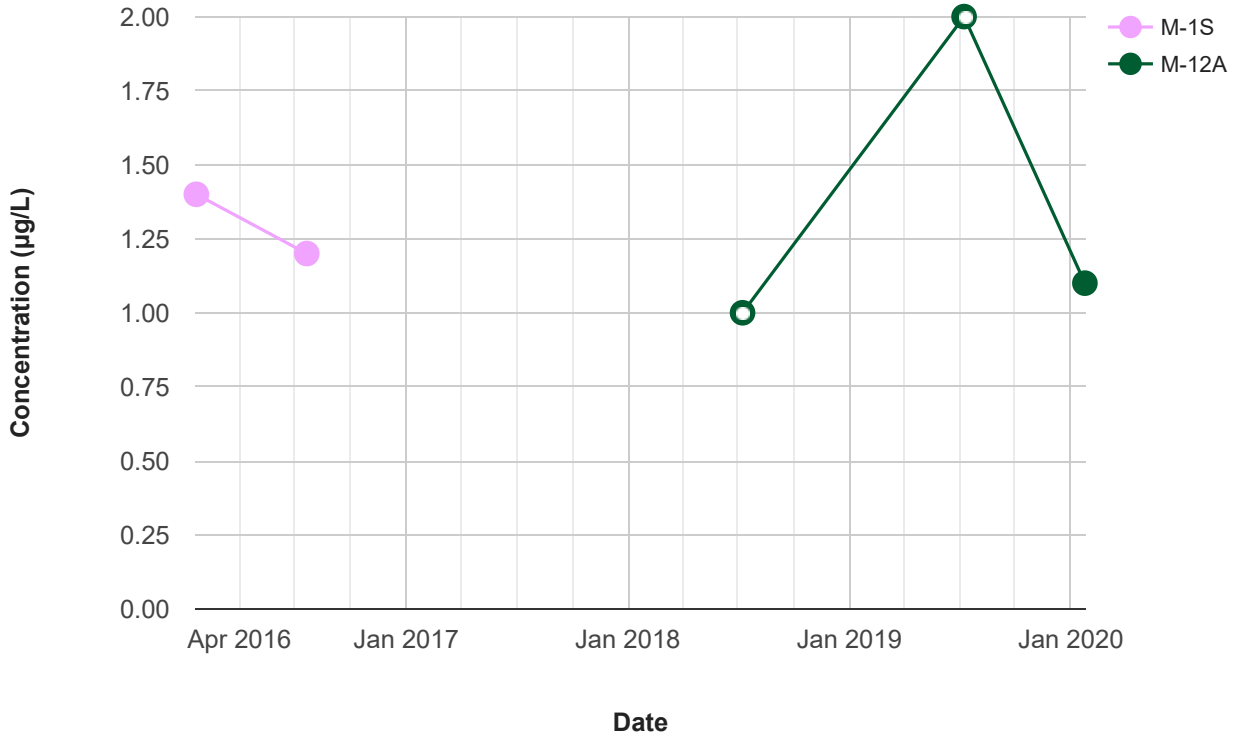
mg-e/L: Milligram Equivalents of Calcium Carbonate per Liter

UNCONFINED GROUNDWATER ZONE

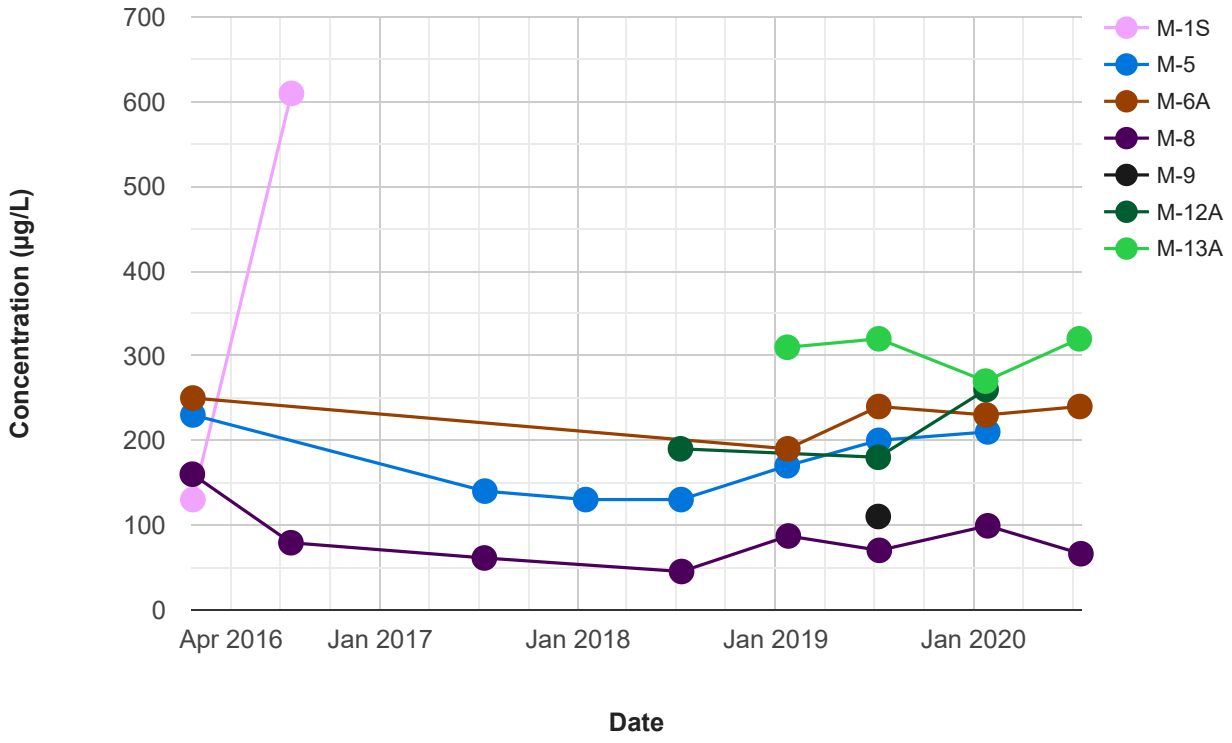
Teapot Dome Landfill
Groundwater Time Series Plot
Aluminum



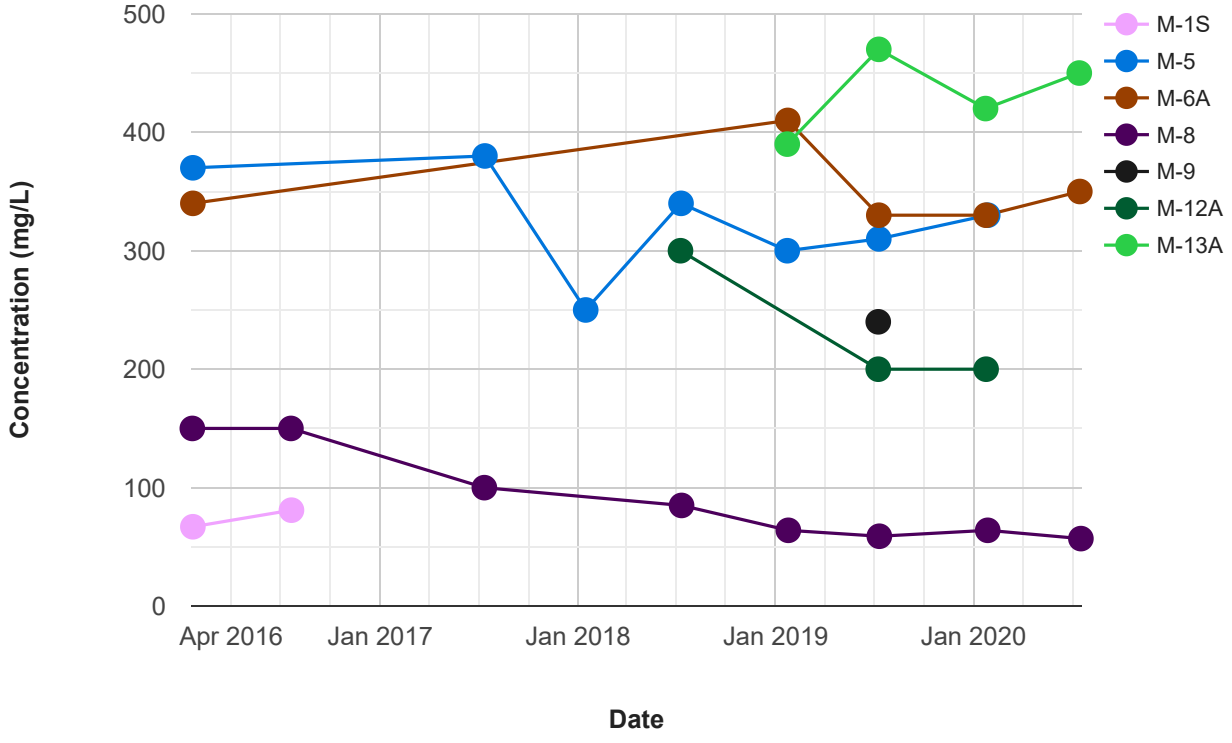
Teapot Dome Landfill
Groundwater Time Series Plot
Arsenic



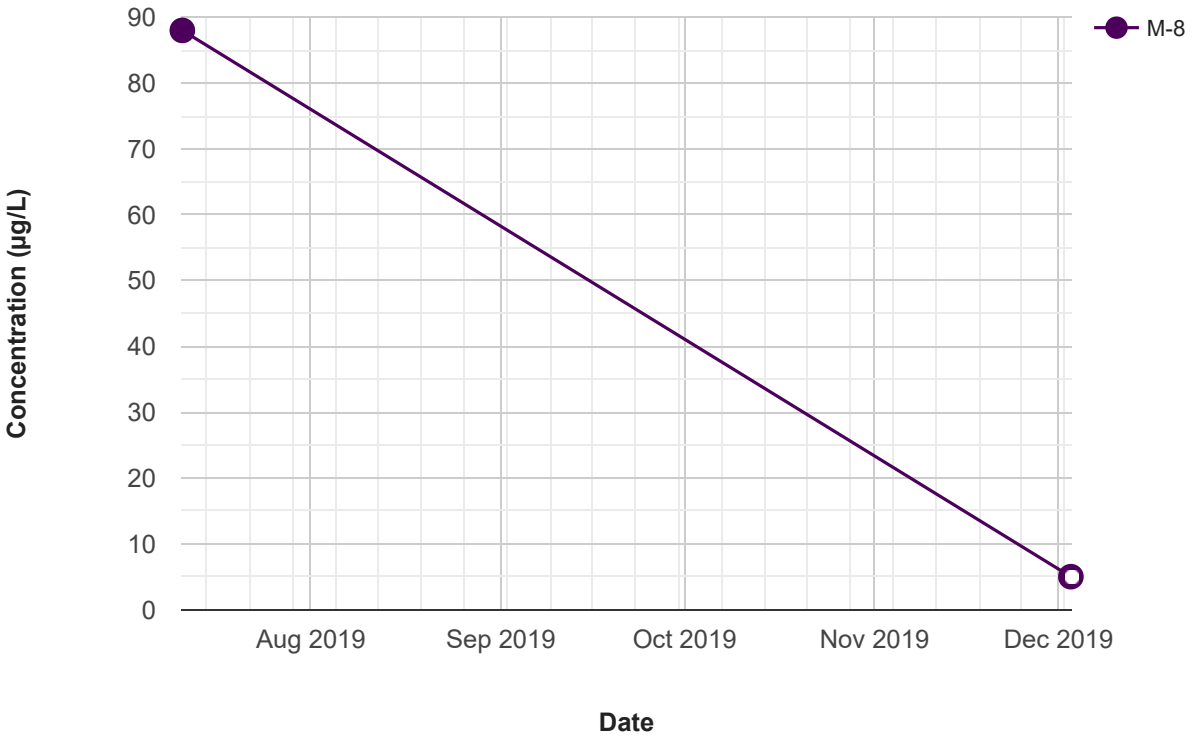
Teapot Dome Landfill
Groundwater Time Series Plot
Barium



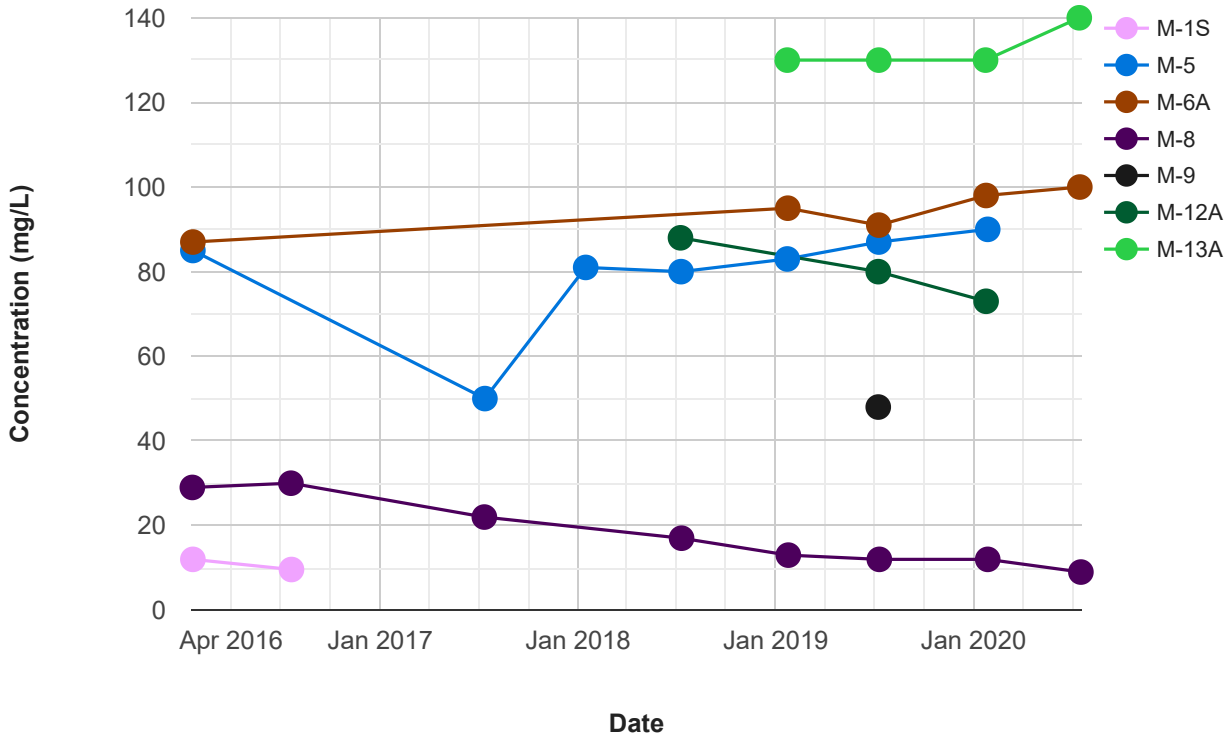
Teapot Dome Landfill
Groundwater Time Series Plot
Bicarbonate



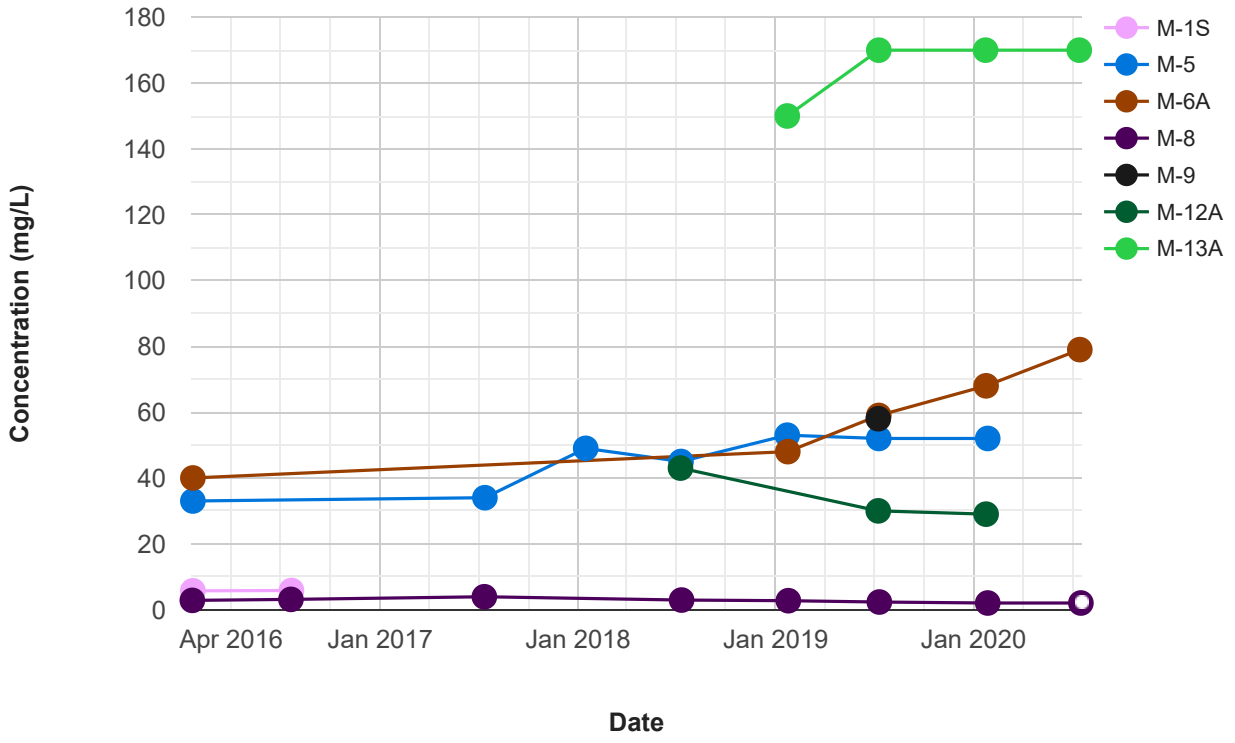
Teapot Dome Landfill
Groundwater Time Series Plot
bis(2-Ethylhexyl) phthalate



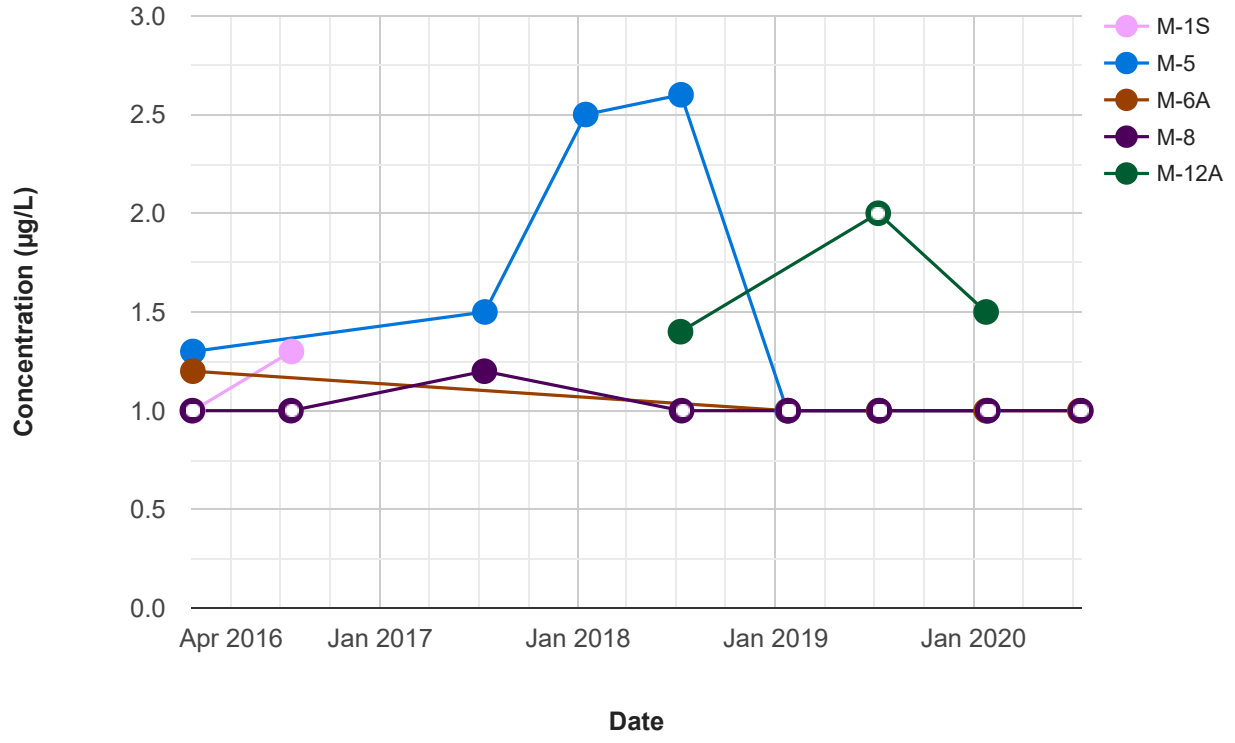
Teapot Dome Landfill
Groundwater Time Series Plot
Calcium



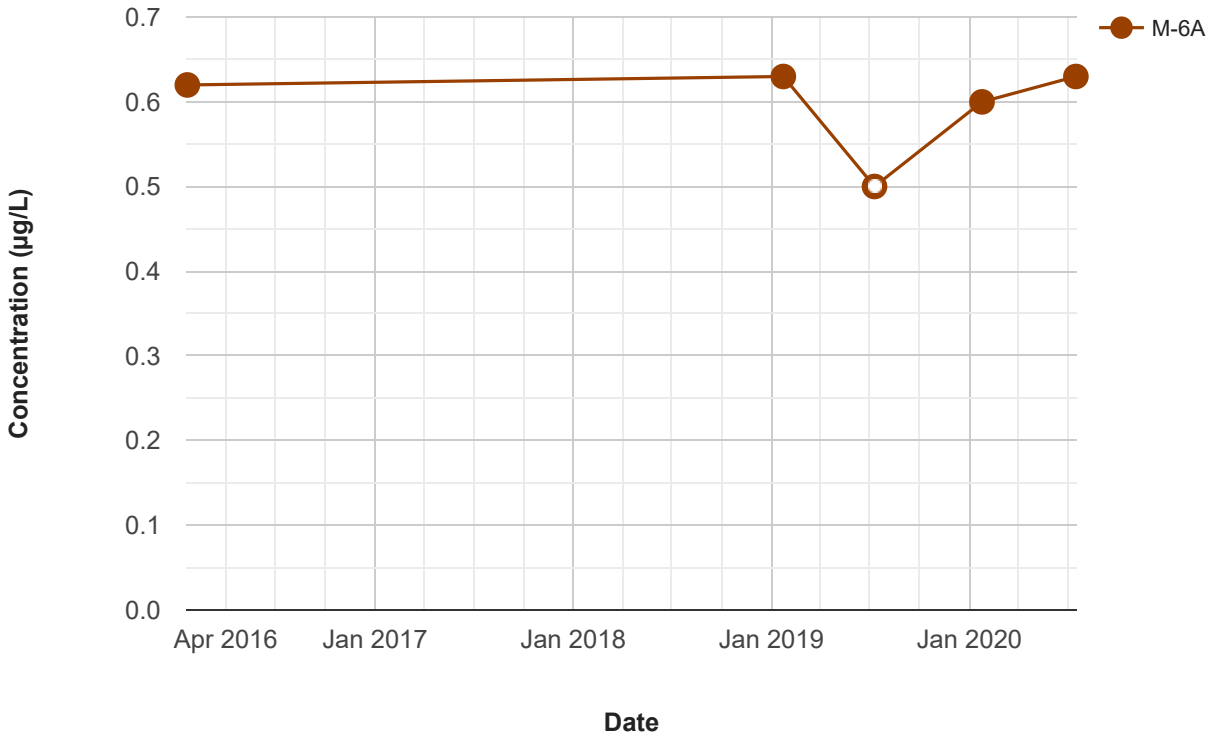
Teapot Dome Landfill
Groundwater Time Series Plot
Chloride



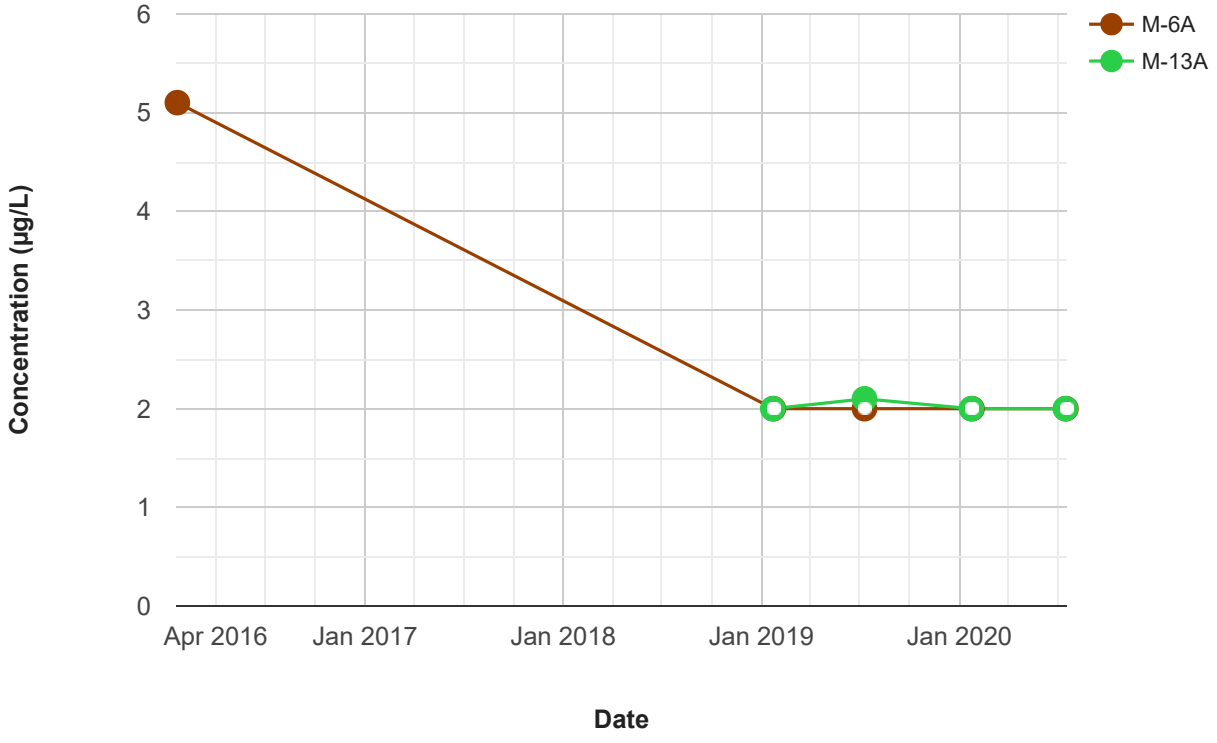
Teapot Dome Landfill
Groundwater Time Series Plot
Chromium



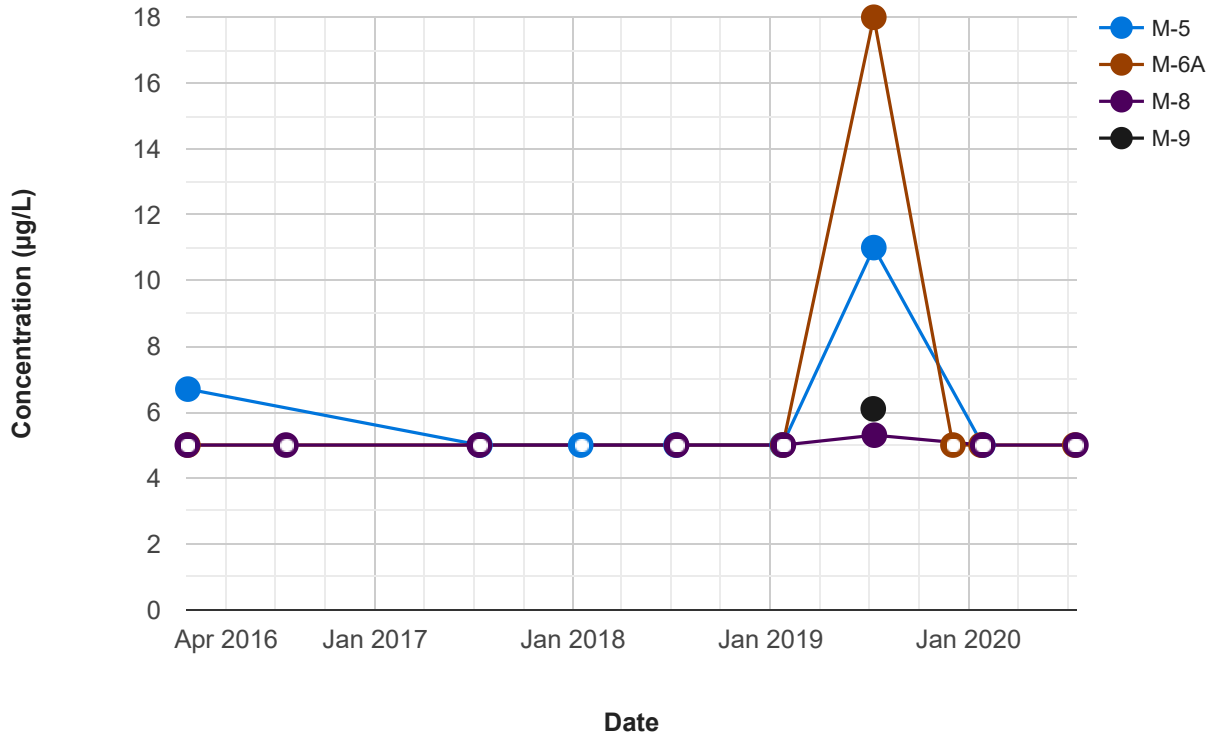
Teapot Dome Landfill
Groundwater Time Series Plot
cis-1,2-Dichloroethene



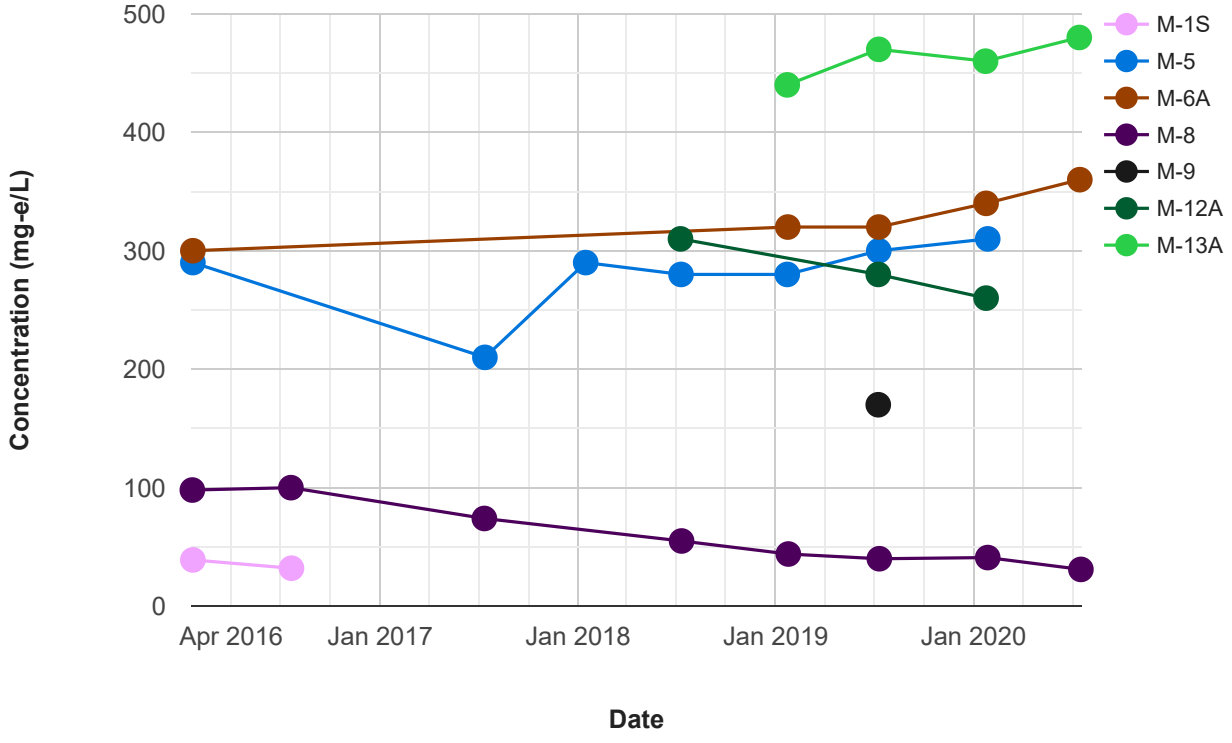
Teapot Dome Landfill
Groundwater Time Series Plot
Copper



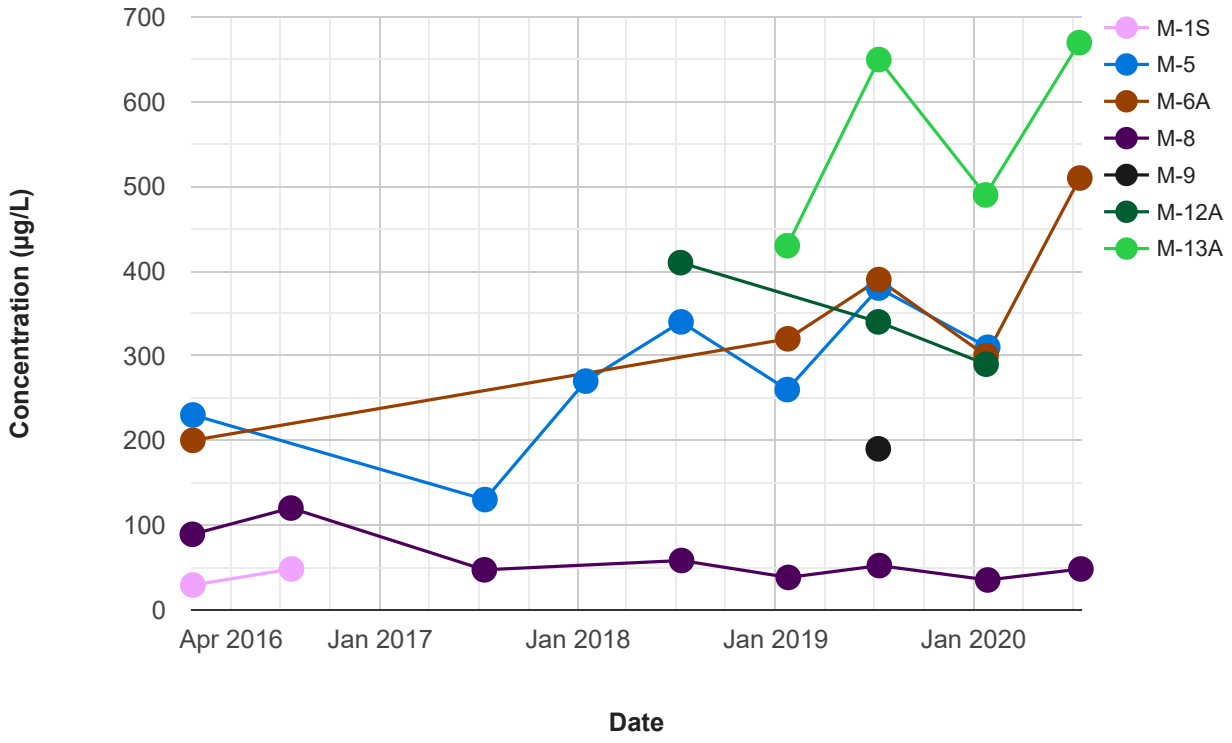
Teapot Dome Landfill
Groundwater Time Series Plot
Cyanide (total)



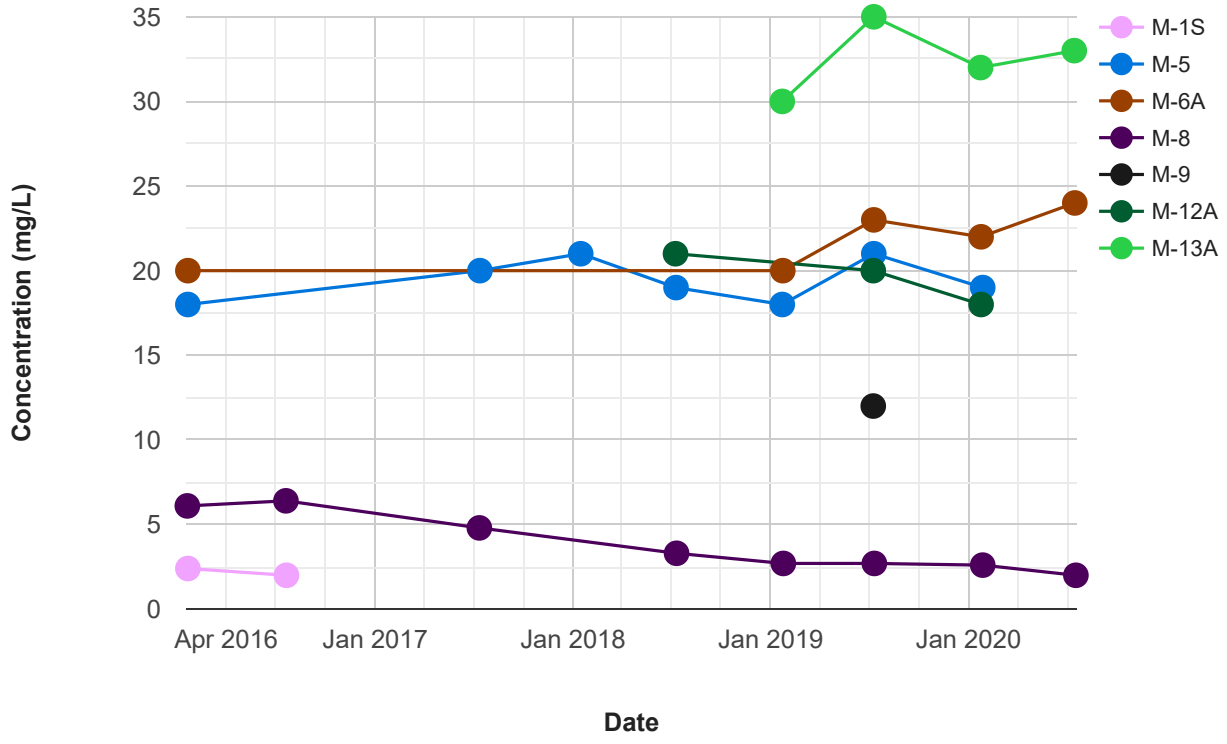
Teapot Dome Landfill
Groundwater Time Series Plot
Hardness



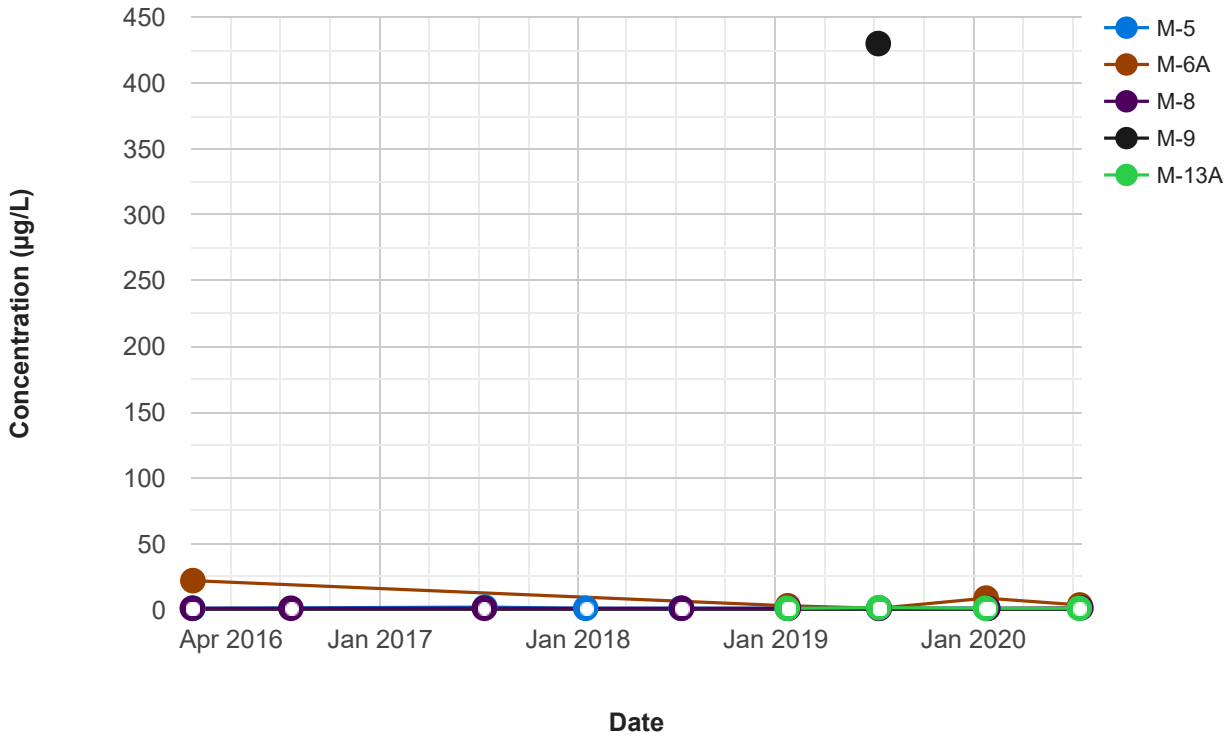
Teapot Dome Landfill
Groundwater Time Series Plot
Iron



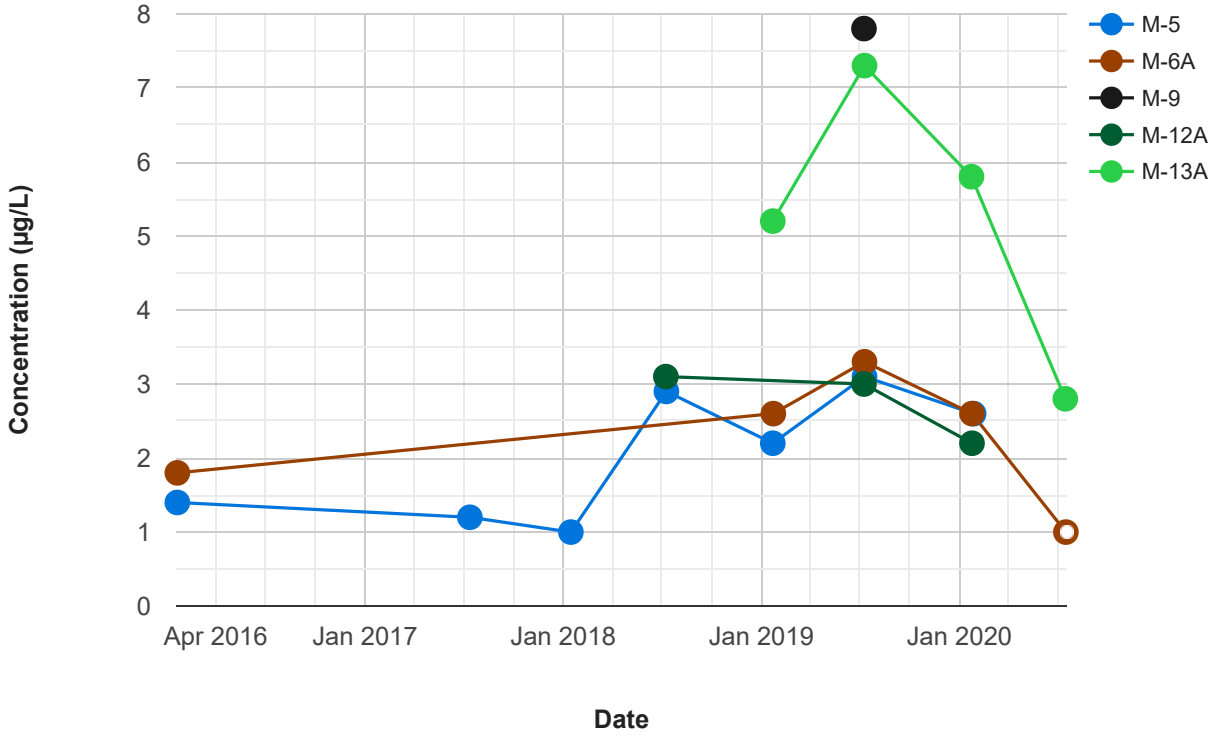
Teapot Dome Landfill
Groundwater Time Series Plot
Magnesium



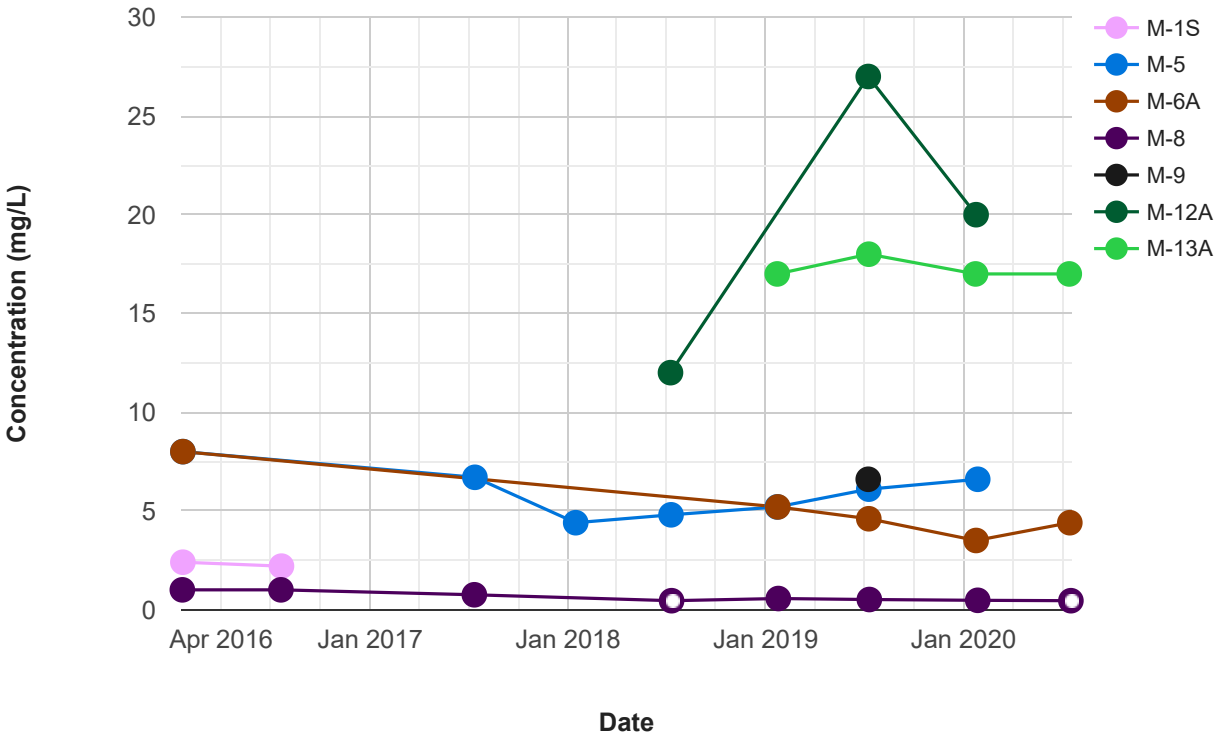
Teapot Dome Landfill
Groundwater Time Series Plot
Manganese



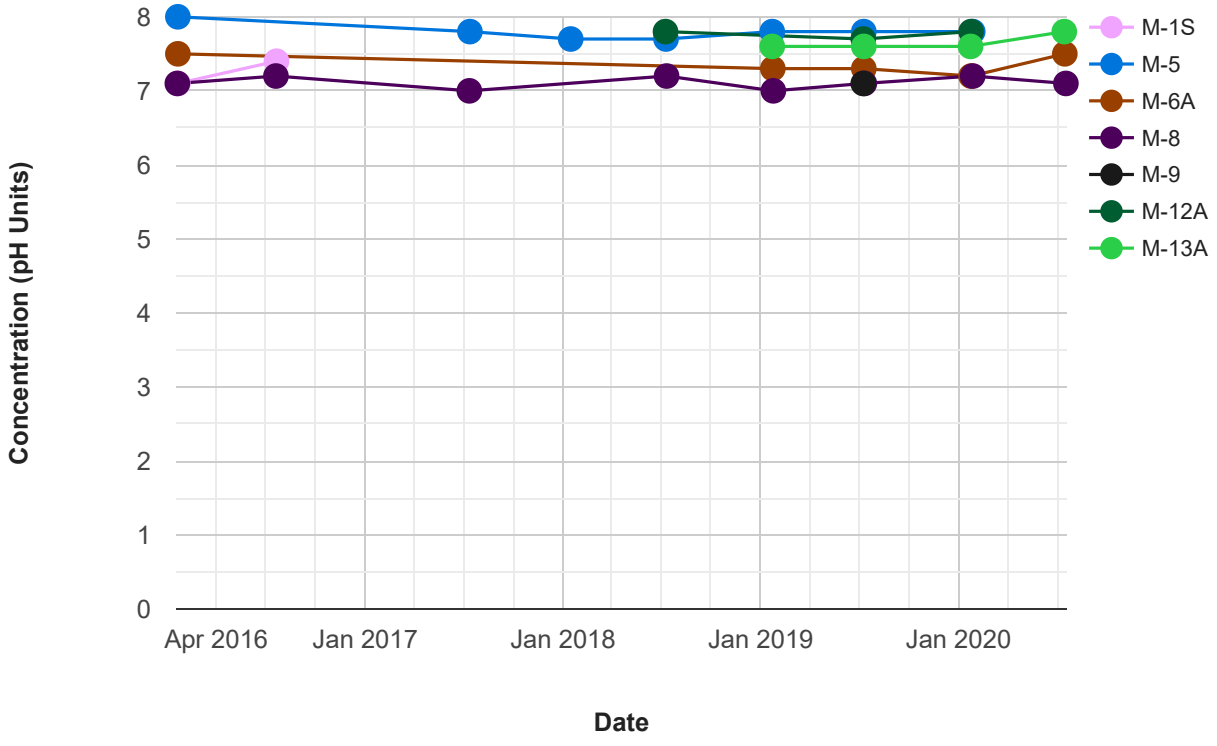
Teapot Dome Landfill
Groundwater Time Series Plot
Nickel



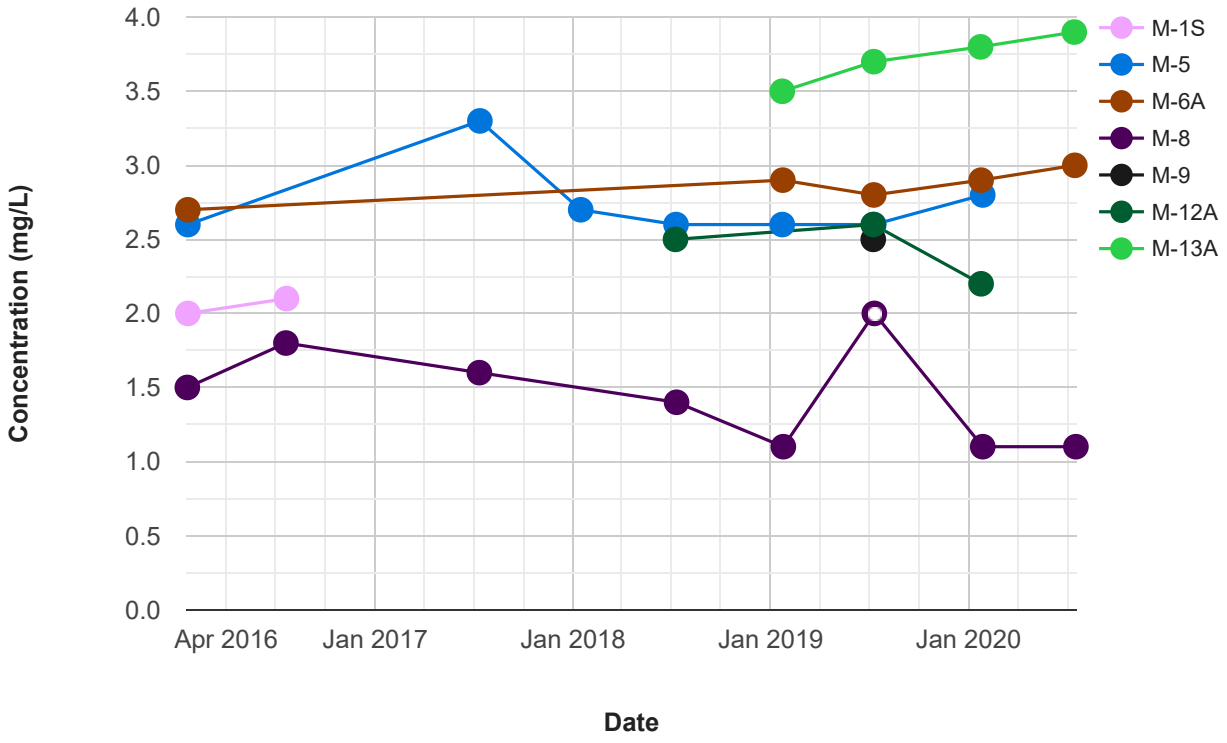
Teapot Dome Landfill
Groundwater Time Series Plot
Nitrate as N



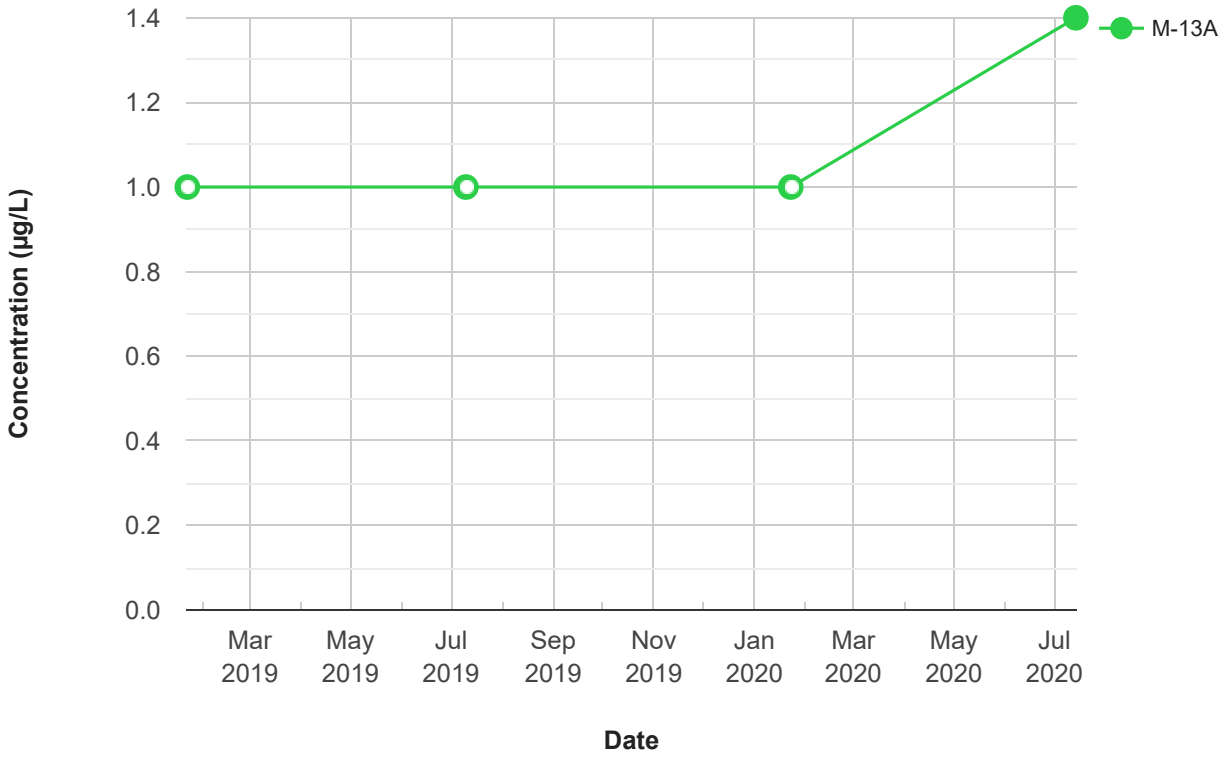
Teapot Dome Landfill
Groundwater Time Series Plot
pH Test



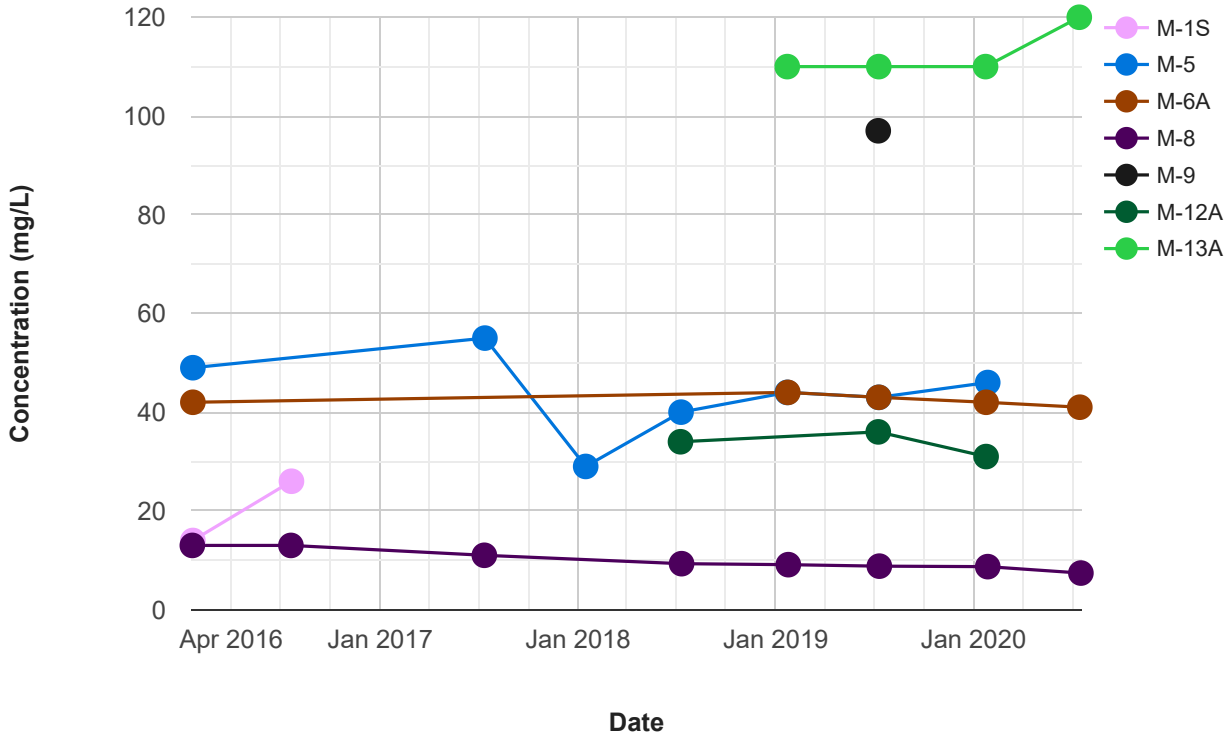
Teapot Dome Landfill
Groundwater Time Series Plot
Potassium



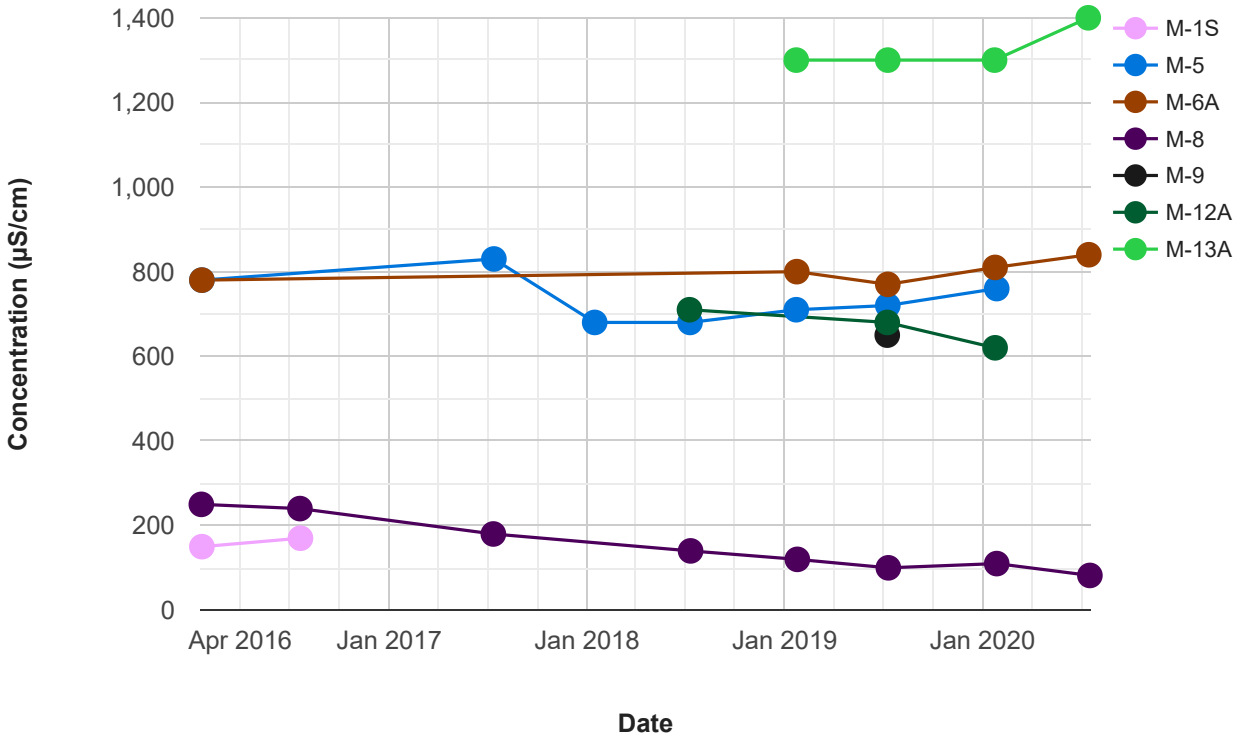
Teapot Dome Landfill
Groundwater Time Series Plot
Selenium



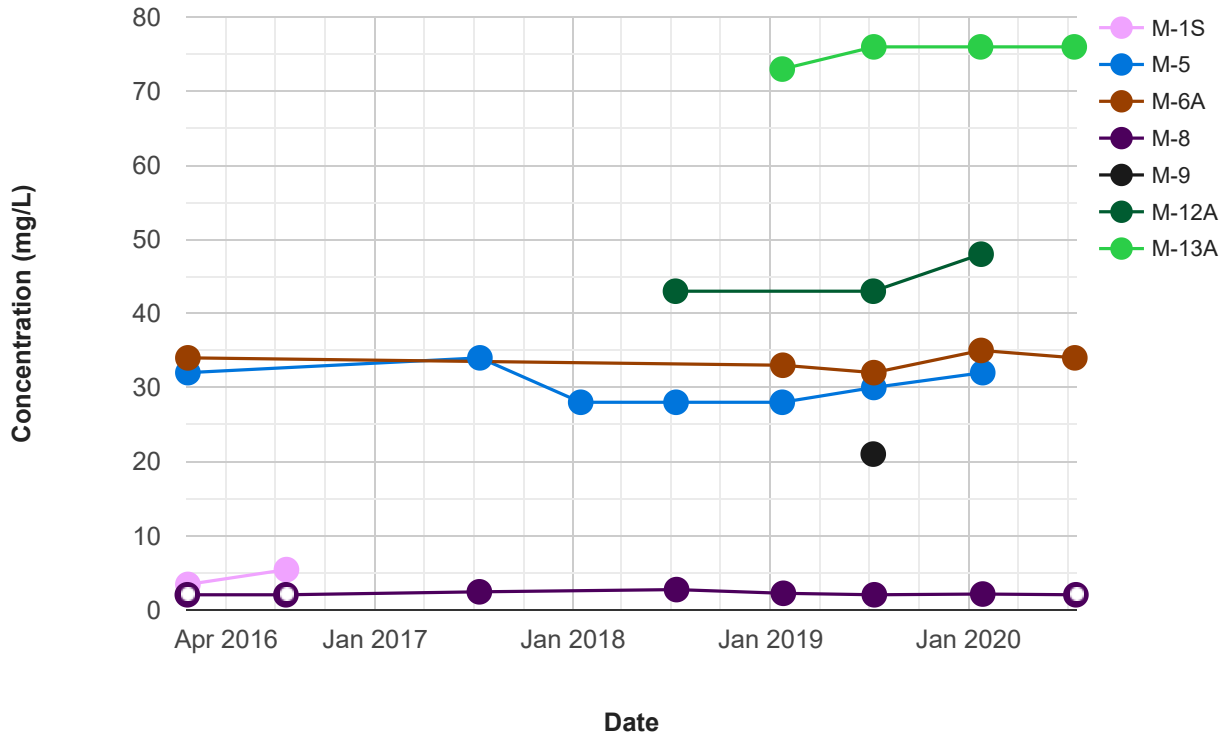
Teapot Dome Landfill
Groundwater Time Series Plot
Sodium



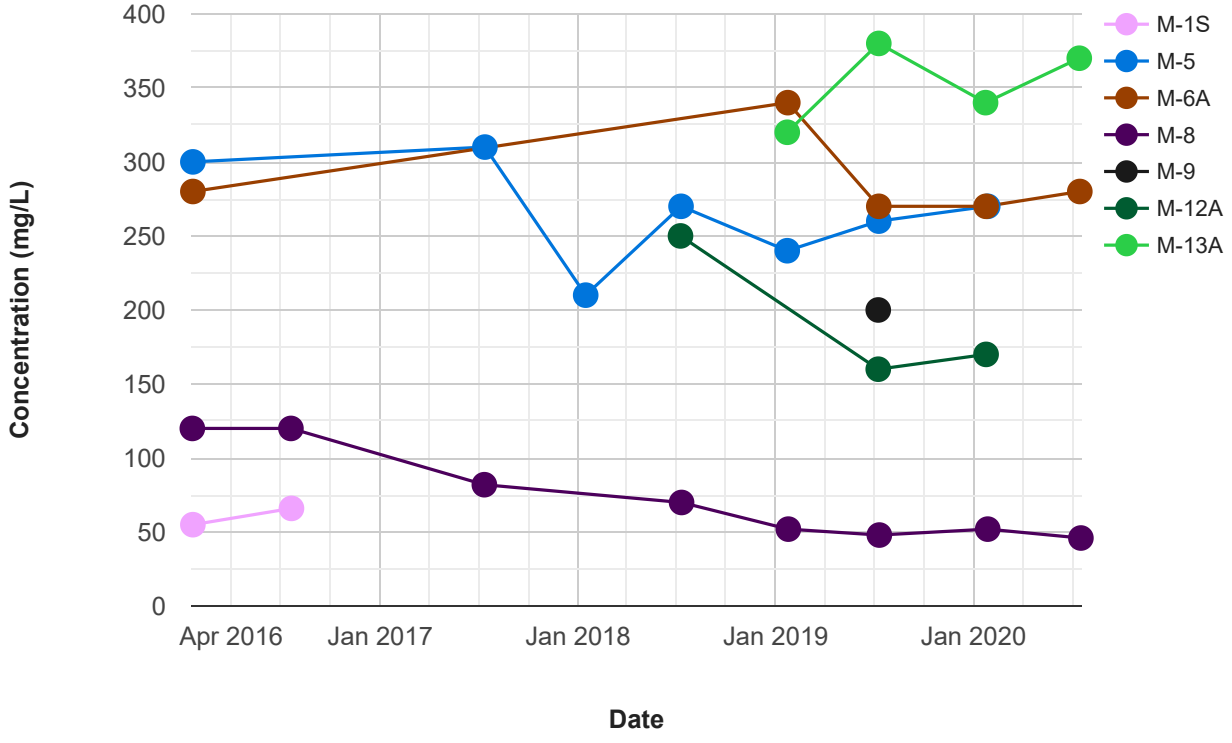
Teapot Dome Landfill
Groundwater Time Series Plot
Specific Conductance



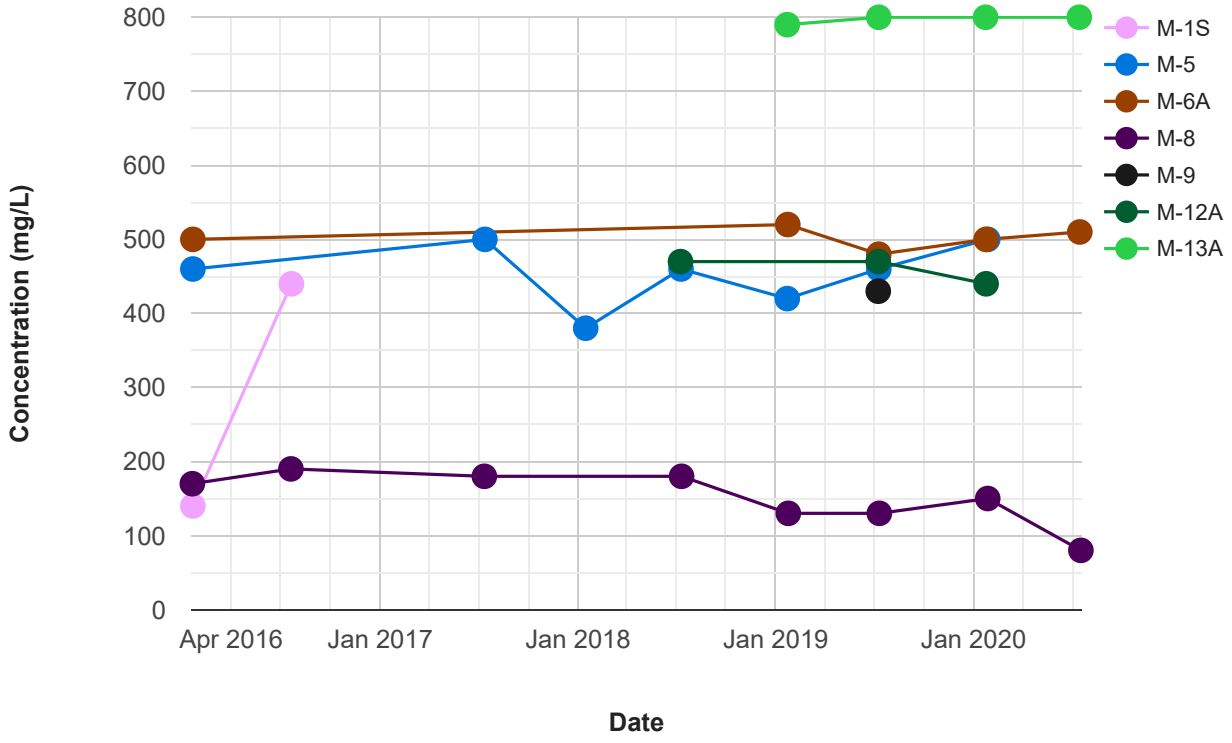
Teapot Dome Landfill
Groundwater Time Series Plot
Sulfate



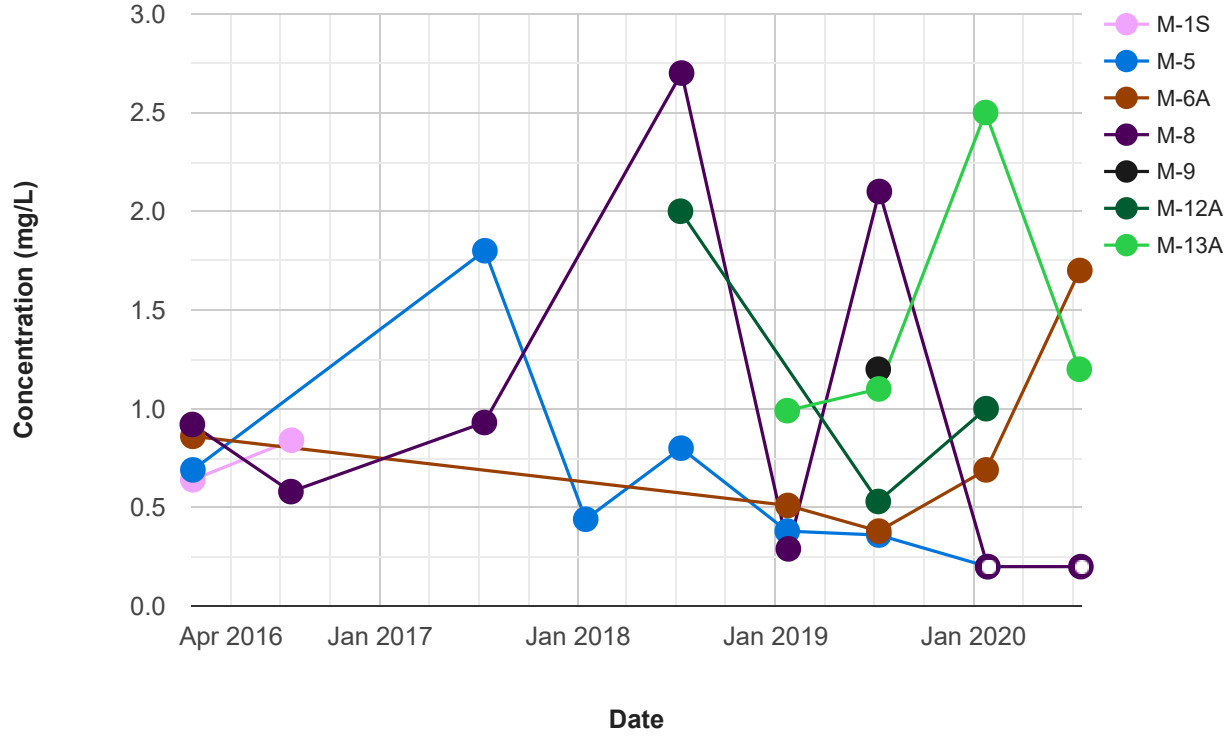
Teapot Dome Landfill
Groundwater Time Series Plot
Total Alkalinity



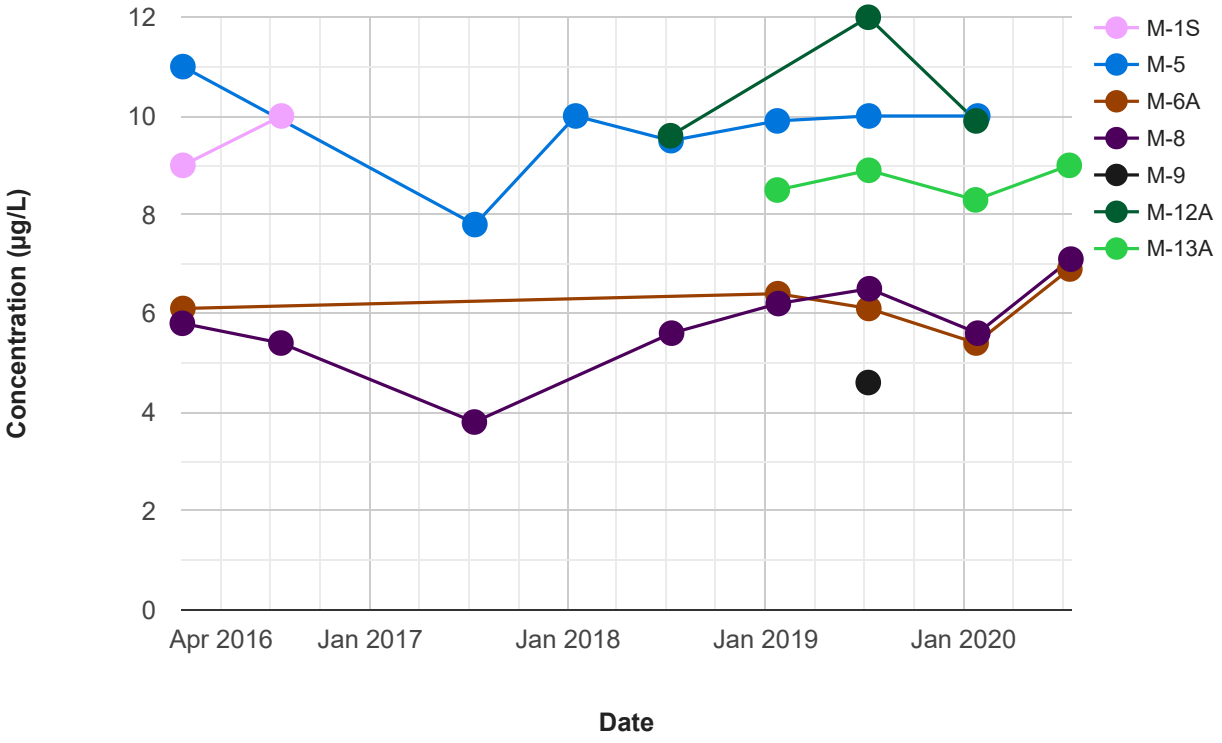
Teapot Dome Landfill
Groundwater Time Series Plot
Total Dissolved Solids



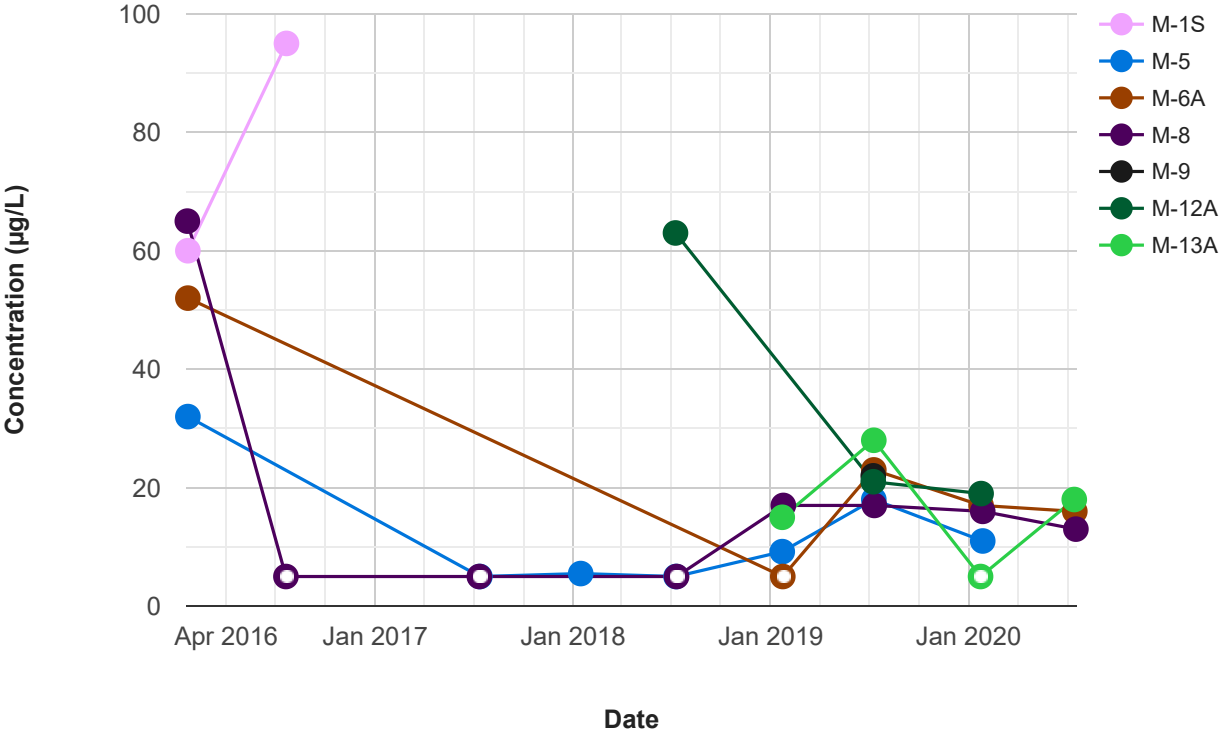
Teapot Dome Landfill
Groundwater Time Series Plot
Total Organic Carbon



Teapot Dome Landfill
Groundwater Time Series Plot
Vanadium

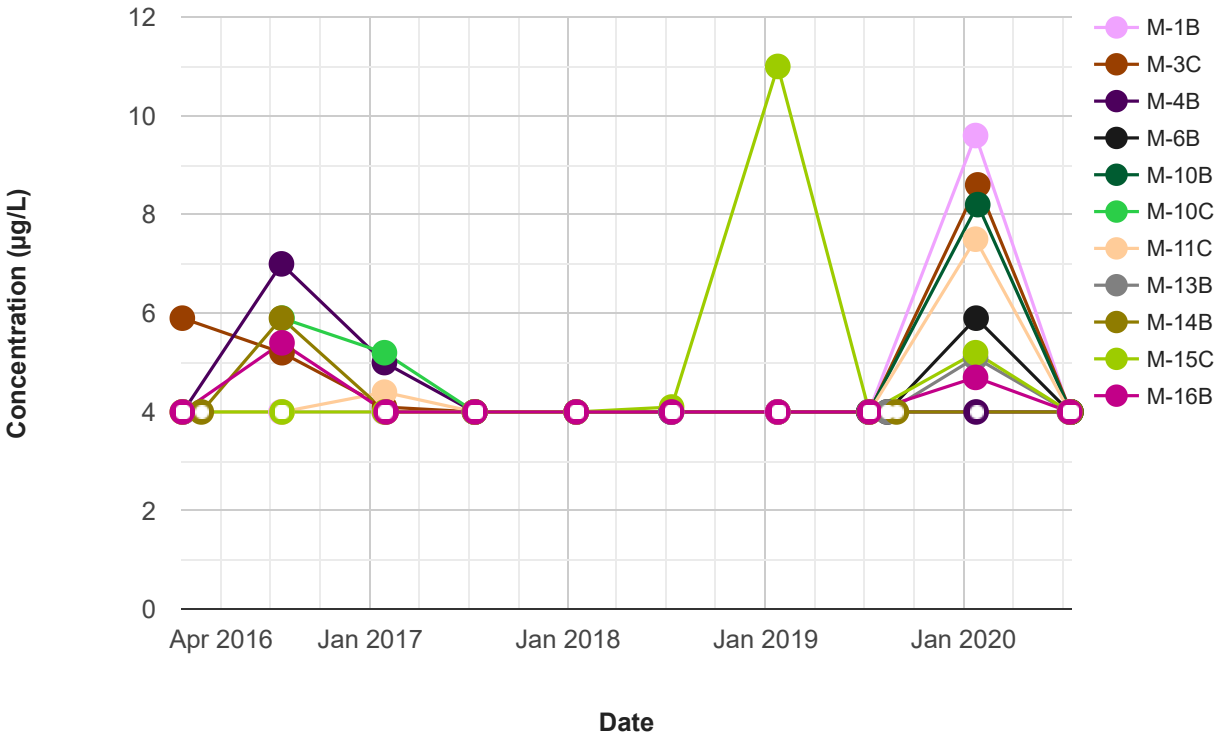


Teapot Dome Landfill
Groundwater Time Series Plot
Zinc

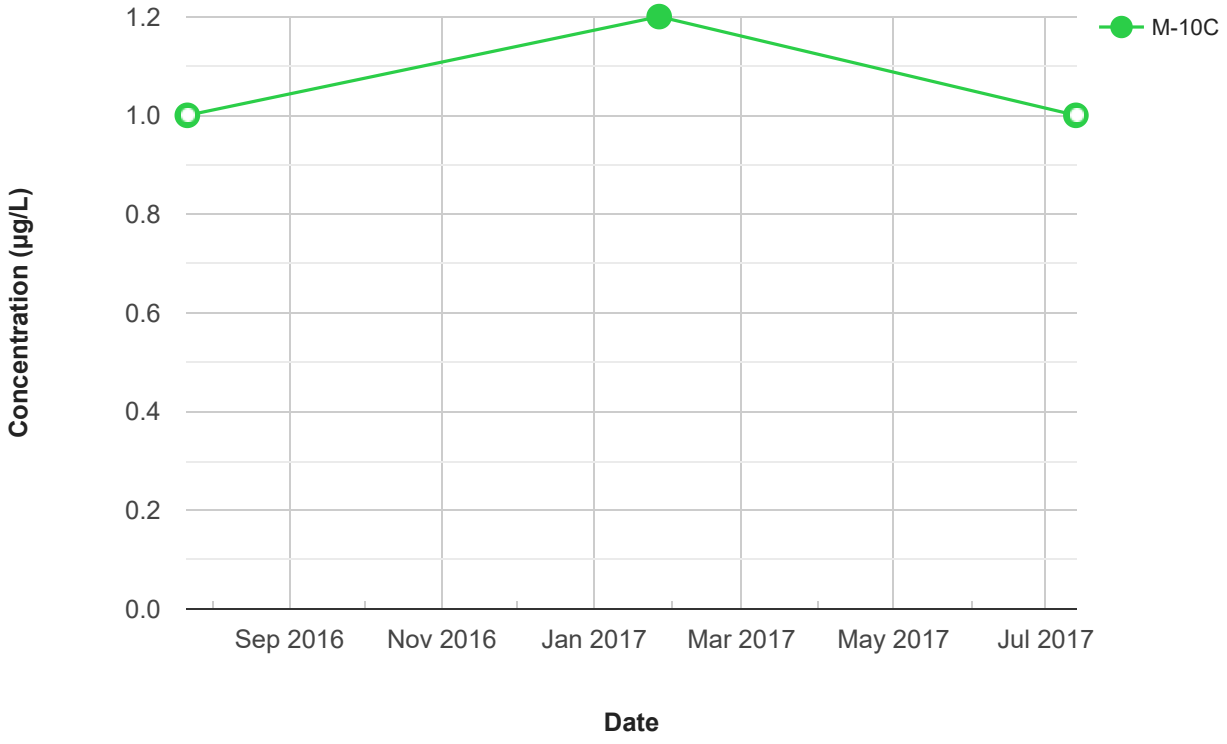


UPPER SEMI-CONFINED GROUNDWATER ZONE

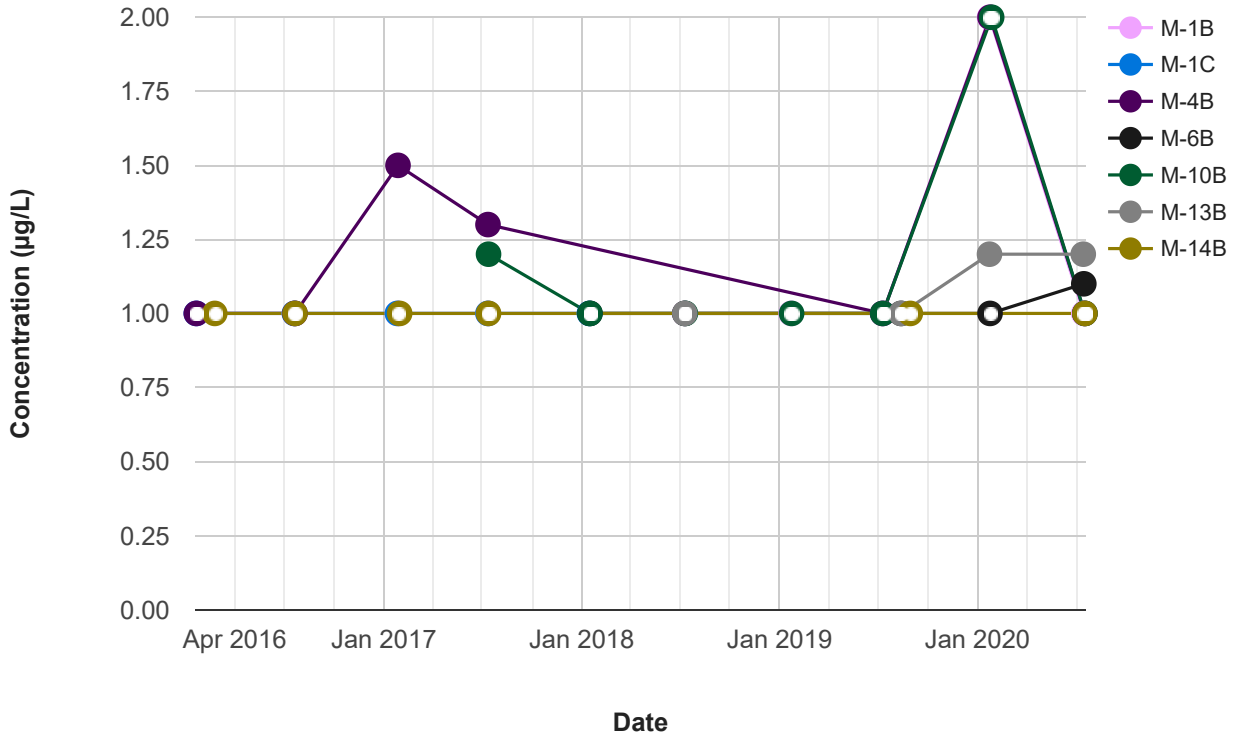
Teapot Dome Landfill
Groundwater Time Series Plot
Aluminum



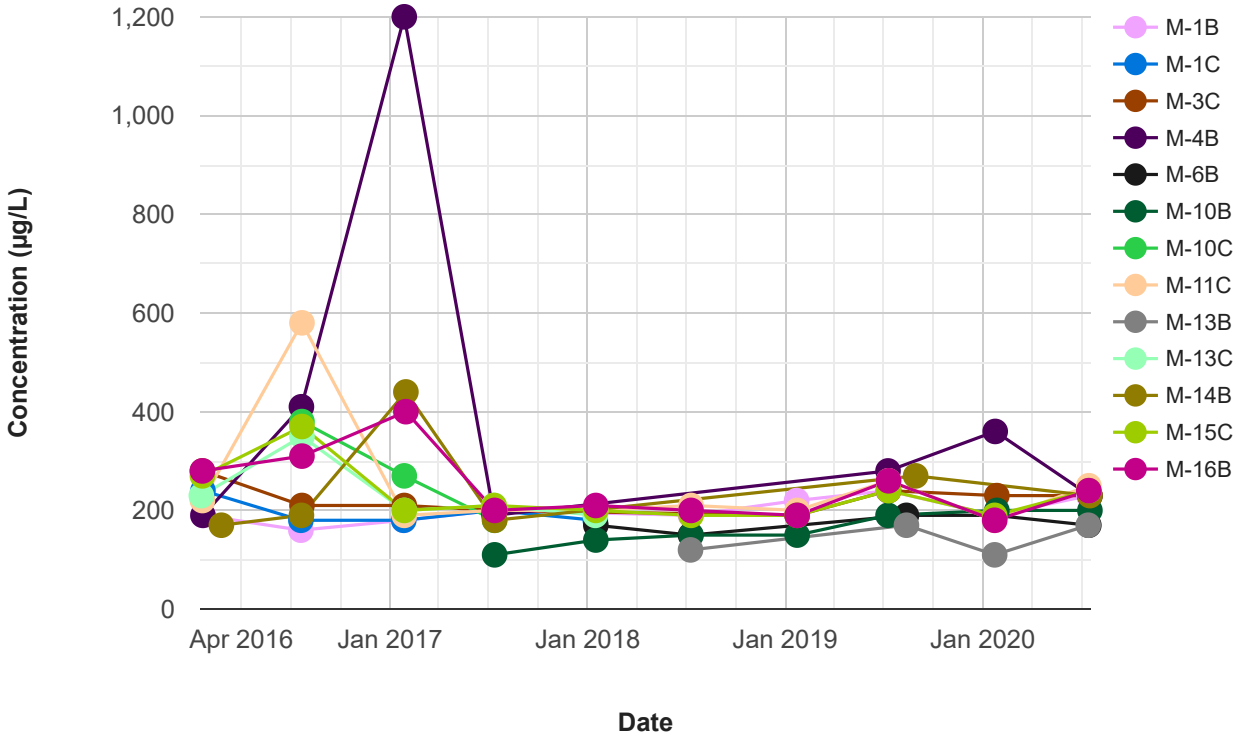
Teapot Dome Landfill
Groundwater Time Series Plot
Antimony



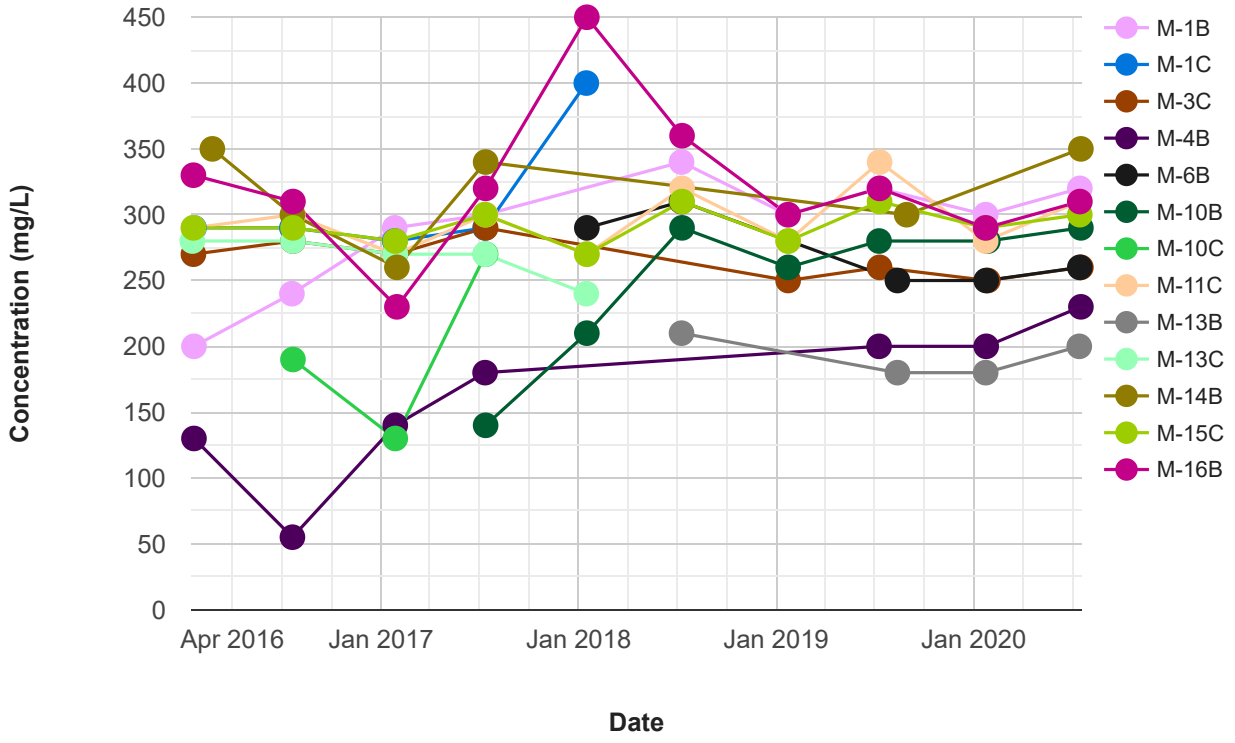
Teapot Dome Landfill
Groundwater Time Series Plot
Arsenic



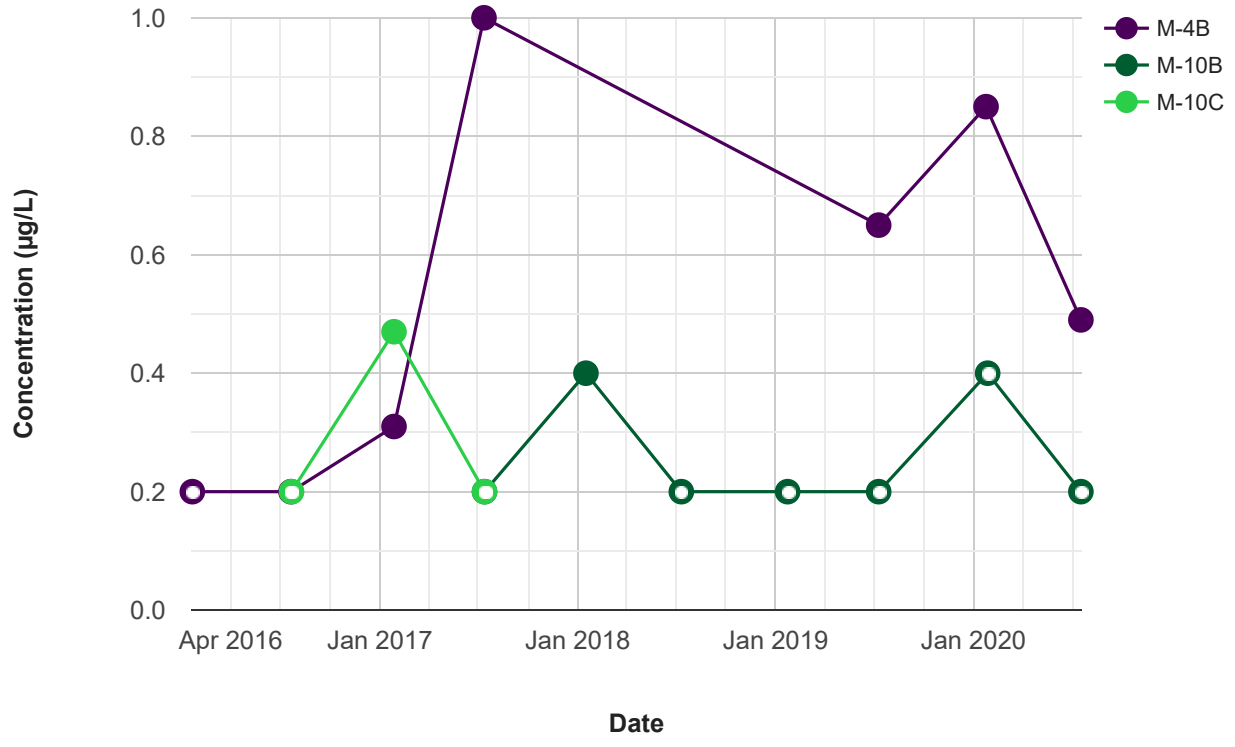
Teapot Dome Landfill
Groundwater Time Series Plot
Barium



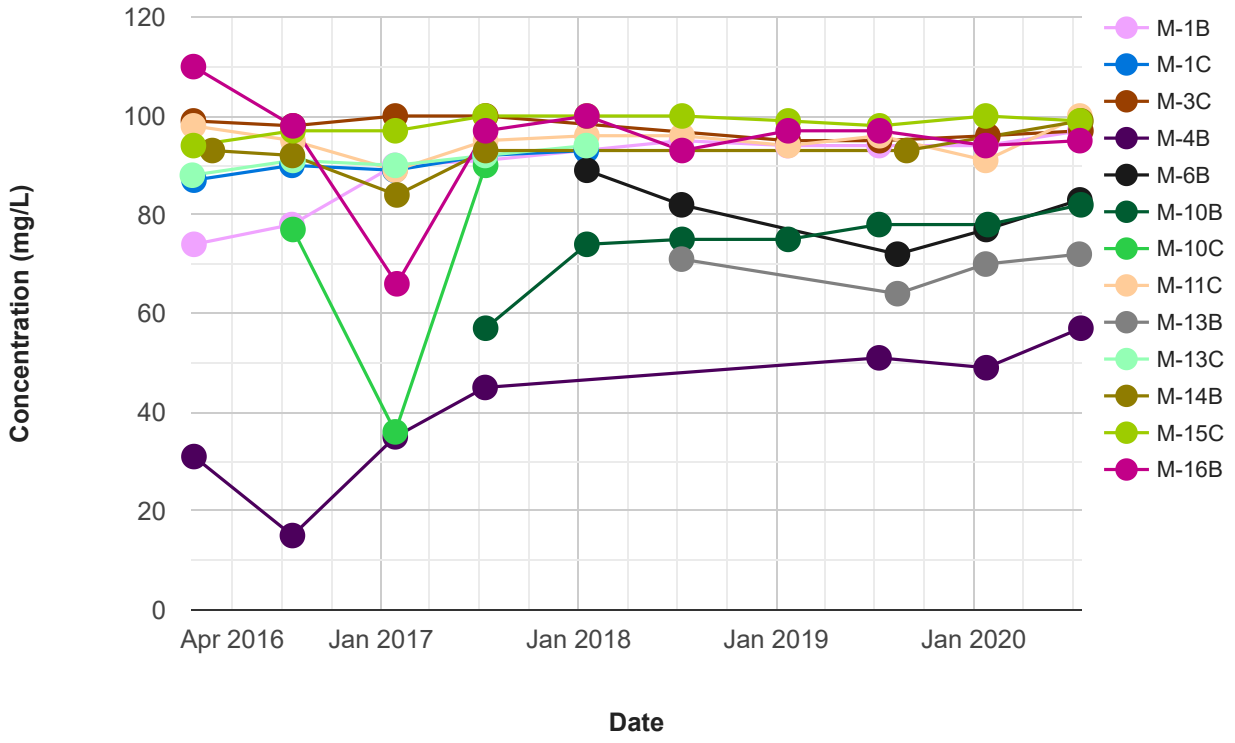
Teapot Dome Landfill
Groundwater Time Series Plot
Bicarbonate



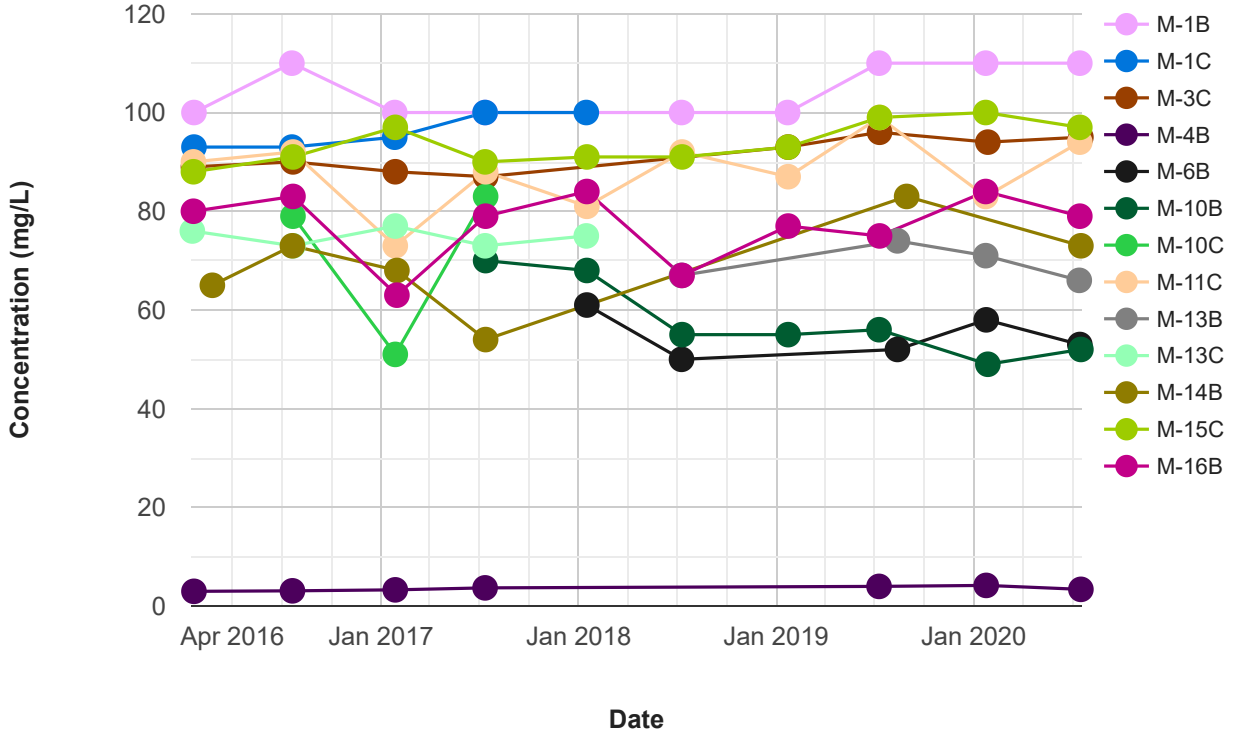
Teapot Dome Landfill
Groundwater Time Series Plot
Cadmium



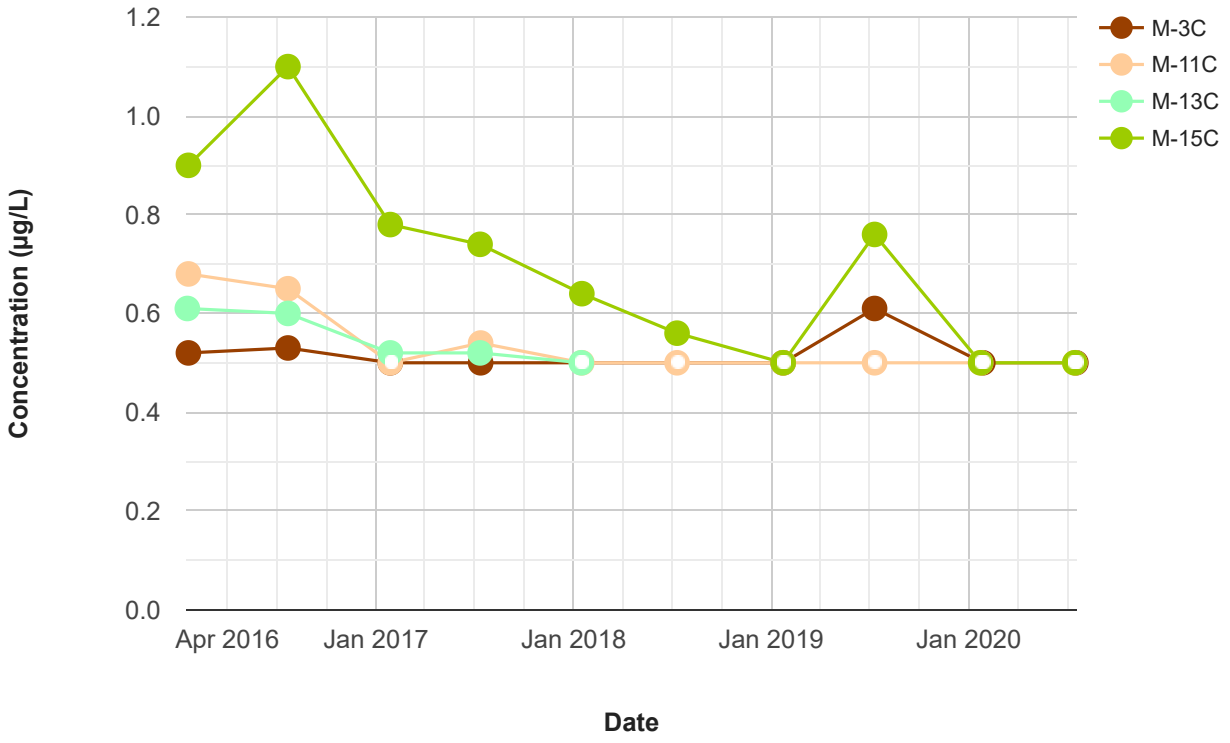
Teapot Dome Landfill
Groundwater Time Series Plot
Calcium



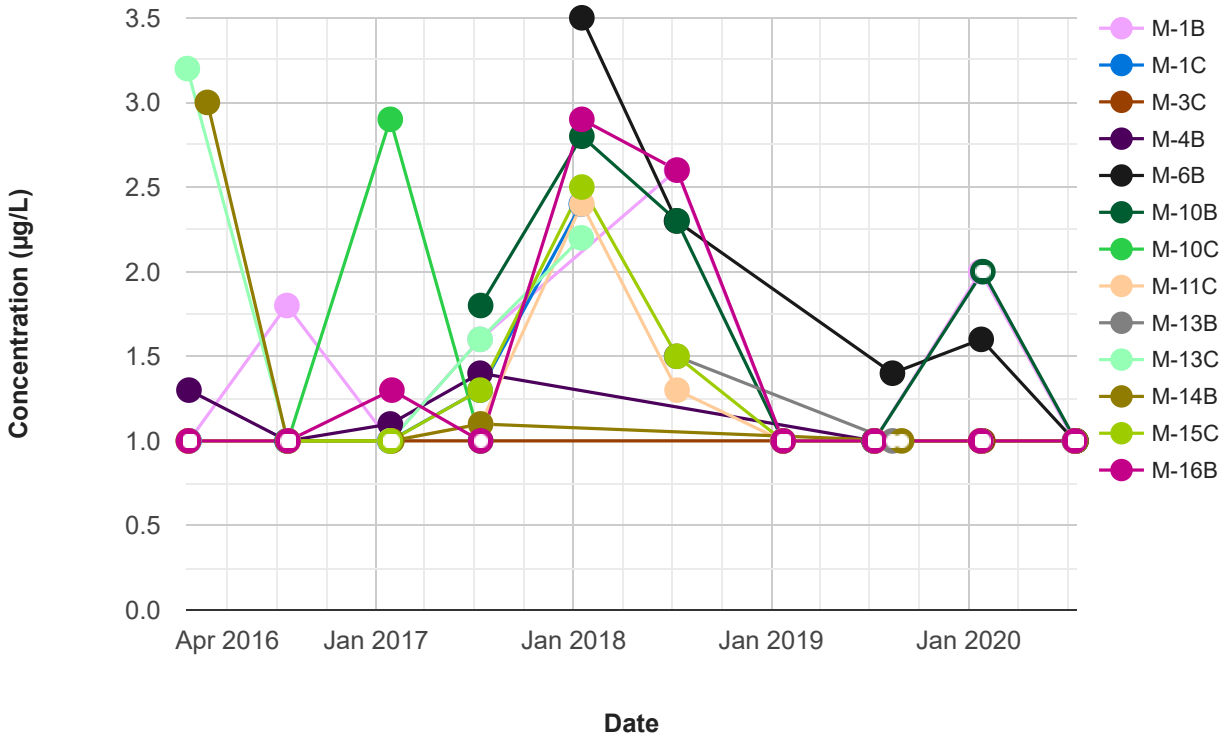
Teapot Dome Landfill
Groundwater Time Series Plot
Chloride



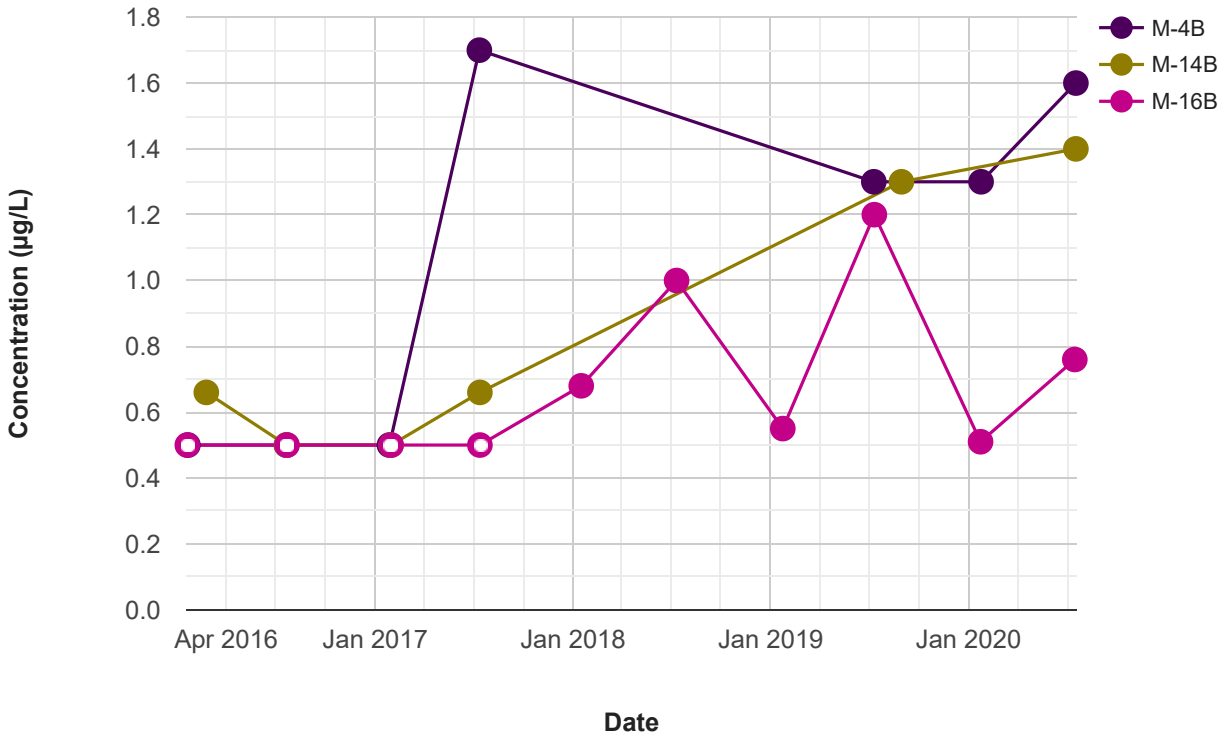
Teapot Dome Landfill
Groundwater Time Series Plot
Chloroform



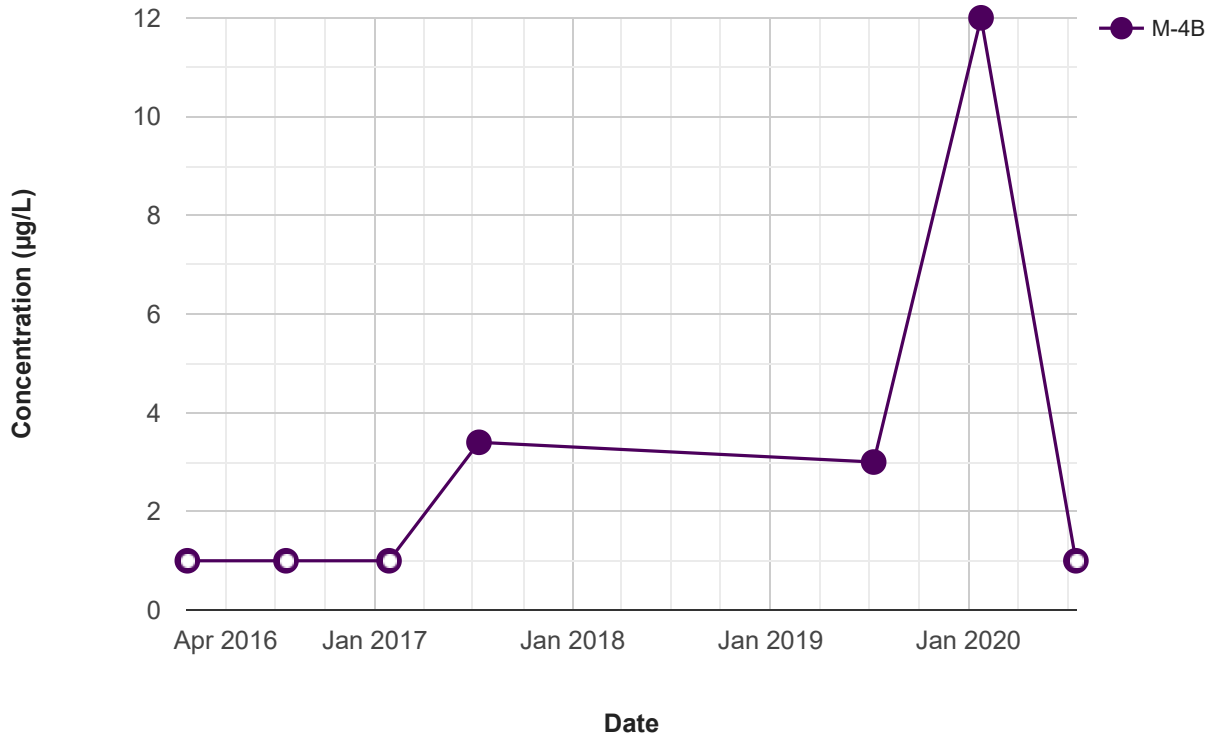
Teapot Dome Landfill
Groundwater Time Series Plot
Chromium



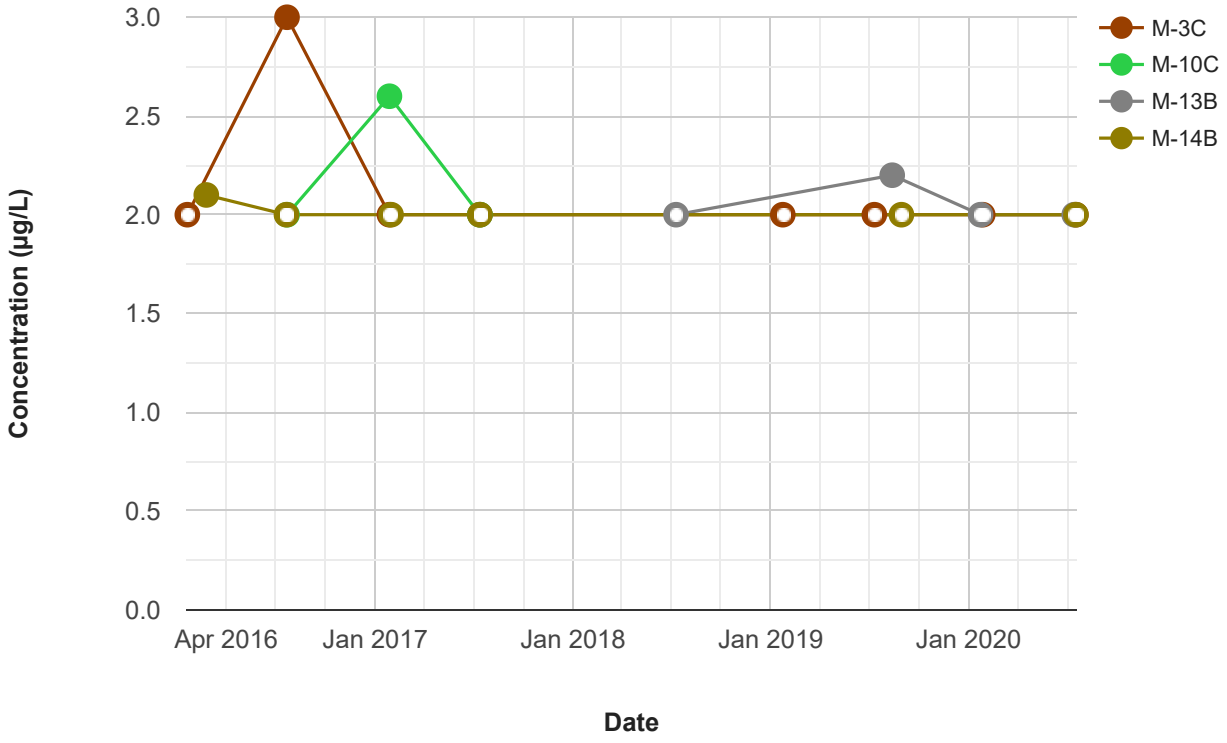
Teapot Dome Landfill
Groundwater Time Series Plot
cis-1,2-Dichloroethene



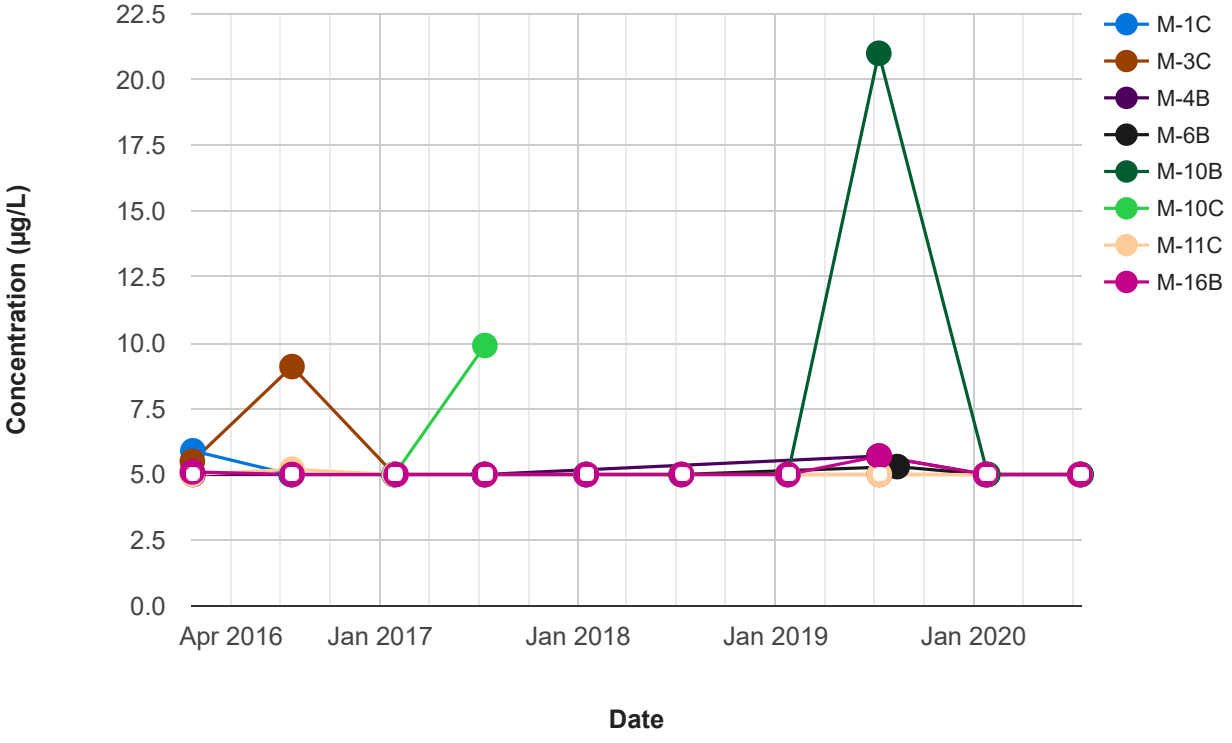
Teapot Dome Landfill
Groundwater Time Series Plot
Cobalt



Teapot Dome Landfill
Groundwater Time Series Plot
Copper



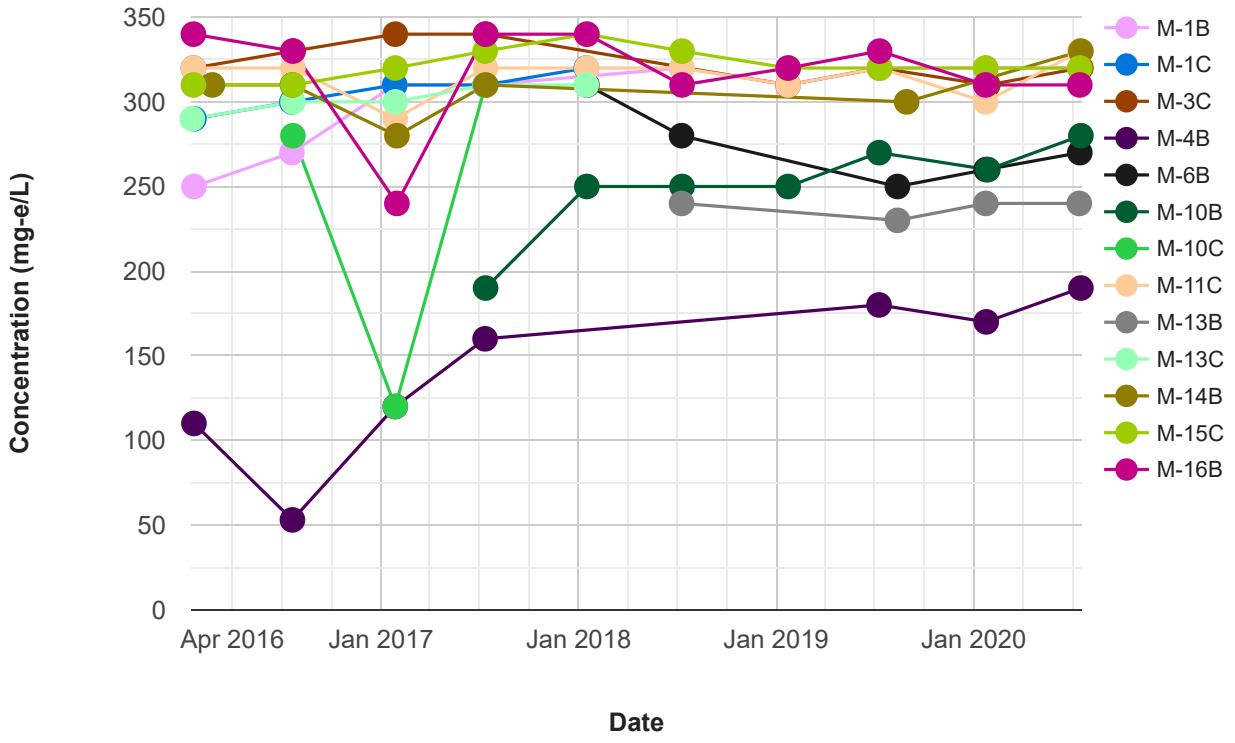
Teapot Dome Landfill
Groundwater Time Series Plot
Cyanide (total)



Teapot Dome Landfill

Groundwater Time Series Plot

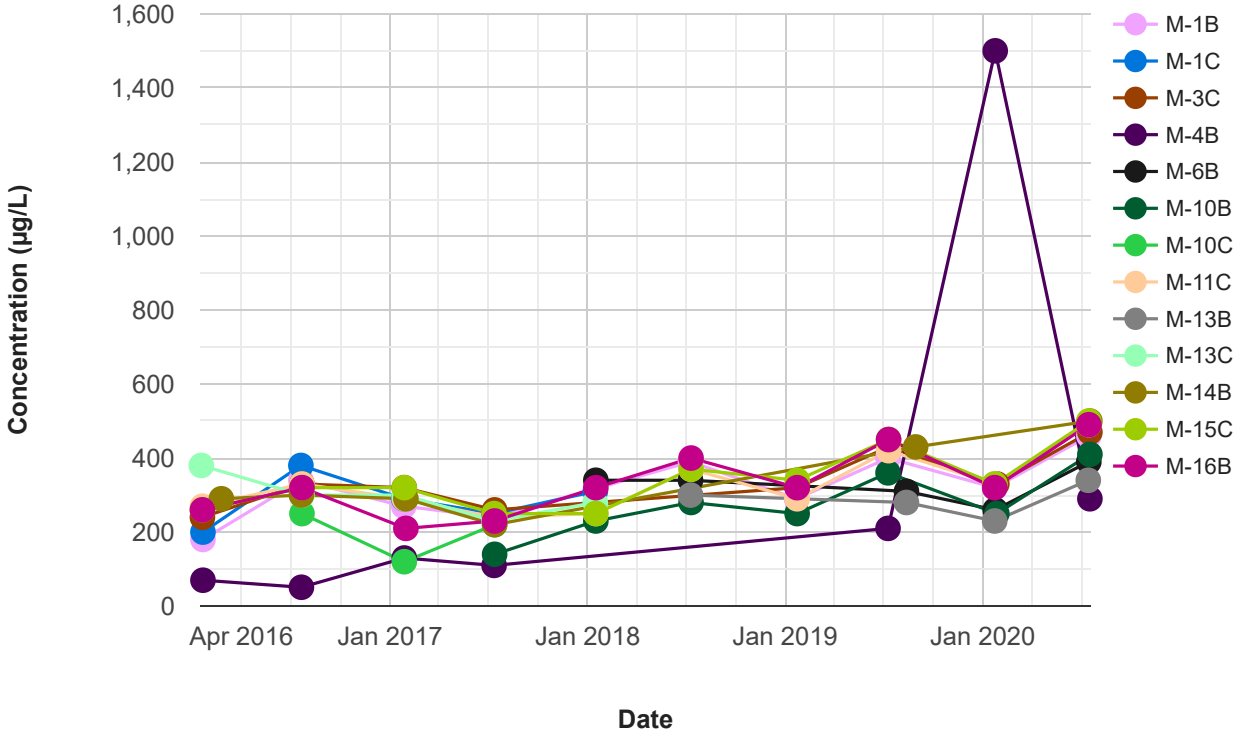
Hardness



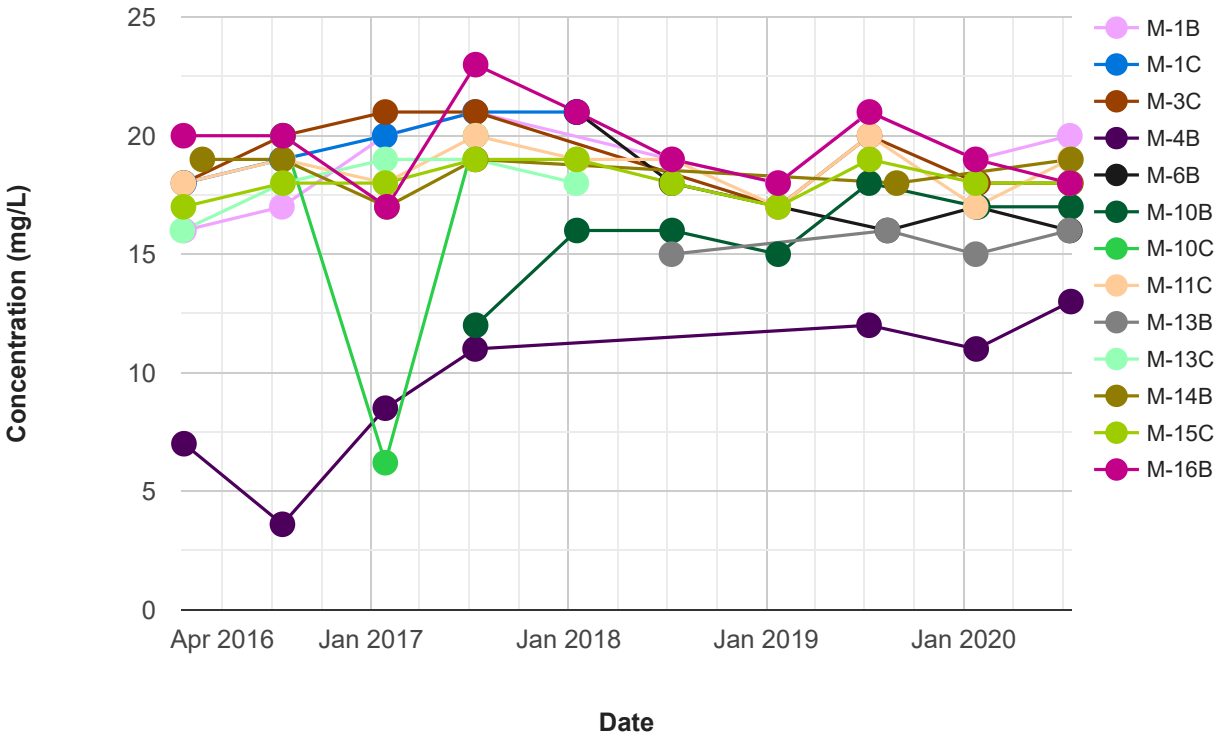
Teapot Dome Landfill

Groundwater Time Series Plot

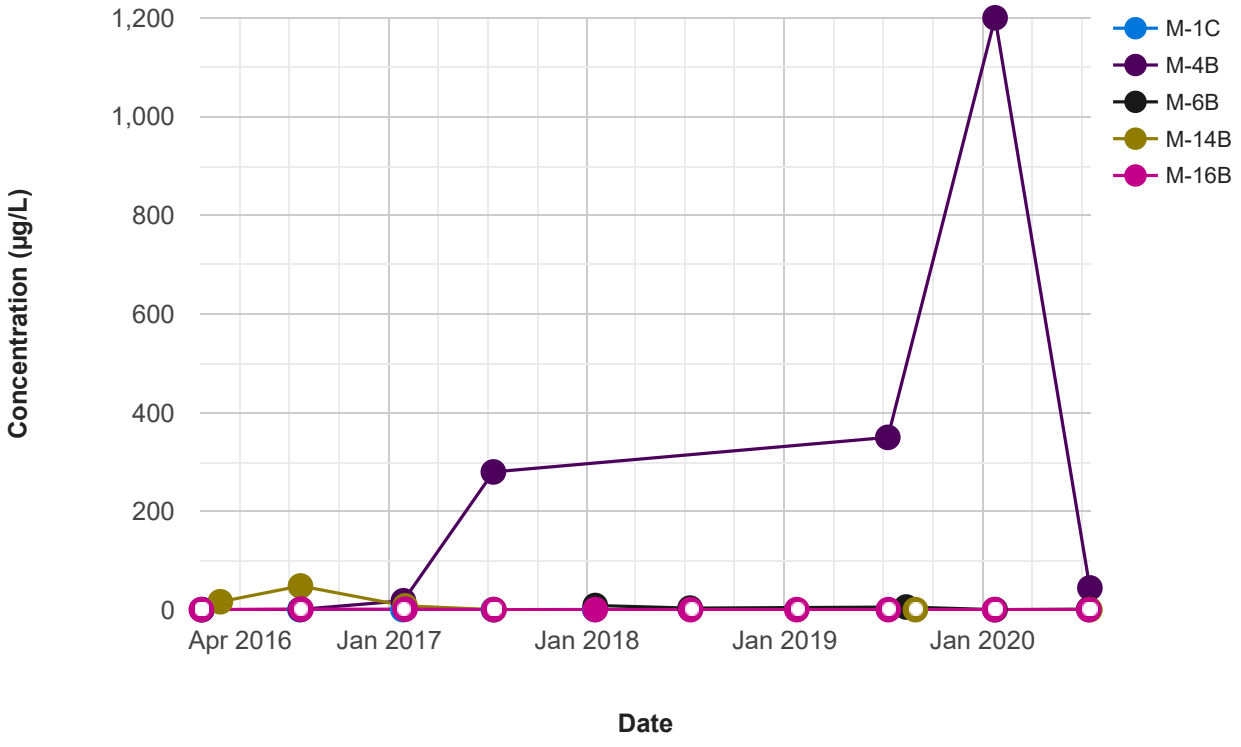
Iron



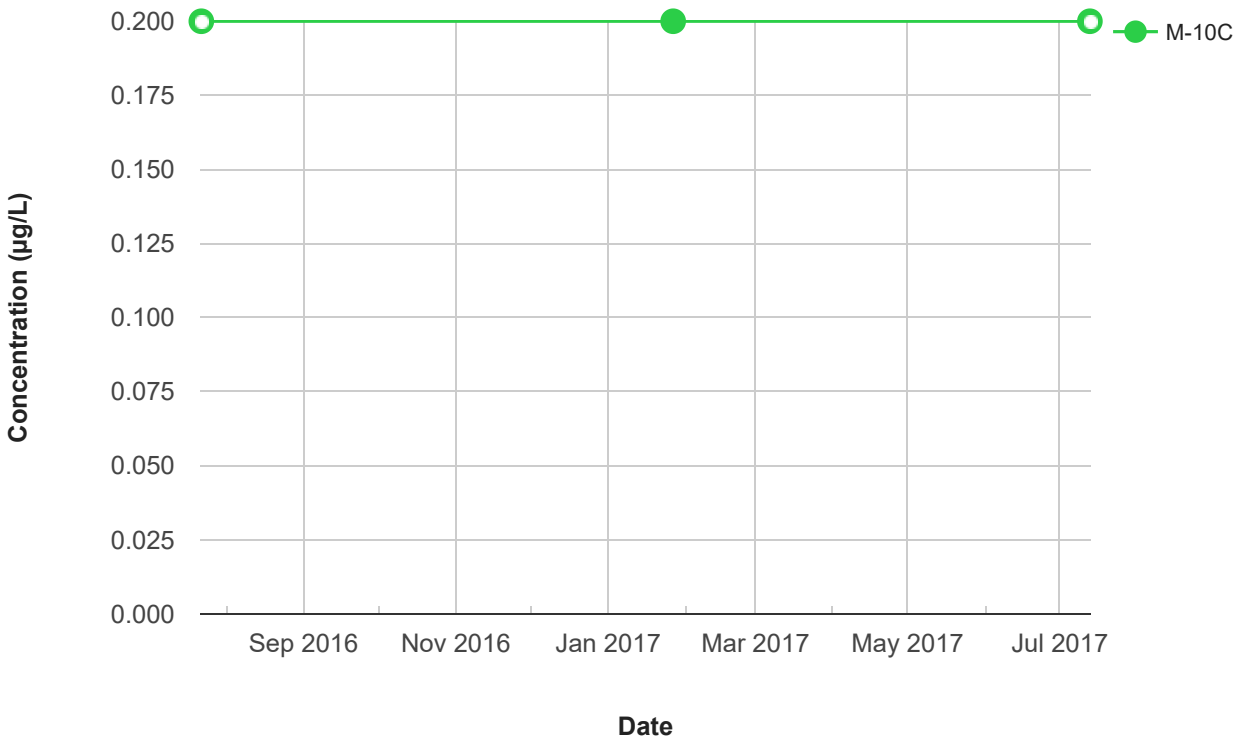
Teapot Dome Landfill
Groundwater Time Series Plot
Magnesium



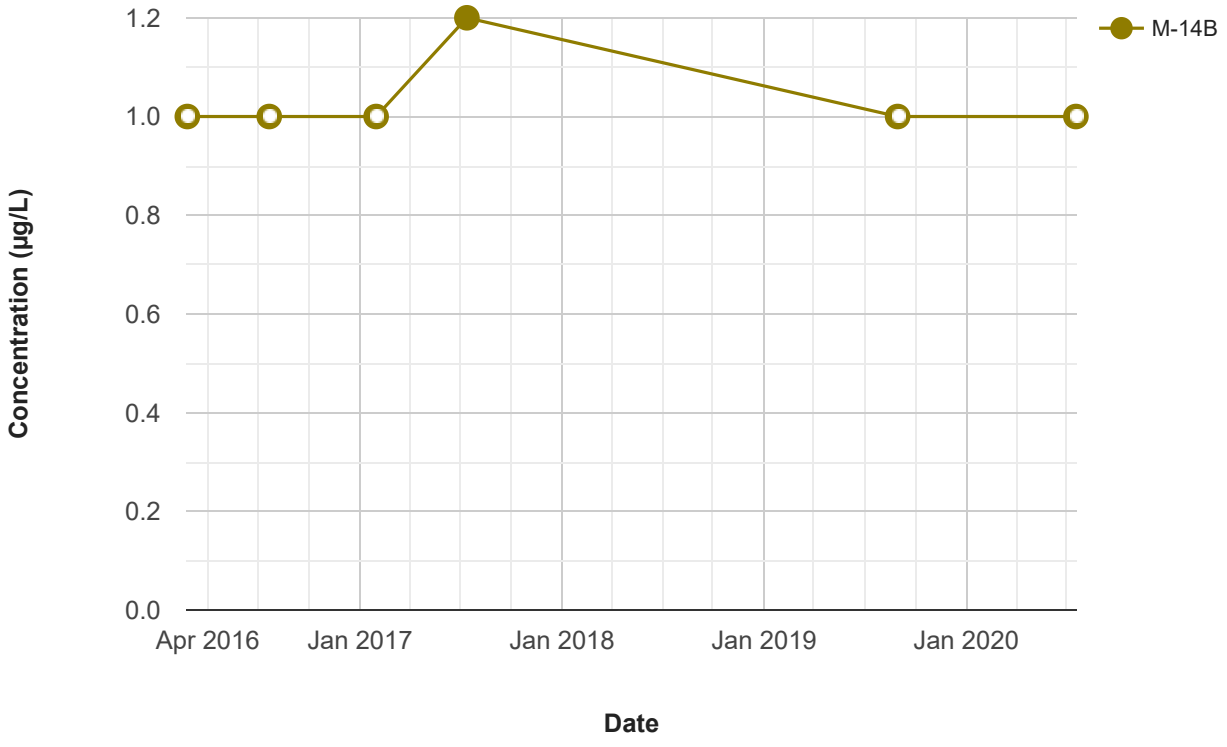
Teapot Dome Landfill
Groundwater Time Series Plot
Manganese



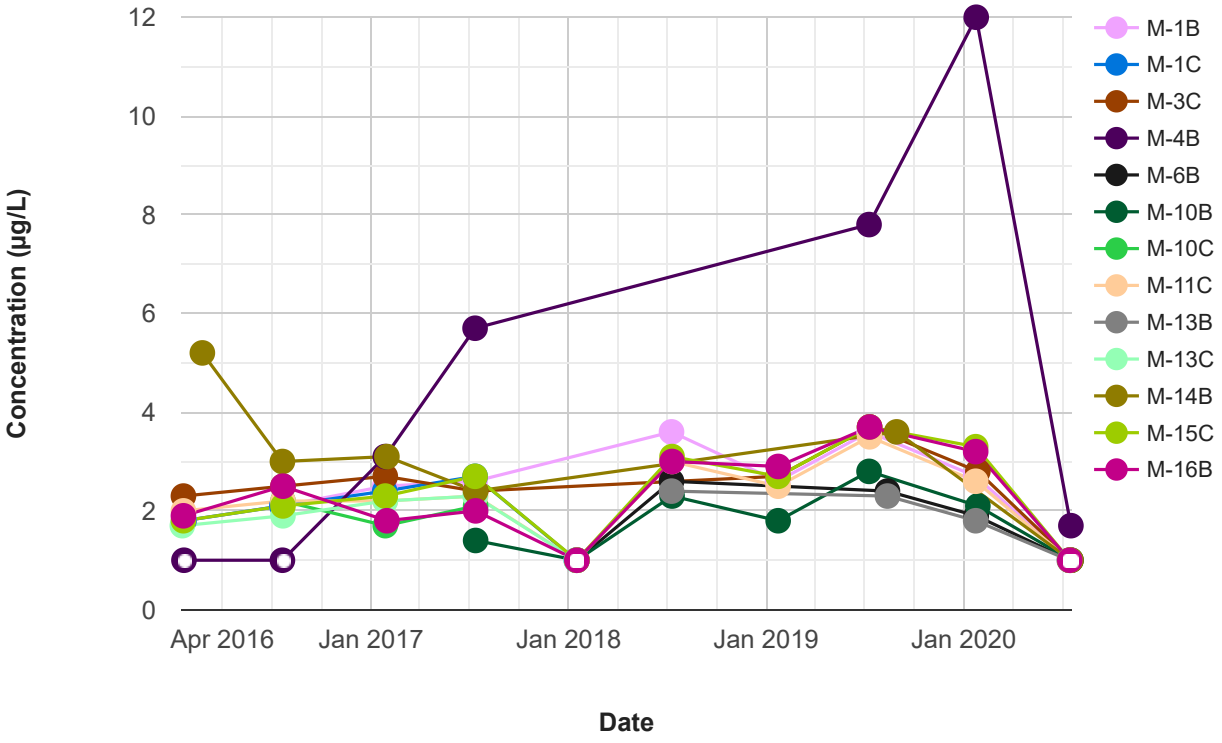
Teapot Dome Landfill
Groundwater Time Series Plot
Mercury



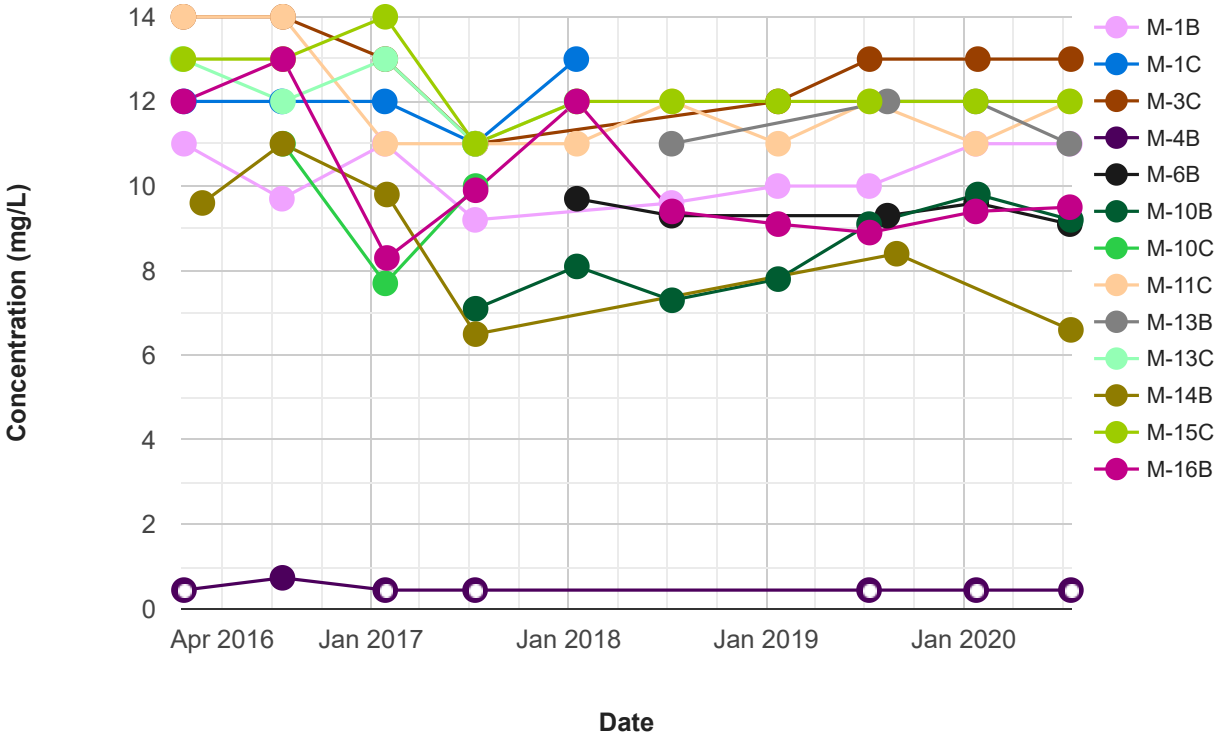
Teapot Dome Landfill
Groundwater Time Series Plot
Methylene chloride



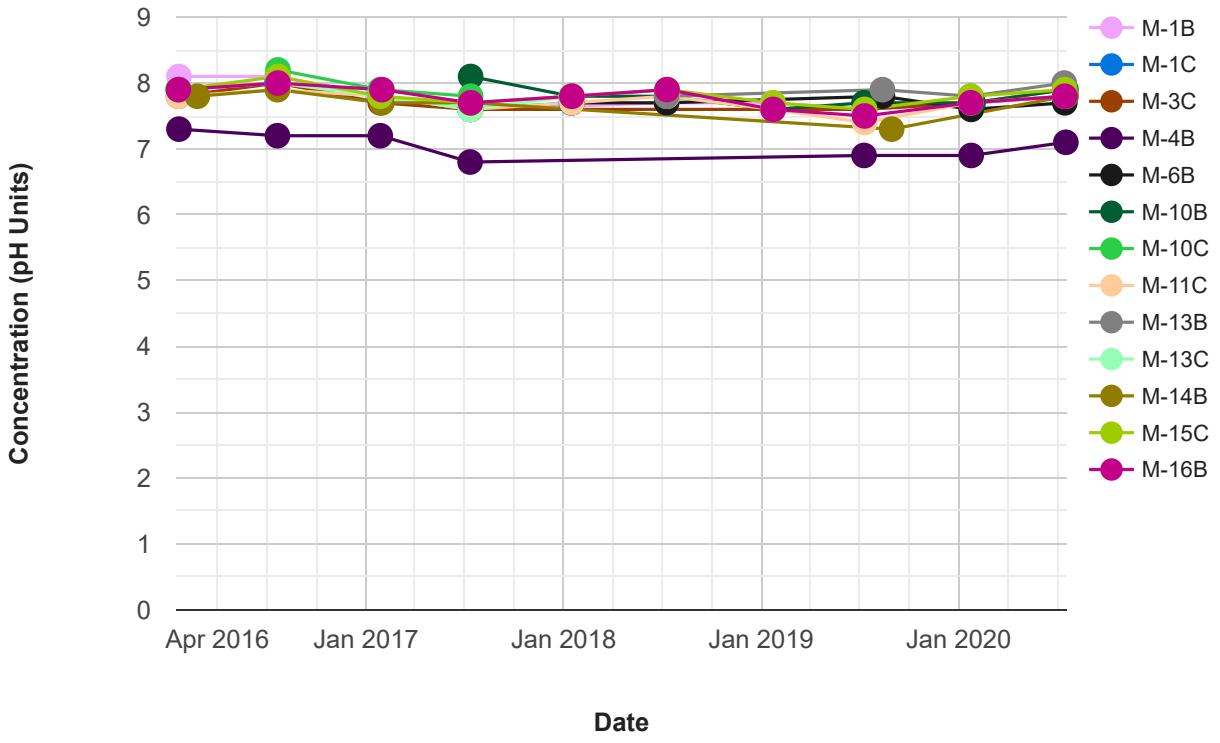
Teapot Dome Landfill
Groundwater Time Series Plot
Nickel



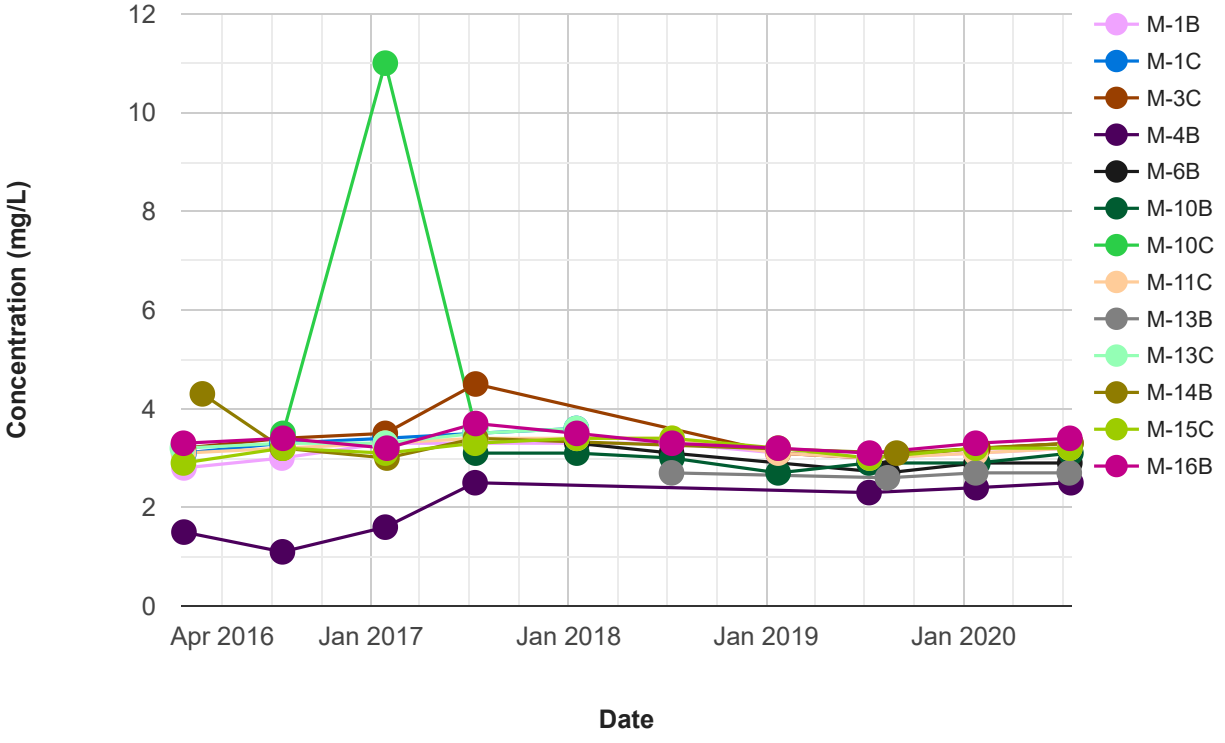
Teapot Dome Landfill
Groundwater Time Series Plot
Nitrate as N



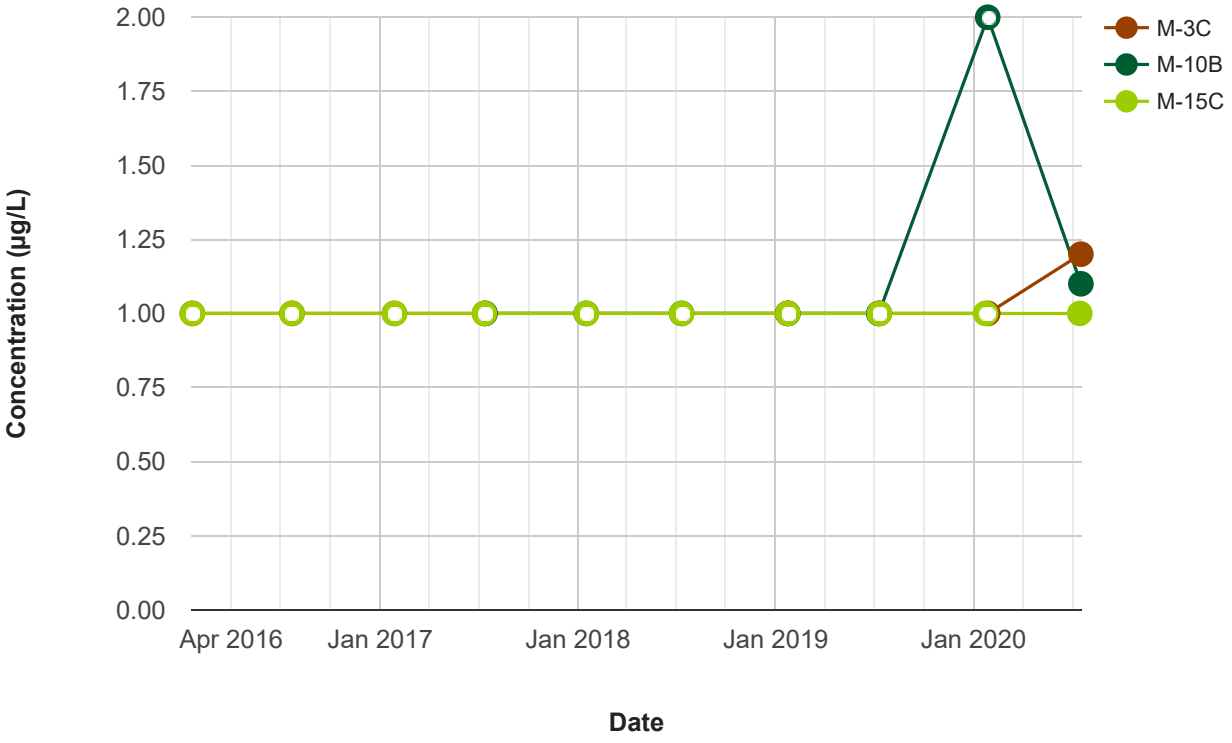
Teapot Dome Landfill
Groundwater Time Series Plot
pH Test



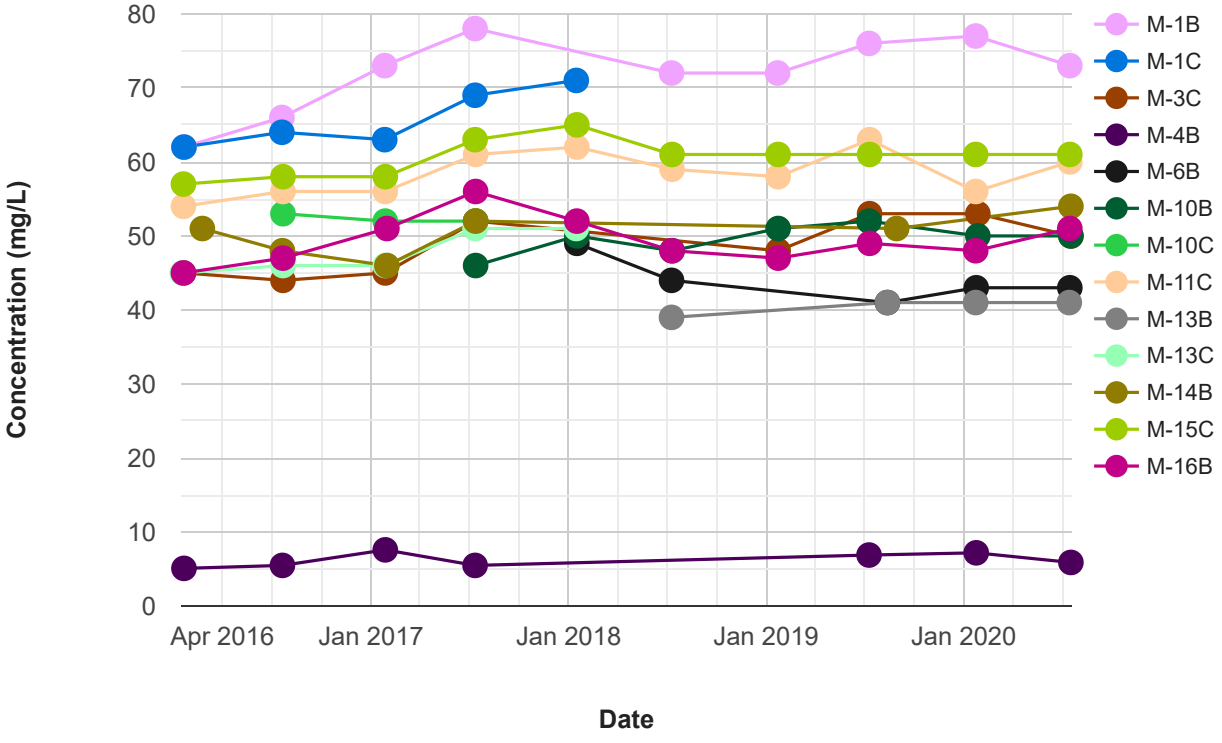
Teapot Dome Landfill
Groundwater Time Series Plot
Potassium



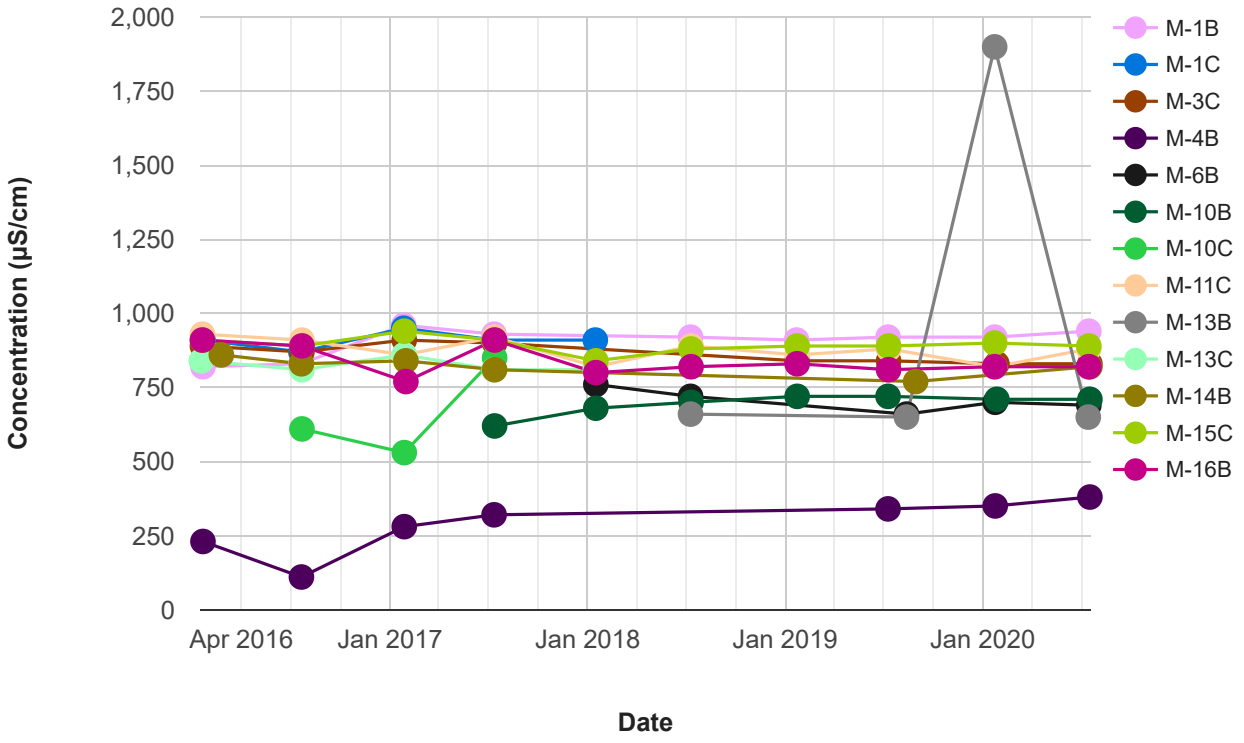
Teapot Dome Landfill
Groundwater Time Series Plot
Selenium



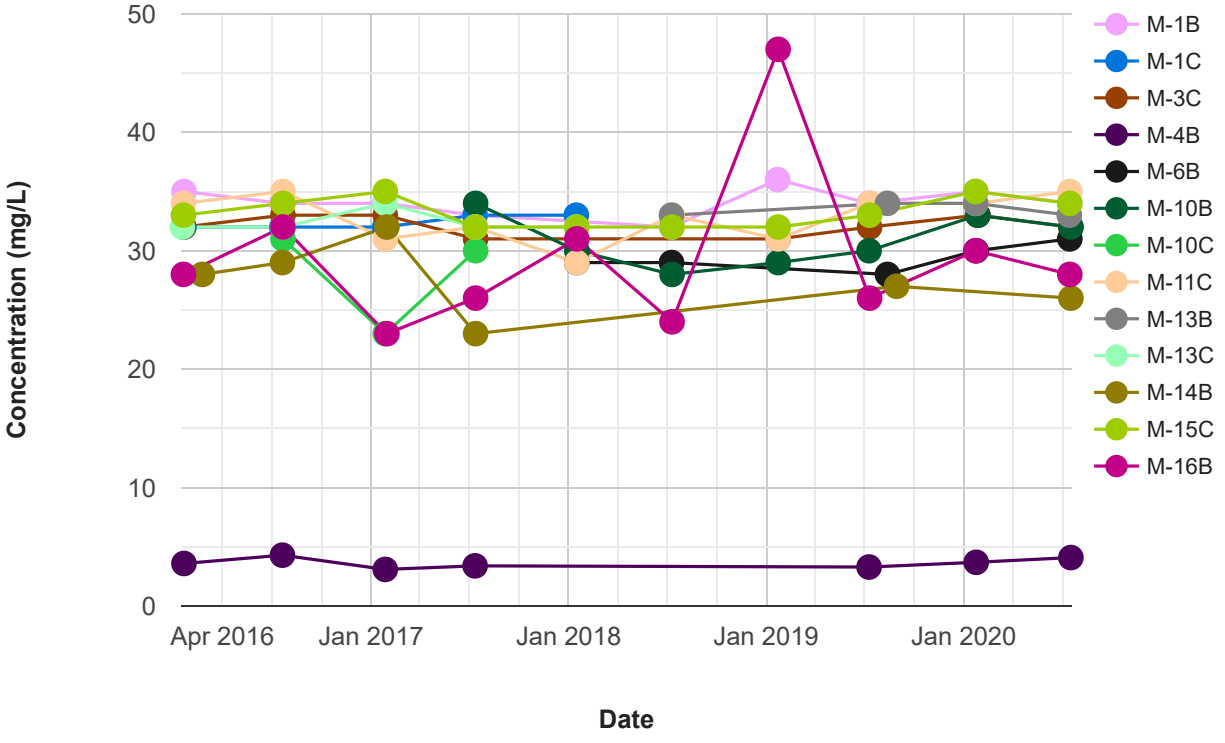
Teapot Dome Landfill
Groundwater Time Series Plot
Sodium



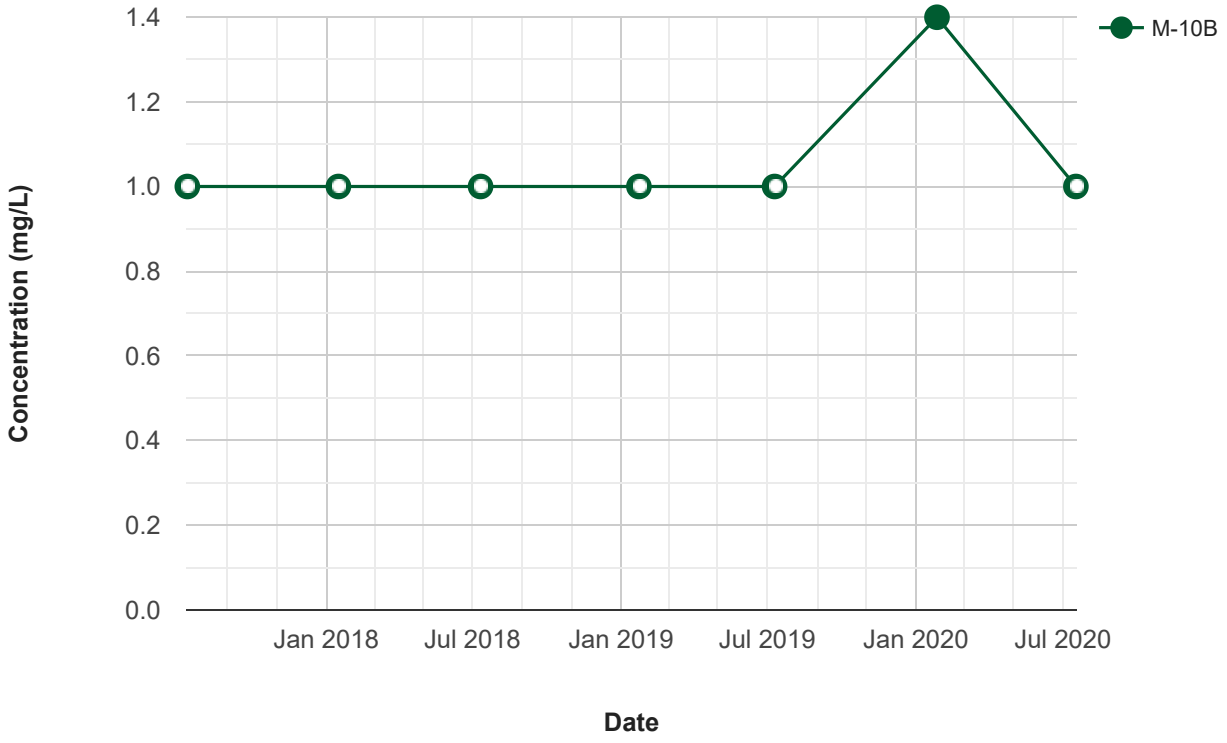
Teapot Dome Landfill
Groundwater Time Series Plot
Specific Conductance



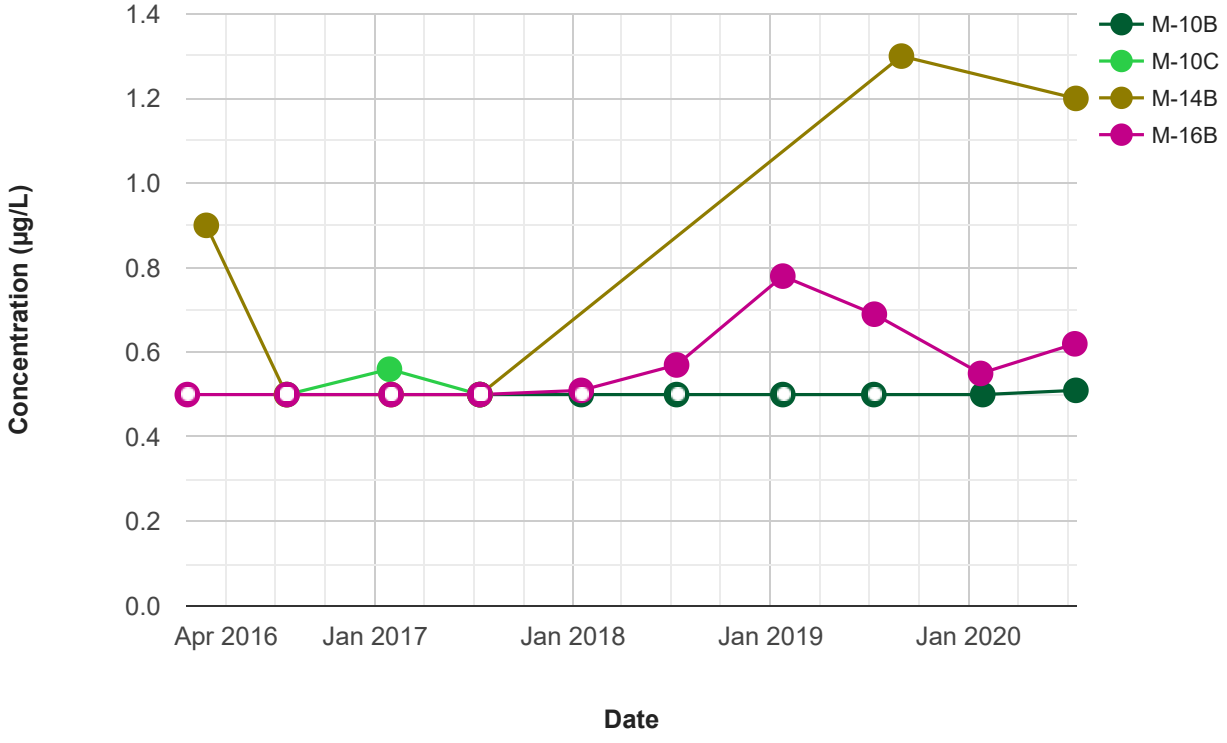
Teapot Dome Landfill
Groundwater Time Series Plot
Sulfate



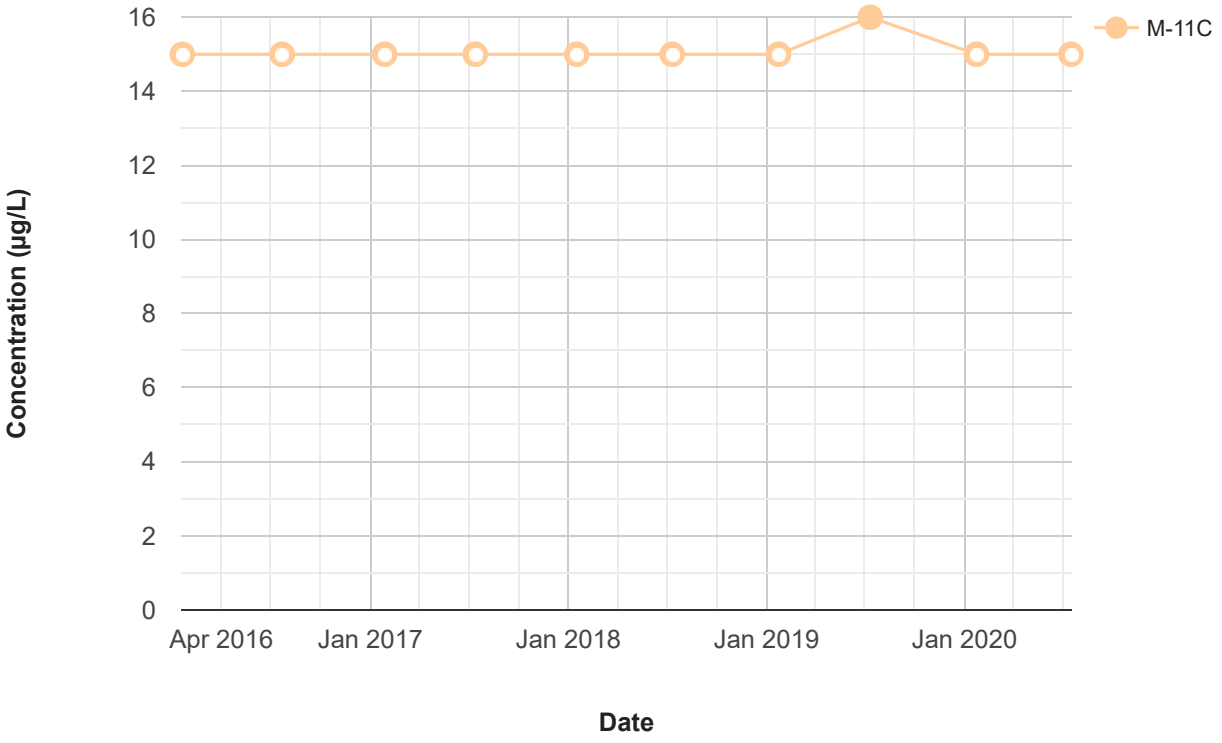
Teapot Dome Landfill
Groundwater Time Series Plot
Sulfide



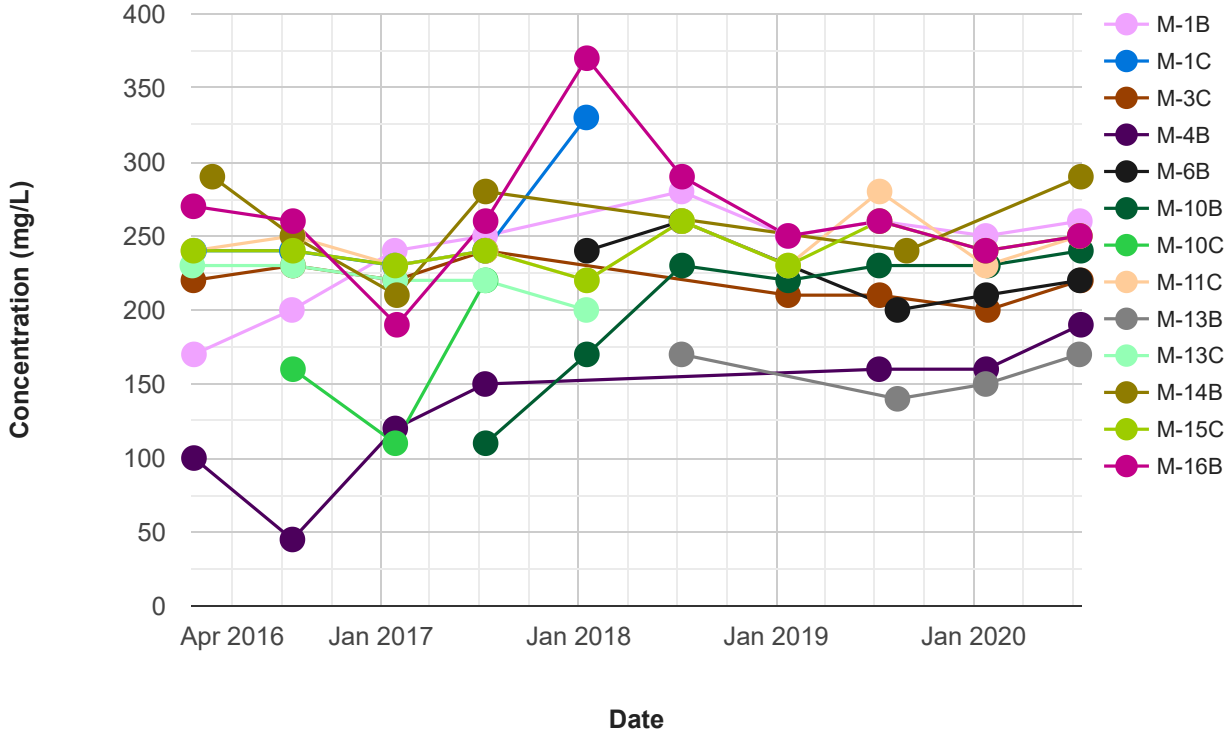
Teapot Dome Landfill
Groundwater Time Series Plot
Tetrachloroethylene



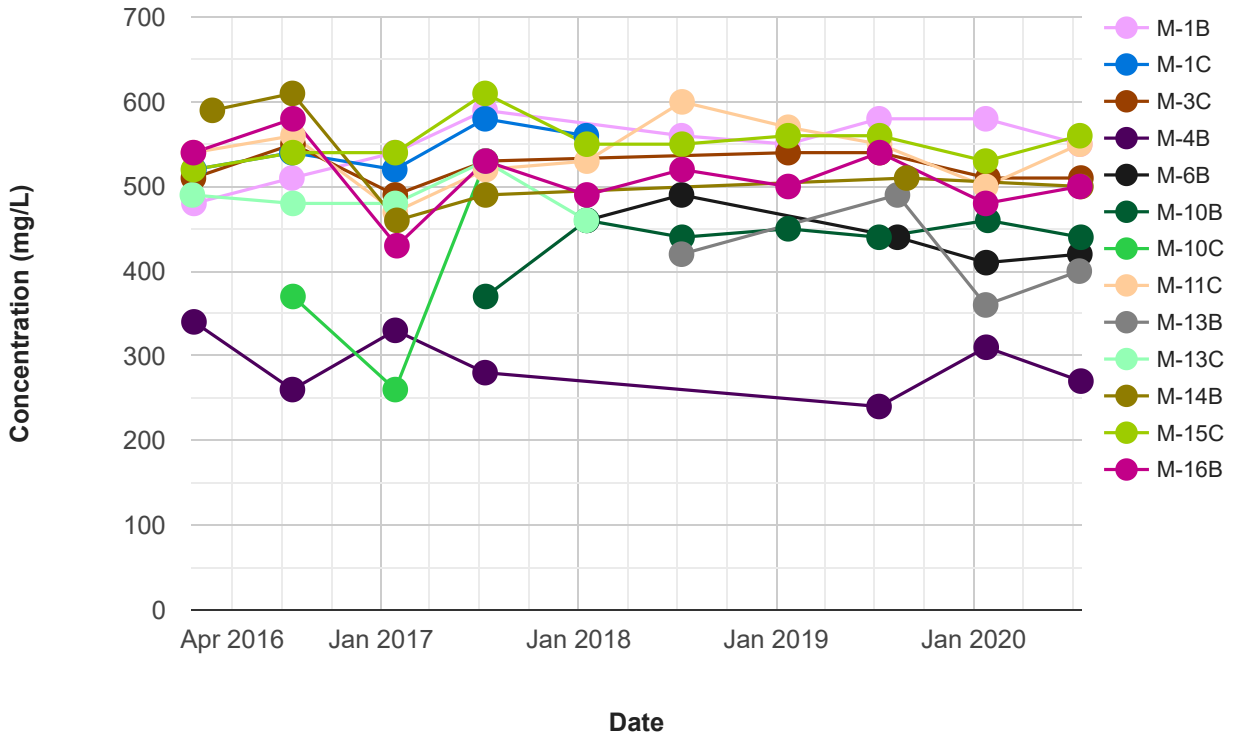
Teapot Dome Landfill
Groundwater Time Series Plot
Tin



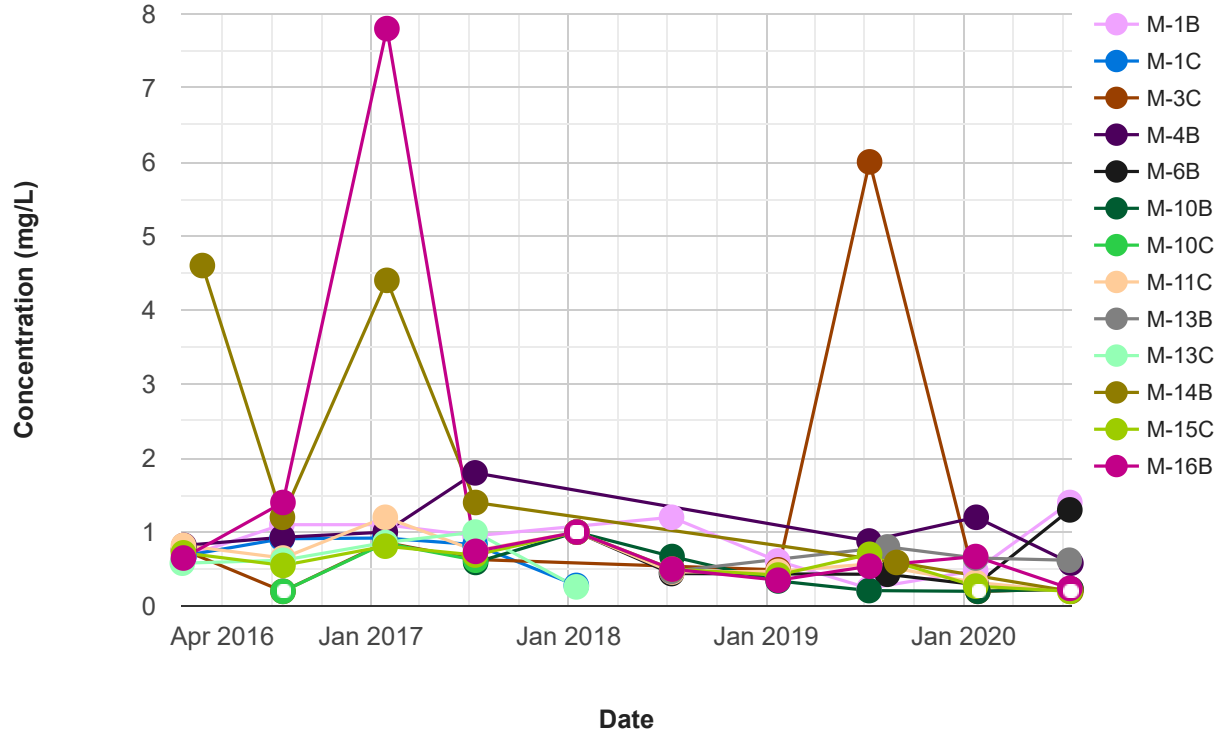
Teapot Dome Landfill
Groundwater Time Series Plot
Total Alkalinity



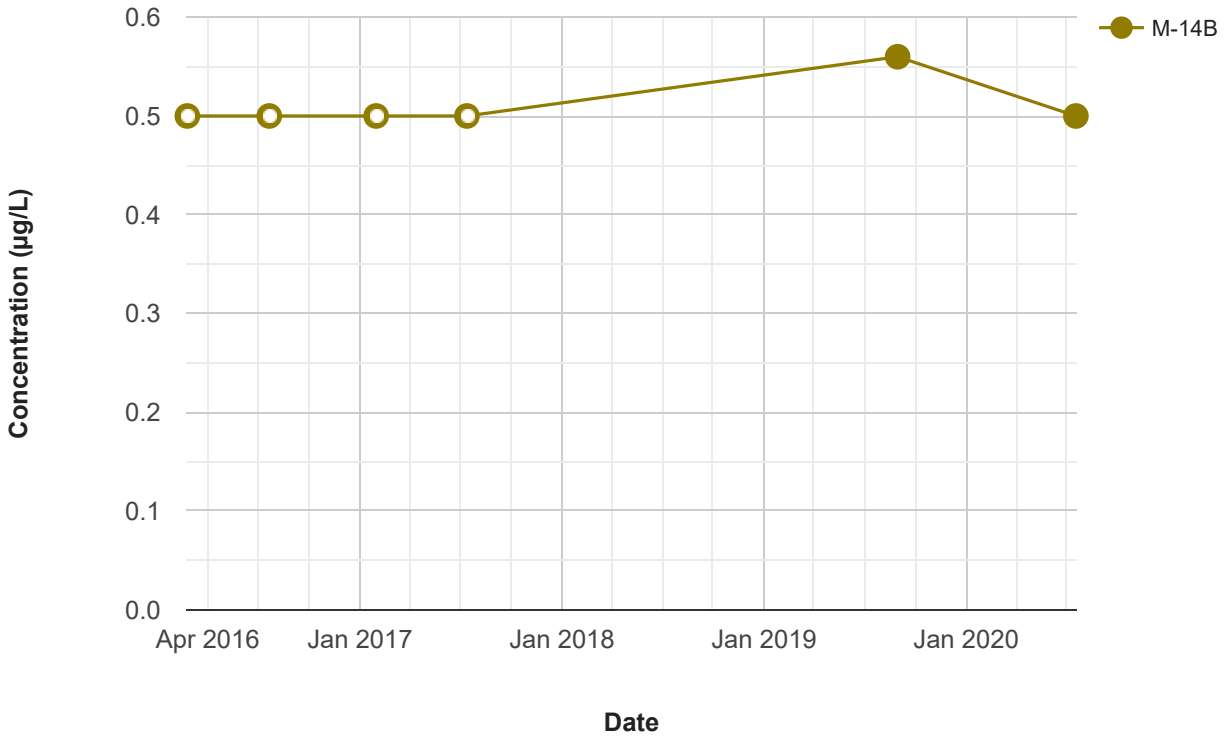
Teapot Dome Landfill
Groundwater Time Series Plot
Total Dissolved Solids



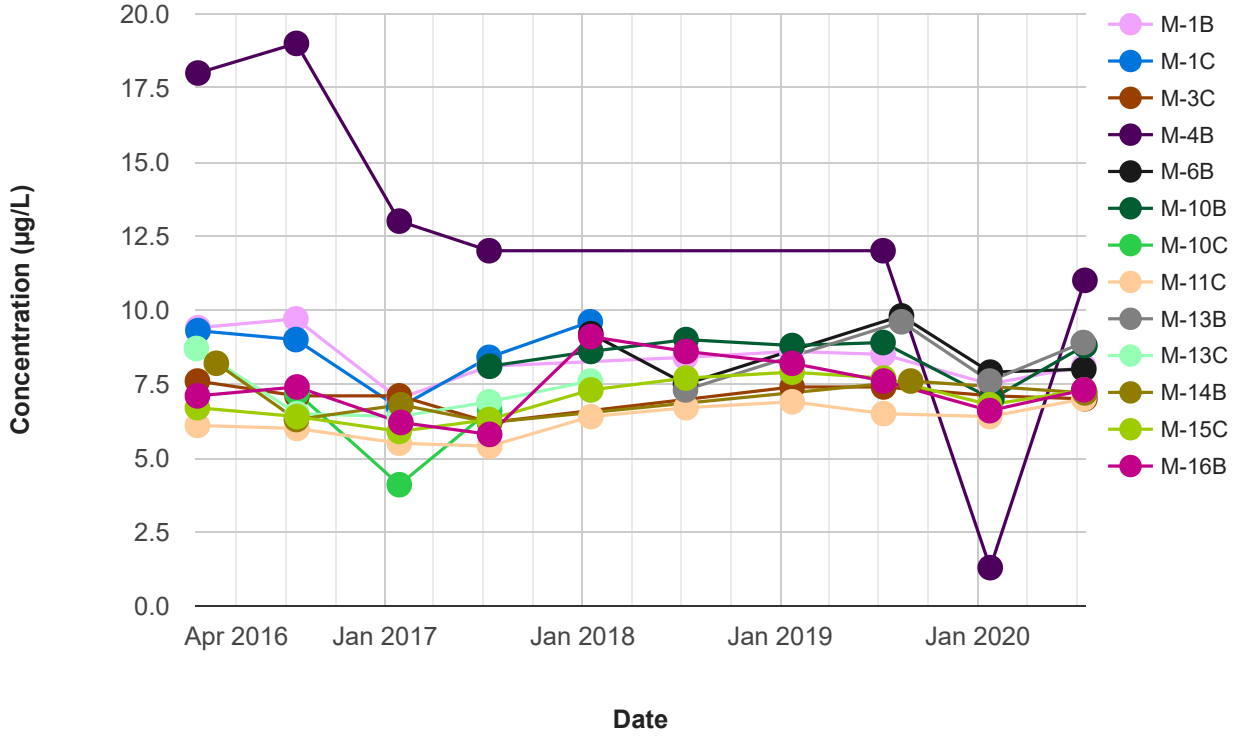
Teapot Dome Landfill
Groundwater Time Series Plot
Total Organic Carbon



Teapot Dome Landfill
Groundwater Time Series Plot
Trichloroethylene



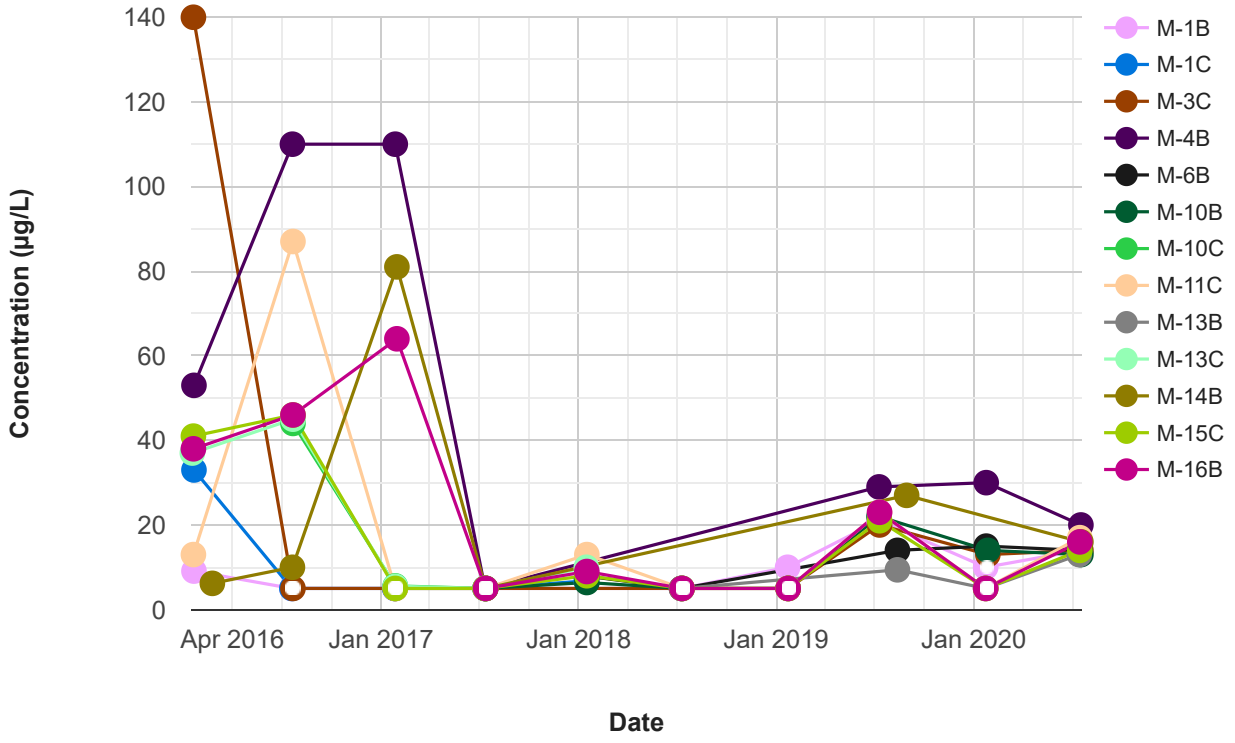
Teapot Dome Landfill
Groundwater Time Series Plot
Vanadium



Teapot Dome Landfill

Groundwater Time Series Plot

Zinc



APPENDIX D

CERTIFIED ANALYTICAL REPORTS
AND
CHAIN-OF-CUSTODY DOCUMENTATION

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

August 05, 2020

Work Order #: **GG16001**

Jonah Trevino
Tulare County Solid Waste Division
5961 South Mooney Blvd.
Visalia, CA 93277

RE: Teapot Dome WDR No. R5-2014-0021

Enclosed are the analytical results for samples received by our laboratory on **07/16/20** . For your reference, these analyses have been assigned laboratory work order number **GG16001**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

CHAIN OF CUSTODY/ANALYSIS REQUEST

MOORE TWINING ASSOCIATES, INC. EST. 1898

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

WORK ORDER #: G616001
PAGE 1 **OF** 3

REPORT TO:	☐ INVOICE TO:	☐ REPORT COPY TO:	REPORTING:
ATTENTION: Jonah Treviño	ATTENTION: Jonah Treviño		☐ STANDARD FORMAT
NAME: County of Tulare – Solid Waste Dept.	NAME: County of Tulare – Solid Waste Dept.		☐ WRITE-ON (STATE FORM)
ADDRESS: 5955 S. Mooney Blvd	ADDRESS: 5955 S. Mooney Blvd		☐ GEOTRACKER/COELT (LUFT)
			☐ PDF ☐ SPREADSHEET
			☐ County DHS :
PHONE: 559-624-7197	PHONE: 559-624-7197		☐ Environmental Health Agency :
FAX: 559-740-4448	FAX: 559-740-4448		☐ OTHER:

SAMPLE INFORMATION

SAMPLED BY (PRINT): Joe Clark

SIGNATURE:

☐ PUBLIC SYSTEM ☐ ROUTINE
☐ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME: ☐ RUSH, DUE ON:
☐ STANDARD

SAMPLE TYPES:

SOLID:
BS – BIOSOLID
CR – CERAMIC
SL – SOIL/SOLID

LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTE WATER

PROJECT INFORMATION

CONTRACT/P.O. NO.: 14235B26373
PROJECT: Teapot Dome – WDR No. R5-2014-0021
PROJECT NUMBER: E94401.03
PROJECT MANAGER: Kirk Jacobsen

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☑ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION
5.2°c

	CLIENT SAMPLE ID	DATE	TIME	TYPE	IG-1, IG-9, IG-10	VOCs 8260 Short List (TCSW)									
1	Trip Blank	7/15/20		W		X									
2	M-1B	7/15/20	0818	GW	X	X									
3	M-1B Field Blank	7/15/20	0818	W		X									
4	M-6A	7/15/20	1114	GW	X	X									
5	M-6A Field Blank	7/15/20	1114	W		X									
6	M-6B	7/15/20	1205	GW	X	X									
7	M-6B Field Blank	7/15/20	1205	W		X									
8	M-11C	7/15/20	1018	GW	X	X									
9	M-11C Field Blank	7/15/20	1018	W		X									
10	M-15C	7/15/20	0924	GW	X	X									
11	M-15C Field Blank	7/15/20	0924	W		X									

COMMENTS/ADDITIONAL INSTRUCTIONS: **Samples held in Lab Fridge overnight**

Analyze Field Blank only if VOCs detected in the sample. Analyze Trip Blank only if VOCs detected in Field Blank.

- Filter for dissolved metals in the lab

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	MTA	7-16-20	0808		MTA

MOORE TWINING ASSOCIATES, INC.
EST. 1898
ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

CHAIN OF CUSTODY/ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

WORK ORDER #: G616001
PAGE 2 **OF** 3

REPORT TO:

ATTENTION: Jonah Treviño
NAME: County of Tulare – Solid Waste Dept.
ADDRESS: 5955 S. Mooney Blvd
PHONE: 559-624-7197
FAX: 559-740-4448

☐ **INVOICE TO:** ☐ **REPORT COPY TO:**

ATTENTION: Jonah Treviño
NAME: County of Tulare – Solid Waste Dept.
ADDRESS: 5955 S. Mooney Blvd
PHONE: 559-624-7197
FAX: 559-740-4448

REPORTING:
☐ STANDARD FORMAT
☐ WRITE-ON (STATE FORM)
☐ GEOTRACKER/COELT (LUFT)
☐ PDF ☐ SPREADSHEET
☐ County DHS :
☐ Environmental Health Agency :
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Joe Clark
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☐ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT
TURN AROUND TIME: ☐ RUSH, DUE ON:
☐ STANDARD

SAMPLE TYPES:
SOLID:
BS – BIOSOLID
CR – CERAMIC
SL – SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW – WASTE WATER

PROJECT INFORMATION
CONTRACT/P.O. NO.: 14235B26373
PROJECT: Teapot Dome – WDR No. R5-2014-0021
PROJECT NUMBER: E94401.03
PROJECT MANAGER: Kirk Jacobsen

ANALYSIS REQUESTED

LAB USE
NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☑ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION
5.2°c

	CLIENT SAMPLE ID	DATE	TIME	TYPE	IG-1, IG-9, IG-10	VOCs 8260 Short List (TCSW)
12	M-16B	7/15/20	1454	GW	X	X
13	M-16B Field Blank	7/15/20	1454	W		X

COMMENTS/ADDITIONAL INSTRUCTIONS: **Samples held in Lab Fridge overnight**

Analyze Field Blank only if VOCs detected in the sample. Analyze Trip Blank only if VOCs detected in Field Blank.

- Filter for dissolved metals in the lab

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	MTA	7-16-20	0808		MTA

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

August 05, 2020

Work Order #: **GG17019**

Jonah Trevino
Tulare County Solid Waste Division
5961 South Mooney Blvd.
Visalia, CA 93277

RE: Teapot Dome WDR No. R5-2014-0021

Enclosed are the analytical results for samples received by our laboratory on **07/17/20** . For your reference, these analyses have been assigned laboratory work order number **GG17019**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.
EST. 1898
ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

CHAIN OF CUSTODY/ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

WORK ORDER #: 6617019
PAGE 1 **OF** 2

REPORT TO:

ATTENTION: Jonah Treviño
NAME: County of Tulare – Solid Waste Dept.
ADDRESS: 5955 S. Mooney Blvd
PHONE: 559-624-7197
FAX: 559-740-4448

☐ **INVOICE TO:** ☐ **REPORT COPY TO:**

ATTENTION: Jonah Treviño
NAME: County of Tulare – Solid Waste Dept.
ADDRESS: 5955 S. Mooney Blvd
PHONE: 559-624-7197
FAX: 559-740-4448

REPORTING:
☐ STANDARD FORMAT
☐ WRITE-ON (STATE FORM)
☐ GEOTRACKER/COELT (LUFT)
☐ PDF ☐ SPREADSHEET
☐ County DHS :
☐ Environmental Health Agency :
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Joe Clark
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☑ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT
TURN AROUND TIME: ☐ RUSH, DUE ON:
☐ STANDARD

SAMPLE TYPES:
SOLID:
BS – BIOSOLID
CR – CERAMIC
SL – SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW – WASTE WATER

PROJECT INFORMATION
CONTRACT/P.O. NO.: 14235B26373
PROJECT: Teapot Dome – WDR No. R5-2014-0021
PROJECT NUMBER: E94401.03
PROJECT MANAGER: Kirk Jacobsen

ANALYSIS REQUESTED

LAB USE — NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☑ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION
5.3°C

LAB USE	CLIENT SAMPLE ID	DATE	TIME	TYPE	IG-1, IG-9, IG-10	VOCs 8260 Short List (TCSW)									
1	Trip Blank	7/17/20	--	W		X									
2	M-3C	7/17/20	1123	GW	X	X									
3	M-3C Field Blank	7/17/20	1123	W		X									
4	M-4B	7/17/20	0805	GW	X	X									
5	M-4B Field Blank	7/17/20	0805	W		X									
6	M-8	7/17/20	1015	GW	X	X									
7	M-8 Field Blank	7/17/20	1015	W		X									
8	M-10B	7/17/20	1215	GW	X	X									
9	M-10B Field Blank	7/17/20	1215	W		X									
10	M-14B	7/17/20	0856	GW	X	X									
11	M-14B Field Blank	7/17/20	0856	W		X									

COMMENTS/ADDITIONAL INSTRUCTIONS:
Analyze Field Blank only if VOCs detected in the sample. Analyze Trip Blank only if VOCs detected in Field Blank.
- Filter for dissolved metals in the lab

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	MTA	7-17-20	14:38		MTA

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

October 06, 2020

Work Order #: **GG14035**

Jonah Trevino
Tulare County Solid Waste Division
5961 South Mooney Blvd.
Visalia, CA 93277

RE: Teapot Dome WDR No. R5-2014-0021

Enclosed are the analytical results for samples received by our laboratory on **07/14/20** . For your reference, these analyses have been assigned laboratory work order number **GG14035**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC. EST. 1898

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

CHAIN OF CUSTODY/ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

WORK ORDER #: GG14035
PAGE 1 **OF** 2

REPORT TO:

ATTENTION: Jonah Treviño
NAME: County of Tulare – Solid Waste Dept.
ADDRESS: 5955 S. Mooney Blvd
PHONE: 559-624-7197
FAX: 559-740-4448

☐ **INVOICE TO:** ☐ **REPORT COPY TO:**

ATTENTION: Jonah Treviño
NAME: County of Tulare – Solid Waste Dept.
ADDRESS: 5955 S. Mooney Blvd
PHONE: 559-624-7197
FAX: 559-740-4448

REPORTING:

☐ STANDARD FORMAT
☐ WRITE-ON (STATE FORM)
☐ GEOTRACKER/COELT (LUFT)
☐ PDF ☐ SPREADSHEET
☐ County DHS :
☐ Environmental Health Agency :
☐ OTHER:

SAMPLE INFORMATION

SAMPLED BY (PRINT): Joe Clark
SIGNATURE:

☐ PUBLIC SYSTEM ☐ ROUTINE
☐ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME: ☐ RUSH, DUE ON:
☐ STANDARD

SAMPLE TYPES:

SOLID:
BS – BIOSOLID
CR – CERAMIC
SL – SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW – WASTE WATER

PROJECT INFORMATION

CONTRACT/P.O. NO.: 14235B26373
PROJECT: Teapot Dome – WDR No. R5-2014-0021
PROJECT NUMBER: E94401.03
PROJECT MANAGER: Kirk Jacobsen

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☑ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION
2.6

	CLIENT SAMPLE ID	DATE	TIME	TYPE	IG-1, IG-9, IG-10	VOCs 8260 Short List (TCSW)
1	~~Field Blank~~ Trip Blank 002	7/13/20				
2	M-13A	7/14/20	1002	GW	X	X
3	M-13A Field Blank	7/14/20	1002	W		X
4	M-13B	7/14/20	1107	GW	X	X
5	M-13B Field Blank	7/14/20	1107	W		X

COMMENTS/ADDITIONAL INSTRUCTIONS:

Analyze Field Blank only if VOCs detected in the sample. Analyze Trip Blank only if VOCs detected in Field Blank.
- Filter for dissolved metals in the lab

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	MTA	7-14-20	1416		MTA

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 18, 2020

Work Order #: **GK19017**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19017**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: 6K19017
PAGE 1 **OF** 2

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, Ca 93277
PHONE: 624-8441
EMAIL / FAX:

☑ INVOICE TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia Ca 93277
PHONE:
EMAIL / FAX:

☐ REPORT COPY TO:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 70
PROJECT MANAGER:

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

LAB USE	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC'S)									STATION CODE
1	Mapkey 70	11-17	8:30	DW	X									
2	Field Blanks (2)	11-17	8:30		X									
3	Trip Blank (1)	11-17	8:30		X									

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co.	11-19	1435		MTA

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 MTA'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 MTA's terms and conditions for laboratory services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 18, 2020

Work Order #: **GK19018**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19018**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 Fresno Street • Fresno, CA 93721 • Phone (559) 268-7021 • Fax: (559) 268-0740

Analytical Chemistry Division
California ELAP Certification # 1371

Work Order #: 6K19018
Page 1 of 2

Report To:
Attention: Allison Shuklian
Company Name: Tul. Co. HHSA
Address: 5957 S Mooney Blvd.
Visalia, Ca 93277
Phone: 624-8441
Email / Fax:

Invoice To: ☑
Attention: Lucas Feldstein
Company Name: Tulare County Solid Waste
Address: 5955 S Mooney Blvd
Visalia Ca 93277
Phone:
Email / Fax:

☐ Report Copy To:

Reporting:
☒ Standard Format ☐ PDF
☐ EDT (SWRCB) ☐ Excel
☐ Geotracker/COELT (LUFT)
Global ID:
☐ County Environmental Health:
☐ State Water Resources Control Board:
☐ Other:

Sample Information
Sampled By (Print): Allison Shuklian
Signature:
☐ Public System ☐ Routine
☒ Private Well ☐ Repeat
☐ Other ☐ Replacement

Turn Around Time
☒ Standard
☐ Rush, Due On:

Sample Types
Solid:
BS - Biosolid
CR - Ceramic
SL - Soil/Solid
Liquid:
DW - Drinking Water
GW - Ground Water
OL - Oil
SF - Surface Water
ST - Storm Water
WW - Wastewater

Project Information
Contract / P.O. No.: Tulare County Solid Waste
Project: Teapot Dome Landfill - offsite wells
Project Number: Mapkey 71
Project Manager:

Analysis Requested

Lab Use — Notes on Received Condition:
☐ Custody Seal(s) Broken ☐ Samples(s) Damaged
☐ On Ice ☐ Ambient Temp. ☐ Incorrect Preservation

	Client Sample ID	Date	Time	Type	GPA 524.2 (VOC's)									Station Code
1	Mapkey 71	11-17	9:00	DW	X									
2	Field Blanks (2)	11-17	9:00		X									
3	Trip Blank (1)	11-17	9:00		X									

Comments / Additional Instructions:
Analyze Field Blanks only if positive results

Relinquished By	Company	Date	Time	Received By	Company
	Tulare	11-19	14:35		MTA

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 MTA'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 MTA's terms and conditions for laboratory services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 18, 2020

Work Order #: **GK19019**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19019**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: 6K14014
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, Ca 93277
PHONE: 624-8441
EMAIL / FAX:

☑ INVOICE TO: ☐ REPORT COPY TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia Ca 93277
PHONE:
EMAIL / FAX:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 22
PROJECT MANAGER:

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLES(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC's)										STATION CODE
1	Mapkey 22	11-17	9:30	DW	X										
2	Field Blanks (2)	11-17	9:30		X										
3	Trip Blank (1)	11-17	9:30		X										

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co.	11-19	14:35		MTA

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 MTA'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 MTA's terms and conditions for laboratory services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 18, 2020

Work Order #: **GK19020**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19020**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: 6K19020
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shnkllian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, Ca 93277
PHONE: 624-8441
EMAIL / FAX:

☒ INVOICE TO: ☐ REPORT COPY TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia Ca 93277
PHONE:
EMAIL / FAX:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shnkllian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - Offsite Wells
PROJECT NUMBER: Mapkey 24A
PROJECT MANAGER:

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLES(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC's)									STATION CODE
1	Mapkey 24A	11-17	10:00	DW	X									
2	Field Blanks (2)	11-17	10:00		X									
3	Trip Blank (1)	11-17	10:00		X									

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co.	11-19	14:35		MTA

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 subje monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are e 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 MTA's terms and conditions for labor services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 18, 2020

Work Order #: **GK19021**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19021**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: GK19021
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, CA 93277
PHONE: 624-8441
EMAIL / FAX:

INVOICE TO: ☐ REPORT COPY TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia CA 93277
PHONE:
EMAIL / FAX:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 4
PROJECT MANAGER:

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

ANALYSIS REQUESTED

	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC's)									STATION CODE
1	Mapkey 4	11-17	10:30	DW	X									
2	Field Blanks (2)	11-17	10:30		X									
3	Trip Blank (1)	11-17	10:30		X									

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co	11-19	14:35		MTA

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 subje monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are e 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 MTA's terms and conditions for labor services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 18, 2020

Work Order #: **GK19022**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19022**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: 6K19022
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shnukiian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, Ca 93277
PHONE: 624-8441
EMAIL / FAX:

☒ INVOICE TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia Ca 93277
PHONE:
EMAIL / FAX:

☐ REPORT COPY TO:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shnukiian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 15
PROJECT MANAGER:

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC's)									STATION CODE
1	Mapkey 15	11-17	11:00	DW	X									
2	Field Blanks (2)	11-17	11:00		X									
3	Trip Blank (1)	11-17	11:00		X									

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co.	11-19	14:35		MTA

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 subje monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are e 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 MTA's terms and conditions for labor services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 18, 2020

Work Order #: **GK19023**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19023**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: 6K19023
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, Ca 93277
PHONE: 624-8441
EMAIL / FAX:

☑ INVOICE TO: ☐ REPORT COPY TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia Ca 93277
PHONE:
EMAIL / FAX:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 85
PROJECT MANAGER:

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

LAB USE	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC'S)										STATION CODE
1	Mapkey 85	11-17	11:30	DW	X										
2	Field Blanks (2)	11-17	11:30		X										
3	Trip Blank (1)	11-17	11:30		X										

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co.	11-19	14:35		MTA

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 subje monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are e 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 MTA's terms and conditions for labor services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 18, 2020

Work Order #: **GK19024**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19024**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: CK14024
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, CA 93277
PHONE: 624-8441
EMAIL / FAX:

☑ INVOICE TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia CA 93277
PHONE:
EMAIL / FAX:

☐ REPORT COPY TO:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 11
PROJECT MANAGER:

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLES(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC's)									STATION CODE
1	Mapkey 11	11-18	8:30	DW	X									
2	Field Blanks (2)	11-18	8:30		X									
3	Trip Blank (1)	11-18	8:30		X									

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co.	11-19	14:35		MTA

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 subje monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are e 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 MTA's terms and conditions for labor services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 22, 2020

Work Order #: **GK19025**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19025**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: 6K19025
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, CA 93277
PHONE: 624-8441
EMAIL / FAX:

INVOICE TO: ☐ REPORT COPY TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia CA 93277
PHONE:
EMAIL / FAX:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 19
PROJECT MANAGER:

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC'S)									STATION CODE
1	Mapkey 19	11-18	9:00	DW	X									
2	Field Blanks (2)	11-18	9:00		X									
3	Trip Blank (1)	11-18	9:00		X									

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co.	11-18	14:35		MTA

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 subje monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are e 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 MTA's terms and conditions for labor services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 22, 2020

Work Order #: **GK19026**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19026**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: 2 6K19026
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, CA 93277
PHONE: 624-8441
EMAIL / FAX:

☒ INVOICE TO: ☐ REPORT COPY TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia CA 93277
PHONE:
EMAIL / FAX:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 18
PROJECT MANAGER:

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC's)	STATION CODE
1	Mapkey 18	11-18	9:30	DW	X	
2	Field Blanks (2)	11-18	9:30		X	
3	Trip Blank (1)	11-18	9:30		X	

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co.	11-19	1435		MTA

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 subje monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are e 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 MTA's terms and conditions for labor services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 22, 2020

Work Order #: **GK19027**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19027**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: 2 PAGE 1 OF 2 GK19027

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, CA 93277
PHONE: 624-8441
EMAIL / FAX:

INVOICE TO: ☐ REPORT COPY TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia CA 93277
PHONE:
EMAIL / FAX:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 17
PROJECT MANAGER:

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC'S)	STATION CODE
1	Mapkey 17	11-18	10:00	DW	X	
2	Field Blanks (2)	11-18	10:00		X	
3	Trip Blank (1)	11-18	10:00		X	

COMMENTS / ADDITIONAL INSTRUCTIONS: Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co.	11-19	14:35		MTA

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 subje monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are e 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 MTA's terms and conditions for labor services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 22, 2020

Work Order #: **GK19028**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19028**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: 6K19028
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, CA 93277
PHONE: 624-8441
EMAIL / FAX:

INVOICE TO: ☐ REPORT COPY TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia CA 93277
PHONE:
EMAIL / FAX:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 10A
PROJECT MANAGER:

ANALYSIS REQUESTED

LAB USE — NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

LAB USE	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC'S)									STATION CODE
1	Mapkey 10A	11-18	10:30	DW	X									
2	Field Blanks (2)	11-18	10:30		X									
3	Trip Blank (1)	11-18	10:30		X									

COMMENTS / ADDITIONAL INSTRUCTIONS: Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co	11-19	1435		MTA

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 subje monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are e 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 MTA's terms and conditions for labor services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 22, 2020

Work Order #: **GK19029**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19029**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: 6K19029
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, Ca 93277
PHONE: 624-8441
EMAIL / FAX:

☒ INVOICE TO: ☐ REPORT COPY TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia Ca 93277
PHONE:
EMAIL / FAX:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 13
PROJECT MANAGER:

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

LAB USE	CLIENT SAMPLE ID	DATE	TIME	TYPE	EPA 524.2 (VOC's)										STATION CODE
1	Mapkey 13	11-18	1:00	DW	X										
2	Field Blanks (2)	11-18	1:00		X										
3	Trip Blank (1)	11-18	1:00		X										

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co.	11-19-20	14:35		MTA

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 subje monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are e 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 MTA's terms and conditions for labor services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

January 18, 2021

Work Order #: **GL15003**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **12/15/20** . For your reference, these analyses have been assigned laboratory work order number **GL15003**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: GL15003
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, Ca 93277
PHONE: 624-8441
EMAIL / FAX:

INVOICE TO: ☒ ☐ REPORT COPY TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia Ca 93277
PHONE:
EMAIL / FAX:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 74
PROJECT MANAGER:

ANALYSIS REQUESTED

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLES(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

LAB USE	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOCs)										STATION CODE
1	Mapkey 74	12-14	7:00	DW	X										
2	Field Blanks (2)	12-14	7:00		X										
3	Trip Blank (1)	12-14	7:00		X										

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
[signature]	Tul Co.	12-15	0830	[signature]	MTA

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 MTA'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 MTA's terms and conditions for laboratory services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

FL-SC-0005-04 A

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

January 18, 2021

Work Order #: **GL15004**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **12/15/20** . For your reference, these analyses have been assigned laboratory work order number **GL15004**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: GL15004
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, Ca 93277
PHONE: 624-8441
EMAIL / FAX:

☒ INVOICE TO: ☐ REPORT COPY TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia Ca 93277
PHONE:
EMAIL / FAX:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 52
PROJECT MANAGER:

ANALYSIS REQUESTED

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

LAB USE	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC'S)										STATION CODE
1	Mapkey 52	12-14	7:45	DW	X										
2	Field Blanks (2)	12-14	7:45		X										
3	Trip Blank (1)	12-14	7:45		X										

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
[signature]	Tul. Co.	12-15	0830	[signature]	MTA

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 MTA'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 MTA's terms and conditions for laboratory services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

FL-SC-0005-04 A

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

January 18, 2021

Work Order #: **GL15005**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **12/14/20** . For your reference, these analyses have been assigned laboratory work order number **GL15005**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: GL15005
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shnukliman
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, Ca 93277
PHONE: 624-8441
EMAIL / FAX:

INVOICE TO: ☒ REPORT COPY TO: ☐
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia Ca 93277
PHONE:
EMAIL / FAX:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shnukliman
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 54
PROJECT MANAGER:

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLES(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

	CLIENT SAMPLE ID	DATE	TIME	TYPE	EPA 524.2 (VOC's)										STATION CODE
1	Mapkey 54	12-14	8:30	DW	X										
2	Field Blanks (2)	12-14	8:30		X										
3	Trip Blank (1)	12-14	8:30		X										

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
[signature]	Tul. Co.	12-15	0830	[signature]	MTA

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 monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are eith 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 MTA's terms and conditions for laborato services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021

FL-SC-0005-04 A

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

January 18, 2021

Work Order #: **GL15006**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **12/15/20** . For your reference, these analyses have been assigned laboratory work order number **GL15006**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: GL150006
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shnuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, Ca 93277
PHONE: 624-8441
EMAIL / FAX:

☑ INVOICE TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia Ca 93277
PHONE:
EMAIL / FAX:

☐ REPORT COPY TO:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shnuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 38
PROJECT MANAGER:

LAB USE
NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

ANALYSIS REQUESTED

	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC's)									STATION CODE
1	Mapkey 38	12/14	9:30	DW	X									
2	Field Blanks (2)	12/14	9:30		X									
3	Trip Blank (1)	12/14	9:30		X									

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co.	12-15	0830		MTA

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 MTA'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 MTA's terms and conditions for laboratory services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

FL-SC-0005-04 A

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

January 18, 2021

Work Order #: **GL15007**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **12/15/20** . For your reference, these analyses have been assigned laboratory work order number **GL15007**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: GL15007
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, Ca 93277
PHONE: 624-8441
EMAIL / FAX:

☒ INVOICE TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia Ca 93277
PHONE:
EMAIL / FAX:

☐ REPORT COPY TO:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 2
PROJECT MANAGER:

ANALYSIS REQUESTED

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLES(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

LAB USE	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC'S)										STATION CODE
1	Mapkey 2	12-14	10:00	DW	X										
2	Field Blanks (2)	12-14	10:00		X										
3	Trip Blank (1)	12-14	10:00		X										

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
[signature]	Tul. Co	12-15	0830	[signature]	MTA

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 MTA'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 MTA's terms and conditions for laboratory services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

FL-SC-0005-04 A

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

August 05, 2020

Work Order #: **GG16001**

Jonah Trevino
Tulare County Solid Waste Division
5961 South Mooney Blvd.
Visalia, CA 93277

RE: Teapot Dome WDR No. R5-2014-0021

Enclosed are the analytical results for samples received by our laboratory on **07/16/20** . For your reference, these analyses have been assigned laboratory work order number **GG16001**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Analytical Report for the Following Samples

Sample ID	Notes	Laboratory ID	Matrix	Date Sampled	Date Received
M-1B		GG16001-02	Ground Water	07/15/20 08:18	07/16/20 08:08
M-6A		GG16001-04	Ground Water	07/15/20 11:14	07/16/20 08:08
M-6A Field Blank		GG16001-05	Water	07/15/20 11:14	07/16/20 08:08
M-6B		GG16001-06	Ground Water	07/15/20 12:05	07/16/20 08:08
M-11C		GG16001-08	Ground Water	07/15/20 10:18	07/16/20 08:08
M-15C		GG16001-10	Ground Water	07/15/20 09:24	07/16/20 08:08
M-16B		GG16001-12	Ground Water	07/15/20 14:54	07/16/20 08:08
M-16B Field Blank		GG16001-13	Water	07/15/20 14:54	07/16/20 08:08

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-1B

GG16001-02 (Ground Water) Sampled: 07/15/20 08:18

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Inorganics											
Bicarbonate Alkalinity as HCO3		**320**	1.3	0.23	mg/L	1	B0G1620	GMC	07/16/20 18:26	07/16/20 18:26	SM 2320 B
Carbonate Alkalinity as CO3		ND	1.0	0.23	mg/L	1	B0G1620	GMC	07/16/20 18:26	07/16/20 18:26	SM 2320 B
Hydroxide Alkalinity as OH		ND	1.0	0.23	mg/L	1	B0G1620	GMC	07/16/20 18:26	07/16/20 18:26	SM 2320 B
Total Alkalinity as CaCO3		**260**	1.0	0.23	mg/L	1	B0G1620	GMC	07/16/20 18:26	07/16/20 18:26	SM 2320 B
Chloride		**110**	4.0	0.47	mg/L	2	B0G1613	CMF	07/16/20 16:45	07/16/20 18:44	EPA 300.0
Cyanide (total)		ND	5.0	4.4	µg/L	1	B0G1711	VAC	07/20/20 9:48	07/21/20 8:44	SM 4500-CN E
Specific Conductance (EC)		**940**	1.0	0.26	µS/cm	1	B0G1620	GMC	07/16/20 18:26	07/16/20 18:26	SM 2510 B
Nitrate as N		**11**	0.90	0.10	mg/L	2	B0G1613	CMF	07/16/20 16:45	07/16/20 18:44	EPA 300.0
pH		**7.9**	0.10	0.10	pH Units	1	B0G1620	GMC	07/16/20 18:26	07/16/20 18:26	SM 4500-H B
Sulfate as SO4		**34**	4.0	1.6	mg/L	2	B0G1613	CMF	07/16/20 16:45	07/16/20 18:44	EPA 300.0
Sulfide		ND	1.0	0.42	mg/L	1	B0G2008	ACY	07/20/20 10:15	07/20/20 10:30	SM 4500-S= F
Total Dissolved Solids		**550**	10	8.1	mg/L	1	B0G2004	BXI	07/20/20 8:32	07/21/20 10:10	SM 2540 C
Total Organic Carbon		**1.4**	0.20	0.18	mg/L	1	B0G2817	TAT	07/28/20 11:25	07/28/20 16:59	SM 5310 B
Metals (Dissolved)											
Aluminum		ND	4.0	3.2	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:51	EPA 200.8
Antimony		ND	1.0	0.36	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:51	EPA 200.8
Arsenic	J	**0.65**	1.0	0.41	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:51	EPA 200.8
Barium		**230**	1.0	0.16	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:51	EPA 200.8
Beryllium		ND	1.0	0.30	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:51	EPA 200.8
Cadmium		ND	0.20	0.086	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:51	EPA 200.8
Calcium		**97**	0.10	0.018	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 10:02	EPA 200.7
Chromium		ND	1.0	0.83	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:51	EPA 200.8
Cobalt		ND	1.0	0.35	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:51	EPA 200.8
Copper	J	**0.75**	2.0	0.23	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:51	EPA 200.8
Hardness (Dissolved)		**320**	0.66		mg equiv. CaCO3/L	1	[CALC]	VAC	07/22/20 10:02	07/22/20 10:02	SM 2340 B
Iron		**460**	20	8.4	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:51	EPA 200.8
Lead		ND	1.0	0.22	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:51	EPA 200.8
Magnesium		**20**	0.10	0.0080	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 10:02	EPA 200.7
Manganese		ND	1.0	0.77	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:51	EPA 200.8
Mercury		ND	0.20	0.070	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:51	EPA 200.8
Nickel		ND	1.0	0.73	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:51	EPA 200.8
Potassium		**3.2**	1.0	0.17	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 10:02	EPA 200.7
Selenium	J	**0.74**	1.0	0.71	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:51	EPA 200.8
Silver		ND	1.0	0.18	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:51	EPA 200.8
Sodium		**73**	1.0	0.14	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 10:02	EPA 200.7
Thallium		ND	1.0	0.49	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:51	EPA 200.8
Tin		ND	15	3.0	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:51	EPA 200.8
Vanadium		**8.1**	1.0	0.74	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:51	EPA 200.8
Zinc		**14**	5.0	0.51	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:51	EPA 200.8
Volatile Organics											
8260B TCSW											
1,1,1,2-Tetrachloroethane		ND	0.50	0.065	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.50	0.076	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	1.0	0.049	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division	**Project:**	Teapot Dome WDR No. R5-2014-0021	**Reported:**
5961 South Mooney Blvd.	**Project Number:**	E94401.03	08/05/2020
Visalia CA, 93277	**Project Manager:**	Jonah Trevino	

M-1B

GG16001-02 (Ground Water) Sampled: 07/15/20 08:18

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
1,1,2-Trichloroethane		ND	0.50	0.058	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
1,1-Dichloroethane		ND	0.50	0.070	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
1,1-Dichloroethene		ND	0.50	0.10	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.50	0.057	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
1,2,4-Trichlorobenzene		ND	1.0	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	5.0	0.12	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.50	0.041	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
1,2-Dichlorobenzene		ND	0.50	0.029	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.50	0.048	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
1,2-Dichloropropane		ND	0.50	0.043	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
1,3-Dichlorobenzene		ND	0.50	0.040	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
1,4-Dichlorobenzene		ND	0.50	0.021	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
2-Butanone (MEK)		ND	10	0.78	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
2-Hexanone		ND	1.0	0.17	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	1.0	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Acetone		ND	10	0.81	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Acrylonitrile		ND	5.0	0.99	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Benzene		ND	0.50	0.071	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Bromochloromethane		ND	0.50	0.041	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Bromodichloromethane		ND	0.50	0.032	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Bromoform		ND	1.0	0.057	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Bromomethane		ND	1.0	0.34	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Carbon disulfide		ND	0.50	0.044	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Carbon tetrachloride		ND	0.50	0.076	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Chlorobenzene		ND	0.50	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Chloroethane		ND	0.50	0.064	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Chloroform		ND	0.50	0.059	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Chloromethane		ND	0.50	0.058	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
cis-1,2-Dichloroethene		ND	0.50	0.043	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
cis-1,3-Dichloropropene		ND	0.50	0.036	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Dibromochloromethane		ND	0.50	0.032	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Dibromomethane		ND	0.50	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.50	0.12	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.50	0.061	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Ethanol		ND	50	9.5	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	1.0	0.043	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Ethylbenzene		ND	0.50	0.044	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Hexachlorobutadiene		ND	1.0	0.087	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Hexachloroethane		ND	1.0	0.041	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Iodomethane		ND	5.0	2.1	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
m,p-Xylene		ND	1.0	0.095	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	1.0	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Methylene chloride		ND	1.0	0.12	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Naphthalene		ND	0.50	0.096	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-1B

GG16001-02 (Ground Water) Sampled: 07/15/20 08:18

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
o-Xylene		ND	0.50	0.047	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Styrene		ND	0.50	0.021	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	1.0	0.032	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
tert-Butyl alcohol (TBA)		ND	20	0.98	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Tetrachloroethene (PCE)		ND	0.50	0.089	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Toluene		ND	0.50	0.066	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
trans-1,2-Dichloroethene		ND	0.50	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
trans-1,3-Dichloropropene		ND	0.50	0.044	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	5.0	0.048	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Trichloroethene (TCE)		ND	0.50	0.079	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.50	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Vinyl acetate		ND	0.50	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Vinyl chloride		ND	0.50	0.082	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Xylenes		ND	2.0		µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 11:37	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.4%*		*Recovery Limits: 70% - 130%*			*B0G1701*	GAB	07/17/20 8:03	07/17/20 11:37	*EPA 8260B*
Surr: Dibromofluoromethane		*100%*		*Recovery Limits: 70% - 130%*			*B0G1701*	GAB	07/17/20 8:03	07/17/20 11:37	*EPA 8260B*
Surr: Toluene-d8		*99.5%*		*Recovery Limits: 70% - 130%*			*B0G1701*	GAB	07/17/20 8:03	07/17/20 11:37	*EPA 8260B*

M-6A

GG16001-04 (Ground Water) Sampled: 07/15/20 11:14

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Inorganics											
Bicarbonate Alkalinity as HCO3		**350**	1.3	0.23	mg/L	1	B0G1620	GMC	07/16/20 18:33	07/16/20 18:33	SM 2320 B
Carbonate Alkalinity as CO3		ND	1.0	0.23	mg/L	1	B0G1620	GMC	07/16/20 18:33	07/16/20 18:33	SM 2320 B
Hydroxide Alkalinity as OH		ND	1.0	0.23	mg/L	1	B0G1620	GMC	07/16/20 18:33	07/16/20 18:33	SM 2320 B
Total Alkalinity as CaCO3		**280**	1.0	0.23	mg/L	1	B0G1620	GMC	07/16/20 18:33	07/16/20 18:33	SM 2320 B
Chloride		**79**	2.0	0.24	mg/L	1	B0G1613	CMF	07/16/20 16:45	07/16/20 19:00	EPA 300.0
Cyanide (total)		ND	5.0	4.4	µg/L	1	B0G1711	VAC	07/20/20 9:48	07/21/20 8:44	SM 4500-CN E
Specific Conductance (EC)		**840**	1.0	0.26	µS/cm	1	B0G1620	GMC	07/16/20 18:33	07/16/20 18:33	SM 2510 B
Nitrate as N		**4.4**	0.45	0.050	mg/L	1	B0G1613	CMF	07/16/20 16:45	07/16/20 19:00	EPA 300.0
pH		**7.5**	0.10	0.10	pH Units	1	B0G1620	GMC	07/16/20 18:33	07/16/20 18:33	SM 4500-H B
Sulfate as SO4		**34**	2.0	0.82	mg/L	1	B0G1613	CMF	07/16/20 16:45	07/16/20 19:00	EPA 300.0
Sulfide		ND	1.0	0.42	mg/L	1	B0G2008	ACY	07/20/20 10:15	07/20/20 10:30	SM 4500-S= F
Total Dissolved Solids		**510**	10	8.1	mg/L	1	B0G2004	BXI	07/20/20 8:32	07/21/20 10:10	SM 2540 C
Total Organic Carbon		**1.7**	0.20	0.18	mg/L	1	B0G2817	TAT	07/28/20 11:25	07/28/20 17:21	SM 5310 B
Metals (Dissolved)											
Aluminum		ND	4.0	3.2	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:10	EPA 200.8
Antimony		ND	1.0	0.36	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:10	EPA 200.8
Arsenic	J	**0.70**	1.0	0.41	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:10	EPA 200.8
Barium		**240**	1.0	0.16	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:10	EPA 200.8
Beryllium		ND	1.0	0.30	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:10	EPA 200.8
Cadmium		ND	0.20	0.086	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:10	EPA 200.8

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-6A

GG16001-04 (Ground Water) Sampled: 07/15/20 11:14

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Metals (Dissolved)											
Calcium		**100**	0.10	0.018	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 10:11	EPA 200.7
Chromium		ND	1.0	0.83	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:10	EPA 200.8
Cobalt		ND	1.0	0.35	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:10	EPA 200.8
Copper	J	**0.56**	2.0	0.23	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:10	EPA 200.8
Hardness (Dissolved)		**360**	0.66		mg equiv. CaCO3/L	1	[CALC]	VAC	07/22/20 10:11	07/22/20 10:11	SM 2340 B
Iron		**510**	20	8.4	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:10	EPA 200.8
Lead		ND	1.0	0.22	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:10	EPA 200.8
Magnesium		**24**	0.10	0.0080	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 10:11	EPA 200.7
Manganese		**3.5**	1.0	0.77	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:10	EPA 200.8
Mercury		ND	0.20	0.070	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:10	EPA 200.8
Nickel		ND	1.0	0.73	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:10	EPA 200.8
Potassium		**3.0**	1.0	0.17	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 10:11	EPA 200.7
Selenium		ND	1.0	0.71	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:10	EPA 200.8
Silver		ND	1.0	0.18	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:10	EPA 200.8
Sodium		**41**	1.0	0.14	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 10:11	EPA 200.7
Thallium		ND	1.0	0.49	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:10	EPA 200.8
Tin		ND	15	3.0	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:10	EPA 200.8
Vanadium		**6.9**	1.0	0.74	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:10	EPA 200.8
Zinc		**16**	5.0	0.51	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:10	EPA 200.8
Volatile Organics											
8260B TCSW											
1,1,1,2-Tetrachloroethane		ND	0.50	0.065	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.50	0.076	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	1.0	0.049	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
1,1,2-Trichloroethane		ND	0.50	0.058	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
1,1-Dichloroethane		ND	0.50	0.070	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
1,1-Dichloroethene		ND	0.50	0.10	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.50	0.057	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
1,2,4-Trichlorobenzene		ND	1.0	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	5.0	0.12	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.50	0.041	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
1,2-Dichlorobenzene		ND	0.50	0.029	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.50	0.048	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
1,2-Dichloropropane		ND	0.50	0.043	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
1,3-Dichlorobenzene		ND	0.50	0.040	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
1,4-Dichlorobenzene		ND	0.50	0.021	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
2-Butanone (MEK)		ND	10	0.78	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
2-Hexanone		ND	1.0	0.17	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	1.0	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Acetone		ND	10	0.81	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Acrylonitrile		ND	5.0	0.99	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Benzene		ND	0.50	0.071	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Bromochloromethane		ND	0.50	0.041	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Bromodichloromethane		ND	0.50	0.032	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-6A

GG16001-04 (Ground Water) Sampled: 07/15/20 11:14

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
Bromoform		ND	1.0	0.057	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Bromomethane		ND	1.0	0.34	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Carbon disulfide		ND	0.50	0.044	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Carbon tetrachloride		ND	0.50	0.076	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Chlorobenzene		ND	0.50	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Chloroethane		ND	0.50	0.064	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Chloroform		ND	0.50	0.059	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Chloromethane		ND	0.50	0.058	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
cis-1,2-Dichloroethene		**0.63**	0.50	0.043	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
cis-1,3-Dichloropropene		ND	0.50	0.036	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Dibromochloromethane		ND	0.50	0.032	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Dibromomethane		ND	0.50	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.50	0.12	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.50	0.061	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Ethanol		ND	50	9.5	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	1.0	0.043	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Ethylbenzene		ND	0.50	0.044	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Hexachlorobutadiene		ND	1.0	0.087	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Hexachloroethane		ND	1.0	0.041	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Iodomethane		ND	5.0	2.1	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
m,p-Xylene		ND	1.0	0.095	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	1.0	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Methylene chloride		ND	1.0	0.12	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Naphthalene		ND	0.50	0.096	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
o-Xylene		ND	0.50	0.047	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Styrene		ND	0.50	0.021	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	1.0	0.032	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
tert-Butyl alcohol (TBA)		ND	20	0.98	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Tetrachloroethene (PCE)		ND	0.50	0.089	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Toluene		ND	0.50	0.066	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
trans-1,2-Dichloroethene		ND	0.50	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
trans-1,3-Dichloropropene		ND	0.50	0.044	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	5.0	0.048	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Trichloroethene (TCE)		ND	0.50	0.079	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.50	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Vinyl acetate		ND	0.50	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Vinyl chloride		ND	0.50	0.082	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Xylenes		ND	2.0		µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 12:47	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.0%*		*Recovery Limits: 70% - 130%*			*B0G1701*	GAB	07/17/20 8:03	07/17/20 12:47	*EPA 8260B*
Surr: Dibromofluoromethane		*99.6%*		*Recovery Limits: 70% - 130%*			*B0G1701*	GAB	07/17/20 8:03	07/17/20 12:47	*EPA 8260B*
Surr: Toluene-d8		*101%*		*Recovery Limits: 70% - 130%*			*B0G1701*	GAB	07/17/20 8:03	07/17/20 12:47	*EPA 8260B*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-6A Field Blank

GG16001-05 (Water) Sampled: 07/15/20 11:14

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
1,1,1,2-Tetrachloroethane		ND	0.50	0.065	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.50	0.076	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	1.0	0.049	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
1,1,2-Trichloroethane		ND	0.50	0.058	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
1,1-Dichloroethane		ND	0.50	0.070	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
1,1-Dichloroethene		ND	0.50	0.10	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.50	0.057	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
1,2,4-Trichlorobenzene		ND	1.0	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	5.0	0.12	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.50	0.041	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
1,2-Dichlorobenzene		ND	0.50	0.029	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.50	0.048	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
1,2-Dichloropropane		ND	0.50	0.043	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
1,3-Dichlorobenzene		ND	0.50	0.040	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
1,4-Dichlorobenzene		ND	0.50	0.021	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
2-Butanone (MEK)		ND	10	0.78	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
2-Hexanone		ND	1.0	0.17	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	1.0	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Acetone		ND	10	0.81	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Acrylonitrile		ND	5.0	0.99	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Benzene		ND	0.50	0.071	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Bromochloromethane		ND	0.50	0.041	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Bromodichloromethane		ND	0.50	0.032	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Bromoform		ND	1.0	0.057	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Bromomethane		ND	1.0	0.34	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Carbon disulfide		ND	0.50	0.044	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Carbon tetrachloride		ND	0.50	0.076	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Chlorobenzene		ND	0.50	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Chloroethane		ND	0.50	0.064	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Chloroform		ND	0.50	0.059	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Chloromethane		ND	0.50	0.058	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.50	0.043	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.50	0.036	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Dibromochloromethane		ND	0.50	0.032	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Dibromomethane		ND	0.50	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.50	0.12	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.50	0.061	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Ethanol		ND	50	9.5	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	1.0	0.043	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Ethylbenzene		ND	0.50	0.044	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Hexachlorobutadiene		ND	1.0	0.087	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Hexachloroethane		ND	1.0	0.041	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Iodomethane		ND	5.0	2.1	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
m,p-Xylene		ND	1.0	0.095	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-6A Field Blank

GG16001-05 (Water) Sampled: 07/15/20 11:14

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
Methyl tert-Butyl Ether (MTBE)		ND	1.0	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Methylene chloride		ND	1.0	0.12	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Naphthalene		ND	0.50	0.096	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
o-Xylene		ND	0.50	0.047	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Styrene		ND	0.50	0.021	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	1.0	0.032	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	20	0.98	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.50	0.089	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Toluene		ND	0.50	0.066	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.50	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.50	0.044	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	5.0	0.048	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Trichloroethene (TCE)		ND	0.50	0.079	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.50	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Vinyl acetate		ND	0.50	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Vinyl chloride		ND	0.50	0.082	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Xylenes		ND	2.0		µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:22	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.7%*		*Recovery Limits: 70% - 130%*			*B0G1701*	GAB	07/17/20 8:03	07/17/20 13:22	*EPA 8260B*
Surr: Dibromofluoromethane		*99.0%*		*Recovery Limits: 70% - 130%*			*B0G1701*	GAB	07/17/20 8:03	07/17/20 13:22	*EPA 8260B*
Surr: Toluene-d8		*101%*		*Recovery Limits: 70% - 130%*			*B0G1701*	GAB	07/17/20 8:03	07/17/20 13:22	*EPA 8260B*

M-6B

GG16001-06 (Ground Water) Sampled: 07/15/20 12:05

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Inorganics											
Bicarbonate Alkalinity as HCO3		**260**	1.3	0.23	mg/L	1	B0G1620	GMC	07/16/20 18:39	07/16/20 18:39	SM 2320 B
Carbonate Alkalinity as CO3		ND	1.0	0.23	mg/L	1	B0G1620	GMC	07/16/20 18:39	07/16/20 18:39	SM 2320 B
Hydroxide Alkalinity as OH		ND	1.0	0.23	mg/L	1	B0G1620	GMC	07/16/20 18:39	07/16/20 18:39	SM 2320 B
Total Alkalinity as CaCO3		**220**	1.0	0.23	mg/L	1	B0G1620	GMC	07/16/20 18:39	07/16/20 18:39	SM 2320 B
Chloride		**53**	4.0	0.47	mg/L	2	B0G1613	CMF	07/16/20 16:45	07/16/20 19:17	EPA 300.0
Cyanide (total)		ND	5.0	4.4	µg/L	1	B0G1711	VAC	07/20/20 9:48	07/21/20 8:44	SM 4500-CN E
Specific Conductance (EC)		**690**	1.0	0.26	µS/cm	1	B0G1620	GMC	07/16/20 18:39	07/16/20 18:39	SM 2510 B
Nitrate as N		**9.1**	0.90	0.10	mg/L	2	B0G1613	CMF	07/16/20 16:45	07/16/20 19:17	EPA 300.0
pH		**7.7**	0.10	0.10	pH Units	1	B0G1620	GMC	07/16/20 18:39	07/16/20 18:39	SM 4500-H B
Sulfate as SO4		**31**	4.0	1.6	mg/L	2	B0G1613	CMF	07/16/20 16:45	07/16/20 19:17	EPA 300.0
Sulfide		ND	1.0	0.42	mg/L	1	B0G2008	ACY	07/20/20 10:15	07/20/20 10:30	SM 4500-S= F
Total Dissolved Solids		**420**	10	8.1	mg/L	1	B0G2004	BXI	07/20/20 8:32	07/21/20 10:10	SM 2540 C
Total Organic Carbon		**1.3**	0.20	0.18	mg/L	1	B0G2817	TAT	07/28/20 11:25	07/28/20 17:42	SM 5310 B
Metals (Dissolved)											
Aluminum		ND	4.0	3.2	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:15	EPA 200.8
Antimony		ND	1.0	0.36	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:15	EPA 200.8
Arsenic		**1.1**	1.0	0.41	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:15	EPA 200.8

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division	**Project:**	Teapot Dome WDR No. R5-2014-0021	**Reported:**
5961 South Mooney Blvd.	**Project Number:**	E94401.03	08/05/2020
Visalia CA, 93277	**Project Manager:**	Jonah Trevino	

M-6B

GG16001-06 (Ground Water) Sampled: 07/15/20 12:05

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Metals (Dissolved)											
Barium		**170**	1.0	0.16	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:15	EPA 200.8
Beryllium		ND	1.0	0.30	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:15	EPA 200.8
Cadmium		ND	0.20	0.086	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:15	EPA 200.8
Calcium		**83**	0.10	0.018	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 10:28	EPA 200.7
Chromium	J	**0.96**	1.0	0.83	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:15	EPA 200.8
Cobalt		ND	1.0	0.35	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:15	EPA 200.8
Copper	J	**0.63**	2.0	0.23	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:15	EPA 200.8
Hardness (Dissolved)		**270**	0.66		mg equiv. CaCO3/L	1	[CALC]	VAC	07/22/20 10:28	07/22/20 10:28	SM 2340 B
Iron		**390**	20	8.4	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:15	EPA 200.8
Lead		ND	1.0	0.22	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:15	EPA 200.8
Magnesium		**16**	0.10	0.0080	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 10:28	EPA 200.7
Manganese		**2.1**	1.0	0.77	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:15	EPA 200.8
Mercury		ND	0.20	0.070	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:15	EPA 200.8
Nickel		ND	1.0	0.73	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:15	EPA 200.8
Potassium		**2.9**	1.0	0.17	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 10:28	EPA 200.7
Selenium	J	**0.97**	1.0	0.71	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:15	EPA 200.8
Silver		ND	1.0	0.18	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:15	EPA 200.8
Sodium		**43**	1.0	0.14	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 10:28	EPA 200.7
Thallium		ND	1.0	0.49	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:15	EPA 200.8
Tin		ND	15	3.0	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:15	EPA 200.8
Vanadium		**8.0**	1.0	0.74	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:15	EPA 200.8
Zinc		**14**	5.0	0.51	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:15	EPA 200.8
Volatile Organics											
8260B TCSW											
1,1,1,2-Tetrachloroethane		ND	0.50	0.065	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.50	0.076	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	1.0	0.049	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
1,1,2-Trichloroethane		ND	0.50	0.058	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
1,1-Dichloroethane		ND	0.50	0.070	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
1,1-Dichloroethene		ND	0.50	0.10	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.50	0.057	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
1,2,4-Trichlorobenzene		ND	1.0	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)	J	**0.30**	5.0	0.12	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.50	0.041	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
1,2-Dichlorobenzene		ND	0.50	0.029	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.50	0.048	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
1,2-Dichloropropane		ND	0.50	0.043	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
1,3-Dichlorobenzene		ND	0.50	0.040	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
1,4-Dichlorobenzene		ND	0.50	0.021	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
2-Butanone (MEK)		ND	10	0.78	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
2-Hexanone		ND	1.0	0.17	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	1.0	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Acetone		ND	10	0.81	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Acrylonitrile		ND	5.0	0.99	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-6B

GG16001-06 (Ground Water) Sampled: 07/15/20 12:05

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
Benzene		ND	0.50	0.071	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Bromochloromethane		ND	0.50	0.041	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Bromodichloromethane		ND	0.50	0.032	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Bromoform		ND	1.0	0.057	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Bromomethane		ND	1.0	0.34	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Carbon disulfide		ND	0.50	0.044	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Carbon tetrachloride		ND	0.50	0.076	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Chlorobenzene		ND	0.50	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Chloroethane		ND	0.50	0.064	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Chloroform		ND	0.50	0.059	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Chloromethane		ND	0.50	0.058	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
cis-1,2-Dichloroethene		ND	0.50	0.043	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
cis-1,3-Dichloropropene		ND	0.50	0.036	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Dibromochloromethane		ND	0.50	0.032	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Dibromomethane		ND	0.50	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.50	0.12	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.50	0.061	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Ethanol		ND	50	9.5	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	1.0	0.043	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Ethylbenzene		ND	0.50	0.044	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Hexachlorobutadiene		ND	1.0	0.087	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Hexachloroethane		ND	1.0	0.041	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Iodomethane		ND	5.0	2.1	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
m,p-Xylene		ND	1.0	0.095	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	1.0	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Methylene chloride		ND	1.0	0.12	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Naphthalene		ND	0.50	0.096	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
o-Xylene		ND	0.50	0.047	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Styrene		ND	0.50	0.021	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	1.0	0.032	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
tert-Butyl alcohol (TBA)		ND	20	0.98	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Tetrachloroethene (PCE)		ND	0.50	0.089	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Toluene		ND	0.50	0.066	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
trans-1,2-Dichloroethene		ND	0.50	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
trans-1,3-Dichloropropene		ND	0.50	0.044	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	5.0	0.048	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Trichloroethene (TCE)		ND	0.50	0.079	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.50	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Vinyl acetate		ND	0.50	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Vinyl chloride		ND	0.50	0.082	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Xylenes		ND	2.0		µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 13:57	EPA 8260B
Surr: 4-Bromofluorobenzene		*98.4%*		*Recovery Limits: 70% - 130%*			*B0G1701*	GAB	07/17/20 8:03	07/17/20 13:57	*EPA 8260B*
Surr: Dibromofluoromethane		*101%*		*Recovery Limits: 70% - 130%*			*B0G1701*	GAB	07/17/20 8:03	07/17/20 13:57	*EPA 8260B*
Surr: Toluene-d8		*99.9%*		*Recovery Limits: 70% - 130%*			*B0G1701*	GAB	07/17/20 8:03	07/17/20 13:57	*EPA 8260B*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-11C

GG16001-08 (Ground Water) Sampled: 07/15/20 10:18

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Inorganics											
Bicarbonate Alkalinity as HCO3		**310**	1.3	0.23	mg/L	1	B0G1620	GMC	07/16/20 18:46	07/16/20 18:46	SM 2320 B
Carbonate Alkalinity as CO3		ND	1.0	0.23	mg/L	1	B0G1620	GMC	07/16/20 18:46	07/16/20 18:46	SM 2320 B
Hydroxide Alkalinity as OH		ND	1.0	0.23	mg/L	1	B0G1620	GMC	07/16/20 18:46	07/16/20 18:46	SM 2320 B
Total Alkalinity as CaCO3		**250**	1.0	0.23	mg/L	1	B0G1620	GMC	07/16/20 18:46	07/16/20 18:46	SM 2320 B
Chloride		**94**	4.0	0.47	mg/L	2	B0G1613	CMF	07/16/20 16:45	07/16/20 19:33	EPA 300.0
Cyanide (total)		ND	5.0	4.4	µg/L	1	B0G1711	VAC	07/20/20 9:48	07/21/20 8:44	SM 4500-CN E
Specific Conductance (EC)		**880**	1.0	0.26	µS/cm	1	B0G1620	GMC	07/16/20 18:46	07/16/20 18:46	SM 2510 B
Nitrate as N		**12**	0.90	0.10	mg/L	2	B0G1613	CMF	07/16/20 16:45	07/16/20 19:33	EPA 300.0
pH		**7.8**	0.10	0.10	pH Units	1	B0G1620	GMC	07/16/20 18:46	07/16/20 18:46	SM 4500-H B
Sulfate as SO4		**35**	4.0	1.6	mg/L	2	B0G1613	CMF	07/16/20 16:45	07/16/20 19:33	EPA 300.0
Sulfide		ND	1.0	0.42	mg/L	1	B0G2008	ACY	07/20/20 10:15	07/20/20 10:30	SM 4500-S= F
Total Dissolved Solids		**550**	10	8.1	mg/L	1	B0G2004	BXI	07/20/20 8:32	07/21/20 10:10	SM 2540 C
Total Organic Carbon		ND	0.20	0.18	mg/L	1	B0G2911	ZZZ	07/29/20 9:02	07/30/20 14:32	SM 5310 B
Metals (Dissolved)											
Aluminum		ND	4.0	3.2	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:20	EPA 200.8
Antimony		ND	1.0	0.36	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:20	EPA 200.8
Arsenic	J	**0.68**	1.0	0.41	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:20	EPA 200.8
Barium		**250**	1.0	0.16	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:20	EPA 200.8
Beryllium		ND	1.0	0.30	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:20	EPA 200.8
Cadmium		ND	0.20	0.086	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:20	EPA 200.8
Calcium		**100**	0.10	0.018	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 10:33	EPA 200.7
Chromium		ND	1.0	0.83	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:20	EPA 200.8
Cobalt		ND	1.0	0.35	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:20	EPA 200.8
Copper	J	**0.60**	2.0	0.23	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:20	EPA 200.8
Hardness (Dissolved)		**330**	0.66		mg equiv. CaCO3/L	1	[CALC]	VAC	07/22/20 10:33	07/22/20 10:33	SM 2340 B
Iron		**490**	20	8.4	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:20	EPA 200.8
Lead		ND	1.0	0.22	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:20	EPA 200.8
Magnesium		**19**	0.10	0.0080	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 10:33	EPA 200.7
Manganese		ND	1.0	0.77	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:20	EPA 200.8
Mercury		ND	0.20	0.070	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:20	EPA 200.8
Nickel		ND	1.0	0.73	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:20	EPA 200.8
Potassium		**3.2**	1.0	0.17	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 10:33	EPA 200.7
Selenium	J	**0.95**	1.0	0.71	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:20	EPA 200.8
Silver		ND	1.0	0.18	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:20	EPA 200.8
Sodium		**60**	1.0	0.14	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 10:33	EPA 200.7
Thallium		ND	1.0	0.49	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:20	EPA 200.8
Tin		ND	15	3.0	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:20	EPA 200.8
Vanadium		**7.0**	1.0	0.74	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:20	EPA 200.8
Zinc		**17**	5.0	0.51	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:20	EPA 200.8
Volatile Organics											
8260B TCSW											
1,1,1,2-Tetrachloroethane		ND	0.50	0.065	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.50	0.076	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	1.0	0.049	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division	**Project:**	Teapot Dome WDR No. R5-2014-0021	**Reported:**
5961 South Mooney Blvd.	**Project Number:**	E94401.03	08/05/2020
Visalia CA, 93277	**Project Manager:**	Jonah Trevino	

M-11C

GG16001-08 (Ground Water) Sampled: 07/15/20 10:18

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
1,1,2-Trichloroethane		ND	0.50	0.058	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
1,1-Dichloroethane		ND	0.50	0.070	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
1,1-Dichloroethene		ND	0.50	0.10	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.50	0.057	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
1,2,4-Trichlorobenzene		ND	1.0	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	5.0	0.12	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.50	0.041	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
1,2-Dichlorobenzene		ND	0.50	0.029	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.50	0.048	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
1,2-Dichloropropane		ND	0.50	0.043	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
1,3-Dichlorobenzene		ND	0.50	0.040	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
1,4-Dichlorobenzene		ND	0.50	0.021	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
2-Butanone (MEK)		ND	10	0.78	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
2-Hexanone		ND	1.0	0.17	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	1.0	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Acetone		ND	10	0.81	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Acrylonitrile		ND	5.0	0.99	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Benzene		ND	0.50	0.071	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Bromochloromethane		ND	0.50	0.041	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Bromodichloromethane		ND	0.50	0.032	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Bromoform		ND	1.0	0.057	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Bromomethane		ND	1.0	0.34	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Carbon disulfide		ND	0.50	0.044	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Carbon tetrachloride		ND	0.50	0.076	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Chlorobenzene		ND	0.50	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Chloroethane		ND	0.50	0.064	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Chloroform	**J**	**0.31**	0.50	0.059	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Chloromethane		ND	0.50	0.058	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
cis-1,2-Dichloroethene		ND	0.50	0.043	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
cis-1,3-Dichloropropene		ND	0.50	0.036	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Dibromochloromethane		ND	0.50	0.032	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Dibromomethane		ND	0.50	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.50	0.12	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.50	0.061	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Ethanol		ND	50	9.5	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	1.0	0.043	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Ethylbenzene		ND	0.50	0.044	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Hexachlorobutadiene		ND	1.0	0.087	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Hexachloroethane		ND	1.0	0.041	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Iodomethane		ND	5.0	2.1	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
m,p-Xylene		ND	1.0	0.095	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	1.0	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Methylene chloride		ND	1.0	0.12	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Naphthalene		ND	0.50	0.096	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-11C

GG16001-08 (Ground Water) Sampled: 07/15/20 10:18

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
o-Xylene		ND	0.50	0.047	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Styrene		ND	0.50	0.021	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	1.0	0.032	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
tert-Butyl alcohol (TBA)		ND	20	0.98	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Tetrachloroethene (PCE)		ND	0.50	0.089	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Toluene		ND	0.50	0.066	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
trans-1,2-Dichloroethene		ND	0.50	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
trans-1,3-Dichloropropene		ND	0.50	0.044	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	5.0	0.048	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Trichloroethene (TCE)		ND	0.50	0.079	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.50	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Vinyl acetate		ND	0.50	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Vinyl chloride		ND	0.50	0.082	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Xylenes		ND	2.0		µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 15:08	EPA 8260B
Surr: 4-Bromofluorobenzene		*100%*		*Recovery Limits: 70% - 130%*			*B0G1701*	GAB	07/17/20 8:03	07/17/20 15:08	*EPA 8260B*
Surr: Dibromofluoromethane		*100%*		*Recovery Limits: 70% - 130%*			*B0G1701*	GAB	07/17/20 8:03	07/17/20 15:08	*EPA 8260B*
Surr: Toluene-d8		*99.9%*		*Recovery Limits: 70% - 130%*			*B0G1701*	GAB	07/17/20 8:03	07/17/20 15:08	*EPA 8260B*

M-15C

GG16001-10 (Ground Water) Sampled: 07/15/20 09:24

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Inorganics											
Bicarbonate Alkalinity as HCO3		**300**	1.3	0.23	mg/L	1	B0G1620	GMC	07/16/20 18:52	07/16/20 18:52	SM 2320 B
Carbonate Alkalinity as CO3		ND	1.0	0.23	mg/L	1	B0G1620	GMC	07/16/20 18:52	07/16/20 18:52	SM 2320 B
Hydroxide Alkalinity as OH		ND	1.0	0.23	mg/L	1	B0G1620	GMC	07/16/20 18:52	07/16/20 18:52	SM 2320 B
Total Alkalinity as CaCO3		**250**	1.0	0.23	mg/L	1	B0G1620	GMC	07/16/20 18:52	07/16/20 18:52	SM 2320 B
Chloride		**97**	4.0	0.47	mg/L	2	B0G1613	CMF	07/16/20 16:45	07/16/20 19:49	EPA 300.0
Cyanide (total)		ND	5.0	4.4	µg/L	1	B0G1711	VAC	07/20/20 9:48	07/21/20 8:44	SM 4500-CN E
Specific Conductance (EC)		**890**	1.0	0.26	µS/cm	1	B0G1620	GMC	07/16/20 18:52	07/16/20 18:52	SM 2510 B
Nitrate as N		**12**	0.90	0.10	mg/L	2	B0G1613	CMF	07/16/20 16:45	07/16/20 19:49	EPA 300.0
pH		**7.9**	0.10	0.10	pH Units	1	B0G1620	GMC	07/16/20 18:52	07/16/20 18:52	SM 4500-H B
Sulfate as SO4		**34**	4.0	1.6	mg/L	2	B0G1613	CMF	07/16/20 16:45	07/16/20 19:49	EPA 300.0
Sulfide		ND	1.0	0.42	mg/L	1	B0G2008	ACY	07/20/20 10:15	07/20/20 10:30	SM 4500-S= F
Total Dissolved Solids		**560**	10	8.1	mg/L	1	B0G2004	BXI	07/20/20 8:32	07/21/20 10:10	SM 2540 C
Total Organic Carbon		**0.20**	0.20	0.18	mg/L	1	B0G2911	ZZZ	07/29/20 9:02	07/30/20 15:12	SM 5310 B
Metals (Dissolved)											
Aluminum		ND	4.0	3.2	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:25	EPA 200.8
Antimony		ND	1.0	0.36	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:25	EPA 200.8
Arsenic	J	**0.75**	1.0	0.41	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:25	EPA 200.8
Barium		**240**	1.0	0.16	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:25	EPA 200.8
Beryllium		ND	1.0	0.30	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:25	EPA 200.8
Cadmium		ND	0.20	0.086	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:25	EPA 200.8

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-15C

GG16001-10 (Ground Water) Sampled: 07/15/20 09:24

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Metals (Dissolved)											
Calcium		**99**	0.10	0.018	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 10:42	EPA 200.7
Chromium		ND	1.0	0.83	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:25	EPA 200.8
Cobalt		ND	1.0	0.35	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:25	EPA 200.8
Copper	J	**0.59**	2.0	0.23	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:25	EPA 200.8
Hardness (Dissolved)		**320**	0.66		mg equiv. CaCO3/L	1	[CALC]	VAC	07/22/20 10:42	07/22/20 10:42	SM 2340 B
Iron		**500**	20	8.4	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:25	EPA 200.8
Lead		ND	1.0	0.22	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:25	EPA 200.8
Magnesium		**18**	0.10	0.0080	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 10:42	EPA 200.7
Manganese		ND	1.0	0.77	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:25	EPA 200.8
Mercury		ND	0.20	0.070	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:25	EPA 200.8
Nickel		ND	1.0	0.73	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:25	EPA 200.8
Potassium		**3.2**	1.0	0.17	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 10:42	EPA 200.7
Selenium		**1.0**	1.0	0.71	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:25	EPA 200.8
Silver		ND	1.0	0.18	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:25	EPA 200.8
Sodium		**61**	1.0	0.14	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 10:42	EPA 200.7
Thallium		ND	1.0	0.49	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:25	EPA 200.8
Tin		ND	15	3.0	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:25	EPA 200.8
Vanadium		**7.3**	1.0	0.74	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:25	EPA 200.8
Zinc		**14**	5.0	0.51	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:25	EPA 200.8
Volatile Organics											
8260B TCSW											
1,1,1,2-Tetrachloroethane		ND	0.50	0.065	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.50	0.076	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	1.0	0.049	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
1,1,2-Trichloroethane		ND	0.50	0.058	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
1,1-Dichloroethane		ND	0.50	0.070	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
1,1-Dichloroethene		ND	0.50	0.10	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.50	0.057	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
1,2,4-Trichlorobenzene		ND	1.0	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	5.0	0.12	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.50	0.041	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
1,2-Dichlorobenzene		ND	0.50	0.029	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.50	0.048	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
1,2-Dichloropropane		ND	0.50	0.043	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
1,3-Dichlorobenzene		ND	0.50	0.040	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
1,4-Dichlorobenzene		ND	0.50	0.021	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
2-Butanone (MEK)		ND	10	0.78	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
2-Hexanone		ND	1.0	0.17	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	1.0	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Acetone		ND	10	0.81	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Acrylonitrile		ND	5.0	0.99	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Benzene		ND	0.50	0.071	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Bromochloromethane		ND	0.50	0.041	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Bromodichloromethane		ND	0.50	0.032	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division	**Project:**	Teapot Dome WDR No. R5-2014-0021	**Reported:**
5961 South Mooney Blvd.	**Project Number:**	E94401.03	08/05/2020
Visalia CA, 93277	**Project Manager:**	Jonah Trevino	

M-15C

GG16001-10 (Ground Water) Sampled: 07/15/20 09:24

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
Bromoform		ND	1.0	0.057	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Bromomethane		ND	1.0	0.34	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Carbon disulfide		ND	0.50	0.044	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Carbon tetrachloride		ND	0.50	0.076	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Chlorobenzene		ND	0.50	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Chloroethane		ND	0.50	0.064	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Chloroform	J	**0.42**	0.50	0.059	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Chloromethane		ND	0.50	0.058	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
cis-1,2-Dichloroethene		ND	0.50	0.043	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
cis-1,3-Dichloropropene		ND	0.50	0.036	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Dibromochloromethane		ND	0.50	0.032	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Dibromomethane		ND	0.50	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.50	0.12	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.50	0.061	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Ethanol		ND	50	9.5	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	1.0	0.043	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Ethylbenzene		ND	0.50	0.044	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Hexachlorobutadiene		ND	1.0	0.087	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Hexachloroethane		ND	1.0	0.041	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Iodomethane		ND	5.0	2.1	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
m,p-Xylene		ND	1.0	0.095	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	1.0	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Methylene chloride		ND	1.0	0.12	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Naphthalene		ND	0.50	0.096	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
o-Xylene		ND	0.50	0.047	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Styrene		ND	0.50	0.021	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	1.0	0.032	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
tert-Butyl alcohol (TBA)		ND	20	0.98	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Tetrachloroethene (PCE)		ND	0.50	0.089	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Toluene		ND	0.50	0.066	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
trans-1,2-Dichloroethene		ND	0.50	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
trans-1,3-Dichloropropene		ND	0.50	0.044	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	5.0	0.048	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Trichloroethene (TCE)		ND	0.50	0.079	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.50	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Vinyl acetate		ND	0.50	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Vinyl chloride		ND	0.50	0.082	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Xylenes		ND	2.0		µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 16:18	EPA 8260B
Surr: 4-Bromofluorobenzene		*98.4%*		*Recovery Limits: 70% - 130%*			*B0G1701*	GAB	07/17/20 8:03	07/17/20 16:18	*EPA 8260B*
Surr: Dibromofluoromethane		*99.8%*		*Recovery Limits: 70% - 130%*			*B0G1701*	GAB	07/17/20 8:03	07/17/20 16:18	*EPA 8260B*
Surr: Toluene-d8		*99.9%*		*Recovery Limits: 70% - 130%*			*B0G1701*	GAB	07/17/20 8:03	07/17/20 16:18	*EPA 8260B*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division	**Project:**	Teapot Dome WDR No. R5-2014-0021	**Reported:**
5961 South Mooney Blvd.	**Project Number:**	E94401.03	08/05/2020
Visalia CA, 93277	**Project Manager:**	Jonah Trevino	

M-16B

GG16001-12 (Ground Water) Sampled: 07/15/20 14:54

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Inorganics											
Bicarbonate Alkalinity as HCO3		**310**	1.3	0.23	mg/L	1	B0G1620	GMC	07/16/20 18:59	07/16/20 18:59	SM 2320 B
Carbonate Alkalinity as CO3		ND	1.0	0.23	mg/L	1	B0G1620	GMC	07/16/20 18:59	07/16/20 18:59	SM 2320 B
Hydroxide Alkalinity as OH		ND	1.0	0.23	mg/L	1	B0G1620	GMC	07/16/20 18:59	07/16/20 18:59	SM 2320 B
Total Alkalinity as CaCO3		**250**	1.0	0.23	mg/L	1	B0G1620	GMC	07/16/20 18:59	07/16/20 18:59	SM 2320 B
Chloride		**79**	4.0	0.47	mg/L	2	B0G1613	CMF	07/16/20 16:45	07/16/20 20:06	EPA 300.0
Cyanide (total)		ND	5.0	4.4	µg/L	1	B0G1711	VAC	07/20/20 9:48	07/21/20 8:44	SM 4500-CN E
Specific Conductance (EC)		**820**	1.0	0.26	µS/cm	1	B0G1620	GMC	07/16/20 18:59	07/16/20 18:59	SM 2510 B
Nitrate as N		**9.5**	0.90	0.10	mg/L	2	B0G1613	CMF	07/16/20 16:45	07/16/20 20:06	EPA 300.0
pH		**7.8**	0.10	0.10	pH Units	1	B0G1620	GMC	07/16/20 18:59	07/16/20 18:59	SM 4500-H B
Sulfate as SO4		**28**	4.0	1.6	mg/L	2	B0G1613	CMF	07/16/20 16:45	07/16/20 20:06	EPA 300.0
Sulfide		ND	1.0	0.42	mg/L	1	B0G2008	ACY	07/20/20 10:15	07/20/20 10:30	SM 4500-S= F
Total Dissolved Solids		**500**	10	8.1	mg/L	1	B0G2004	BXI	07/20/20 8:32	07/21/20 10:10	SM 2540 C
Total Organic Carbon		**0.24**	0.20	0.18	mg/L	1	B0G2911	ZZZ	07/29/20 9:02	07/30/20 15:32	SM 5310 B
Metals (Dissolved)											
Aluminum		ND	4.0	3.2	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:30	EPA 200.8
Antimony		ND	1.0	0.36	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:30	EPA 200.8
Arsenic	J	**0.55**	1.0	0.41	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:30	EPA 200.8
Barium		**240**	1.0	0.16	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:30	EPA 200.8
Beryllium		ND	1.0	0.30	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:30	EPA 200.8
Cadmium		ND	0.20	0.086	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:30	EPA 200.8
Calcium		**95**	0.10	0.018	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 10:51	EPA 200.7
Chromium		ND	1.0	0.83	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:30	EPA 200.8
Cobalt		ND	1.0	0.35	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:30	EPA 200.8
Copper	J	**0.62**	2.0	0.23	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:30	EPA 200.8
Hardness (Dissolved)		**310**	0.66		mg equiv. CaCO3/L	1	[CALC]	VAC	07/22/20 10:51	07/22/20 10:51	SM 2340 B
Iron		**490**	20	8.4	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:30	EPA 200.8
Lead		ND	1.0	0.22	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:30	EPA 200.8
Magnesium		**18**	0.10	0.0080	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 10:51	EPA 200.7
Manganese		ND	1.0	0.77	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:30	EPA 200.8
Mercury		ND	0.20	0.070	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:30	EPA 200.8
Nickel		ND	1.0	0.73	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:30	EPA 200.8
Potassium		**3.4**	1.0	0.17	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 10:51	EPA 200.7
Selenium	J	**0.86**	1.0	0.71	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:30	EPA 200.8
Silver		ND	1.0	0.18	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:30	EPA 200.8
Sodium		**51**	1.0	0.14	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 10:51	EPA 200.7
Thallium		ND	1.0	0.49	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:30	EPA 200.8
Tin		ND	15	3.0	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:30	EPA 200.8
Vanadium		**7.3**	1.0	0.74	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:30	EPA 200.8
Zinc		**16**	5.0	0.51	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:30	EPA 200.8
Volatile Organics											
8260B TCSW											
1,1,1,2-Tetrachloroethane		ND	0.50	0.065	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.50	0.076	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	1.0	0.049	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-16B

GG16001-12 (Ground Water) Sampled: 07/15/20 14:54

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
1,1,2-Trichloroethane		ND	0.50	0.058	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
1,1-Dichloroethane		ND	0.50	0.070	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
1,1-Dichloroethene		ND	0.50	0.10	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.50	0.057	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
1,2,4-Trichlorobenzene		ND	1.0	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	5.0	0.12	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.50	0.041	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
1,2-Dichlorobenzene		ND	0.50	0.029	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.50	0.048	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
1,2-Dichloropropane		ND	0.50	0.043	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
1,3-Dichlorobenzene		ND	0.50	0.040	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
1,4-Dichlorobenzene		ND	0.50	0.021	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
2-Butanone (MEK)		ND	10	0.78	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
2-Hexanone		ND	1.0	0.17	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	1.0	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Acetone		ND	10	0.81	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Acrylonitrile		ND	5.0	0.99	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Benzene		ND	0.50	0.071	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Bromochloromethane		ND	0.50	0.041	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Bromodichloromethane		ND	0.50	0.032	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Bromoform		ND	1.0	0.057	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Bromomethane		ND	1.0	0.34	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Carbon disulfide		ND	0.50	0.044	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Carbon tetrachloride		ND	0.50	0.076	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Chlorobenzene		ND	0.50	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Chloroethane		ND	0.50	0.064	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Chloroform		ND	0.50	0.059	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Chloromethane		ND	0.50	0.058	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
cis-1,2-Dichloroethene		**0.76**	0.50	0.043	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
cis-1,3-Dichloropropene		ND	0.50	0.036	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Dibromochloromethane		ND	0.50	0.032	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Dibromomethane		ND	0.50	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.50	0.12	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.50	0.061	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Ethanol		ND	50	9.5	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	1.0	0.043	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Ethylbenzene		ND	0.50	0.044	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Hexachlorobutadiene		ND	1.0	0.087	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Hexachloroethane		ND	1.0	0.041	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Iodomethane		ND	5.0	2.1	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
m,p-Xylene		ND	1.0	0.095	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	1.0	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Methylene chloride		ND	1.0	0.12	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Naphthalene		ND	0.50	0.096	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-16B

GG16001-12 (Ground Water) Sampled: 07/15/20 14:54

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
o-Xylene		ND	0.50	0.047	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Styrene		ND	0.50	0.021	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	1.0	0.032	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
tert-Butyl alcohol (TBA)		ND	20	0.98	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Tetrachloroethene (PCE)		**0.62**	0.50	0.089	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Toluene		ND	0.50	0.066	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
trans-1,2-Dichloroethene		ND	0.50	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
trans-1,3-Dichloropropene		ND	0.50	0.044	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	5.0	0.048	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Trichloroethene (TCE)		ND	0.50	0.079	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.50	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Vinyl acetate		ND	0.50	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Vinyl chloride		ND	0.50	0.082	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Xylenes		ND	2.0		µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 17:28	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.2%*		*Recovery Limits: 70% - 130%*			*B0G1701*	GAB	07/17/20 8:03	07/17/20 17:28	*EPA 8260B*
Surr: Dibromofluoromethane		*100%*		*Recovery Limits: 70% - 130%*			*B0G1701*	GAB	07/17/20 8:03	07/17/20 17:28	*EPA 8260B*
Surr: Toluene-d8		*100%*		*Recovery Limits: 70% - 130%*			*B0G1701*	GAB	07/17/20 8:03	07/17/20 17:28	*EPA 8260B*

M-16B Field Blank

GG16001-13 (Water) Sampled: 07/15/20 14:54

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
1,1,1,2-Tetrachloroethane		ND	0.50	0.065	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.50	0.076	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	1.0	0.049	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
1,1,2-Trichloroethane		ND	0.50	0.058	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
1,1-Dichloroethane		ND	0.50	0.070	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
1,1-Dichloroethene		ND	0.50	0.10	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.50	0.057	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
1,2,4-Trichlorobenzene		ND	1.0	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	5.0	0.12	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.50	0.041	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
1,2-Dichlorobenzene		ND	0.50	0.029	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.50	0.048	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
1,2-Dichloropropane		ND	0.50	0.043	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
1,3-Dichlorobenzene		ND	0.50	0.040	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
1,4-Dichlorobenzene		ND	0.50	0.021	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
2-Butanone (MEK)		ND	10	0.78	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
2-Hexanone		ND	1.0	0.17	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	1.0	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Acetone		ND	10	0.81	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-16B Field Blank

GG16001-13 (Water) Sampled: 07/15/20 14:54

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
Acrylonitrile		ND	5.0	0.99	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Benzene		ND	0.50	0.071	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Bromochloromethane		ND	0.50	0.041	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Bromodichloromethane		ND	0.50	0.032	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Bromoform		ND	1.0	0.057	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Bromomethane		ND	1.0	0.34	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Carbon disulfide		ND	0.50	0.044	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Carbon tetrachloride		ND	0.50	0.076	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Chlorobenzene		ND	0.50	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Chloroethane		ND	0.50	0.064	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Chloroform		ND	0.50	0.059	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Chloromethane		ND	0.50	0.058	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
cis-1,2-Dichloroethene		ND	0.50	0.043	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
cis-1,3-Dichloropropene		ND	0.50	0.036	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Dibromochloromethane		ND	0.50	0.032	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Dibromomethane		ND	0.50	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.50	0.12	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.50	0.061	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Ethanol		ND	50	9.5	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	1.0	0.043	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Ethylbenzene		ND	0.50	0.044	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Hexachlorobutadiene		ND	1.0	0.087	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Hexachloroethane		ND	1.0	0.041	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Iodomethane		ND	5.0	2.1	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
m,p-Xylene		ND	1.0	0.095	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	1.0	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Methylene chloride		ND	1.0	0.12	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Naphthalene		ND	0.50	0.096	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
o-Xylene		ND	0.50	0.047	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Styrene		ND	0.50	0.021	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	1.0	0.032	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
tert-Butyl alcohol (TBA)		ND	20	0.98	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Tetrachloroethene (PCE)		ND	0.50	0.089	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Toluene		ND	0.50	0.066	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
trans-1,2-Dichloroethene		ND	0.50	0.056	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
trans-1,3-Dichloropropene		ND	0.50	0.044	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	5.0	0.048	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Trichloroethene (TCE)		ND	0.50	0.079	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.50	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Vinyl acetate		ND	0.50	0.11	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Vinyl chloride		ND	0.50	0.082	µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Xylenes		ND	2.0		µg/L	1	B0G1701	GAB	07/17/20 8:03	07/17/20 18:03	EPA 8260B
Surr: 4-Bromofluorobenzene		*100%*		*Recovery Limits: 70% - 130%*			*B0G1701*	GAB	07/17/20 8:03	07/17/20 18:03	*EPA 8260B*
Surr: Dibromofluoromethane		*100%*		*Recovery Limits: 70% - 130%*			*B0G1701*	GAB	07/17/20 8:03	07/17/20 18:03	*EPA 8260B*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-16B Field Blank

GG16001-13 (Water) Sampled: 07/15/20 14:54

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
Surr: Toluene-d8		*101%*		*Recovery Limits: 70% - 130%*			*B0G1701*	GAB	07/17/20 8:03	07/17/20 18:03	*EPA 8260B*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Inorganics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1613										
Blank (B0G1613-BLK1)		Prepared & Analyzed: 07/16/20								
EPA 300.0										
Chloride		ND	2.0	mg/L						
Nitrate as N		ND	0.45	mg/L						
Sulfate as SO4		ND	2.0	mg/L						
LCS (B0G1613-BS1)		Prepared & Analyzed: 07/16/20								
EPA 300.0										
Chloride		50.2	2.0	mg/L	50.0		100	90-110		
Nitrate as N		11.2	0.45	mg/L	11.3		98.8	90-110		
Sulfate as SO4		49.1	2.0	mg/L	50.0		98.1	90-110		
LCS Dup (B0G1613-BSD1)		Prepared & Analyzed: 07/16/20								
EPA 300.0										
Chloride		49.0	2.0	mg/L	50.0		98.0	90-110	2.47	20
Nitrate as N		10.9	0.45	mg/L	11.3		96.7	90-110	2.06	20
Sulfate as SO4		48.3	2.0	mg/L	50.0		96.6	90-110	1.62	20
Matrix Spike (B0G1613-MS1)		Prepared & Analyzed: 07/16/20				**Source: GG16002-01**				
EPA 300.0										
Chloride		114	4.0	mg/L	100	14.7	98.9	80-120		
Nitrate as N		22.1	0.90	mg/L	22.6	0.282	96.4	80-120		
Sulfate as SO4		123	4.0	mg/L	100	25.6	97.4	80-120		
Matrix Spike Dup (B0G1613-MSD1)		Prepared & Analyzed: 07/16/20				**Source: GG16002-01**				
EPA 300.0										
Chloride		114	4.0	mg/L	100	14.7	99.5	80-120	0.456	20
Nitrate as N		22.0	0.90	mg/L	22.6	0.282	96.0	80-120	0.458	20
Sulfate as SO4		122	4.0	mg/L	100	25.6	95.9	80-120	1.21	20
Matrix Spike (B0G1613-MS2)		Prepared & Analyzed: 07/16/20				**Source: GG16033-01**				
EPA 300.0										
Chloride		263	8.0	mg/L	200	62.6	100	80-120		
Nitrate as N		44.3	1.8	mg/L	45.2	ND	98.1	80-120		
Sulfate as SO4		208	8.0	mg/L	200	12.8	97.8	80-120		
Matrix Spike Dup (B0G1613-MSD2)		Prepared & Analyzed: 07/16/20				**Source: GG16033-01**				
EPA 300.0										
Chloride		267	8.0	mg/L	200	62.6	102	80-120	1.57	20
Nitrate as N		44.8	1.8	mg/L	45.2	ND	99.2	80-120	1.16	20
Sulfate as SO4		211	8.0	mg/L	200	12.8	99.0	80-120	1.20	20
Batch - B0G1620										
Blank (B0G1620-BLK1)		Prepared & Analyzed: 07/16/20								
SM 2320 B										
Bicarbonate Alkalinity as HCO3	J	0.890	1.3	mg/L						
Carbonate Alkalinity as CO3		ND	1.0	mg/L						
Hydroxide Alkalinity as OH		ND	1.0	mg/L						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Inorganics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1620										
Blank (B0G1620-BLK1)		Prepared & Analyzed: 07/16/20								
SM 2320 B										
Total Alkalinity as CaCO3	J	0.730	1.0	mg/L						
SM 2510 B										
Specific Conductance (EC)		ND	1.0	µS/cm						
LCS (B0G1620-BS1)		Prepared & Analyzed: 07/16/20								
SM 2510 B										
Specific Conductance (EC)		483	1.0	µS/cm	500		96.6	80-120		
LCS (B0G1620-BS2)		Prepared & Analyzed: 07/16/20								
SM 4500-H B										
pH		7.01	0.10	pH Units	7.00		100	97-103		
LCS (B0G1620-BS3)		Prepared & Analyzed: 07/16/20								
SM 2320 B										
Total Alkalinity as CaCO3		234	1.0	mg/L	250		93.5	80-120		
LCS Dup (B0G1620-BSD1)		Prepared & Analyzed: 07/16/20								
SM 2510 B										
Specific Conductance (EC)		486	1.0	µS/cm	500		97.2	80-120	0.630	20
LCS Dup (B0G1620-BSD2)		Prepared & Analyzed: 07/16/20								
SM 4500-H B										
pH		7.02	0.10	pH Units	7.00		100	97-103	0.143	20
LCS Dup (B0G1620-BSD3)		Prepared & Analyzed: 07/16/20								
SM 2320 B										
Total Alkalinity as CaCO3		233	1.0	mg/L	250		93.1	80-120	0.484	20
Duplicate (B0G1620-DUP1)		Prepared & Analyzed: 07/16/20				**Source: GG15048-01**				
SM 2320 B										
Bicarbonate Alkalinity as HCO3		154	1.3	mg/L		154			0.292	20
Carbonate Alkalinity as CO3		ND	1.0	mg/L		ND				
Hydroxide Alkalinity as OH		ND	1.0	mg/L		ND				
Total Alkalinity as CaCO3		126	1.0	mg/L		126			0.301	20
SM 2510 B										
Specific Conductance (EC)		501	1.0	µS/cm		502			0.201	20
SM 4500-H B										
pH		7.80	0.10	pH Units		7.78			0.257	20
Duplicate (B0G1620-DUP2)		Prepared & Analyzed: 07/16/20				**Source: GG16028-01**				
SM 2320 B										
Bicarbonate Alkalinity as HCO3		182	1.3	mg/L		185			1.72	20
Carbonate Alkalinity as CO3		ND	1.0	mg/L		ND				
Hydroxide Alkalinity as OH		ND	1.0	mg/L		ND				
Total Alkalinity as CaCO3		149	1.0	mg/L		152			1.72	20
SM 2510 B										
Specific Conductance (EC)		680	1.0	µS/cm		681			0.148	20
SM 4500-H B										

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Inorganics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1620										
Duplicate (B0G1620-DUP2)		Prepared & Analyzed: 07/16/20				**Source: GG16028-01**				
SM 4500-H B										
pH		8.04	0.10	pH Units		8.05			0.124	20
Batch - B0G1711										
Blank (B0G1711-BLK1)		Prepared: 07/20/20 Analyzed: 07/21/20								
SM 4500-CN E										
Cyanide (total)		ND	5.0	µg/L						
LCS (B0G1711-BS1)		Prepared: 07/20/20 Analyzed: 07/21/20								
SM 4500-CN E										
Cyanide (total)		48.0	5.0	µg/L	50.0		96.1	85-115		
LCS Dup (B0G1711-BSD1)		Prepared: 07/20/20 Analyzed: 07/21/20								
SM 4500-CN E										
Cyanide (total)		46.0	5.0	µg/L	50.0		92.1	85-115	4.25	20
Matrix Spike (B0G1711-MS1)		Prepared: 07/20/20 Analyzed: 07/21/20				**Source: GG16001-02**				
SM 4500-CN E										
Cyanide (total)		43.5	5.0	µg/L	50.0	ND	87.0	80-120		
Matrix Spike Dup (B0G1711-MSD1)		Prepared: 07/20/20 Analyzed: 07/21/20				**Source: GG16001-02**				
SM 4500-CN E										
Cyanide (total)		42.0	5.0	µg/L	50.0	ND	84.0	80-120	3.51	20
Batch - B0G2004										
Blank (B0G2004-BLK1)		Prepared: 07/20/20 Analyzed: 07/21/20								
SM 2540 C										
Total Dissolved Solids		ND	10	mg/L						
LCS (B0G2004-BS1)		Prepared: 07/20/20 Analyzed: 07/21/20								
SM 2540 C										
Total Dissolved Solids		240	10	mg/L	240		100	80-120		
LCS Dup (B0G2004-BSD1)		Prepared: 07/20/20 Analyzed: 07/21/20								
SM 2540 C										
Total Dissolved Solids		238	10	mg/L	240		99.4	80-120	0.627	20
Duplicate (B0G2004-DUP1)		Prepared: 07/20/20 Analyzed: 07/21/20				**Source: GG16001-02**				
SM 2540 C										
Total Dissolved Solids		553	10	mg/L		548			0.817	20
Duplicate (B0G2004-DUP2)		Prepared: 07/20/20 Analyzed: 07/21/20				**Source: GG17019-06**				
SM 2540 C										
Total Dissolved Solids		77.5	10	mg/L		80.0			3.17	20
Batch - B0G2008										
Blank (B0G2008-BLK1)		Prepared & Analyzed: 07/20/20								
SM 4500-S= F										
Sulfide		ND	1.0	mg/L						
LCS (B0G2008-BS1)		Prepared & Analyzed: 07/20/20								

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Inorganics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G2008										
LCS (B0G2008-BS1)		Prepared & Analyzed: 07/20/20								
SM 4500-S= F										
Sulfide		4.40	1.0	mg/L	5.00		88.0	80-120		
LCS Dup (B0G2008-BSD1)		Prepared & Analyzed: 07/20/20								
SM 4500-S= F										
Sulfide		4.60	1.0	mg/L	5.00		92.0	80-120	4.44	20
Duplicate (B0G2008-DUP1)		Prepared & Analyzed: 07/20/20				**Source: GG16001-02**				
SM 4500-S= F										
Sulfide		ND	1.0	mg/L		ND				
Batch - B0G2817										
Blank (B0G2817-BLK1)		Prepared & Analyzed: 07/28/20								
SM 5310 B										
Total Organic Carbon		ND	0.20	mg/L						
LCS (B0G2817-BS1)		Prepared & Analyzed: 07/28/20								
SM 5310 B										
Total Organic Carbon		4.24	0.20	mg/L	5.00		84.9	80-120		
LCS (B0G2817-BS2)		Prepared & Analyzed: 07/28/20								
SM 5310 B										
Total Organic Carbon		4.30	0.20	mg/L	5.00		86.0	80-120		
LCS Dup (B0G2817-BSD1)		Prepared & Analyzed: 07/28/20								
SM 5310 B										
Total Organic Carbon		4.28	0.20	mg/L	5.00		85.7	80-120	0.961	20
LCS Dup (B0G2817-BSD2)		Prepared & Analyzed: 07/28/20								
SM 5310 B										
Total Organic Carbon		4.33	0.20	mg/L	5.00		86.7	80-120	0.834	20
Duplicate (B0G2817-DUP1)		Prepared & Analyzed: 07/28/20				**Source: GG14034-02**				
SM 5310 B										
Total Organic Carbon		1.34	0.20	mg/L		1.11			19.4	20
Matrix Spike (B0G2817-MS1)		Prepared & Analyzed: 07/28/20				**Source: GG16001-06**				
SM 5310 B										
Total Organic Carbon		12.5	0.20	mg/L	12.5	1.32	89.5	70-130		
Matrix Spike Dup (B0G2817-MSD1)		Prepared & Analyzed: 07/28/20				**Source: GG16001-06**				
SM 5310 B										
Total Organic Carbon		12.0	0.20	mg/L	12.5	1.32	85.1	70-130	4.50	20
Batch - B0G2911										
Blank (B0G2911-BLK1)		Prepared: 07/29/20 Analyzed: 07/30/20								
SM 5310 B										
Total Organic Carbon		ND	0.20	mg/L						
LCS (B0G2911-BS1)		Prepared: 07/29/20 Analyzed: 07/30/20								
SM 5310 B										
Total Organic Carbon		4.31	0.20	mg/L	5.00		86.3	80-120		

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Inorganics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G2911										
LCS (B0G2911-BS2)		Prepared: 07/29/20 Analyzed: 07/30/20								
SM 5310 B										
Total Organic Carbon		4.45	0.20	mg/L	5.00		89.0	80-120		
LCS Dup (B0G2911-BSD1)		Prepared: 07/29/20 Analyzed: 07/30/20								
SM 5310 B										
Total Organic Carbon		4.47	0.20	mg/L	5.00		89.4	80-120	3.55	20
LCS Dup (B0G2911-BSD2)		Prepared: 07/29/20 Analyzed: 07/30/20								
SM 5310 B										
Total Organic Carbon		4.51	0.20	mg/L	5.00		90.3	80-120	1.36	20
Duplicate (B0G2911-DUP1)		Prepared: 07/29/20 Analyzed: 07/30/20				**Source: GG16001-08**				
SM 5310 B										
Total Organic Carbon	RPD2, J	0.193	0.20	mg/L		ND				
Matrix Spike (B0G2911-MS1)		Prepared: 07/29/20 Analyzed: 07/30/20				**Source: GG21059-01**				
SM 5310 B										
Total Organic Carbon	MS1	12.7	0.20	mg/L	12.5	4.54	65.3	70-130		
Matrix Spike Dup (B0G2911-MSD1)		Prepared: 07/29/20 Analyzed: 07/30/20				**Source: GG21059-01**				
SM 5310 B										
Total Organic Carbon	MS1	12.6	0.20	mg/L	12.5	4.54	64.1	70-130	1.19	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Metals (Dissolved)

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1303										
Blank (B0G1303-BLK1)		Prepared: 07/20/20 Analyzed: 07/21/20								
EPA 200.8										
Aluminum		ND	4.0	µg/L						
Antimony		ND	1.0	µg/L						
Arsenic		ND	1.0	µg/L						
Barium		ND	1.0	µg/L						
Beryllium		ND	1.0	µg/L						
Cadmium		ND	0.20	µg/L						
Chromium		ND	1.0	µg/L						
Cobalt		ND	1.0	µg/L						
Copper		ND	2.0	µg/L						
Iron		ND	20	µg/L						
Lead		ND	1.0	µg/L						
Manganese		ND	1.0	µg/L						
Mercury		ND	0.20	µg/L						
Nickel		ND	1.0	µg/L						
Selenium		ND	1.0	µg/L						
Silver		ND	1.0	µg/L						
Thallium		ND	1.0	µg/L						
Tin		ND	15	µg/L						
Vanadium		ND	1.0	µg/L						
Zinc		ND	5.0	µg/L						
LCS (B0G1303-BS1)		Prepared: 07/20/20 Analyzed: 07/21/20								
EPA 200.8										
Aluminum		50.2	4.0	µg/L	50.0		100	85-115		
Antimony		49.3	1.0	µg/L	50.0		98.6	85-115		
Arsenic		51.9	1.0	µg/L	50.0		104	85-115		
Barium		48.8	1.0	µg/L	50.0		97.7	85-115		
Beryllium		52.7	1.0	µg/L	50.0		105	85-115		
Cadmium		50.3	0.20	µg/L	50.0		101	85-115		
Chromium		51.1	1.0	µg/L	50.0		102	85-115		
Cobalt		50.6	1.0	µg/L	50.0		101	85-115		
Copper		52.0	2.0	µg/L	50.0		104	85-115		
Iron		2730	20	µg/L	2500		109	85-115		
Lead		48	1.0	µg/L	50.0		96.5	85-115		
Manganese		50.4	1.0	µg/L	50.0		101	85-115		
Mercury		0.943	0.20	µg/L	1.00		94.3	85-115		
Nickel		51.3	1.0	µg/L	50.0		103	85-115		
Selenium		56.0	1.0	µg/L	50.0		112	85-115		
Silver		50.4	1.0	µg/L	50.0		101	85-115		
Thallium		48	1.0	µg/L	50.0		96.2	85-115		
Tin		48.9	15	µg/L	50.0		97.7	85-115		

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Metals (Dissolved)

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1303										
LCS (B0G1303-BS1)		Prepared: 07/20/20 Analyzed: 07/21/20								
EPA 200.8										
Vanadium		49.5	1.0	µg/L	50.0		99.0	85-115		
Zinc		51.6	5.0	µg/L	50.0		103	85-115		
LCS Dup (B0G1303-BSD1)		Prepared: 07/20/20 Analyzed: 07/21/20								
EPA 200.8										
Aluminum		50.4	4.0	µg/L	50.0		101	85-115	0.346	20
Antimony		49.5	1.0	µg/L	50.0		99.0	85-115	0.383	20
Arsenic		52.3	1.0	µg/L	50.0		105	85-115	0.766	20
Barium		48.1	1.0	µg/L	50.0		96.2	85-115	1.51	20
Beryllium		53.7	1.0	µg/L	50.0		107	85-115	1.86	20
Cadmium		50.7	0.20	µg/L	50.0		101	85-115	0.756	20
Chromium		50.8	1.0	µg/L	50.0		102	85-115	0.516	20
Cobalt		51.0	1.0	µg/L	50.0		102	85-115	0.841	20
Copper		51.9	2.0	µg/L	50.0		104	85-115	0.158	20
Iron		2760	20	µg/L	2500		110	85-115	1.08	20
Lead		47	1.0	µg/L	50.0		94.0	85-115	2.57	20
Manganese		50.7	1.0	µg/L	50.0		101	85-115	0.602	20
Mercury		0.948	0.20	µg/L	1.00		94.8	85-115	0.526	20
Nickel		51.3	1.0	µg/L	50.0		103	85-115	0.0109	20
Selenium		56.3	1.0	µg/L	50.0		113	85-115	0.682	20
Silver		49.3	1.0	µg/L	50.0		98.7	85-115	2.04	20
Thallium		47	1.0	µg/L	50.0		93.5	85-115	2.81	20
Tin		49.3	15	µg/L	50.0		98.7	85-115	0.928	20
Vanadium		49.4	1.0	µg/L	50.0		98.8	85-115	0.203	20
Zinc		51.6	5.0	µg/L	50.0		103	85-115	0.0707	20
Matrix Spike (B0G1303-MS1)		Prepared: 07/20/20 Analyzed: 07/21/20				**Source: GG10016-01**				
EPA 200.8										
Aluminum		520	40	µg/L	500	ND	105	70-130		
Antimony		500	10	µg/L	500	ND	101	70-130		
Arsenic		530	10	µg/L	500	ND	105	70-130		
Barium		820	10	µg/L	500	310	102	70-130		
Beryllium		550	10	µg/L	500	ND	109	70-130		
Cadmium		510	2.0	µg/L	500	ND	102	70-130		
Chromium		520	10	µg/L	500	ND	104	70-130		
Cobalt		498	10	µg/L	500	ND	99.6	70-130		
Copper		500	20	µg/L	500	ND	99.7	70-130		
Iron		28900	200	µg/L	25000	527	113	70-130		
Lead		470	10	µg/L	500	ND	94.2	70-130		
Manganese		510	10	µg/L	500	ND	102	70-130		
Mercury		9.37	2.0	µg/L	10.0	ND	93.7	70-130		
Nickel		510	10	µg/L	500	ND	102	70-130		

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Metals (Dissolved)

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1303										
Matrix Spike (B0G1303-MS1)		Prepared: 07/20/20 Analyzed: 07/21/20				**Source: GG10016-01**				
EPA 200.8										
Selenium		540	10	µg/L	500	ND	108	70-130		
Silver		490	10	µg/L	500	ND	98.0	70-130		
Thallium		460	10	µg/L	500	ND	92.6	70-130		
Tin		505	150	µg/L	500	ND	101	70-130		
Vanadium		530	10	µg/L	500	15	103	70-130		
Zinc		530	50	µg/L	500	19	103	70-130		
Matrix Spike Dup (B0G1303-MSD1)		Prepared: 07/20/20 Analyzed: 07/21/20				**Source: GG10016-01**				
EPA 200.8										
Aluminum		520	40	µg/L	500	ND	105	70-130	0.285	20
Antimony		500	10	µg/L	500	ND	100	70-130	0.635	20
Arsenic		530	10	µg/L	500	ND	105	70-130	0.276	20
Barium		800	10	µg/L	500	310	97.4	70-130	2.93	20
Beryllium		540	10	µg/L	500	ND	109	70-130	0.525	20
Cadmium		500	2.0	µg/L	500	ND	101	70-130	0.774	20
Chromium		510	10	µg/L	500	ND	103	70-130	1.14	20
Cobalt		499	10	µg/L	500	ND	99.9	70-130	0.290	20
Copper		500	20	µg/L	500	ND	99.8	70-130	0.0919	20
Iron		28300	200	µg/L	25000	527	111	70-130	2.06	20
Lead		470	10	µg/L	500	ND	94.0	70-130	0.237	20
Manganese		510	10	µg/L	500	ND	103	70-130	0.927	20
Mercury		9.68	2.0	µg/L	10.0	ND	96.8	70-130	3.32	20
Nickel		500	10	µg/L	500	ND	100	70-130	1.70	20
Selenium		550	10	µg/L	500	ND	109	70-130	0.943	20
Silver		500	10	µg/L	500	ND	99.8	70-130	1.83	20
Thallium		470	10	µg/L	500	ND	94.6	70-130	2.08	20
Tin		507	150	µg/L	500	ND	101	70-130	0.361	20
Vanadium		510	10	µg/L	500	15	99.7	70-130	3.25	20
Zinc		520	50	µg/L	500	19	99.6	70-130	3.30	20
Matrix Spike (B0G1303-MS2)		Prepared: 07/20/20 Analyzed: 07/21/20				**Source: GG17019-10**				
EPA 200.8										
Aluminum		570	40	µg/L	500	ND	114	70-130		
Antimony		520	10	µg/L	500	ND	103	70-130		
Arsenic		530	10	µg/L	500	ND	107	70-130		
Barium		700	10	µg/L	500	230	94.0	70-130		
Beryllium		620	10	µg/L	500	ND	124	70-130		
Cadmium		520	2.0	µg/L	500	ND	103	70-130		
Chromium		530	10	µg/L	500	ND	107	70-130		
Cobalt		501	10	µg/L	500	ND	100	70-130		
Copper		490	20	µg/L	500	ND	98.4	70-130		
Iron		29200	200	µg/L	25000	499	115	70-130		

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Metals (Dissolved)

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1303										
Matrix Spike (B0G1303-MS2)		Prepared: 07/20/20 Analyzed: 07/21/20				**Source: GG17019-10**				
EPA 200.8										
Lead		460	10	µg/L	500	ND	91.3	70-130		
Manganese		520	10	µg/L	500	ND	104	70-130		
Mercury		9.22	2.0	µg/L	10.0	ND	92.2	70-130		
Nickel		500	10	µg/L	500	ND	99.9	70-130		
Selenium		570	10	µg/L	500	ND	115	70-130		
Silver		490	10	µg/L	500	ND	97.2	70-130		
Thallium		460	10	µg/L	500	ND	91.8	70-130		
Tin		512	150	µg/L	500	ND	102	70-130		
Vanadium		540	10	µg/L	500	ND	109	70-130		
Zinc		510	50	µg/L	500	16	99.6	70-130		
Matrix Spike Dup (B0G1303-MSD2)		Prepared: 07/20/20 Analyzed: 07/21/20				**Source: GG17019-10**				
EPA 200.8										
Aluminum		560	40	µg/L	500	ND	112	70-130	2.15	20
Antimony		520	10	µg/L	500	ND	103	70-130	0.132	20
Arsenic		530	10	µg/L	500	ND	105	70-130	1.37	20
Barium		730	10	µg/L	500	230	98.6	70-130	3.23	20
Beryllium		610	10	µg/L	500	ND	121	70-130	1.79	20
Cadmium		510	2.0	µg/L	500	ND	101	70-130	1.63	20
Chromium		530	10	µg/L	500	ND	105	70-130	1.12	20
Cobalt		492	10	µg/L	500	ND	98.4	70-130	1.77	20
Copper		490	20	µg/L	500	ND	98.3	70-130	0.0665	20
Iron		28600	200	µg/L	25000	499	113	70-130	2.06	20
Lead		460	10	µg/L	500	ND	92.5	70-130	1.32	20
Manganese		520	10	µg/L	500	ND	104	70-130	0.524	20
Mercury		9.32	2.0	µg/L	10.0	ND	93.2	70-130	1.15	20
Nickel		490	10	µg/L	500	ND	99.0	70-130	0.981	20
Selenium		570	10	µg/L	500	ND	113	70-130	1.59	20
Silver		490	10	µg/L	500	ND	98.6	70-130	1.40	20
Thallium		460	10	µg/L	500	ND	92.2	70-130	0.480	20
Tin		512	150	µg/L	500	ND	102	70-130	0.0451	20
Vanadium		520	10	µg/L	500	ND	104	70-130	4.08	20
Zinc		510	50	µg/L	500	16	99.5	70-130	0.0641	20
Batch - B0G1507										
Blank (B0G1507-BLK1)		Prepared: 07/21/20 Analyzed: 07/22/20								
EPA 200.7										
Calcium		ND	0.10	mg/L						
Magnesium		ND	0.10	mg/L						
Potassium		ND	1.0	mg/L						
Sodium		ND	1.0	mg/L						
LCS (B0G1507-BS1)		Prepared: 07/21/20 Analyzed: 07/22/20								

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Metals (Dissolved)

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1507										
LCS (B0G1507-BS1)		Prepared: 07/21/20 Analyzed: 07/22/20								
EPA 200.7										
Calcium		1.05	0.10	mg/L	1.00		105	85-115		
Magnesium		2.05	0.10	mg/L	2.00		103	85-115		
Potassium		1.93	1.0	mg/L	2.00		96.6	85-115		
Sodium		2.01	1.0	mg/L	2.00		100	85-115		
LCS Dup (B0G1507-BSD1)		Prepared: 07/21/20 Analyzed: 07/22/20								
EPA 200.7										
Calcium		1.04	0.10	mg/L	1.00		104	85-115	0.614	20
Magnesium		2.04	0.10	mg/L	2.00		102	85-115	0.420	20
Potassium		1.99	1.0	mg/L	2.00		99.6	85-115	3.07	20
Sodium		2.03	1.0	mg/L	2.00		102	85-115	1.06	20
Matrix Spike (B0G1507-MS1)		Prepared: 07/21/20 Analyzed: 07/22/20				**Source: GG13013-01**				
EPA 200.7										
Calcium		66.3	1.0	mg/L	10.0	55.5	108	70-130		
Magnesium		58.8	1.0	mg/L	20.0	37.3	108	70-130		
Potassium		24.3	10	mg/L	20.0	5.13	95.8	70-130		
Sodium	MS2	155	10	mg/L	20.0	123	156	70-130		
Matrix Spike Dup (B0G1507-MSD1)		Prepared: 07/21/20 Analyzed: 07/22/20				**Source: GG13013-01**				
EPA 200.7										
Calcium	MS3	60.8	1.0	mg/L	10.0	55.5	53.4	70-130	8.63	20
Magnesium		58.4	1.0	mg/L	20.0	37.3	106	70-130	0.580	20
Potassium		23.7	10	mg/L	20.0	5.13	92.7	70-130	2.60	20
Sodium	MS2	153	10	mg/L	20.0	123	148	70-130	1.12	20
Matrix Spike (B0G1507-MS2)		Prepared: 07/21/20 Analyzed: 07/22/20				**Source: GG16001-12**				
EPA 200.7										
Calcium	MS2	112	1.0	mg/L	10.0	95.4	164	70-130		
Magnesium		38.7	1.0	mg/L	20.0	18.5	101	70-130		
Potassium		22.8	10	mg/L	20.0	3.37	97.4	70-130		
Sodium		73.3	10	mg/L	20.0	51.4	109	70-130		
Matrix Spike Dup (B0G1507-MSD2)		Prepared: 07/21/20 Analyzed: 07/22/20				**Source: GG16001-12**				
EPA 200.7										
Calcium	MS2	113	1.0	mg/L	10.0	95.4	174	70-130	0.919	20
Magnesium		39.2	1.0	mg/L	20.0	18.5	104	70-130	1.13	20
Potassium		22.9	10	mg/L	20.0	3.37	97.8	70-130	0.357	20
Sodium		73.7	10	mg/L	20.0	51.4	112	70-130	0.615	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1701										
Blank (B0G1701-BLK1)		Prepared & Analyzed: 07/17/20								
EPA 8260B										
Surr: 4-Bromofluorobenzene		*24.8*		*µg/L*	*25.0*		*99.2*	*70-130*		
Surr: Dibromofluoromethane		*25.5*		*µg/L*	*25.0*		*102*	*70-130*		
Surr: Toluene-d8		*25.0*		*µg/L*	*25.0*		*100*	*70-130*		
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L						
1,1,2,2-Tetrachloroethane		ND	1.0	µg/L						
1,1,2-Trichloroethane		ND	0.50	µg/L						
1,1-Dichloroethane		ND	0.50	µg/L						
1,1-Dichloroethene		ND	0.50	µg/L						
1,2,3-Trichloropropane (123TCP)		ND	0.50	µg/L						
1,2,4-Trichlorobenzene		ND	1.0	µg/L						
1,2-Dibromo-3-chloropropane (DBCP)		ND	5.0	µg/L						
1,2-Dibromoethane (EDB)		ND	0.50	µg/L						
1,2-Dichlorobenzene		ND	0.50	µg/L						
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L						
1,2-Dichloropropane		ND	0.50	µg/L						
1,3-Dichlorobenzene		ND	0.50	µg/L						
1,4-Dichlorobenzene		ND	0.50	µg/L						
2-Butanone (MEK)		ND	10	µg/L						
2-Hexanone		ND	1.0	µg/L						
4-Methyl-2-pentanone (MIBK)		ND	1.0	µg/L						
Acetone		ND	10	µg/L						
Acrylonitrile		ND	5.0	µg/L						
Benzene		ND	0.50	µg/L						
Bromochloromethane		ND	0.50	µg/L						
Bromodichloromethane		ND	0.50	µg/L						
Bromoform		ND	1.0	µg/L						
Bromomethane		ND	1.0	µg/L						
Carbon disulfide		ND	0.50	µg/L						
Carbon tetrachloride		ND	0.50	µg/L						
Chlorobenzene		ND	0.50	µg/L						
Chloroethane		ND	0.50	µg/L						
Chloroform		ND	0.50	µg/L						
Chloromethane		ND	0.50	µg/L						
cis-1,2-Dichloroethene		ND	0.50	µg/L						
cis-1,3-Dichloropropene		ND	0.50	µg/L						
Dibromochloromethane		ND	0.50	µg/L						
Dibromomethane		ND	0.50	µg/L						
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L						
Di-isopropyl ether (DIPE)		ND	0.50	µg/L						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1701										
Blank (B0G1701-BLK1)		Prepared & Analyzed: 07/17/20								
EPA 8260B										
Ethanol		ND	50	µg/L						
Ethyl tert-Butyl Ether (ETBE)		ND	1.0	µg/L						
Ethylbenzene		ND	0.50	µg/L						
Hexachlorobutadiene		ND	1.0	µg/L						
Hexachloroethane		ND	1.0	µg/L						
Iodomethane		ND	5.0	µg/L						
m,p-Xylene		ND	1.0	µg/L						
Methyl tert-Butyl Ether (MTBE)		ND	1.0	µg/L						
Methylene chloride		ND	1.0	µg/L						
Naphthalene		ND	0.50	µg/L						
o-Xylene		ND	0.50	µg/L						
Styrene		ND	0.50	µg/L						
Tert-Amyl Methyl Ether (TAME)		ND	1.0	µg/L						
tert-Butyl alcohol (TBA)		ND	20	µg/L						
Tetrachloroethene (PCE)		ND	0.50	µg/L						
Toluene		ND	0.50	µg/L						
trans-1,2-Dichloroethene		ND	0.50	µg/L						
trans-1,3-Dichloropropene		ND	0.50	µg/L						
trans-1,4-Dichloro-2-butene		ND	5.0	µg/L						
Trichloroethene (TCE)		ND	0.50	µg/L						
Trichlorofluoromethane (CFC-11)		ND	0.50	µg/L						
Vinyl acetate		ND	0.50	µg/L						
Vinyl chloride		ND	0.50	µg/L						
Xylenes		ND	2.0	µg/L						
LCS (B0G1701-BS1)		Prepared & Analyzed: 07/17/20								
EPA 8260B										
Surr: 4-Bromofluorobenzene		*24.6*		*µg/L*	*25.0*		*98.2*	*70-130*		
Surr: Dibromofluoromethane		*25.2*		*µg/L*	*25.0*		*101*	*70-130*		
Surr: Toluene-d8		*25.1*		*µg/L*	*25.0*		*100*	*70-130*		
1,1-Dichloroethene		20.8	0.50	µg/L	20.0		104	70-130		
Benzene		20.1	0.50	µg/L	20.0		100	70-130		
Chlorobenzene		20.9	0.50	µg/L	20.0		104	70-130		
Toluene		20.3	0.50	µg/L	20.0		102	70-130		
Trichloroethene (TCE)		20.8	0.50	µg/L	20.0		104	70-130		
LCS Dup (B0G1701-BSD1)		Prepared & Analyzed: 07/17/20								
EPA 8260B										
Surr: 4-Bromofluorobenzene		*24.9*		*µg/L*	*25.0*		*99.7*	*70-130*		
Surr: Dibromofluoromethane		*25.0*		*µg/L*	*25.0*		*99.8*	*70-130*		
Surr: Toluene-d8		*25.1*		*µg/L*	*25.0*		*100*	*70-130*		
1,1-Dichloroethene		20.4	0.50	µg/L	20.0		102	70-130	1.94	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1701										
LCS Dup (B0G1701-BSD1)		Prepared & Analyzed: 07/17/20								
EPA 8260B										
Benzene		19.8	0.50	µg/L	20.0		99.0	70-130	1.40	20
Chlorobenzene		20.6	0.50	µg/L	20.0		103	70-130	1.35	20
Toluene		20.0	0.50	µg/L	20.0		100	70-130	1.49	20
Trichloroethene (TCE)		20.6	0.50	µg/L	20.0		103	70-130	1.16	20

Notes and Definitions

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag). Same as DNQ - Detected, but Not Quantified.
MS1	Recovery for this analyte was affected by matrix.
MS2	Recovery for this analyte was biased high; associated blank spike recoveries are within range.
MS3	Recovery for this analyte was biased low; associated blank spike recoveries are within range.
RPD2	A high RPD was observed due to the low concentration of the target analyte.
µg/L	micrograms per liter (parts per billion concentration units)
mg/L	milligrams per liter (parts per million concentration units)
mg/kg	milligrams per kilogram (parts per million concentration units)
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
	Analysis of pH, filtration, and residual chlorine is to take place immediately after sampling in the field. If the test was performed in the laboratory, the hold time was exceeded. **(for aqueous matrices only)**

CHAIN OF CUSTODY/ANALYSIS REQUEST

MOORE TWINING ASSOCIATES, INC. EST. 1898

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

WORK ORDER #: G616001
PAGE 1 **OF** 3

REPORT TO:	☐ INVOICE TO:	☐ REPORT COPY TO:	REPORTING:
ATTENTION: Jonah Treviño	ATTENTION: Jonah Treviño		☐ STANDARD FORMAT
NAME: County of Tulare – Solid Waste Dept.	NAME: County of Tulare – Solid Waste Dept.		☐ WRITE-ON (STATE FORM)
ADDRESS: 5955 S. Mooney Blvd	ADDRESS: 5955 S. Mooney Blvd		☐ GEOTRACKER/COELT (LUFT)
			☐ PDF ☐ SPREADSHEET
			☐ County DHS :
PHONE: 559-624-7197	PHONE: 559-624-7197		☐ Environmental Health Agency :
FAX: 559-740-4448	FAX: 559-740-4448		☐ OTHER:

SAMPLE INFORMATION

SAMPLED BY (PRINT): Joe Clark

SIGNATURE:

☐ PUBLIC SYSTEM ☐ ROUTINE
☐ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME: ☐ RUSH, DUE ON:
☐ STANDARD

SAMPLE TYPES:

SOLID:
BS – BIOSOLID
CR – CERAMIC
SL – SOIL/SOLID

LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTE WATER

PROJECT INFORMATION

CONTRACT/P.O. NO.: 14235B26373
PROJECT: Teapot Dome – WDR No. R5-2014-0021
PROJECT NUMBER: E94401.03
PROJECT MANAGER: Kirk Jacobsen

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☑ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION
5.2°c

	CLIENT SAMPLE ID	DATE	TIME	TYPE	IG-1, IG-9, IG-10	VOCs 8260 Short List (TCSW)									
1	Trip Blank	7/15/20		W		X									
2	M-1B	7/15/20	0818	GW	X	X									
3	M-1B Field Blank	7/15/20	0818	W		X									
4	M-6A	7/15/20	1114	GW	X	X									
5	M-6A Field Blank	7/15/20	1114	W		X									
6	M-6B	7/15/20	1205	GW	X	X									
7	M-6B Field Blank	7/15/20	1205	W		X									
8	M-11C	7/15/20	1018	GW	X	X									
9	M-11C Field Blank	7/15/20	1018	W		X									
10	M-15C	7/15/20	0924	GW	X	X									
11	M-15C Field Blank	7/15/20	0924	W		X									

COMMENTS/ADDITIONAL INSTRUCTIONS: **Samples held in Lab Fridge overnight**

Analyze Field Blank only if VOCs detected in the sample. Analyze Trip Blank only if VOCs detected in Field Blank.

- Filter for dissolved metals in the lab

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	MTA	7-16-20	0808		MTA

MOORE TWINING ASSOCIATES, INC.
EST. 1898
ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

CHAIN OF CUSTODY/ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

WORK ORDER #: G616001
PAGE 2 **OF** 3

REPORT TO:

ATTENTION: Jonah Treviño
NAME: County of Tulare – Solid Waste Dept.
ADDRESS: 5955 S. Mooney Blvd
PHONE: 559-624-7197
FAX: 559-740-4448

☐ **INVOICE TO:** ☐ **REPORT COPY TO:**

ATTENTION: Jonah Treviño
NAME: County of Tulare – Solid Waste Dept.
ADDRESS: 5955 S. Mooney Blvd
PHONE: 559-624-7197
FAX: 559-740-4448

REPORTING:
☐ STANDARD FORMAT
☐ WRITE-ON (STATE FORM)
☐ GEOTRACKER/COELT (LUFT)
☐ PDF ☐ SPREADSHEET
☐ County DHS :
☐ Environmental Health Agency :
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Joe Clark
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☐ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT
TURN AROUND TIME: ☐ RUSH, DUE ON:
☐ STANDARD

SAMPLE TYPES:
SOLID:
BS – BIOSOLID
CR – CERAMIC
SL – SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW – WASTE WATER

PROJECT INFORMATION
CONTRACT/P.O. NO.: 14235B26373
PROJECT: Teapot Dome – WDR No. R5-2014-0021
PROJECT NUMBER: E94401.03
PROJECT MANAGER: Kirk Jacobsen

ANALYSIS REQUESTED

LAB USE
NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☑ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION
5.2°c

	CLIENT SAMPLE ID	DATE	TIME	TYPE	IG-1, IG-9, IG-10	VOCs 8260 Short List (TCSW)
12	M-16B	7/15/20	1454	GW	X	X
13	M-16B Field Blank	7/15/20	1454	W		X

COMMENTS/ADDITIONAL INSTRUCTIONS: **Samples held in Lab Fridge overnight**

Analyze Field Blank only if VOCs detected in the sample. Analyze Trip Blank only if VOCs detected in Field Blank.

- Filter for dissolved metals in the lab

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	MTA	7-16-20	0808		MTA

Moore Twining Associates

Sample Integrity — Page 3 of 3 — WO# GG16001 — MTA Bottles: Yes or No

COC Info				
Was temperature within range? Chemistry ≤6°C Micro <10°C Temp_____°C	Yes No N/A	Did all bottle labels agree with COC?	Yes No N/A	Were there bubbles in VOA vials? (**Volatiles Only**) Yes No N/A
If samples were taken today, is there evidence that chilling has begun? Recvd_____C°	Yes No N/A	Was a sufficient amount of sample received?	Yes No N/A	Was PM notified of discrepancies? PM: By/Time: Yes No N/A
Did all bottles arrive unbroken and intact?	Yes No N/A	Were correct containers and preservatives received for the tests requested?	Yes No N/A	
Do samples have a hold time <72 hours?	Yes No N/A			

Bottles Received															
125ml (A) 250ml (B) 1Liter (C) 40ml VOA (V)	1,3,5,7	9,11,13		2,4,6,8	10,12										
Bacti $Na_2S_2O_3$															
None (P)				1-C											
Cr6 Buffer (P) Borate Carbonate Buffer															
HNO_3 (P)				1-A											
H_2SO_4 (P)															
NaOH (P)				1-A											
NaOH+ZnAc (P)				1-C											
Dissolved Oxygen 300ml (P)															
None (AG)															
None (CG) 500ml															
$Na_2S_2O_3$ 250ml (Brown P) 549															
$Na_2S_2O_3$ (AG)															
$Na_2S_2O_3$ (AG)															
Thio/K Citrate															
NH_4Cl (AG) 552															
HCl (AG)	1-V			4-V											
None (CG) 500ml															
H_3PO_4 (AG)				3-V											
Other:															
Plastic Bag															
Low Level Hg/Metals Double Bag															
Client Own															
Glass Jar: 125/ 250/ 500															
Soil Tube: Brass/ Steel/ Plastic															
5 g Encore															
Ascorboc Acid (AG) Voa															
1gallon Cubitainer															

Filter or Split		Container	Preservative	Date/Time/Initials
	S P F			
	S P F			
	S P F			
	S P F			
	S P F			

Labeled by: M @ 0903 Labels checked by: M @ 0915

FL-SC-0003-06

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

August 05, 2020

Work Order #: **GG17019**

Jonah Trevino
Tulare County Solid Waste Division
5961 South Mooney Blvd.
Visalia, CA 93277

RE: Teapot Dome WDR No. R5-2014-0021

Enclosed are the analytical results for samples received by our laboratory on **07/17/20** . For your reference, these analyses have been assigned laboratory work order number **GG17019**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Analytical Report for the Following Samples

Sample ID	Notes	Laboratory ID	Matrix	Date Sampled	Date Received
M-3C		GG17019-02	Ground Water	07/17/20 11:23	07/17/20 14:38
M-4B		GG17019-04	Ground Water	07/17/20 08:05	07/17/20 14:38
M-4B Field Blank		GG17019-05	Water	07/17/20 08:05	07/17/20 14:38
M-8		GG17019-06	Ground Water	07/17/20 10:15	07/17/20 14:38
M-10B		GG17019-08	Ground Water	07/17/20 12:15	07/17/20 14:38
M-10B Field Blank		GG17019-09	Water	07/17/20 12:15	07/17/20 14:38
M-14B		GG17019-10	Ground Water	07/17/20 08:56	07/17/20 14:38
M-14B Field Blank		GG17019-11	Water	07/17/20 08:56	07/17/20 14:38

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division	**Project:**	Teapot Dome WDR No. R5-2014-0021	**Reported:**
5961 South Mooney Blvd.	**Project Number:**	E94401.03	08/05/2020
Visalia CA, 93277	**Project Manager:**	Jonah Trevino	

M-3C

GG17019-02 (Ground Water) Sampled: 07/17/20 11:23

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Inorganics											
Bicarbonate Alkalinity as HCO3		**260**	1.3	0.23	mg/L	1	B0G1802	GMC	07/18/20 17:07	07/18/20 17:07	SM 2320 B
Carbonate Alkalinity as CO3		ND	1.0	0.23	mg/L	1	B0G1802	GMC	07/18/20 17:07	07/18/20 17:07	SM 2320 B
Hydroxide Alkalinity as OH		ND	1.0	0.23	mg/L	1	B0G1802	GMC	07/18/20 17:07	07/18/20 17:07	SM 2320 B
Total Alkalinity as CaCO3		**220**	1.0	0.23	mg/L	1	B0G1802	GMC	07/18/20 17:07	07/18/20 17:07	SM 2320 B
Chloride		**95**	4.0	0.47	mg/L	2	B0G1712	CMF	07/17/20 17:15	07/17/20 21:38	EPA 300.0
Cyanide (total)		ND	5.0	4.4	µg/L	1	B0G2411	VAC	07/24/20 12:31	07/25/20 10:35	SM 4500-CN E
Specific Conductance (EC)		**830**	1.0	0.26	µS/cm	1	B0G1802	GMC	07/18/20 17:07	07/18/20 17:07	SM 2510 B
Nitrate as N		**13**	0.90	0.10	mg/L	2	B0G1712	CMF	07/17/20 17:15	07/17/20 21:38	EPA 300.0
pH		**7.8**	0.10	0.10	pH Units	1	B0G1802	GMC	07/18/20 17:07	07/18/20 17:07	SM 4500-H B
Sulfate as SO4		**32**	4.0	1.6	mg/L	2	B0G1712	CMF	07/17/20 17:15	07/17/20 21:38	EPA 300.0
Sulfide		ND	1.0	0.42	mg/L	1	B0G2103	BXI	07/21/20 7:06	07/21/20 7:10	SM 4500-S= F
Total Dissolved Solids		**510**	10	8.1	mg/L	1	B0G2004	BXI	07/20/20 8:32	07/21/20 10:10	SM 2540 C
Total Organic Carbon		**0.23**	0.20	0.18	mg/L	1	B0G2911	ZZZ	07/29/20 9:02	07/30/20 15:52	SM 5310 B
Metals (Dissolved)											
Aluminum		ND	4.0	3.2	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:35	EPA 200.8
Antimony		ND	1.0	0.36	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:35	EPA 200.8
Arsenic	J	**0.61**	1.0	0.41	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:35	EPA 200.8
Barium		**230**	1.0	0.16	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:35	EPA 200.8
Beryllium		ND	1.0	0.30	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:35	EPA 200.8
Cadmium		ND	0.20	0.086	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:35	EPA 200.8
Calcium		**97**	0.10	0.018	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 11:08	EPA 200.7
Chromium		ND	1.0	0.83	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:35	EPA 200.8
Cobalt		ND	1.0	0.35	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:35	EPA 200.8
Copper	J	**0.57**	2.0	0.23	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:35	EPA 200.8
Hardness (Dissolved)		**320**	0.66		mg equiv. CaCO3/L	1	[CALC]	VAC	07/22/20 11:08	07/22/20 11:08	SM 2340 B
Iron		**470**	20	8.4	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:35	EPA 200.8
Lead		ND	1.0	0.22	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:35	EPA 200.8
Magnesium		**18**	0.10	0.0080	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 11:08	EPA 200.7
Manganese		ND	1.0	0.77	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:35	EPA 200.8
Mercury		ND	0.20	0.070	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:35	EPA 200.8
Nickel		ND	1.0	0.73	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:35	EPA 200.8
Potassium		**3.3**	1.0	0.17	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 11:08	EPA 200.7
Selenium		**1.2**	1.0	0.71	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:35	EPA 200.8
Silver		ND	1.0	0.18	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:35	EPA 200.8
Sodium		**50**	1.0	0.14	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 11:08	EPA 200.7
Thallium		ND	1.0	0.49	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:35	EPA 200.8
Tin		ND	15	3.0	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:35	EPA 200.8
Vanadium		**7.0**	1.0	0.74	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:35	EPA 200.8
Zinc		**14**	5.0	0.51	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:35	EPA 200.8
Volatile Organics											
8260B TCSW											
1,1,1,2-Tetrachloroethane		ND	0.50	0.065	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.50	0.076	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	1.0	0.049	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division	**Project:**	Teapot Dome WDR No. R5-2014-0021	**Reported:**
5961 South Mooney Blvd.	**Project Number:**	E94401.03	08/05/2020
Visalia CA, 93277	**Project Manager:**	Jonah Trevino	

M-3C

GG17019-02 (Ground Water) Sampled: 07/17/20 11:23

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
1,1,2-Trichloroethane		ND	0.50	0.058	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
1,1-Dichloroethane		ND	0.50	0.070	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
1,1-Dichloroethene		ND	0.50	0.10	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.50	0.057	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
1,2,4-Trichlorobenzene		ND	1.0	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	5.0	0.12	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.50	0.041	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
1,2-Dichlorobenzene		ND	0.50	0.029	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.50	0.048	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
1,2-Dichloropropane		ND	0.50	0.043	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
1,3-Dichlorobenzene		ND	0.50	0.040	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
1,4-Dichlorobenzene		ND	0.50	0.021	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
2-Butanone (MEK)		ND	10	0.78	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
2-Hexanone		ND	1.0	0.17	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	1.0	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Acetone		ND	10	0.81	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Acrylonitrile		ND	5.0	0.99	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Benzene		ND	0.50	0.071	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Bromochloromethane		ND	0.50	0.041	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Bromodichloromethane		ND	0.50	0.032	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Bromoform		ND	1.0	0.057	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Bromomethane		ND	1.0	0.34	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Carbon disulfide		ND	0.50	0.044	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Carbon tetrachloride		ND	0.50	0.076	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Chlorobenzene		ND	0.50	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Chloroethane		ND	0.50	0.064	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Chloroform	J	**0.42**	0.50	0.059	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Chloromethane		ND	0.50	0.058	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
cis-1,2-Dichloroethene		ND	0.50	0.043	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
cis-1,3-Dichloropropene		ND	0.50	0.036	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Dibromochloromethane		ND	0.50	0.032	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Dibromomethane		ND	0.50	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.50	0.12	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.50	0.061	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Ethanol		ND	50	9.5	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	1.0	0.043	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Ethylbenzene		ND	0.50	0.044	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Hexachlorobutadiene		ND	1.0	0.087	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Hexachloroethane		ND	1.0	0.041	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Iodomethane		ND	5.0	2.1	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
m,p-Xylene		ND	1.0	0.095	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	1.0	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Methylene chloride		ND	1.0	0.12	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Naphthalene		ND	0.50	0.096	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-3C

GG17019-02 (Ground Water) Sampled: 07/17/20 11:23

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
o-Xylene		ND	0.50	0.047	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Styrene		ND	0.50	0.021	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	1.0	0.032	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
tert-Butyl alcohol (TBA)		ND	20	0.98	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Tetrachloroethene (PCE)		ND	0.50	0.089	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Toluene		ND	0.50	0.066	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
trans-1,2-Dichloroethene		ND	0.50	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
trans-1,3-Dichloropropene		ND	0.50	0.044	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	5.0	0.048	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Trichloroethene (TCE)		ND	0.50	0.079	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.50	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Vinyl acetate		ND	0.50	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Vinyl chloride		ND	0.50	0.082	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Xylenes		ND	2.0		µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 14:06	EPA 8260B
Surr: 4-Bromofluorobenzene		*98.3%*		*Recovery Limits: 70% - 130%*			*B0G2001*	GAB	07/20/20 7:00	07/20/20 14:06	*EPA 8260B*
Surr: Dibromofluoromethane		*104%*		*Recovery Limits: 70% - 130%*			*B0G2001*	GAB	07/20/20 7:00	07/20/20 14:06	*EPA 8260B*
Surr: Toluene-d8		*100%*		*Recovery Limits: 70% - 130%*			*B0G2001*	GAB	07/20/20 7:00	07/20/20 14:06	*EPA 8260B*

M-4B

GG17019-04 (Ground Water) Sampled: 07/17/20 08:05

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Inorganics											
Bicarbonate Alkalinity as HCO3		**230**	1.3	0.23	mg/L	1	B0G1802	GMC	07/18/20 17:13	07/18/20 17:13	SM 2320 B
Carbonate Alkalinity as CO3		ND	1.0	0.23	mg/L	1	B0G1802	GMC	07/18/20 17:13	07/18/20 17:13	SM 2320 B
Hydroxide Alkalinity as OH		ND	1.0	0.23	mg/L	1	B0G1802	GMC	07/18/20 17:13	07/18/20 17:13	SM 2320 B
Total Alkalinity as CaCO3		**190**	1.0	0.23	mg/L	1	B0G1802	GMC	07/18/20 17:13	07/18/20 17:13	SM 2320 B
Chloride		**3.4**	2.0	0.24	mg/L	1	B0G1712	CMF	07/17/20 17:15	07/17/20 21:54	EPA 300.0
Cyanide (total)		ND	5.0	4.4	µg/L	1	B0G2411	VAC	07/24/20 12:31	07/25/20 10:35	SM 4500-CN E
Specific Conductance (EC)		**380**	1.0	0.26	µS/cm	1	B0G1802	GMC	07/18/20 17:13	07/18/20 17:13	SM 2510 B
Nitrate as N	J	**0.17**	0.45	0.050	mg/L	1	B0G1712	CMF	07/17/20 17:15	07/17/20 21:54	EPA 300.0
pH		**7.1**	0.10	0.10	pH Units	1	B0G1802	GMC	07/18/20 17:13	07/18/20 17:13	SM 4500-H B
Sulfate as SO4		**4.1**	2.0	0.82	mg/L	1	B0G1712	CMF	07/17/20 17:15	07/17/20 21:54	EPA 300.0
Sulfide		ND	1.0	0.42	mg/L	1	B0G2103	BXI	07/21/20 7:06	07/21/20 7:10	SM 4500-S= F
Total Dissolved Solids		**270**	10	8.1	mg/L	1	B0G2004	BXI	07/20/20 8:32	07/21/20 10:10	SM 2540 C
Total Organic Carbon		**0.58**	0.20	0.18	mg/L	1	B0G2911	ZZZ	07/29/20 9:02	07/30/20 16:13	SM 5310 B
Metals (Dissolved)											
Aluminum		ND	4.0	3.2	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:40	EPA 200.8
Antimony		ND	1.0	0.36	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:40	EPA 200.8
Arsenic	J	**0.97**	1.0	0.41	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:40	EPA 200.8
Barium		**230**	1.0	0.16	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:40	EPA 200.8
Beryllium		ND	1.0	0.30	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:40	EPA 200.8
Cadmium		**0.49**	0.20	0.086	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:40	EPA 200.8

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-4B

GG17019-04 (Ground Water) Sampled: 07/17/20 08:05

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Metals (Dissolved)											
Calcium		**57**	0.10	0.018	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 11:17	EPA 200.7
Chromium		ND	1.0	0.83	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:40	EPA 200.8
Cobalt		ND	1.0	0.35	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:40	EPA 200.8
Copper	J	**0.30**	2.0	0.23	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:40	EPA 200.8
Hardness (Dissolved)		**190**	0.66		mg equiv. CaCO3/L	1	[CALC]	VAC	07/22/20 11:17	07/22/20 11:17	SM 2340 B
Iron		**290**	20	8.4	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:40	EPA 200.8
Lead		ND	1.0	0.22	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:40	EPA 200.8
Magnesium		**13**	0.10	0.0080	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 11:17	EPA 200.7
Manganese		**45**	1.0	0.77	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:40	EPA 200.8
Mercury		ND	0.20	0.070	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:40	EPA 200.8
Nickel		**1.7**	1.0	0.73	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:40	EPA 200.8
Potassium		**2.5**	1.0	0.17	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 11:17	EPA 200.7
Selenium	J	**0.73**	1.0	0.71	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:40	EPA 200.8
Silver		ND	1.0	0.18	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:40	EPA 200.8
Sodium		**5.9**	1.0	0.14	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 11:17	EPA 200.7
Thallium		ND	1.0	0.49	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:40	EPA 200.8
Tin		ND	15	3.0	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:40	EPA 200.8
Vanadium		**11**	1.0	0.74	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:40	EPA 200.8
Zinc		**20**	5.0	0.51	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:40	EPA 200.8
Volatile Organics											
8260B TCSW											
1,1,1,2-Tetrachloroethane		ND	0.50	0.065	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.50	0.076	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	1.0	0.049	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
1,1,2-Trichloroethane		ND	0.50	0.058	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
1,1-Dichloroethane		ND	0.50	0.070	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
1,1-Dichloroethene		ND	0.50	0.10	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.50	0.057	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
1,2,4-Trichlorobenzene		ND	1.0	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	5.0	0.12	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.50	0.041	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
1,2-Dichlorobenzene		ND	0.50	0.029	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.50	0.048	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
1,2-Dichloropropane		ND	0.50	0.043	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
1,3-Dichlorobenzene		ND	0.50	0.040	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
1,4-Dichlorobenzene		ND	0.50	0.021	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
2-Butanone (MEK)		ND	10	0.78	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
2-Hexanone		ND	1.0	0.17	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	1.0	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Acetone		ND	10	0.81	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Acrylonitrile		ND	5.0	0.99	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Benzene		ND	0.50	0.071	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Bromochloromethane		ND	0.50	0.041	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Bromodichloromethane		ND	0.50	0.032	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-4B

GG17019-04 (Ground Water) Sampled: 07/17/20 08:05

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
Bromoform		ND	1.0	0.057	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Bromomethane		ND	1.0	0.34	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Carbon disulfide		ND	0.50	0.044	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Carbon tetrachloride		ND	0.50	0.076	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Chlorobenzene		ND	0.50	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Chloroethane		ND	0.50	0.064	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Chloroform		ND	0.50	0.059	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Chloromethane		ND	0.50	0.058	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
cis-1,2-Dichloroethene		**1.6**	0.50	0.043	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
cis-1,3-Dichloropropene		ND	0.50	0.036	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Dibromochloromethane		ND	0.50	0.032	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Dibromomethane		ND	0.50	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.50	0.12	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.50	0.061	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Ethanol		ND	50	9.5	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	1.0	0.043	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Ethylbenzene		ND	0.50	0.044	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Hexachlorobutadiene		ND	1.0	0.087	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Hexachloroethane		ND	1.0	0.041	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Iodomethane		ND	5.0	2.1	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
m,p-Xylene		ND	1.0	0.095	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	1.0	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Methylene chloride		ND	1.0	0.12	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Naphthalene		ND	0.50	0.096	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
o-Xylene		ND	0.50	0.047	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Styrene		ND	0.50	0.021	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	1.0	0.032	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
tert-Butyl alcohol (TBA)		ND	20	0.98	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Tetrachloroethene (PCE)		ND	0.50	0.089	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Toluene		ND	0.50	0.066	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
trans-1,2-Dichloroethene		ND	0.50	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
trans-1,3-Dichloropropene		ND	0.50	0.044	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	5.0	0.048	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Trichloroethene (TCE)		ND	0.50	0.079	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.50	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Vinyl acetate		ND	0.50	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Vinyl chloride		ND	0.50	0.082	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Xylenes		ND	2.0		µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:17	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.8%*		*Recovery Limits: 70% - 130%*			*B0G2001*	GAB	07/20/20 7:00	07/20/20 15:17	*EPA 8260B*
Surr: Dibromofluoromethane		*106%*		*Recovery Limits: 70% - 130%*			*B0G2001*	GAB	07/20/20 7:00	07/20/20 15:17	*EPA 8260B*
Surr: Toluene-d8		*101%*		*Recovery Limits: 70% - 130%*			*B0G2001*	GAB	07/20/20 7:00	07/20/20 15:17	*EPA 8260B*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division	**Project:**	Teapot Dome WDR No. R5-2014-0021	**Reported:**
5961 South Mooney Blvd.	**Project Number:**	E94401.03	08/05/2020
Visalia CA, 93277	**Project Manager:**	Jonah Trevino	

M-4B Field Blank

GG17019-05 (Water) Sampled: 07/17/20 08:05

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
1,1,1,2-Tetrachloroethane		ND	0.50	0.065	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.50	0.076	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	1.0	0.049	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
1,1,2-Trichloroethane		ND	0.50	0.058	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
1,1-Dichloroethane		ND	0.50	0.070	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
1,1-Dichloroethene		ND	0.50	0.10	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.50	0.057	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
1,2,4-Trichlorobenzene		ND	1.0	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	5.0	0.12	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.50	0.041	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
1,2-Dichlorobenzene		ND	0.50	0.029	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.50	0.048	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
1,2-Dichloropropane		ND	0.50	0.043	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
1,3-Dichlorobenzene		ND	0.50	0.040	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
1,4-Dichlorobenzene		ND	0.50	0.021	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
2-Butanone (MEK)		ND	10	0.78	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
2-Hexanone		ND	1.0	0.17	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	1.0	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Acetone		ND	10	0.81	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Acrylonitrile		ND	5.0	0.99	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Benzene		ND	0.50	0.071	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Bromochloromethane		ND	0.50	0.041	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Bromodichloromethane		ND	0.50	0.032	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Bromoform		ND	1.0	0.057	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Bromomethane		ND	1.0	0.34	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Carbon disulfide		ND	0.50	0.044	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Carbon tetrachloride		ND	0.50	0.076	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Chlorobenzene		ND	0.50	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Chloroethane		ND	0.50	0.064	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Chloroform		ND	0.50	0.059	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Chloromethane		ND	0.50	0.058	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
cis-1,2-Dichloroethene		ND	0.50	0.043	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
cis-1,3-Dichloropropene		ND	0.50	0.036	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Dibromochloromethane		ND	0.50	0.032	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Dibromomethane		ND	0.50	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.50	0.12	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.50	0.061	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Ethanol		ND	50	9.5	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	1.0	0.043	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Ethylbenzene		ND	0.50	0.044	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Hexachlorobutadiene		ND	1.0	0.087	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Hexachloroethane		ND	1.0	0.041	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Iodomethane		ND	5.0	2.1	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
m,p-Xylene		ND	1.0	0.095	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-4B Field Blank

GG17019-05 (Water) Sampled: 07/17/20 08:05

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
Methyl tert-Butyl Ether (MTBE)		ND	1.0	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Methylene chloride		ND	1.0	0.12	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Naphthalene		ND	0.50	0.096	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
o-Xylene		ND	0.50	0.047	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Styrene		ND	0.50	0.021	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	1.0	0.032	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
tert-Butyl alcohol (TBA)		ND	20	0.98	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Tetrachloroethene (PCE)		ND	0.50	0.089	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Toluene		ND	0.50	0.066	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
trans-1,2-Dichloroethene		ND	0.50	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
trans-1,3-Dichloropropene		ND	0.50	0.044	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	5.0	0.048	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Trichloroethene (TCE)		ND	0.50	0.079	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.50	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Vinyl acetate		ND	0.50	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Vinyl chloride		ND	0.50	0.082	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Xylenes		ND	2.0		µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 15:52	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.4%*		*Recovery Limits: 70% - 130%*			*B0G2001*	GAB	07/20/20 7:00	07/20/20 15:52	*EPA 8260B*
Surr: Dibromofluoromethane		*106%*		*Recovery Limits: 70% - 130%*			*B0G2001*	GAB	07/20/20 7:00	07/20/20 15:52	*EPA 8260B*
Surr: Toluene-d8		*101%*		*Recovery Limits: 70% - 130%*			*B0G2001*	GAB	07/20/20 7:00	07/20/20 15:52	*EPA 8260B*

M-8

GG17019-06 (Ground Water) Sampled: 07/17/20 10:15

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Inorganics											
Bicarbonate Alkalinity as HCO3		**57**	1.3	0.23	mg/L	1	B0G1802	GMC	07/18/20 17:20	07/18/20 17:20	SM 2320 B
Carbonate Alkalinity as CO3		ND	1.0	0.23	mg/L	1	B0G1802	GMC	07/18/20 17:20	07/18/20 17:20	SM 2320 B
Hydroxide Alkalinity as OH		ND	1.0	0.23	mg/L	1	B0G1802	GMC	07/18/20 17:20	07/18/20 17:20	SM 2320 B
Total Alkalinity as CaCO3		**46**	1.0	0.23	mg/L	1	B0G1802	GMC	07/18/20 17:20	07/18/20 17:20	SM 2320 B
Chloride	J	**1.1**	2.0	0.24	mg/L	1	B0G1712	CMF	07/17/20 17:15	07/17/20 22:11	EPA 300.0
Cyanide (total)		ND	5.0	4.4	µg/L	1	B0G2411	VAC	07/24/20 12:31	07/25/20 10:35	SM 4500-CN E
Specific Conductance (EC)		**82**	1.0	0.26	µS/cm	1	B0G1802	GMC	07/18/20 17:20	07/18/20 17:20	SM 2510 B
Nitrate as N	J	**0.23**	0.45	0.050	mg/L	1	B0G1712	CMF	07/17/20 17:15	07/17/20 22:11	EPA 300.0
pH		**7.1**	0.10	0.10	pH Units	1	B0G1802	GMC	07/18/20 17:20	07/18/20 17:20	SM 4500-H B
Sulfate as SO4	J	**1.6**	2.0	0.82	mg/L	1	B0G1712	CMF	07/17/20 17:15	07/17/20 22:11	EPA 300.0
Sulfide		ND	1.0	0.42	mg/L	1	B0G2103	BXI	07/21/20 7:06	07/21/20 7:10	SM 4500-S= F
Total Dissolved Solids		**80**	10	8.1	mg/L	1	B0G2004	BXI	07/20/20 8:32	07/21/20 10:10	SM 2540 C
Total Organic Carbon		ND	0.20	0.18	mg/L	1	B0G2911	ZZZ	07/29/20 9:02	07/30/20 16:35	SM 5310 B
Metals (Dissolved)											
Aluminum		ND	4.0	3.2	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:45	EPA 200.8
Antimony		ND	1.0	0.36	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:45	EPA 200.8
Arsenic	J	**0.46**	1.0	0.41	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:45	EPA 200.8

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-8

GG17019-06 (Ground Water) Sampled: 07/17/20 10:15

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Metals (Dissolved)											
Barium		**66**	1.0	0.16	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:45	EPA 200.8
Beryllium		ND	1.0	0.30	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:45	EPA 200.8
Cadmium		ND	0.20	0.086	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:45	EPA 200.8
Calcium		**9.0**	0.10	0.018	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 11:21	EPA 200.7
Chromium		ND	1.0	0.83	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:45	EPA 200.8
Cobalt		ND	1.0	0.35	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:45	EPA 200.8
Copper	J	**0.27**	2.0	0.23	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:45	EPA 200.8
Hardness (Dissolved)		**31**	0.66		mg equiv. CaCO3/L	1	[CALC]	VAC	07/22/20 11:21	07/22/20 11:21	SM 2340 B
Iron		**48**	20	8.4	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:45	EPA 200.8
Lead		ND	1.0	0.22	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:45	EPA 200.8
Magnesium		**2.0**	0.10	0.0080	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 11:21	EPA 200.7
Manganese		**1.3**	1.0	0.77	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:45	EPA 200.8
Mercury		ND	0.20	0.070	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:45	EPA 200.8
Nickel		ND	1.0	0.73	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:45	EPA 200.8
Potassium		**1.1**	1.0	0.17	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 11:21	EPA 200.7
Selenium		ND	1.0	0.71	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:45	EPA 200.8
Silver		ND	1.0	0.18	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:45	EPA 200.8
Sodium		**7.4**	1.0	0.14	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 11:21	EPA 200.7
Thallium		ND	1.0	0.49	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:45	EPA 200.8
Tin		ND	15	3.0	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:45	EPA 200.8
Vanadium		**7.1**	1.0	0.74	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:45	EPA 200.8
Zinc		**13**	5.0	0.51	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:45	EPA 200.8
Volatile Organics											
8260B TCSW											
1,1,1,2-Tetrachloroethane		ND	0.50	0.065	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.50	0.076	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	1.0	0.049	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
1,1,2-Trichloroethane		ND	0.50	0.058	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
1,1-Dichloroethane		ND	0.50	0.070	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
1,1-Dichloroethene		ND	0.50	0.10	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.50	0.057	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
1,2,4-Trichlorobenzene		ND	1.0	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	5.0	0.12	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.50	0.041	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
1,2-Dichlorobenzene		ND	0.50	0.029	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.50	0.048	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
1,2-Dichloropropane		ND	0.50	0.043	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
1,3-Dichlorobenzene		ND	0.50	0.040	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
1,4-Dichlorobenzene		ND	0.50	0.021	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
2-Butanone (MEK)		ND	10	0.78	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
2-Hexanone		ND	1.0	0.17	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	1.0	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Acetone		ND	10	0.81	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Acrylonitrile		ND	5.0	0.99	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-8

GG17019-06 (Ground Water) Sampled: 07/17/20 10:15

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
Benzene		ND	0.50	0.071	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Bromochloromethane		ND	0.50	0.041	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Bromodichloromethane		ND	0.50	0.032	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Bromoform		ND	1.0	0.057	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Bromomethane		ND	1.0	0.34	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Carbon disulfide		ND	0.50	0.044	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Carbon tetrachloride		ND	0.50	0.076	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Chlorobenzene		ND	0.50	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Chloroethane		ND	0.50	0.064	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Chloroform		ND	0.50	0.059	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Chloromethane		ND	0.50	0.058	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
cis-1,2-Dichloroethene		ND	0.50	0.043	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
cis-1,3-Dichloropropene		ND	0.50	0.036	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Dibromochloromethane		ND	0.50	0.032	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Dibromomethane		ND	0.50	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.50	0.12	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.50	0.061	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Ethanol		ND	50	9.5	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	1.0	0.043	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Ethylbenzene		ND	0.50	0.044	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Hexachlorobutadiene		ND	1.0	0.087	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Hexachloroethane		ND	1.0	0.041	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Iodomethane		ND	5.0	2.1	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
m,p-Xylene		ND	1.0	0.095	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	1.0	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Methylene chloride		ND	1.0	0.12	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Naphthalene		ND	0.50	0.096	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
o-Xylene		ND	0.50	0.047	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Styrene		ND	0.50	0.021	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	1.0	0.032	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
tert-Butyl alcohol (TBA)		ND	20	0.98	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Tetrachloroethene (PCE)		ND	0.50	0.089	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Toluene		ND	0.50	0.066	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
trans-1,2-Dichloroethene		ND	0.50	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
trans-1,3-Dichloropropene		ND	0.50	0.044	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	5.0	0.048	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Trichloroethene (TCE)		ND	0.50	0.079	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.50	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Vinyl acetate		ND	0.50	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Vinyl chloride		ND	0.50	0.082	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Xylenes		ND	2.0		µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 16:27	EPA 8260B
Surr: 4-Bromofluorobenzene		*98.9%*		*Recovery Limits: 70% - 130%*			*B0G2001*	GAB	07/20/20 7:00	07/20/20 16:27	*EPA 8260B*
Surr: Dibromofluoromethane		*105%*		*Recovery Limits: 70% - 130%*			*B0G2001*	GAB	07/20/20 7:00	07/20/20 16:27	*EPA 8260B*
Surr: Toluene-d8		*101%*		*Recovery Limits: 70% - 130%*			*B0G2001*	GAB	07/20/20 7:00	07/20/20 16:27	*EPA 8260B*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-10B

GG17019-08 (Ground Water) Sampled: 07/17/20 12:15

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Inorganics											
Bicarbonate Alkalinity as HCO3		**290**	1.3	0.23	mg/L	1	B0G1802	GMC	07/18/20 17:26	07/18/20 17:26	SM 2320 B
Carbonate Alkalinity as CO3		ND	1.0	0.23	mg/L	1	B0G1802	GMC	07/18/20 17:26	07/18/20 17:26	SM 2320 B
Hydroxide Alkalinity as OH		ND	1.0	0.23	mg/L	1	B0G1802	GMC	07/18/20 17:26	07/18/20 17:26	SM 2320 B
Total Alkalinity as CaCO3		**240**	1.0	0.23	mg/L	1	B0G1802	GMC	07/18/20 17:26	07/18/20 17:26	SM 2320 B
Chloride		**52**	4.0	0.47	mg/L	2	B0G1712	CMF	07/17/20 17:15	07/17/20 23:00	EPA 300.0
Cyanide (total)		ND	5.0	4.4	µg/L	1	B0G2411	VAC	07/24/20 12:31	07/25/20 10:35	SM 4500-CN E
Specific Conductance (EC)		**710**	1.0	0.26	µS/cm	1	B0G1802	GMC	07/18/20 17:26	07/18/20 17:26	SM 2510 B
Nitrate as N		**9.2**	0.90	0.10	mg/L	2	B0G1712	CMF	07/17/20 17:15	07/17/20 23:00	EPA 300.0
pH		**7.9**	0.10	0.10	pH Units	1	B0G1802	GMC	07/18/20 17:26	07/18/20 17:26	SM 4500-H B
Sulfate as SO4		**32**	4.0	1.6	mg/L	2	B0G1712	CMF	07/17/20 17:15	07/17/20 23:00	EPA 300.0
Sulfide		ND	1.0	0.42	mg/L	1	B0G2103	BXI	07/21/20 7:06	07/21/20 7:10	SM 4500-S= F
Total Dissolved Solids		**440**	10	8.1	mg/L	1	B0G2404	ACY	07/24/20 8:43	07/26/20 11:10	SM 2540 C
Total Organic Carbon		**0.23**	0.20	0.18	mg/L	1	B0G2911	ZZZ	07/29/20 9:02	07/30/20 16:57	SM 5310 B
Metals (Dissolved)											
Aluminum		ND	4.0	3.2	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:50	EPA 200.8
Antimony		ND	1.0	0.36	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:50	EPA 200.8
Arsenic	J	**0.88**	1.0	0.41	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:50	EPA 200.8
Barium		**200**	1.0	0.16	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:50	EPA 200.8
Beryllium		ND	1.0	0.30	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:50	EPA 200.8
Cadmium		ND	0.20	0.086	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:50	EPA 200.8
Calcium		**82**	0.10	0.018	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 11:25	EPA 200.7
Chromium	J	**0.92**	1.0	0.83	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:50	EPA 200.8
Cobalt		ND	1.0	0.35	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:50	EPA 200.8
Copper	J	**0.56**	2.0	0.23	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:50	EPA 200.8
Hardness (Dissolved)		**280**	0.66		mg equiv. CaCO3/L	1	[CALC]	VAC	07/22/20 11:25	07/22/20 11:25	SM 2340 B
Iron		**410**	20	8.4	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:50	EPA 200.8
Lead		ND	1.0	0.22	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:50	EPA 200.8
Magnesium		**17**	0.10	0.0080	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 11:25	EPA 200.7
Manganese		ND	1.0	0.77	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:50	EPA 200.8
Mercury		ND	0.20	0.070	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:50	EPA 200.8
Nickel		ND	1.0	0.73	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:50	EPA 200.8
Potassium		**3.1**	1.0	0.17	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 11:25	EPA 200.7
Selenium		**1.1**	1.0	0.71	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:50	EPA 200.8
Silver		ND	1.0	0.18	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:50	EPA 200.8
Sodium		**50**	1.0	0.14	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 11:25	EPA 200.7
Thallium		ND	1.0	0.49	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:50	EPA 200.8
Tin		ND	15	3.0	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:50	EPA 200.8
Vanadium		**8.8**	1.0	0.74	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:50	EPA 200.8
Zinc		**13**	5.0	0.51	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:50	EPA 200.8
Volatile Organics											
8260B TCSW											
1,1,1,2-Tetrachloroethane		ND	0.50	0.065	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.50	0.076	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	1.0	0.049	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division	**Project:**	Teapot Dome WDR No. R5-2014-0021	**Reported:**
5961 South Mooney Blvd.	**Project Number:**	E94401.03	08/05/2020
Visalia CA, 93277	**Project Manager:**	Jonah Trevino	

M-10B

GG17019-08 (Ground Water) Sampled: 07/17/20 12:15

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
1,1,2-Trichloroethane		ND	0.50	0.058	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
1,1-Dichloroethane	J	**0.37**	0.50	0.070	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
1,1-Dichloroethene		ND	0.50	0.10	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.50	0.057	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
1,2,4-Trichlorobenzene		ND	1.0	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	5.0	0.12	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.50	0.041	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
1,2-Dichlorobenzene		ND	0.50	0.029	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.50	0.048	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
1,2-Dichloropropane		ND	0.50	0.043	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
1,3-Dichlorobenzene		ND	0.50	0.040	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
1,4-Dichlorobenzene		ND	0.50	0.021	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
2-Butanone (MEK)		ND	10	0.78	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
2-Hexanone		ND	1.0	0.17	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	1.0	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Acetone		ND	10	0.81	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Acrylonitrile		ND	5.0	0.99	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Benzene		ND	0.50	0.071	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Bromochloromethane		ND	0.50	0.041	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Bromodichloromethane		ND	0.50	0.032	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Bromoform		ND	1.0	0.057	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Bromomethane		ND	1.0	0.34	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Carbon disulfide		ND	0.50	0.044	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Carbon tetrachloride		ND	0.50	0.076	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Chlorobenzene		ND	0.50	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Chloroethane		ND	0.50	0.064	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Chloroform		ND	0.50	0.059	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Chloromethane		ND	0.50	0.058	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
cis-1,2-Dichloroethene	J	**0.31**	0.50	0.043	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
cis-1,3-Dichloropropene		ND	0.50	0.036	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Dibromochloromethane		ND	0.50	0.032	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Dibromomethane		ND	0.50	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.50	0.12	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.50	0.061	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Ethanol		ND	50	9.5	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	1.0	0.043	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Ethylbenzene		ND	0.50	0.044	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Hexachlorobutadiene		ND	1.0	0.087	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Hexachloroethane		ND	1.0	0.041	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Iodomethane		ND	5.0	2.1	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
m,p-Xylene		ND	1.0	0.095	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	1.0	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Methylene chloride		ND	1.0	0.12	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Naphthalene		ND	0.50	0.096	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-10B

GG17019-08 (Ground Water) Sampled: 07/17/20 12:15

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
o-Xylene		ND	0.50	0.047	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Styrene		ND	0.50	0.021	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	1.0	0.032	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
tert-Butyl alcohol (TBA)		ND	20	0.98	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Tetrachloroethene (PCE)		**0.51**	0.50	0.089	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Toluene		ND	0.50	0.066	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
trans-1,2-Dichloroethene		ND	0.50	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
trans-1,3-Dichloropropene		ND	0.50	0.044	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	5.0	0.048	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Trichloroethene (TCE)		ND	0.50	0.079	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.50	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Vinyl acetate		ND	0.50	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Vinyl chloride		ND	0.50	0.082	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Xylenes		ND	2.0		µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 17:37	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.6%*		*Recovery Limits: 70% - 130%*			*B0G2001*	GAB	07/20/20 7:00	07/20/20 17:37	*EPA 8260B*
Surr: Dibromofluoromethane		*108%*		*Recovery Limits: 70% - 130%*			*B0G2001*	GAB	07/20/20 7:00	07/20/20 17:37	*EPA 8260B*
Surr: Toluene-d8		*101%*		*Recovery Limits: 70% - 130%*			*B0G2001*	GAB	07/20/20 7:00	07/20/20 17:37	*EPA 8260B*

M-10B Field Blank

GG17019-09 (Water) Sampled: 07/17/20 12:15

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
1,1,1,2-Tetrachloroethane		ND	0.50	0.065	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.50	0.076	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	1.0	0.049	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
1,1,2-Trichloroethane		ND	0.50	0.058	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
1,1-Dichloroethane		ND	0.50	0.070	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
1,1-Dichloroethene		ND	0.50	0.10	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.50	0.057	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
1,2,4-Trichlorobenzene		ND	1.0	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	5.0	0.12	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.50	0.041	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
1,2-Dichlorobenzene		ND	0.50	0.029	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.50	0.048	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
1,2-Dichloropropane		ND	0.50	0.043	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
1,3-Dichlorobenzene		ND	0.50	0.040	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
1,4-Dichlorobenzene		ND	0.50	0.021	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
2-Butanone (MEK)		ND	10	0.78	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
2-Hexanone		ND	1.0	0.17	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	1.0	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Acetone		ND	10	0.81	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-10B Field Blank

GG17019-09 (Water) Sampled: 07/17/20 12:15

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
Acrylonitrile		ND	5.0	0.99	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Benzene		ND	0.50	0.071	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Bromochloromethane		ND	0.50	0.041	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Bromodichloromethane		ND	0.50	0.032	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Bromoform		ND	1.0	0.057	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Bromomethane		ND	1.0	0.34	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Carbon disulfide		ND	0.50	0.044	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Carbon tetrachloride		ND	0.50	0.076	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Chlorobenzene		ND	0.50	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Chloroethane		ND	0.50	0.064	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Chloroform		ND	0.50	0.059	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Chloromethane		ND	0.50	0.058	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
cis-1,2-Dichloroethene		ND	0.50	0.043	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
cis-1,3-Dichloropropene		ND	0.50	0.036	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Dibromochloromethane		ND	0.50	0.032	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Dibromomethane		ND	0.50	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.50	0.12	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.50	0.061	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Ethanol		ND	50	9.5	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	1.0	0.043	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Ethylbenzene		ND	0.50	0.044	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Hexachlorobutadiene		ND	1.0	0.087	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Hexachloroethane		ND	1.0	0.041	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Iodomethane		ND	5.0	2.1	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
m,p-Xylene		ND	1.0	0.095	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	1.0	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Methylene chloride		ND	1.0	0.12	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Naphthalene		ND	0.50	0.096	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
o-Xylene		ND	0.50	0.047	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Styrene		ND	0.50	0.021	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	1.0	0.032	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
tert-Butyl alcohol (TBA)		ND	20	0.98	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Tetrachloroethene (PCE)		ND	0.50	0.089	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Toluene		ND	0.50	0.066	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
trans-1,2-Dichloroethene		ND	0.50	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
trans-1,3-Dichloropropene		ND	0.50	0.044	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	5.0	0.048	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Trichloroethene (TCE)		ND	0.50	0.079	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.50	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Vinyl acetate		ND	0.50	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Vinyl chloride		ND	0.50	0.082	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Xylenes		ND	2.0		µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:12	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.1%*		*Recovery Limits: 70% - 130%*			*B0G2001*	GAB	07/20/20 7:00	07/20/20 18:12	*EPA 8260B*
Surr: Dibromofluoromethane		*106%*		*Recovery Limits: 70% - 130%*			*B0G2001*	GAB	07/20/20 7:00	07/20/20 18:12	*EPA 8260B*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-10B Field Blank

GG17019-09 (Water) Sampled: 07/17/20 12:15

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
Surr: Toluene-d8		*101%*	*Recovery Limits: 70% - 130%*				*B0G2001*	GAB	07/20/20 7:00	07/20/20 18:12	*EPA 8260B*

M-14B

GG17019-10 (Ground Water) Sampled: 07/17/20 08:56

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Inorganics											
Bicarbonate Alkalinity as HCO3		**350**	1.3	0.23	mg/L	1	B0G1802	GMC	07/18/20 17:33	07/18/20 17:33	SM 2320 B
Carbonate Alkalinity as CO3		ND	1.0	0.23	mg/L	1	B0G1802	GMC	07/18/20 17:33	07/18/20 17:33	SM 2320 B
Hydroxide Alkalinity as OH		ND	1.0	0.23	mg/L	1	B0G1802	GMC	07/18/20 17:33	07/18/20 17:33	SM 2320 B
Total Alkalinity as CaCO3		**290**	1.0	0.23	mg/L	1	B0G1802	GMC	07/18/20 17:33	07/18/20 17:33	SM 2320 B
Chloride		**73**	4.0	0.47	mg/L	2	B0G1712	CMF	07/17/20 17:15	07/17/20 23:16	EPA 300.0
Cyanide (total)		ND	5.0	4.4	µg/L	1	B0G2411	VAC	07/24/20 12:31	07/25/20 10:35	SM 4500-CN E
Specific Conductance (EC)		**820**	1.0	0.26	µS/cm	1	B0G1802	GMC	07/18/20 17:33	07/18/20 17:33	SM 2510 B
Nitrate as N		**6.6**	0.90	0.10	mg/L	2	B0G1712	CMF	07/17/20 17:15	07/17/20 23:16	EPA 300.0
pH		**7.8**	0.10	0.10	pH Units	1	B0G1802	GMC	07/18/20 17:33	07/18/20 17:33	SM 4500-H B
Sulfate as SO4		**26**	4.0	1.6	mg/L	2	B0G1712	CMF	07/17/20 17:15	07/17/20 23:16	EPA 300.0
Sulfide		ND	1.0	0.42	mg/L	1	B0G2103	BXI	07/21/20 7:06	07/21/20 7:10	SM 4500-S= F
Total Dissolved Solids		**500**	10	8.1	mg/L	1	B0G2404	ACY	07/24/20 8:43	07/26/20 11:10	SM 2540 C
Total Organic Carbon		ND	0.20	0.18	mg/L	1	B0G2911	ZZZ	07/29/20 9:02	07/30/20 17:17	SM 5310 B
Metals (Dissolved)											
Aluminum		ND	4.0	3.2	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:55	EPA 200.8
Antimony		ND	1.0	0.36	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:55	EPA 200.8
Arsenic	J	**0.65**	1.0	0.41	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:55	EPA 200.8
Barium		**230**	1.0	0.16	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:55	EPA 200.8
Beryllium		ND	1.0	0.30	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:55	EPA 200.8
Cadmium		ND	0.20	0.086	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:55	EPA 200.8
Calcium		**99**	0.10	0.018	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 11:34	EPA 200.7
Chromium		ND	1.0	0.83	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:55	EPA 200.8
Cobalt		ND	1.0	0.35	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:55	EPA 200.8
Copper	J	**0.57**	2.0	0.23	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:55	EPA 200.8
Hardness (Dissolved)		**330**	0.66		mg equiv. CaCO3/L	1	[CALC]	VAC	07/22/20 11:34	07/22/20 11:34	SM 2340 B
Iron		**500**	20	8.4	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:55	EPA 200.8
Lead		ND	1.0	0.22	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:55	EPA 200.8
Magnesium		**19**	0.10	0.0080	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 11:34	EPA 200.7
Manganese		ND	1.0	0.77	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:55	EPA 200.8
Mercury		ND	0.20	0.070	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:55	EPA 200.8
Nickel		ND	1.0	0.73	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:55	EPA 200.8
Potassium		**3.3**	1.0	0.17	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 11:34	EPA 200.7
Selenium	J	**0.83**	1.0	0.71	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:55	EPA 200.8
Silver		ND	1.0	0.18	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:55	EPA 200.8
Sodium		**54**	1.0	0.14	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 11:34	EPA 200.7

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division	**Project:**	Teapot Dome WDR No. R5-2014-0021	**Reported:**
5961 South Mooney Blvd.	**Project Number:**	E94401.03	08/05/2020
Visalia CA, 93277	**Project Manager:**	Jonah Trevino	

M-14B

GG17019-10 (Ground Water) Sampled: 07/17/20 08:56

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Metals (Dissolved)											
Thallium		ND	1.0	0.49	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:55	EPA 200.8
Tin		ND	15	3.0	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:55	EPA 200.8
Vanadium		**7.2**	1.0	0.74	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:55	EPA 200.8
Zinc		**16**	5.0	0.51	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 11:55	EPA 200.8
Volatile Organics											
8260B TCSW											
1,1,1,2-Tetrachloroethane		ND	0.50	0.065	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.50	0.076	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	1.0	0.049	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
1,1,2-Trichloroethane		ND	0.50	0.058	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
1,1-Dichloroethane	J	**0.31**	0.50	0.070	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
1,1-Dichloroethene		ND	0.50	0.10	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.50	0.057	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
1,2,4-Trichlorobenzene		ND	1.0	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	5.0	0.12	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.50	0.041	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
1,2-Dichlorobenzene		ND	0.50	0.029	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.50	0.048	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
1,2-Dichloropropane		ND	0.50	0.043	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
1,3-Dichlorobenzene		ND	0.50	0.040	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
1,4-Dichlorobenzene		ND	0.50	0.021	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
2-Butanone (MEK)		ND	10	0.78	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
2-Hexanone		ND	1.0	0.17	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	1.0	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Acetone		ND	10	0.81	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Acrylonitrile		ND	5.0	0.99	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Benzene		ND	0.50	0.071	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Bromochloromethane		ND	0.50	0.041	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Bromodichloromethane		ND	0.50	0.032	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Bromoform		ND	1.0	0.057	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Bromomethane		ND	1.0	0.34	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Carbon disulfide		ND	0.50	0.044	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Carbon tetrachloride		ND	0.50	0.076	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Chlorobenzene		ND	0.50	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Chloroethane		ND	0.50	0.064	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Chloroform		ND	0.50	0.059	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Chloromethane		ND	0.50	0.058	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
cis-1,2-Dichloroethene		**1.4**	0.50	0.043	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
cis-1,3-Dichloropropene		ND	0.50	0.036	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Dibromochloromethane		ND	0.50	0.032	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Dibromomethane		ND	0.50	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.50	0.12	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.50	0.061	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Ethanol		ND	50	9.5	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	1.0	0.043	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-14B

GG17019-10 (Ground Water) Sampled: 07/17/20 08:56

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
Ethylbenzene		ND	0.50	0.044	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Hexachlorobutadiene		ND	1.0	0.087	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Hexachloroethane		ND	1.0	0.041	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Iodomethane		ND	5.0	2.1	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
m,p-Xylene		ND	1.0	0.095	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	1.0	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Methylene chloride		ND	1.0	0.12	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Naphthalene		ND	0.50	0.096	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
o-Xylene		ND	0.50	0.047	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Styrene		ND	0.50	0.021	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	1.0	0.032	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
tert-Butyl alcohol (TBA)		ND	20	0.98	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Tetrachloroethene (PCE)		**1.2**	0.50	0.089	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Toluene		ND	0.50	0.066	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
trans-1,2-Dichloroethene		ND	0.50	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
trans-1,3-Dichloropropene		ND	0.50	0.044	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	5.0	0.048	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Trichloroethene (TCE)		**0.50**	0.50	0.079	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.50	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Vinyl acetate		ND	0.50	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Vinyl chloride		ND	0.50	0.082	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Xylenes		ND	2.0		µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 18:47	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.4%*		*Recovery Limits: 70% - 130%*			*B0G2001*	GAB	07/20/20 7:00	07/20/20 18:47	*EPA 8260B*
Surr: Dibromofluoromethane		*107%*		*Recovery Limits: 70% - 130%*			*B0G2001*	GAB	07/20/20 7:00	07/20/20 18:47	*EPA 8260B*
Surr: Toluene-d8		*100%*		*Recovery Limits: 70% - 130%*			*B0G2001*	GAB	07/20/20 7:00	07/20/20 18:47	*EPA 8260B*

M-14B Field Blank

GG17019-11 (Water) Sampled: 07/17/20 08:56

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
1,1,1,2-Tetrachloroethane		ND	0.50	0.065	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.50	0.076	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	1.0	0.049	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
1,1,2-Trichloroethane		ND	0.50	0.058	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
1,1-Dichloroethane		ND	0.50	0.070	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
1,1-Dichloroethene		ND	0.50	0.10	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.50	0.057	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
1,2,4-Trichlorobenzene		ND	1.0	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	5.0	0.12	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.50	0.041	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
1,2-Dichlorobenzene		ND	0.50	0.029	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-14B Field Blank

GG17019-11 (Water) Sampled: 07/17/20 08:56

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
1,2-Dichloroethane (1,2-DCA)		ND	0.50	0.048	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
1,2-Dichloropropane		ND	0.50	0.043	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
1,3-Dichlorobenzene		ND	0.50	0.040	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
1,4-Dichlorobenzene		ND	0.50	0.021	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
2-Butanone (MEK)		ND	10	0.78	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
2-Hexanone		ND	1.0	0.17	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	1.0	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Acetone		ND	10	0.81	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Acrylonitrile		ND	5.0	0.99	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Benzene		ND	0.50	0.071	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Bromochloromethane		ND	0.50	0.041	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Bromodichloromethane		ND	0.50	0.032	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Bromoform		ND	1.0	0.057	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Bromomethane		ND	1.0	0.34	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Carbon disulfide		ND	0.50	0.044	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Carbon tetrachloride		ND	0.50	0.076	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Chlorobenzene		ND	0.50	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Chloroethane		ND	0.50	0.064	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Chloroform		ND	0.50	0.059	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Chloromethane		ND	0.50	0.058	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.50	0.043	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.50	0.036	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Dibromochloromethane		ND	0.50	0.032	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Dibromomethane		ND	0.50	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.50	0.12	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.50	0.061	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Ethanol		ND	50	9.5	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	1.0	0.043	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Ethylbenzene		ND	0.50	0.044	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Hexachlorobutadiene		ND	1.0	0.087	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Hexachloroethane		ND	1.0	0.041	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Iodomethane		ND	5.0	2.1	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
m,p-Xylene		ND	1.0	0.095	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	1.0	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Methylene chloride		ND	1.0	0.12	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Naphthalene		ND	0.50	0.096	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
o-Xylene		ND	0.50	0.047	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Styrene		ND	0.50	0.021	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	1.0	0.032	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	20	0.98	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.50	0.089	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Toluene		ND	0.50	0.066	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.50	0.056	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.50	0.044	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

M-14B Field Blank

GG17019-11 (Water) Sampled: 07/17/20 08:56

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
trans-1,4-Dichloro-2-butene		ND	5.0	0.048	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Trichloroethene (TCE)		ND	0.50	0.079	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.50	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Vinyl acetate		ND	0.50	0.11	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Vinyl chloride		ND	0.50	0.082	µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Xylenes		ND	2.0		µg/L	1	B0G2001	GAB	07/20/20 7:00	07/20/20 19:22	EPA 8260B
Surr: 4-Bromofluorobenzene		*98.6%*		*Recovery Limits: 70% - 130%*			*B0G2001*	GAB	07/20/20 7:00	07/20/20 19:22	*EPA 8260B*
Surr: Dibromofluoromethane		*107%*		*Recovery Limits: 70% - 130%*			*B0G2001*	GAB	07/20/20 7:00	07/20/20 19:22	*EPA 8260B*
Surr: Toluene-d8		*101%*		*Recovery Limits: 70% - 130%*			*B0G2001*	GAB	07/20/20 7:00	07/20/20 19:22	*EPA 8260B*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Inorganics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1712										
Blank (B0G1712-BLK1)		Prepared & Analyzed: 07/17/20								
EPA 300.0										
Chloride		ND	2.0	mg/L						
Nitrate as N		ND	0.45	mg/L						
Sulfate as SO4		ND	2.0	mg/L						
LCS (B0G1712-BS1)		Prepared & Analyzed: 07/17/20								
EPA 300.0										
Chloride		50.2	2.0	mg/L	50.0		100	90-110		
Nitrate as N		11.1	0.45	mg/L	11.3		98.5	90-110		
Sulfate as SO4		49.9	2.0	mg/L	50.0		99.7	90-110		
LCS Dup (B0G1712-BSD1)		Prepared & Analyzed: 07/17/20								
EPA 300.0										
Chloride		49.9	2.0	mg/L	50.0		99.8	90-110	0.575	20
Nitrate as N		11.1	0.45	mg/L	11.3		97.9	90-110	0.619	20
Sulfate as SO4		49.3	2.0	mg/L	50.0		98.6	90-110	1.10	20
Matrix Spike (B0G1712-MS1)		Prepared & Analyzed: 07/17/20				**Source: GG17001-01**				
EPA 300.0										
Chloride		113	4.0	mg/L	100	14.8	97.9	80-120		
Nitrate as N		24.2	0.90	mg/L	22.6	2.99	94.0	80-120		
Sulfate as SO4		127	4.0	mg/L	100	30.5	96.0	80-120		
Matrix Spike Dup (B0G1712-MSD1)		Prepared & Analyzed: 07/17/20				**Source: GG17001-01**				
EPA 300.0										
Chloride		113	4.0	mg/L	100	14.8	97.9	80-120	0.0330	20
Nitrate as N		24.1	0.90	mg/L	22.6	2.99	93.6	80-120	0.373	20
Sulfate as SO4		126	4.0	mg/L	100	30.5	95.2	80-120	0.639	20
Matrix Spike (B0G1712-MS2)		Prepared: 07/17/20 Analyzed: 07/18/20				**Source: GG17025-01**				
EPA 300.0										
Chloride		115	4.0	mg/L	100	15.8	98.8	80-120		
Nitrate as N		26.7	0.90	mg/L	22.6	5.33	94.6	80-120		
Sulfate as SO4		110	4.0	mg/L	100	12.8	97.4	80-120		
Matrix Spike Dup (B0G1712-MSD2)		Prepared: 07/17/20 Analyzed: 07/18/20				**Source: GG17025-01**				
EPA 300.0										
Chloride		115	4.0	mg/L	100	15.8	98.9	80-120	0.0574	20
Nitrate as N		26.6	0.90	mg/L	22.6	5.33	94.3	80-120	0.295	20
Sulfate as SO4		111	4.0	mg/L	100	12.8	98.2	80-120	0.729	20
Batch - B0G1802										
Blank (B0G1802-BLK1)		Prepared & Analyzed: 07/18/20								
SM 2320 B										
Bicarbonate Alkalinity as HCO3	J	0.410	1.3	mg/L						
Carbonate Alkalinity as CO3		ND	1.0	mg/L						
Hydroxide Alkalinity as OH		ND	1.0	mg/L						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Inorganics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1802										
Blank (B0G1802-BLK1)		Prepared & Analyzed: 07/18/20								
SM 2320 B										
Total Alkalinity as CaCO3	J	0.330	1.0	mg/L						
SM 2510 B										
Specific Conductance (EC)		ND	1.0	µS/cm						
LCS (B0G1802-BS1)		Prepared & Analyzed: 07/18/20								
SM 2510 B										
Specific Conductance (EC)		484	1.0	µS/cm				80-120		
LCS (B0G1802-BS2)		Prepared & Analyzed: 07/18/20								
SM 4500-H B										
pH		7.02	0.10	pH Units	7.00		100	97-103		
LCS (B0G1802-BS3)		Prepared & Analyzed: 07/18/20								
SM 2320 B										
Total Alkalinity as CaCO3		233	1.0	mg/L	250		93.4	80-120		
LCS Dup (B0G1802-BSD1)		Prepared & Analyzed: 07/18/20								
SM 2510 B										
Specific Conductance (EC)		484	1.0	µS/cm				80-120	0.00	20
LCS Dup (B0G1802-BSD2)		Prepared & Analyzed: 07/18/20								
SM 4500-H B										
pH		7.02	0.10	pH Units	7.00		100	97-103	0.00	20
LCS Dup (B0G1802-BSD3)		Prepared & Analyzed: 07/18/20								
SM 2320 B										
Total Alkalinity as CaCO3		232	1.0	mg/L	250		92.7	80-120	0.757	20
Duplicate (B0G1802-DUP1)		Prepared & Analyzed: 07/18/20				**Source: GG17018-02**				
SM 2320 B										
Bicarbonate Alkalinity as HCO3		335	1.3	mg/L		333			0.503	20
Carbonate Alkalinity as CO3		ND	1.0	mg/L		ND				
Hydroxide Alkalinity as OH		ND	1.0	mg/L		ND				
Total Alkalinity as CaCO3		275	1.0	mg/L		273			0.504	20
SM 2510 B										
Specific Conductance (EC)		1050	1.0	µS/cm		1050			0.194	20
SM 4500-H B										
pH		7.52	0.10	pH Units		7.53			0.133	20
Duplicate (B0G1802-DUP2)		Prepared & Analyzed: 07/18/20				**Source: GG17025-01**				
SM 2320 B										
Bicarbonate Alkalinity as HCO3		154	1.3	mg/L		155			0.317	20
Carbonate Alkalinity as CO3		ND	1.0	mg/L		ND				
Hydroxide Alkalinity as OH		ND	1.0	mg/L		ND				
Total Alkalinity as CaCO3		127	1.0	mg/L		127			0.323	20
SM 2510 B										
Specific Conductance (EC)		379	1.0	µS/cm		377			0.537	20
SM 4500-H B										

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Inorganics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1802										
Duplicate (B0G1802-DUP2)		Prepared & Analyzed: 07/18/20				**Source: GG17025-01**				
SM 4500-H B										
pH		7.52	0.10	pH Units		7.47			0.667	20
Batch - B0G2004										
Blank (B0G2004-BLK1)		Prepared: 07/20/20 Analyzed: 07/21/20								
SM 2540 C										
Total Dissolved Solids		ND	10	mg/L						
LCS (B0G2004-BS1)		Prepared: 07/20/20 Analyzed: 07/21/20								
SM 2540 C										
Total Dissolved Solids		240	10	mg/L	240		100	80-120		
LCS Dup (B0G2004-BSD1)		Prepared: 07/20/20 Analyzed: 07/21/20								
SM 2540 C										
Total Dissolved Solids		238	10	mg/L	240		99.4	80-120	0.627	20
Duplicate (B0G2004-DUP1)		Prepared: 07/20/20 Analyzed: 07/21/20				**Source: GG16001-02**				
SM 2540 C										
Total Dissolved Solids		553	10	mg/L		548			0.817	20
Duplicate (B0G2004-DUP2)		Prepared: 07/20/20 Analyzed: 07/21/20				**Source: GG17019-06**				
SM 2540 C										
Total Dissolved Solids		77.5	10	mg/L		80.0			3.17	20
Batch - B0G2103										
Blank (B0G2103-BLK1)		Prepared & Analyzed: 07/21/20								
SM 4500-S= F										
Sulfide		ND	1.0	mg/L						
LCS (B0G2103-BS1)		Prepared & Analyzed: 07/21/20								
SM 4500-S= F										
Sulfide		4.40	1.0	mg/L	5.00		88.0	80-120		
LCS Dup (B0G2103-BSD1)		Prepared & Analyzed: 07/21/20								
SM 4500-S= F										
Sulfide		4.20	1.0	mg/L	5.00		84.0	80-120	4.65	20
Duplicate (B0G2103-DUP1)		Prepared & Analyzed: 07/21/20				**Source: GG17019-02**				
SM 4500-S= F										
Sulfide		ND	1.0	mg/L		ND				
Batch - B0G2404										
Blank (B0G2404-BLK1)		Prepared: 07/24/20 Analyzed: 07/26/20								
SM 2540 C										
Total Dissolved Solids		ND	10	mg/L						
LCS (B0G2404-BS1)		Prepared: 07/24/20 Analyzed: 07/26/20								
SM 2540 C										
Total Dissolved Solids		238	10	mg/L	240		99.4	80-120		
LCS Dup (B0G2404-BSD1)		Prepared: 07/24/20 Analyzed: 07/26/20								

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Inorganics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G2404										
LCS Dup (B0G2404-BSD1)		Prepared: 07/24/20 Analyzed: 07/26/20								
SM 2540 C										
Total Dissolved Solids		233	10	mg/L	240		97.1	80-120	2.33	20
Duplicate (B0G2404-DUP1)		Prepared: 07/24/20 Analyzed: 07/26/20				**Source: GG20019-02**				
SM 2540 C										
Total Dissolved Solids		564	10	mg/L		564			0.00	20
Duplicate (B0G2404-DUP2)		Prepared: 07/24/20 Analyzed: 07/26/20				**Source: GG21055-01**				
SM 2540 C										
Total Dissolved Solids		236	10	mg/L		239			1.05	20
Batch - B0G2411										
Blank (B0G2411-BLK1)		Prepared: 07/24/20 Analyzed: 07/25/20								
SM 4500-CN E										
Cyanide (total)		ND	5.0	µg/L						
LCS (B0G2411-BS1)		Prepared: 07/24/20 Analyzed: 07/25/20								
SM 4500-CN E										
Cyanide (total)		47.2	5.0	µg/L	50.0		94.4	85-115		
LCS Dup (B0G2411-BSD1)		Prepared: 07/24/20 Analyzed: 07/25/20								
SM 4500-CN E										
Cyanide (total)		48.1	5.0	µg/L	50.0		96.3	85-115	1.99	20
Matrix Spike (B0G2411-MS1)		Prepared: 07/24/20 Analyzed: 07/25/20				**Source: GG17019-02**				
SM 4500-CN E										
Cyanide (total)		84.8	5.0	µg/L	100	ND	84.8	80-120		
Matrix Spike Dup (B0G2411-MSD1)		Prepared: 07/24/20 Analyzed: 07/25/20				**Source: GG17019-02**				
SM 4500-CN E										
Cyanide (total)		90.5	5.0	µg/L	100	ND	90.5	80-120	6.52	20
Batch - B0G2911										
Blank (B0G2911-BLK1)		Prepared: 07/29/20 Analyzed: 07/30/20								
SM 5310 B										
Total Organic Carbon		ND	0.20	mg/L						
LCS (B0G2911-BS1)		Prepared: 07/29/20 Analyzed: 07/30/20								
SM 5310 B										
Total Organic Carbon		4.31	0.20	mg/L	5.00		86.3	80-120		
LCS (B0G2911-BS2)		Prepared: 07/29/20 Analyzed: 07/30/20								
SM 5310 B										
Total Organic Carbon		4.45	0.20	mg/L	5.00		89.0	80-120		
LCS Dup (B0G2911-BSD1)		Prepared: 07/29/20 Analyzed: 07/30/20								
SM 5310 B										
Total Organic Carbon		4.47	0.20	mg/L	5.00		89.4	80-120	3.55	20
LCS Dup (B0G2911-BSD2)		Prepared: 07/29/20 Analyzed: 07/30/20								
SM 5310 B										
Total Organic Carbon		4.51	0.20	mg/L	5.00		90.3	80-120	1.36	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Inorganics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G2911										
Duplicate (B0G2911-DUP1)		Prepared: 07/29/20	Analyzed: 07/30/20			**Source: GG16001-08**				
SM 5310 B										
Total Organic Carbon	RPD2, J	0.193	0.20	mg/L		ND				
Matrix Spike (B0G2911-MS1)		Prepared: 07/29/20	Analyzed: 07/30/20			**Source: GG21059-01**				
SM 5310 B										
Total Organic Carbon	MS1	12.7	0.20	mg/L	12.5	4.54	65.3	70-130		
Matrix Spike Dup (B0G2911-MSD1)		Prepared: 07/29/20	Analyzed: 07/30/20			**Source: GG21059-01**				
SM 5310 B										
Total Organic Carbon	MS1	12.6	0.20	mg/L	12.5	4.54	64.1	70-130	1.19	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Metals (Dissolved)

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1303										
Blank (B0G1303-BLK1)		Prepared: 07/20/20 Analyzed: 07/21/20								
EPA 200.8										
Aluminum		ND	4.0	µg/L						
Antimony		ND	1.0	µg/L						
Arsenic		ND	1.0	µg/L						
Barium		ND	1.0	µg/L						
Beryllium		ND	1.0	µg/L						
Cadmium		ND	0.20	µg/L						
Chromium		ND	1.0	µg/L						
Cobalt		ND	1.0	µg/L						
Copper		ND	2.0	µg/L						
Iron		ND	20	µg/L						
Lead		ND	1.0	µg/L						
Manganese		ND	1.0	µg/L						
Mercury		ND	0.20	µg/L						
Nickel		ND	1.0	µg/L						
Selenium		ND	1.0	µg/L						
Silver		ND	1.0	µg/L						
Thallium		ND	1.0	µg/L						
Tin		ND	15	µg/L						
Vanadium		ND	1.0	µg/L						
Zinc		ND	5.0	µg/L						
LCS (B0G1303-BS1)		Prepared: 07/20/20 Analyzed: 07/21/20								
EPA 200.8										
Aluminum		50.2	4.0	µg/L	50.0		100	85-115		
Antimony		49.3	1.0	µg/L	50.0		98.6	85-115		
Arsenic		51.9	1.0	µg/L	50.0		104	85-115		
Barium		48.8	1.0	µg/L	50.0		97.7	85-115		
Beryllium		52.7	1.0	µg/L	50.0		105	85-115		
Cadmium		50.3	0.20	µg/L	50.0		101	85-115		
Chromium		51.1	1.0	µg/L	50.0		102	85-115		
Cobalt		50.6	1.0	µg/L	50.0		101	85-115		
Copper		52.0	2.0	µg/L	50.0		104	85-115		
Iron		2730	20	µg/L	2500		109	85-115		
Lead		48	1.0	µg/L	50.0		96.5	85-115		
Manganese		50.4	1.0	µg/L	50.0		101	85-115		
Mercury		0.943	0.20	µg/L	1.00		94.3	85-115		
Nickel		51.3	1.0	µg/L	50.0		103	85-115		
Selenium		56.0	1.0	µg/L	50.0		112	85-115		
Silver		50.4	1.0	µg/L	50.0		101	85-115		
Thallium		48	1.0	µg/L	50.0		96.2	85-115		
Tin		48.9	15	µg/L	50.0		97.7	85-115		

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Metals (Dissolved)

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1303										
LCS (B0G1303-BS1)		Prepared: 07/20/20 Analyzed: 07/21/20								
EPA 200.8										
Vanadium		49.5	1.0	µg/L	50.0		99.0	85-115		
Zinc		51.6	5.0	µg/L	50.0		103	85-115		
LCS Dup (B0G1303-BSD1)		Prepared: 07/20/20 Analyzed: 07/21/20								
EPA 200.8										
Aluminum		50.4	4.0	µg/L	50.0		101	85-115	0.346	20
Antimony		49.5	1.0	µg/L	50.0		99.0	85-115	0.383	20
Arsenic		52.3	1.0	µg/L	50.0		105	85-115	0.766	20
Barium		48.1	1.0	µg/L	50.0		96.2	85-115	1.51	20
Beryllium		53.7	1.0	µg/L	50.0		107	85-115	1.86	20
Cadmium		50.7	0.20	µg/L	50.0		101	85-115	0.756	20
Chromium		50.8	1.0	µg/L	50.0		102	85-115	0.516	20
Cobalt		51.0	1.0	µg/L	50.0		102	85-115	0.841	20
Copper		51.9	2.0	µg/L	50.0		104	85-115	0.158	20
Iron		2760	20	µg/L	2500		110	85-115	1.08	20
Lead		47	1.0	µg/L	50.0		94.0	85-115	2.57	20
Manganese		50.7	1.0	µg/L	50.0		101	85-115	0.602	20
Mercury		0.948	0.20	µg/L	1.00		94.8	85-115	0.526	20
Nickel		51.3	1.0	µg/L	50.0		103	85-115	0.0109	20
Selenium		56.3	1.0	µg/L	50.0		113	85-115	0.682	20
Silver		49.3	1.0	µg/L	50.0		98.7	85-115	2.04	20
Thallium		47	1.0	µg/L	50.0		93.5	85-115	2.81	20
Tin		49.3	15	µg/L	50.0		98.7	85-115	0.928	20
Vanadium		49.4	1.0	µg/L	50.0		98.8	85-115	0.203	20
Zinc		51.6	5.0	µg/L	50.0		103	85-115	0.0707	20
Matrix Spike (B0G1303-MS1)		Prepared: 07/20/20 Analyzed: 07/21/20				**Source: GG10016-01**				
EPA 200.8										
Aluminum		520	40	µg/L	500	ND	105	70-130		
Antimony		500	10	µg/L	500	ND	101	70-130		
Arsenic		530	10	µg/L	500	ND	105	70-130		
Barium		820	10	µg/L	500	310	102	70-130		
Beryllium		550	10	µg/L	500	ND	109	70-130		
Cadmium		510	2.0	µg/L	500	ND	102	70-130		
Chromium		520	10	µg/L	500	ND	104	70-130		
Cobalt		498	10	µg/L	500	ND	99.6	70-130		
Copper		500	20	µg/L	500	ND	99.7	70-130		
Iron		28900	200	µg/L	25000	527	113	70-130		
Lead		470	10	µg/L	500	ND	94.2	70-130		
Manganese		510	10	µg/L	500	ND	102	70-130		
Mercury		9.37	2.0	µg/L	10.0	ND	93.7	70-130		
Nickel		510	10	µg/L	500	ND	102	70-130		

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Metals (Dissolved)

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1303										
Matrix Spike (B0G1303-MS1)		Prepared: 07/20/20 Analyzed: 07/21/20				**Source: GG10016-01**				
EPA 200.8										
Selenium		540	10	µg/L	500	ND	108	70-130		
Silver		490	10	µg/L	500	ND	98.0	70-130		
Thallium		460	10	µg/L	500	ND	92.6	70-130		
Tin		505	150	µg/L	500	ND	101	70-130		
Vanadium		530	10	µg/L	500	15	103	70-130		
Zinc		530	50	µg/L	500	19	103	70-130		
Matrix Spike Dup (B0G1303-MSD1)		Prepared: 07/20/20 Analyzed: 07/21/20				**Source: GG10016-01**				
EPA 200.8										
Aluminum		520	40	µg/L	500	ND	105	70-130	0.285	20
Antimony		500	10	µg/L	500	ND	100	70-130	0.635	20
Arsenic		530	10	µg/L	500	ND	105	70-130	0.276	20
Barium		800	10	µg/L	500	310	97.4	70-130	2.93	20
Beryllium		540	10	µg/L	500	ND	109	70-130	0.525	20
Cadmium		500	2.0	µg/L	500	ND	101	70-130	0.774	20
Chromium		510	10	µg/L	500	ND	103	70-130	1.14	20
Cobalt		499	10	µg/L	500	ND	99.9	70-130	0.290	20
Copper		500	20	µg/L	500	ND	99.8	70-130	0.0919	20
Iron		28300	200	µg/L	25000	527	111	70-130	2.06	20
Lead		470	10	µg/L	500	ND	94.0	70-130	0.237	20
Manganese		510	10	µg/L	500	ND	103	70-130	0.927	20
Mercury		9.68	2.0	µg/L	10.0	ND	96.8	70-130	3.32	20
Nickel		500	10	µg/L	500	ND	100	70-130	1.70	20
Selenium		550	10	µg/L	500	ND	109	70-130	0.943	20
Silver		500	10	µg/L	500	ND	99.8	70-130	1.83	20
Thallium		470	10	µg/L	500	ND	94.6	70-130	2.08	20
Tin		507	150	µg/L	500	ND	101	70-130	0.361	20
Vanadium		510	10	µg/L	500	15	99.7	70-130	3.25	20
Zinc		520	50	µg/L	500	19	99.6	70-130	3.30	20
Matrix Spike (B0G1303-MS2)		Prepared: 07/20/20 Analyzed: 07/21/20				**Source: GG17019-10**				
EPA 200.8										
Aluminum		570	40	µg/L	500	ND	114	70-130		
Antimony		520	10	µg/L	500	ND	103	70-130		
Arsenic		530	10	µg/L	500	ND	107	70-130		
Barium		700	10	µg/L	500	230	94.0	70-130		
Beryllium		620	10	µg/L	500	ND	124	70-130		
Cadmium		520	2.0	µg/L	500	ND	103	70-130		
Chromium		530	10	µg/L	500	ND	107	70-130		
Cobalt		501	10	µg/L	500	ND	100	70-130		
Copper		490	20	µg/L	500	ND	98.4	70-130		
Iron		29200	200	µg/L	25000	499	115	70-130		

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Metals (Dissolved)

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1303										
Matrix Spike (B0G1303-MS2)		Prepared: 07/20/20 Analyzed: 07/21/20				**Source: GG17019-10**				
EPA 200.8										
Lead		460	10	µg/L	500	ND	91.3	70-130		
Manganese		520	10	µg/L	500	ND	104	70-130		
Mercury		9.22	2.0	µg/L	10.0	ND	92.2	70-130		
Nickel		500	10	µg/L	500	ND	99.9	70-130		
Selenium		570	10	µg/L	500	ND	115	70-130		
Silver		490	10	µg/L	500	ND	97.2	70-130		
Thallium		460	10	µg/L	500	ND	91.8	70-130		
Tin		512	150	µg/L	500	ND	102	70-130		
Vanadium		540	10	µg/L	500	ND	109	70-130		
Zinc		510	50	µg/L	500	16	99.6	70-130		
Matrix Spike Dup (B0G1303-MSD2)		Prepared: 07/20/20 Analyzed: 07/21/20				**Source: GG17019-10**				
EPA 200.8										
Aluminum		560	40	µg/L	500	ND	112	70-130	2.15	20
Antimony		520	10	µg/L	500	ND	103	70-130	0.132	20
Arsenic		530	10	µg/L	500	ND	105	70-130	1.37	20
Barium		730	10	µg/L	500	230	98.6	70-130	3.23	20
Beryllium		610	10	µg/L	500	ND	121	70-130	1.79	20
Cadmium		510	2.0	µg/L	500	ND	101	70-130	1.63	20
Chromium		530	10	µg/L	500	ND	105	70-130	1.12	20
Cobalt		492	10	µg/L	500	ND	98.4	70-130	1.77	20
Copper		490	20	µg/L	500	ND	98.3	70-130	0.0665	20
Iron		28600	200	µg/L	25000	499	113	70-130	2.06	20
Lead		460	10	µg/L	500	ND	92.5	70-130	1.32	20
Manganese		520	10	µg/L	500	ND	104	70-130	0.524	20
Mercury		9.32	2.0	µg/L	10.0	ND	93.2	70-130	1.15	20
Nickel		490	10	µg/L	500	ND	99.0	70-130	0.981	20
Selenium		570	10	µg/L	500	ND	113	70-130	1.59	20
Silver		490	10	µg/L	500	ND	98.6	70-130	1.40	20
Thallium		460	10	µg/L	500	ND	92.2	70-130	0.480	20
Tin		512	150	µg/L	500	ND	102	70-130	0.0451	20
Vanadium		520	10	µg/L	500	ND	104	70-130	4.08	20
Zinc		510	50	µg/L	500	16	99.5	70-130	0.0641	20
Batch - B0G1507										
Blank (B0G1507-BLK1)		Prepared: 07/21/20 Analyzed: 07/22/20								
EPA 200.7										
Calcium		ND	0.10	mg/L						
Magnesium		ND	0.10	mg/L						
Potassium		ND	1.0	mg/L						
Sodium		ND	1.0	mg/L						
LCS (B0G1507-BS1)		Prepared: 07/21/20 Analyzed: 07/22/20								

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Metals (Dissolved)

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1507										
LCS (B0G1507-BS1)		Prepared: 07/21/20 Analyzed: 07/22/20								
EPA 200.7										
Calcium		1.05	0.10	mg/L	1.00		105	85-115		
Magnesium		2.05	0.10	mg/L	2.00		103	85-115		
Potassium		1.93	1.0	mg/L	2.00		96.6	85-115		
Sodium		2.01	1.0	mg/L	2.00		100	85-115		
LCS Dup (B0G1507-BSD1)		Prepared: 07/21/20 Analyzed: 07/22/20								
EPA 200.7										
Calcium		1.04	0.10	mg/L	1.00		104	85-115	0.614	20
Magnesium		2.04	0.10	mg/L	2.00		102	85-115	0.420	20
Potassium		1.99	1.0	mg/L	2.00		99.6	85-115	3.07	20
Sodium		2.03	1.0	mg/L	2.00		102	85-115	1.06	20
Matrix Spike (B0G1507-MS1)		Prepared: 07/21/20 Analyzed: 07/22/20				**Source: GG13013-01**				
EPA 200.7										
Calcium		66.3	1.0	mg/L	10.0	55.5	108	70-130		
Magnesium		58.8	1.0	mg/L	20.0	37.3	108	70-130		
Potassium		24.3	10	mg/L	20.0	5.13	95.8	70-130		
Sodium	MS2	155	10	mg/L	20.0	123	156	70-130		
Matrix Spike Dup (B0G1507-MSD1)		Prepared: 07/21/20 Analyzed: 07/22/20				**Source: GG13013-01**				
EPA 200.7										
Calcium	MS3	60.8	1.0	mg/L	10.0	55.5	53.4	70-130	8.63	20
Magnesium		58.4	1.0	mg/L	20.0	37.3	106	70-130	0.580	20
Potassium		23.7	10	mg/L	20.0	5.13	92.7	70-130	2.60	20
Sodium	MS2	153	10	mg/L	20.0	123	148	70-130	1.12	20
Matrix Spike (B0G1507-MS2)		Prepared: 07/21/20 Analyzed: 07/22/20				**Source: GG16001-12**				
EPA 200.7										
Calcium	MS2	112	1.0	mg/L	10.0	95.4	164	70-130		
Magnesium		38.7	1.0	mg/L	20.0	18.5	101	70-130		
Potassium		22.8	10	mg/L	20.0	3.37	97.4	70-130		
Sodium		73.3	10	mg/L	20.0	51.4	109	70-130		
Matrix Spike Dup (B0G1507-MSD2)		Prepared: 07/21/20 Analyzed: 07/22/20				**Source: GG16001-12**				
EPA 200.7										
Calcium	MS2	113	1.0	mg/L	10.0	95.4	174	70-130	0.919	20
Magnesium		39.2	1.0	mg/L	20.0	18.5	104	70-130	1.13	20
Potassium		22.9	10	mg/L	20.0	3.37	97.8	70-130	0.357	20
Sodium		73.7	10	mg/L	20.0	51.4	112	70-130	0.615	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G2001										
Blank (B0G2001-BLK1)		Prepared & Analyzed: 07/20/20								
EPA 8260B										
Surr: 4-Bromofluorobenzene		*24.9*		*µg/L*	*25.0*		*99.8*	*70-130*		
Surr: Dibromofluoromethane		*25.3*		*µg/L*	*25.0*		*101*	*70-130*		
Surr: Toluene-d8		*25.0*		*µg/L*	*25.0*		*100*	*70-130*		
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L						
1,1,2,2-Tetrachloroethane		ND	1.0	µg/L						
1,1,2-Trichloroethane		ND	0.50	µg/L						
1,1-Dichloroethane		ND	0.50	µg/L						
1,1-Dichloroethene		ND	0.50	µg/L						
1,2,3-Trichloropropane (123TCP)		ND	0.50	µg/L						
1,2,4-Trichlorobenzene		ND	1.0	µg/L						
1,2-Dibromo-3-chloropropane (DBCP)		ND	5.0	µg/L						
1,2-Dibromoethane (EDB)		ND	0.50	µg/L						
1,2-Dichlorobenzene		ND	0.50	µg/L						
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L						
1,2-Dichloropropane		ND	0.50	µg/L						
1,3-Dichlorobenzene		ND	0.50	µg/L						
1,4-Dichlorobenzene		ND	0.50	µg/L						
2-Butanone (MEK)		ND	10	µg/L						
2-Hexanone		ND	1.0	µg/L						
4-Methyl-2-pentanone (MIBK)		ND	1.0	µg/L						
Acetone		ND	10	µg/L						
Acrylonitrile		ND	5.0	µg/L						
Benzene		ND	0.50	µg/L						
Bromochloromethane		ND	0.50	µg/L						
Bromodichloromethane		ND	0.50	µg/L						
Bromoform		ND	1.0	µg/L						
Bromomethane		ND	1.0	µg/L						
Carbon disulfide		ND	0.50	µg/L						
Carbon tetrachloride		ND	0.50	µg/L						
Chlorobenzene		ND	0.50	µg/L						
Chloroethane		ND	0.50	µg/L						
Chloroform		ND	0.50	µg/L						
Chloromethane		ND	0.50	µg/L						
cis-1,2-Dichloroethene		ND	0.50	µg/L						
cis-1,3-Dichloropropene		ND	0.50	µg/L						
Dibromochloromethane		ND	0.50	µg/L						
Dibromomethane		ND	0.50	µg/L						
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L						
Di-isopropyl ether (DIPE)		ND	0.50	µg/L						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G2001										
Blank (B0G2001-BLK1)		Prepared & Analyzed: 07/20/20								
EPA 8260B										
Ethanol		ND	50	µg/L						
Ethyl tert-Butyl Ether (ETBE)		ND	1.0	µg/L						
Ethylbenzene		ND	0.50	µg/L						
Hexachlorobutadiene		ND	1.0	µg/L						
Hexachloroethane		ND	1.0	µg/L						
Iodomethane		ND	5.0	µg/L						
m,p-Xylene		ND	1.0	µg/L						
Methyl tert-Butyl Ether (MTBE)		ND	1.0	µg/L						
Methylene chloride		ND	1.0	µg/L						
Naphthalene		ND	0.50	µg/L						
o-Xylene		ND	0.50	µg/L						
Styrene		ND	0.50	µg/L						
Tert-Amyl Methyl Ether (TAME)		ND	1.0	µg/L						
tert-Butyl alcohol (TBA)		ND	20	µg/L						
Tetrachloroethene (PCE)		ND	0.50	µg/L						
Toluene		ND	0.50	µg/L						
trans-1,2-Dichloroethene		ND	0.50	µg/L						
trans-1,3-Dichloropropene		ND	0.50	µg/L						
trans-1,4-Dichloro-2-butene		ND	5.0	µg/L						
Trichloroethene (TCE)		ND	0.50	µg/L						
Trichlorofluoromethane (CFC-11)		ND	0.50	µg/L						
Vinyl acetate		ND	0.50	µg/L						
Vinyl chloride		ND	0.50	µg/L						
Xylenes		ND	2.0	µg/L						
LCS (B0G2001-BS1)		Prepared & Analyzed: 07/20/20								
EPA 8260B										
Surr: 4-Bromofluorobenzene		*24.9*		*µg/L*	*25.0*		*99.6*	*70-130*		
Surr: Dibromofluoromethane		*25.8*		*µg/L*	*25.0*		*103*	*70-130*		
Surr: Toluene-d8		*25.1*		*µg/L*	*25.0*		*100*	*70-130*		
1,1-Dichloroethene		21.8	0.50	µg/L	20.0		109	70-130		
Benzene		21.1	0.50	µg/L	20.0		106	70-130		
Chlorobenzene		22.0	0.50	µg/L	20.0		110	70-130		
Toluene		21.3	0.50	µg/L	20.0		106	70-130		
Trichloroethene (TCE)		22.0	0.50	µg/L	20.0		110	70-130		
LCS Dup (B0G2001-BSD1)		Prepared & Analyzed: 07/20/20								
EPA 8260B										
Surr: 4-Bromofluorobenzene		*25.0*		*µg/L*	*25.0*		*100*	*70-130*		
Surr: Dibromofluoromethane		*25.6*		*µg/L*	*25.0*		*103*	*70-130*		
Surr: Toluene-d8		*25.0*		*µg/L*	*25.0*		*100*	*70-130*		
1,1-Dichloroethene		21.5	0.50	µg/L	20.0		108	70-130	1.52	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 08/05/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G2001										
LCS Dup (B0G2001-BSD1)		Prepared & Analyzed: 07/20/20								
EPA 8260B										
Benzene		20.8	0.50	µg/L	20.0		104	70-130	1.19	20
Chlorobenzene		21.5	0.50	µg/L	20.0		108	70-130	2.07	20
Toluene		20.8	0.50	µg/L	20.0		104	70-130	2.43	20
Trichloroethene (TCE)		21.5	0.50	µg/L	20.0		107	70-130	2.58	20

Notes and Definitions

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag). Same as DNQ - Detected, but Not Quantified.
MS1	Recovery for this analyte was affected by matrix.
MS2	Recovery for this analyte was biased high; associated blank spike recoveries are within range.
MS3	Recovery for this analyte was biased low; associated blank spike recoveries are within range.
RPD2	A high RPD was observed due to the low concentration of the target analyte.
µg/L	micrograms per liter (parts per billion concentration units)
mg/L	milligrams per liter (parts per million concentration units)
mg/kg	milligrams per kilogram (parts per million concentration units)
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
	Analysis of pH, filtration, and residual chlorine is to take place immediately after sampling in the field. If the test was performed in the laboratory, the hold time was exceeded. **(for aqueous matrices only)**

MOORE TWINING ASSOCIATES, INC.
EST. 1898
ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

CHAIN OF CUSTODY/ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

WORK ORDER #: 6617019
PAGE 1 **OF** 2

REPORT TO:

ATTENTION: Jonah Treviño
NAME: County of Tulare – Solid Waste Dept.
ADDRESS: 5955 S. Mooney Blvd
PHONE: 559-624-7197
FAX: 559-740-4448

☐ **INVOICE TO:** ☐ **REPORT COPY TO:**

ATTENTION: Jonah Treviño
NAME: County of Tulare – Solid Waste Dept.
ADDRESS: 5955 S. Mooney Blvd
PHONE: 559-624-7197
FAX: 559-740-4448

REPORTING:
☐ STANDARD FORMAT
☐ WRITE-ON (STATE FORM)
☐ GEOTRACKER/COELT (LUFT)
☐ PDF ☐ SPREADSHEET
☐ County DHS :
☐ Environmental Health Agency :
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Joe Clark
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☑ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT
TURN AROUND TIME: ☐ RUSH, DUE ON:
☐ STANDARD

SAMPLE TYPES:
SOLID:
BS – BIOSOLID
CR – CERAMIC
SL – SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW – WASTE WATER

PROJECT INFORMATION
CONTRACT/P.O. NO.: 14235B26373
PROJECT: Teapot Dome – WDR No. R5-2014-0021
PROJECT NUMBER: E94401.03
PROJECT MANAGER: Kirk Jacobsen

ANALYSIS REQUESTED

LAB USE — NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☑ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION
5.3°C

LAB USE	CLIENT SAMPLE ID	DATE	TIME	TYPE	IG-1, IG-9, IG-10	VOCs 8260 Short List (TCSW)									
1	Trip Blank	7/17/20	--	W		X									
2	M-3C	7/17/20	1123	GW	X	X									
3	M-3C Field Blank	7/17/20	1123	W		X									
4	M-4B	7/17/20	0805	GW	X	X									
5	M-4B Field Blank	7/17/20	0805	W		X									
6	M-8	7/17/20	1015	GW	X	X									
7	M-8 Field Blank	7/17/20	1015	W		X									
8	M-10B	7/17/20	1215	GW	X	X									
9	M-10B Field Blank	7/17/20	1215	W		X									
10	M-14B	7/17/20	0856	GW	X	X									
11	M-14B Field Blank	7/17/20	0856	W		X									

COMMENTS/ADDITIONAL INSTRUCTIONS:
Analyze Field Blank only if VOCs detected in the sample. Analyze Trip Blank only if VOCs detected in Field Blank.
- Filter for dissolved metals in the lab

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	MTA	7-17-20	14:38		MTA

Sample Integrity — Page 2 of 2 — Moore Twining Associates — WO# 661209 — MTA Bottles: Yes or No

COC Info				
Was temperature within range? Chemistry ≤6°C Micro <10°C Temp_____°C	Yes No N/A	Did all bottle labels agree with COC?	Yes No N/A	Were there bubbles in VOA vials? (**Volatiles Only**) Yes No N/A
If samples were taken today, is there evidence that chilling has begun? Recvd_____C°	Yes No N/A	Was a sufficient amount of sample received?	Yes No N/A	Was PM notified of discrepancies? PM: By/Time: Yes No N/A
Did all bottles arrive unbroken and intact?	Yes No N/A	Were correct containers and preservatives received for the tests requested?	Yes No N/A	
Do samples have a hold time <72 hours?	Yes No N/A			

Bottles Received															
125ml (A) 250ml (B) 1Liter (C) 40ml VOA (V)	1,3,5	2,4	7,9	11	2,4,6	8,10									
Bacti $Na_2S_2O_3$															
None (P)				1-C											
Cr6 Buffer (P) Borate Carbonate Buffer															
HNO_3 (P)				1-A											
H_2SO_4 (P)				1-A											
NaOH (P)				1-C											
NaOH+ZnAc (P)															
Dissolved Oxygen 300ml (P)															
None (AG)															
None (CG) 500ml															
$Na_2S_2O_3$ 250ml (Brown P) 549															
$Na_2S_2O_3$ (AG)				3-V											
$Na_2S_2O_3$ (AG)															
Thio/K Citrate															
NH_4Cl (AG) 552															
HCl (AG)	1-V			3-V											
None (CG) 500ml															
H_3PO_4 (AG)															
Other:															
Plastic Bag															
Low Level Hg/Metals Double Bag															
Client Own															
Glass Jar: 125/ 250/ 500															
Soil Tube: Brass/ Steel/ Plastic															
5 g Encore															
Ascorboc Acid (AG) Voa															
1gallon Cubitainer															

Filter or Split	Container	Preservative	Date/Time/Initials
S P F	125mL	HNO3	7-17-20 1595 DR
S P F			
S P F			
S P F			
S P F			

Labeled by: M @ 1518 Labels checked by: M @ 1520

FL-SC-0003-06

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

October 06, 2020

Work Order #: **GG14035**

Jonah Trevino
Tulare County Solid Waste Division
5961 South Mooney Blvd.
Visalia, CA 93277

RE: Teapot Dome WDR No. R5-2014-0021

Enclosed are the analytical results for samples received by our laboratory on **07/14/20** . For your reference, these analyses have been assigned laboratory work order number **GG14035**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 10/06/2020

Analytical Report for the Following Samples

Sample ID	Notes	Laboratory ID	Matrix	Date Sampled	Date Received
Trip Blank 002		GG14035-01	Water	07/13/20 00:00	07/14/20 14:16
M-13A		GG14035-02	Ground Water	07/14/20 10:02	07/14/20 14:16
M-13A Field Blank		GG14035-03	Water	07/14/20 10:02	07/14/20 14:16
M-13B		GG14035-04	Ground Water	07/14/20 11:07	07/14/20 14:16

AMENDED REPORT:

The sample IDs are now corrected as on the COC. JCM 10/6/2020

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division	**Project:**	Teapot Dome WDR No. R5-2014-0021	**Reported:**
5961 South Mooney Blvd.	**Project Number:**	E94401.03	10/06/2020
Visalia CA, 93277	**Project Manager:**	Jonah Trevino	

Trip Blank 002

GG14035-01 (Water) Sampled: 07/13/20 00:00

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
1,1,1,2-Tetrachloroethane		ND	0.50	0.065	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.50	0.076	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	1.0	0.049	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
1,1,2-Trichloroethane		ND	0.50	0.058	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
1,1-Dichloroethane		ND	0.50	0.070	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
1,1-Dichloroethene		ND	0.50	0.10	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.50	0.057	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
1,2,4-Trichlorobenzene		ND	1.0	0.11	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	5.0	0.12	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.50	0.041	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
1,2-Dichlorobenzene		ND	0.50	0.029	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.50	0.048	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
1,2-Dichloropropane		ND	0.50	0.043	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
1,3-Dichlorobenzene		ND	0.50	0.040	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
1,4-Dichlorobenzene		ND	0.50	0.021	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
2-Butanone (MEK)		ND	10	0.78	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
2-Hexanone		ND	1.0	0.17	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	1.0	0.056	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Acetone		ND	10	0.81	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Acrylonitrile		ND	5.0	0.99	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Benzene		ND	0.50	0.071	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Bromochloromethane		ND	0.50	0.041	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Bromodichloromethane		ND	0.50	0.032	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Bromoform		ND	1.0	0.057	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Bromomethane		ND	1.0	0.34	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Carbon disulfide		ND	0.50	0.044	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Carbon tetrachloride		ND	0.50	0.076	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Chlorobenzene		ND	0.50	0.11	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Chloroethane		ND	0.50	0.064	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Chloroform		ND	0.50	0.059	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Chloromethane		ND	0.50	0.058	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
cis-1,2-Dichloroethene		ND	0.50	0.043	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
cis-1,3-Dichloropropene		ND	0.50	0.036	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Dibromochloromethane		ND	0.50	0.032	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Dibromomethane		ND	0.50	0.056	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.50	0.12	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.50	0.061	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Ethanol		ND	50	9.5	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	1.0	0.043	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Ethylbenzene		ND	0.50	0.044	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Hexachlorobutadiene		ND	1.0	0.087	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Hexachloroethane		ND	1.0	0.041	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Iodomethane		ND	5.0	2.1	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
m,p-Xylene		ND	1.0	0.095	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 10/06/2020

Trip Blank 002

GG14035-01 (Water) Sampled: 07/13/20 00:00

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
Methyl tert-Butyl Ether (MTBE)		ND	1.0	0.056	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Methylene chloride		ND	1.0	0.12	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Naphthalene		ND	0.50	0.096	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
o-Xylene		ND	0.50	0.047	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Styrene		ND	0.50	0.021	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	1.0	0.032	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
tert-Butyl alcohol (TBA)		ND	20	0.98	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Tetrachloroethene (PCE)		ND	0.50	0.089	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Toluene		ND	0.50	0.066	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
trans-1,2-Dichloroethene		ND	0.50	0.056	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
trans-1,3-Dichloropropene		ND	0.50	0.044	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	5.0	0.048	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Trichloroethene (TCE)		ND	0.50	0.079	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.50	0.11	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Vinyl acetate		ND	0.50	0.11	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Vinyl chloride		ND	0.50	0.082	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Xylenes		ND	2.0		µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:09	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.0%*		*Recovery Limits: 70% - 130%*			*B0G1502*	GAB	07/15/20 7:55	07/15/20 16:09	*EPA 8260B*
Surr: Dibromofluoromethane		*99.2%*		*Recovery Limits: 70% - 130%*			*B0G1502*	GAB	07/15/20 7:55	07/15/20 16:09	*EPA 8260B*
Surr: Toluene-d8		*100%*		*Recovery Limits: 70% - 130%*			*B0G1502*	GAB	07/15/20 7:55	07/15/20 16:09	*EPA 8260B*

M-13A

GG14035-02 (Ground Water) Sampled: 07/14/20 10:02

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Inorganics											
Bicarbonate Alkalinity as HCO3		**450**	1.3	0.23	mg/L	1	B0G1516	GMC	07/15/20 19:22	07/15/20 19:22	SM 2320 B
Carbonate Alkalinity as CO3		ND	1.0	0.23	mg/L	1	B0G1516	GMC	07/15/20 19:22	07/15/20 19:22	SM 2320 B
Hydroxide Alkalinity as OH		ND	1.0	0.23	mg/L	1	B0G1516	GMC	07/15/20 19:22	07/15/20 19:22	SM 2320 B
Total Alkalinity as CaCO3		**370**	1.0	0.23	mg/L	1	B0G1516	GMC	07/15/20 19:22	07/15/20 19:22	SM 2320 B
Chloride		**170**	6.0	0.71	mg/L	3	B0G1421	CMF	07/14/20 15:32	07/14/20 20:57	EPA 300.0
Cyanide (total)		ND	5.0	4.4	µg/L	1	B0G1513	VAC	07/16/20 7:58	07/17/20 10:58	SM 4500-CN E
Specific Conductance (EC)		**1400**	1.0	0.26	µS/cm	1	B0G1516	GMC	07/15/20 19:22	07/15/20 19:22	SM 2510 B
Nitrate as N		**17**	1.4	0.15	mg/L	3	B0G1421	CMF	07/14/20 15:32	07/14/20 20:57	EPA 300.0
pH		**7.8**	0.10	0.10	pH Units	1	B0G1516	GMC	07/15/20 19:22	07/15/20 19:22	SM 4500-H B
Sulfate as SO4		**76**	6.0	2.5	mg/L	3	B0G1421	CMF	07/14/20 15:32	07/14/20 20:57	EPA 300.0
Sulfide		ND	1.0	0.42	mg/L	1	B0G1901	ACY	07/19/20 10:26	07/19/20 10:30	SM 4500-S= F
Total Dissolved Solids		**800**	20	16	mg/L	2	B0G1509	BXI	07/15/20 10:11	07/16/20 13:10	SM 2540 C
Total Organic Carbon		**1.2**	0.20	0.18	mg/L	1	B0G2817	TAT	07/28/20 11:25	07/28/20 15:48	SM 5310 B
Metals (Dissolved)											
Aluminum		ND	4.0	3.2	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:41	EPA 200.8
Antimony		ND	1.0	0.36	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:41	EPA 200.8
Arsenic	**J**	**0.89**	1.0	0.41	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:41	EPA 200.8

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 10/06/2020

M-13A

GG14035-02 (Ground Water) Sampled: 07/14/20 10:02

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Metals (Dissolved)											
Barium		**320**	1.0	0.16	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:41	EPA 200.8
Beryllium		ND	1.0	0.30	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:41	EPA 200.8
Cadmium		ND	0.20	0.086	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:41	EPA 200.8
Calcium		**140**	0.10	0.018	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 9:48	EPA 200.7
Chromium		ND	1.0	0.83	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:41	EPA 200.8
Cobalt	J	**0.40**	1.0	0.35	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:41	EPA 200.8
Copper	J	**1.4**	2.0	0.23	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:41	EPA 200.8
Hardness (Dissolved)		**480**	0.66		mg equiv. CaCO3/L	1	[CALC]	VAC	07/22/20 9:48	07/22/20 9:48	SM 2340 B
Iron		**670**	20	8.4	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:41	EPA 200.8
Lead		ND	1.0	0.22	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:41	EPA 200.8
Magnesium		**33**	0.10	0.0080	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 9:48	EPA 200.7
Manganese		ND	1.0	0.77	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:41	EPA 200.8
Mercury		ND	0.20	0.070	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:41	EPA 200.8
Nickel		**2.8**	1.0	0.73	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:41	EPA 200.8
Potassium		**3.9**	1.0	0.17	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 9:48	EPA 200.7
Selenium		**1.4**	1.0	0.71	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:41	EPA 200.8
Silver		ND	1.0	0.18	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:41	EPA 200.8
Sodium		**120**	1.0	0.14	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 9:48	EPA 200.7
Thallium		ND	1.0	0.49	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:41	EPA 200.8
Tin		ND	15	3.0	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:41	EPA 200.8
Vanadium		**9.0**	1.0	0.74	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:41	EPA 200.8
Zinc		**18**	5.0	0.51	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:41	EPA 200.8
Volatile Organics											
8260B TCSW											
1,1,1,2-Tetrachloroethane		ND	0.50	0.065	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.50	0.076	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	1.0	0.049	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
1,1,2-Trichloroethane		ND	0.50	0.058	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
1,1-Dichloroethane		ND	0.50	0.070	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
1,1-Dichloroethene		ND	0.50	0.10	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.50	0.057	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
1,2,4-Trichlorobenzene		ND	1.0	0.11	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	5.0	0.12	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.50	0.041	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
1,2-Dichlorobenzene		ND	0.50	0.029	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.50	0.048	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
1,2-Dichloropropane		ND	0.50	0.043	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
1,3-Dichlorobenzene		ND	0.50	0.040	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
1,4-Dichlorobenzene		ND	0.50	0.021	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
2-Butanone (MEK)		ND	10	0.78	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
2-Hexanone		ND	1.0	0.17	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	1.0	0.056	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Acetone		ND	10	0.81	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Acrylonitrile		ND	5.0	0.99	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 10/06/2020

M-13A

GG14035-02 (Ground Water) Sampled: 07/14/20 10:02

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
Benzene		ND	0.50	0.071	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Bromochloromethane		ND	0.50	0.041	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Bromodichloromethane		ND	0.50	0.032	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Bromoform		ND	1.0	0.057	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Bromomethane		ND	1.0	0.34	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Carbon disulfide		ND	0.50	0.044	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Carbon tetrachloride		ND	0.50	0.076	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Chlorobenzene		ND	0.50	0.11	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Chloroethane		ND	0.50	0.064	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Chloroform		ND	0.50	0.059	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Chloromethane		ND	0.50	0.058	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
cis-1,2-Dichloroethene		ND	0.50	0.043	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
cis-1,3-Dichloropropene		ND	0.50	0.036	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Dibromochloromethane		ND	0.50	0.032	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Dibromomethane		ND	0.50	0.056	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.50	0.12	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.50	0.061	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Ethanol		ND	50	9.5	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	1.0	0.043	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Ethylbenzene		ND	0.50	0.044	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Hexachlorobutadiene		ND	1.0	0.087	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Hexachloroethane		ND	1.0	0.041	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Iodomethane		ND	5.0	2.1	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
m,p-Xylene		ND	1.0	0.095	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	1.0	0.056	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Methylene chloride		**1.2**	1.0	0.12	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Naphthalene		ND	0.50	0.096	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
o-Xylene		ND	0.50	0.047	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Styrene		ND	0.50	0.021	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	1.0	0.032	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
tert-Butyl alcohol (TBA)		ND	20	0.98	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Tetrachloroethene (PCE)		ND	0.50	0.089	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Toluene		ND	0.50	0.066	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
trans-1,2-Dichloroethene		ND	0.50	0.056	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
trans-1,3-Dichloropropene		ND	0.50	0.044	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	5.0	0.048	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Trichloroethene (TCE)		ND	0.50	0.079	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.50	0.11	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Vinyl acetate		ND	0.50	0.11	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Vinyl chloride		ND	0.50	0.082	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Xylenes		ND	2.0		µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 16:44	EPA 8260B
Surr: 4-Bromofluorobenzene		*98.2%*		*Recovery Limits: 70% - 130%*			*B0G1502*	GAB	07/15/20 7:55	07/15/20 16:44	*EPA 8260B*
Surr: Dibromofluoromethane		*101%*		*Recovery Limits: 70% - 130%*			*B0G1502*	GAB	07/15/20 7:55	07/15/20 16:44	*EPA 8260B*
Surr: Toluene-d8		*100%*		*Recovery Limits: 70% - 130%*			*B0G1502*	GAB	07/15/20 7:55	07/15/20 16:44	*EPA 8260B*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 10/06/2020

M-13A Field Blank

GG14035-03 (Water) Sampled: 07/14/20 10:02

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
1,1,1,2-Tetrachloroethane		ND	0.50	0.065	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.50	0.076	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	1.0	0.049	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
1,1,2-Trichloroethane		ND	0.50	0.058	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
1,1-Dichloroethane		ND	0.50	0.070	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
1,1-Dichloroethene		ND	0.50	0.10	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.50	0.057	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
1,2,4-Trichlorobenzene		ND	1.0	0.11	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	5.0	0.12	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.50	0.041	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
1,2-Dichlorobenzene		ND	0.50	0.029	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.50	0.048	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
1,2-Dichloropropane		ND	0.50	0.043	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
1,3-Dichlorobenzene		ND	0.50	0.040	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
1,4-Dichlorobenzene		ND	0.50	0.021	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
2-Butanone (MEK)		ND	10	0.78	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
2-Hexanone		ND	1.0	0.17	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	1.0	0.056	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Acetone		ND	10	0.81	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Acrylonitrile		ND	5.0	0.99	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Benzene		ND	0.50	0.071	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Bromochloromethane		ND	0.50	0.041	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Bromodichloromethane		ND	0.50	0.032	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Bromoform		ND	1.0	0.057	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Bromomethane		ND	1.0	0.34	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Carbon disulfide		ND	0.50	0.044	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Carbon tetrachloride		ND	0.50	0.076	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Chlorobenzene		ND	0.50	0.11	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Chloroethane		ND	0.50	0.064	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Chloroform		ND	0.50	0.059	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Chloromethane		ND	0.50	0.058	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
cis-1,2-Dichloroethene		ND	0.50	0.043	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
cis-1,3-Dichloropropene		ND	0.50	0.036	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Dibromochloromethane		ND	0.50	0.032	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Dibromomethane		ND	0.50	0.056	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.50	0.12	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.50	0.061	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Ethanol		ND	50	9.5	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	1.0	0.043	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Ethylbenzene		ND	0.50	0.044	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Hexachlorobutadiene		ND	1.0	0.087	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Hexachloroethane		ND	1.0	0.041	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Iodomethane		ND	5.0	2.1	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
m,p-Xylene		ND	1.0	0.095	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 10/06/2020

M-13A Field Blank

GG14035-03 (Water) Sampled: 07/14/20 10:02

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
Methyl tert-Butyl Ether (MTBE)		ND	1.0	0.056	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Methylene chloride		**4.4**	1.0	0.12	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Naphthalene		ND	0.50	0.096	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
o-Xylene		ND	0.50	0.047	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Styrene		ND	0.50	0.021	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	1.0	0.032	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
tert-Butyl alcohol (TBA)		ND	20	0.98	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Tetrachloroethene (PCE)		ND	0.50	0.089	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Toluene		ND	0.50	0.066	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
trans-1,2-Dichloroethene		ND	0.50	0.056	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
trans-1,3-Dichloropropene		ND	0.50	0.044	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	5.0	0.048	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Trichloroethene (TCE)		ND	0.50	0.079	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.50	0.11	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Vinyl acetate		ND	0.50	0.11	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Vinyl chloride		ND	0.50	0.082	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Xylenes		ND	2.0		µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:19	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.1%*		*Recovery Limits: 70% - 130%*			*B0G1502*	GAB	07/15/20 7:55	07/15/20 17:19	*EPA 8260B*
Surr: Dibromofluoromethane		*99.4%*		*Recovery Limits: 70% - 130%*			*B0G1502*	GAB	07/15/20 7:55	07/15/20 17:19	*EPA 8260B*
Surr: Toluene-d8		*100%*		*Recovery Limits: 70% - 130%*			*B0G1502*	GAB	07/15/20 7:55	07/15/20 17:19	*EPA 8260B*

M-13B

GG14035-04 (Ground Water) Sampled: 07/14/20 11:07

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Inorganics											
Bicarbonate Alkalinity as HCO3		**200**	1.3	0.23	mg/L	1	B0G1516	GMC	07/15/20 19:28	07/15/20 19:28	SM 2320 B
Carbonate Alkalinity as CO3		ND	1.0	0.23	mg/L	1	B0G1516	GMC	07/15/20 19:28	07/15/20 19:28	SM 2320 B
Hydroxide Alkalinity as OH		ND	1.0	0.23	mg/L	1	B0G1516	GMC	07/15/20 19:28	07/15/20 19:28	SM 2320 B
Total Alkalinity as CaCO3		**170**	1.0	0.23	mg/L	1	B0G1516	GMC	07/15/20 19:28	07/15/20 19:28	SM 2320 B
Chloride		**66**	4.0	0.47	mg/L	2	B0G1421	CMF	07/14/20 15:32	07/14/20 21:14	EPA 300.0
Cyanide (total)		ND	5.0	4.4	µg/L	1	B0G1513	VAC	07/16/20 7:58	07/17/20 10:58	SM 4500-CN E
Specific Conductance (EC)		**650**	1.0	0.26	µS/cm	1	B0G1516	GMC	07/15/20 19:28	07/15/20 19:28	SM 2510 B
Nitrate as N		**11**	0.90	0.10	mg/L	2	B0G1421	CMF	07/14/20 15:32	07/14/20 21:14	EPA 300.0
pH		**8.0**	0.10	0.10	pH Units	1	B0G1516	GMC	07/15/20 19:28	07/15/20 19:28	SM 4500-H B
Sulfate as SO4		**33**	4.0	1.6	mg/L	2	B0G1421	CMF	07/14/20 15:32	07/14/20 21:14	EPA 300.0
Sulfide		ND	1.0	0.42	mg/L	1	B0G1901	ACY	07/19/20 10:26	07/19/20 10:30	SM 4500-S= F
Total Dissolved Solids		**400**	10	8.1	mg/L	1	B0G1609	ACY	07/16/20 9:41	07/17/20 11:25	SM 2540 C
Total Organic Carbon		**0.62**	0.20	0.18	mg/L	1	B0G2817	TAT	07/28/20 11:25	07/28/20 16:09	SM 5310 B
Metals (Dissolved)											
Aluminum		ND	4.0	3.2	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:46	EPA 200.8
Antimony		ND	1.0	0.36	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:46	EPA 200.8
Arsenic		**1.2**	1.0	0.41	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:46	EPA 200.8

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 10/06/2020

M-13B

GG14035-04 (Ground Water) Sampled: 07/14/20 11:07

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Metals (Dissolved)											
Barium		**170**	1.0	0.16	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:46	EPA 200.8
Beryllium		ND	1.0	0.30	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:46	EPA 200.8
Cadmium		ND	0.20	0.086	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:46	EPA 200.8
Calcium		**72**	0.10	0.018	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 9:58	EPA 200.7
Chromium	J	**0.94**	1.0	0.83	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:46	EPA 200.8
Cobalt		ND	1.0	0.35	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:46	EPA 200.8
Copper	J	**0.50**	2.0	0.23	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:46	EPA 200.8
Hardness (Dissolved)		**240**	0.66		mg equiv. CaCO3/L	1	[CALC]	VAC	07/22/20 9:58	07/22/20 9:58	SM 2340 B
Iron		**340**	20	8.4	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:46	EPA 200.8
Lead		ND	1.0	0.22	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:46	EPA 200.8
Magnesium		**16**	0.10	0.0080	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 9:58	EPA 200.7
Manganese		ND	1.0	0.77	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:46	EPA 200.8
Mercury		ND	0.20	0.070	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:46	EPA 200.8
Nickel		ND	1.0	0.73	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:46	EPA 200.8
Potassium		**2.7**	1.0	0.17	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 9:58	EPA 200.7
Selenium		ND	1.0	0.71	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:46	EPA 200.8
Silver		ND	1.0	0.18	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:46	EPA 200.8
Sodium		**41**	1.0	0.14	mg/L	1	B0G1507	VAC	07/21/20 8:09	07/22/20 9:58	EPA 200.7
Thallium		ND	1.0	0.49	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:46	EPA 200.8
Tin		ND	15	3.0	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:46	EPA 200.8
Vanadium		**8.9**	1.0	0.74	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:46	EPA 200.8
Zinc		**13**	5.0	0.51	µg/L	1	B0G1303	RND	07/20/20 8:22	07/21/20 10:46	EPA 200.8
Volatile Organics											
8260B TCSW											
1,1,1,2-Tetrachloroethane		ND	0.50	0.065	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.50	0.076	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	1.0	0.049	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
1,1,2-Trichloroethane		ND	0.50	0.058	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
1,1-Dichloroethane		ND	0.50	0.070	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
1,1-Dichloroethene		ND	0.50	0.10	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.50	0.057	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
1,2,4-Trichlorobenzene		ND	1.0	0.11	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	5.0	0.12	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.50	0.041	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
1,2-Dichlorobenzene		ND	0.50	0.029	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.50	0.048	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
1,2-Dichloropropane		ND	0.50	0.043	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
1,3-Dichlorobenzene		ND	0.50	0.040	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
1,4-Dichlorobenzene		ND	0.50	0.021	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
2-Butanone (MEK)		ND	10	0.78	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
2-Hexanone		ND	1.0	0.17	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	1.0	0.056	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Acetone		ND	10	0.81	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Acrylonitrile		ND	5.0	0.99	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 10/06/2020

M-13B

GG14035-04 (Ground Water) Sampled: 07/14/20 11:07

Analyte	Flag	Result	Reporting Limit	MDL	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Method
Volatile Organics											
8260B TCSW											
Benzene		ND	0.50	0.071	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Bromochloromethane		ND	0.50	0.041	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Bromodichloromethane		ND	0.50	0.032	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Bromoform		ND	1.0	0.057	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Bromomethane		ND	1.0	0.34	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Carbon disulfide		ND	0.50	0.044	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Carbon tetrachloride		ND	0.50	0.076	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Chlorobenzene		ND	0.50	0.11	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Chloroethane		ND	0.50	0.064	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Chloroform		ND	0.50	0.059	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Chloromethane		ND	0.50	0.058	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
cis-1,2-Dichloroethene		ND	0.50	0.043	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
cis-1,3-Dichloropropene		ND	0.50	0.036	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Dibromochloromethane		ND	0.50	0.032	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Dibromomethane		ND	0.50	0.056	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.50	0.12	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.50	0.061	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Ethanol		ND	50	9.5	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	1.0	0.043	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Ethylbenzene		ND	0.50	0.044	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Hexachlorobutadiene		ND	1.0	0.087	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Hexachloroethane		ND	1.0	0.041	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Iodomethane		ND	5.0	2.1	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
m,p-Xylene		ND	1.0	0.095	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	1.0	0.056	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Methylene chloride		ND	1.0	0.12	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Naphthalene		ND	0.50	0.096	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
o-Xylene		ND	0.50	0.047	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Styrene		ND	0.50	0.021	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	1.0	0.032	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
tert-Butyl alcohol (TBA)		ND	20	0.98	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Tetrachloroethene (PCE)		ND	0.50	0.089	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Toluene		ND	0.50	0.066	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
trans-1,2-Dichloroethene		ND	0.50	0.056	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
trans-1,3-Dichloropropene		ND	0.50	0.044	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	5.0	0.048	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Trichloroethene (TCE)		ND	0.50	0.079	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.50	0.11	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Vinyl acetate		ND	0.50	0.11	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Vinyl chloride		ND	0.50	0.082	µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Xylenes		ND	2.0		µg/L	1	B0G1502	GAB	07/15/20 7:55	07/15/20 17:54	EPA 8260B
Surr: 4-Bromofluorobenzene		*97.9%*		*Recovery Limits: 70% - 130%*			*B0G1502*	GAB	07/15/20 7:55	07/15/20 17:54	*EPA 8260B*
Surr: Dibromofluoromethane		*101%*		*Recovery Limits: 70% - 130%*			*B0G1502*	GAB	07/15/20 7:55	07/15/20 17:54	*EPA 8260B*
Surr: Toluene-d8		*99.6%*		*Recovery Limits: 70% - 130%*			*B0G1502*	GAB	07/15/20 7:55	07/15/20 17:54	*EPA 8260B*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 10/06/2020

Quality Control Sample Results - Inorganics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1421										
Blank (B0G1421-BLK1)		Prepared & Analyzed: 07/14/20								
EPA 300.0										
Chloride		ND	2.0	mg/L						
Nitrate as N		ND	0.45	mg/L						
Sulfate as SO4		ND	2.0	mg/L						
LCS (B0G1421-BS1)		Prepared & Analyzed: 07/14/20								
EPA 300.0										
Chloride		50.1	2.0	mg/L	50.0		100	90-110		
Nitrate as N		11.0	0.45	mg/L	11.3		97.6	90-110		
Sulfate as SO4		49.7	2.0	mg/L	50.0		99.4	90-110		
LCS Dup (B0G1421-BSD1)		Prepared & Analyzed: 07/14/20								
EPA 300.0										
Chloride		49.6	2.0	mg/L	50.0		99.2	90-110	1.00	20
Nitrate as N		10.9	0.45	mg/L	11.3		96.8	90-110	0.843	20
Sulfate as SO4		50.2	2.0	mg/L	50.0		100	90-110	0.961	20
Matrix Spike (B0G1421-MS1)		Prepared & Analyzed: 07/14/20				**Source: GG14001-02**				
EPA 300.0										
Chloride		252	8.0	mg/L	200	49.4	101	80-120		
Nitrate as N		60.6	1.8	mg/L	45.2	17.6	95.2	80-120		
Sulfate as SO4		255	8.0	mg/L	200	52.2	102	80-120		
Matrix Spike Dup (B0G1421-MSD1)		Prepared & Analyzed: 07/14/20				**Source: GG14001-02**				
EPA 300.0										
Chloride		254	8.0	mg/L	200	49.4	102	80-120	0.624	20
Nitrate as N		61.6	1.8	mg/L	45.2	17.6	97.4	80-120	1.59	20
Sulfate as SO4		244	8.0	mg/L	200	52.2	95.9	80-120	4.62	20
Matrix Spike (B0G1421-MS2)		Prepared: 07/14/20 Analyzed: 07/15/20				**Source: GG14066-06**				
EPA 300.0										
Chloride		117	4.0	mg/L	100	14.9	102	80-120		
Nitrate as N		30.9	0.90	mg/L	22.6	9.32	95.4	80-120		
Sulfate as SO4		197	4.0	mg/L	100	102	95.0	80-120		
Matrix Spike Dup (B0G1421-MSD2)		Prepared: 07/14/20 Analyzed: 07/15/20				**Source: GG14066-06**				
EPA 300.0										
Chloride		117	4.0	mg/L	100	14.9	102	80-120	0.457	20
Nitrate as N		31.7	0.90	mg/L	22.6	9.32	99.1	80-120	2.69	20
Sulfate as SO4		197	4.0	mg/L	100	102	94.8	80-120	0.0980	20
Batch - B0G1509										
Blank (B0G1509-BLK1)		Prepared: 07/15/20 Analyzed: 07/16/20								
SM 2540 C										
Total Dissolved Solids		ND	10	mg/L						
LCS (B0G1509-BS1)		Prepared: 07/15/20 Analyzed: 07/16/20								
SM 2540 C										

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 10/06/2020

Quality Control Sample Results - Inorganics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1509										
LCS (B0G1509-BS1)		Prepared: 07/15/20 Analyzed: 07/16/20								
SM 2540 C										
Total Dissolved Solids		249	10	mg/L	240		104	80-120		
LCS Dup (B0G1509-BSD1)		Prepared: 07/15/20 Analyzed: 07/16/20								
SM 2540 C										
Total Dissolved Solids		255	10	mg/L	240		106	80-120	2.38	20
Duplicate (B0G1509-DUP1)		Prepared: 07/15/20 Analyzed: 07/16/20				**Source: GG10016-01**				
SM 2540 C										
Total Dissolved Solids		682	10	mg/L		708			3.67	20
Duplicate (B0G1509-DUP2)		Prepared: 07/15/20 Analyzed: 07/16/20				**Source: GG13013-01**				
SM 2540 C										
Total Dissolved Solids		692	10	mg/L		686			0.870	20
Batch - B0G1513										
Blank (B0G1513-BLK1)		Prepared: 07/16/20 Analyzed: 07/17/20								
SM 4500-CN E										
Cyanide (total)		ND	5.0	µg/L						
LCS (B0G1513-BS1)		Prepared: 07/16/20 Analyzed: 07/17/20								
SM 4500-CN E										
Cyanide (total)		49.0	5.0	µg/L	50.0		98.1	85-115		
LCS Dup (B0G1513-BSD1)		Prepared: 07/16/20 Analyzed: 07/17/20								
SM 4500-CN E										
Cyanide (total)		47.5	5.0	µg/L	50.0		95.1	85-115	3.11	20
Matrix Spike (B0G1513-MS1)		Prepared: 07/16/20 Analyzed: 07/17/20				**Source: GG14034-02**				
SM 4500-CN E										
Cyanide (total)		89.6	5.0	µg/L	100	ND	89.6	80-120		
Matrix Spike Dup (B0G1513-MSD1)		Prepared: 07/16/20 Analyzed: 07/17/20				**Source: GG14034-02**				
SM 4500-CN E										
Cyanide (total)		89.1	5.0	µg/L	100	ND	89.1	80-120	0.559	20
Batch - B0G1516										
Blank (B0G1516-BLK1)		Prepared & Analyzed: 07/15/20								
SM 2320 B										
Bicarbonate Alkalinity as HCO3	J	0.610	1.3	mg/L						
Carbonate Alkalinity as CO3		ND	1.0	mg/L						
Hydroxide Alkalinity as OH		ND	1.0	mg/L						
Total Alkalinity as CaCO3	J	0.500	1.0	mg/L						
SM 2510 B										
Specific Conductance (EC)		ND	1.0	µS/cm						
LCS (B0G1516-BS1)		Prepared & Analyzed: 07/15/20								
SM 2510 B										
Specific Conductance (EC)		486	1.0	µS/cm	500		97.2	80-120		
LCS (B0G1516-BS2)		Prepared & Analyzed: 07/15/20								

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 10/06/2020

Quality Control Sample Results - Inorganics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1516										
LCS (B0G1516-BS2)		Prepared & Analyzed: 07/15/20								
SM 4500-H B										
pH		7.01	0.10	pH Units	7.00		100	97-103		
LCS (B0G1516-BS3)		Prepared & Analyzed: 07/15/20								
SM 2320 B										
Total Alkalinity as CaCO3		233	1.0	mg/L	250		93.3	80-120		
LCS Dup (B0G1516-BSD1)		Prepared & Analyzed: 07/15/20								
SM 2510 B										
Specific Conductance (EC)		483	1.0	µS/cm	500		96.6	80-120	0.630	20
LCS Dup (B0G1516-BSD2)		Prepared & Analyzed: 07/15/20								
SM 4500-H B										
pH		7.01	0.10	pH Units	7.00		100	97-103	0.00	20
LCS Dup (B0G1516-BSD3)		Prepared & Analyzed: 07/15/20								
SM 2320 B										
Total Alkalinity as CaCO3		227	1.0	mg/L	250		90.8	80-120	2.73	20
Duplicate (B0G1516-DUP1)		Prepared & Analyzed: 07/15/20				**Source: GG14034-02**				
SM 2320 B										
Bicarbonate Alkalinity as HCO3		350	1.3	mg/L		352			0.473	20
Carbonate Alkalinity as CO3		ND	1.0	mg/L		ND				
Hydroxide Alkalinity as OH		ND	1.0	mg/L		ND				
Total Alkalinity as CaCO3		287	1.0	mg/L		288			0.473	20
SM 2510 B										
Specific Conductance (EC)		1340	1.0	µS/cm		1330			0.914	20
SM 4500-H B										
pH		7.85	0.10	pH Units		7.84			0.127	20
Duplicate (B0G1516-DUP2)		Prepared & Analyzed: 07/15/20				**Source: GG14051-02**				
SM 2320 B										
Bicarbonate Alkalinity as HCO3		269	1.3	mg/L		271			0.470	20
Carbonate Alkalinity as CO3		ND	1.0	mg/L		ND				
Hydroxide Alkalinity as OH		ND	1.0	mg/L		ND				
Total Alkalinity as CaCO3		221	1.0	mg/L		222			0.470	20
SM 2510 B										
Specific Conductance (EC)		896	1.0	µS/cm		897			0.114	20
SM 4500-H B										
pH		7.46	0.10	pH Units		7.46			0.00	20
Batch - B0G1609										
Blank (B0G1609-BLK1)		Prepared: 07/16/20 Analyzed: 07/17/20								
SM 2540 C										
Total Dissolved Solids		ND	10	mg/L						
LCS (B0G1609-BS1)		Prepared: 07/16/20 Analyzed: 07/17/20								
SM 2540 C										
Total Dissolved Solids		244	10	mg/L	240		101	80-120		

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 10/06/2020

Quality Control Sample Results - Inorganics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1609										
LCS Dup (B0G1609-BSD1)		Prepared: 07/16/20 Analyzed: 07/17/20								
SM 2540 C										
Total Dissolved Solids		232	10	mg/L	240		96.5	80-120	5.05	20
Duplicate (B0G1609-DUP1)		Prepared: 07/16/20 Analyzed: 07/17/20				**Source: GG09028-01**				
SM 2540 C										
Total Dissolved Solids		1240	20	mg/L		1280			3.49	20
Batch - B0G1901										
Blank (B0G1901-BLK1)		Prepared & Analyzed: 07/19/20								
SM 4500-S= F										
Sulfide		ND	1.0	mg/L						
LCS (B0G1901-BS1)		Prepared & Analyzed: 07/19/20								
SM 4500-S= F										
Sulfide		5.20	1.0	mg/L	5.00		104	80-120		
LCS Dup (B0G1901-BSD1)		Prepared & Analyzed: 07/19/20								
SM 4500-S= F										
Sulfide		5.20	1.0	mg/L	5.00		104	80-120	0.00	20
Duplicate (B0G1901-DUP1)		Prepared & Analyzed: 07/19/20				**Source: GG14034-02**				
SM 4500-S= F										
Sulfide	RPD2	3.20	1.0	mg/L		2.60			20.7	20
Batch - B0G2817										
Blank (B0G2817-BLK1)		Prepared & Analyzed: 07/28/20								
SM 5310 B										
Total Organic Carbon		ND	0.20	mg/L						
LCS (B0G2817-BS1)		Prepared & Analyzed: 07/28/20								
SM 5310 B										
Total Organic Carbon		4.24	0.20	mg/L	5.00		84.9	80-120		
LCS (B0G2817-BS2)		Prepared & Analyzed: 07/28/20								
SM 5310 B										
Total Organic Carbon		4.30	0.20	mg/L	5.00		86.0	80-120		
LCS Dup (B0G2817-BSD1)		Prepared & Analyzed: 07/28/20								
SM 5310 B										
Total Organic Carbon		4.28	0.20	mg/L	5.00		85.7	80-120	0.961	20
LCS Dup (B0G2817-BSD2)		Prepared & Analyzed: 07/28/20								
SM 5310 B										
Total Organic Carbon		4.33	0.20	mg/L	5.00		86.7	80-120	0.834	20
Duplicate (B0G2817-DUP1)		Prepared & Analyzed: 07/28/20				**Source: GG14034-02**				
SM 5310 B										
Total Organic Carbon		1.34	0.20	mg/L		1.11			19.4	20
Matrix Spike (B0G2817-MS1)		Prepared & Analyzed: 07/28/20				**Source: GG16001-06**				
SM 5310 B										
Total Organic Carbon		12.5	0.20	mg/L	12.5	1.32	89.5	70-130		

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 10/06/2020

Quality Control Sample Results - Inorganics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G2817										
Matrix Spike Dup (B0G2817-MSD1)		Prepared & Analyzed: 07/28/20				**Source: GG16001-06**				
SM 5310 B										
Total Organic Carbon		12.0	0.20	mg/L	12.5	1.32	85.1	70-130	4.50	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 10/06/2020

Quality Control Sample Results - Metals (Dissolved)

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1303										
Blank (B0G1303-BLK1)		Prepared: 07/20/20 Analyzed: 07/21/20								
EPA 200.8										
Aluminum		ND	4.0	µg/L						
Antimony		ND	1.0	µg/L						
Arsenic		ND	1.0	µg/L						
Barium		ND	1.0	µg/L						
Beryllium		ND	1.0	µg/L						
Cadmium		ND	0.20	µg/L						
Chromium		ND	1.0	µg/L						
Cobalt		ND	1.0	µg/L						
Copper		ND	2.0	µg/L						
Iron		ND	20	µg/L						
Lead		ND	1.0	µg/L						
Manganese		ND	1.0	µg/L						
Mercury		ND	0.20	µg/L						
Nickel		ND	1.0	µg/L						
Selenium		ND	1.0	µg/L						
Silver		ND	1.0	µg/L						
Thallium		ND	1.0	µg/L						
Tin		ND	15	µg/L						
Vanadium		ND	1.0	µg/L						
Zinc		ND	5.0	µg/L						
LCS (B0G1303-BS1)		Prepared: 07/20/20 Analyzed: 07/21/20								
EPA 200.8										
Aluminum		50.2	4.0	µg/L	50.0		100	85-115		
Antimony		49.3	1.0	µg/L	50.0		98.6	85-115		
Arsenic		51.9	1.0	µg/L	50.0		104	85-115		
Barium		48.8	1.0	µg/L	50.0		97.7	85-115		
Beryllium		52.7	1.0	µg/L	50.0		105	85-115		
Cadmium		50.3	0.20	µg/L	50.0		101	85-115		
Chromium		51.1	1.0	µg/L	50.0		102	85-115		
Cobalt		50.6	1.0	µg/L	50.0		101	85-115		
Copper		52.0	2.0	µg/L	50.0		104	85-115		
Iron		2730	20	µg/L	2500		109	85-115		
Lead		48	1.0	µg/L	50.0		96.5	85-115		
Manganese		50.4	1.0	µg/L	50.0		101	85-115		
Mercury		0.943	0.20	µg/L	1.00		94.3	85-115		
Nickel		51.3	1.0	µg/L	50.0		103	85-115		
Selenium		56.0	1.0	µg/L	50.0		112	85-115		
Silver		50.4	1.0	µg/L	50.0		101	85-115		
Thallium		48	1.0	µg/L	50.0		96.2	85-115		
Tin		48.9	15	µg/L	50.0		97.7	85-115		

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 10/06/2020

Quality Control Sample Results - Metals (Dissolved)

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1303										
LCS (B0G1303-BS1)		Prepared: 07/20/20 Analyzed: 07/21/20								
EPA 200.8										
Vanadium		49.5	1.0	µg/L	50.0		99.0	85-115		
Zinc		51.6	5.0	µg/L	50.0		103	85-115		
LCS Dup (B0G1303-BSD1)		Prepared: 07/20/20 Analyzed: 07/21/20								
EPA 200.8										
Aluminum		50.4	4.0	µg/L	50.0		101	85-115	0.346	20
Antimony		49.5	1.0	µg/L	50.0		99.0	85-115	0.383	20
Arsenic		52.3	1.0	µg/L	50.0		105	85-115	0.766	20
Barium		48.1	1.0	µg/L	50.0		96.2	85-115	1.51	20
Beryllium		53.7	1.0	µg/L	50.0		107	85-115	1.86	20
Cadmium		50.7	0.20	µg/L	50.0		101	85-115	0.756	20
Chromium		50.8	1.0	µg/L	50.0		102	85-115	0.516	20
Cobalt		51.0	1.0	µg/L	50.0		102	85-115	0.841	20
Copper		51.9	2.0	µg/L	50.0		104	85-115	0.158	20
Iron		2760	20	µg/L	2500		110	85-115	1.08	20
Lead		47	1.0	µg/L	50.0		94.0	85-115	2.57	20
Manganese		50.7	1.0	µg/L	50.0		101	85-115	0.602	20
Mercury		0.948	0.20	µg/L	1.00		94.8	85-115	0.526	20
Nickel		51.3	1.0	µg/L	50.0		103	85-115	0.0109	20
Selenium		56.3	1.0	µg/L	50.0		113	85-115	0.682	20
Silver		49.3	1.0	µg/L	50.0		98.7	85-115	2.04	20
Thallium		47	1.0	µg/L	50.0		93.5	85-115	2.81	20
Tin		49.3	15	µg/L	50.0		98.7	85-115	0.928	20
Vanadium		49.4	1.0	µg/L	50.0		98.8	85-115	0.203	20
Zinc		51.6	5.0	µg/L	50.0		103	85-115	0.0707	20
Matrix Spike (B0G1303-MS1)		Prepared: 07/20/20 Analyzed: 07/21/20				**Source: GG10016-01**				
EPA 200.8										
Aluminum		520	40	µg/L	500	ND	105	70-130		
Antimony		500	10	µg/L	500	ND	101	70-130		
Arsenic		530	10	µg/L	500	ND	105	70-130		
Barium		820	10	µg/L	500	310	102	70-130		
Beryllium		550	10	µg/L	500	ND	109	70-130		
Cadmium		510	2.0	µg/L	500	ND	102	70-130		
Chromium		520	10	µg/L	500	ND	104	70-130		
Cobalt		498	10	µg/L	500	ND	99.6	70-130		
Copper		500	20	µg/L	500	ND	99.7	70-130		
Iron		28900	200	µg/L	25000	527	113	70-130		
Lead		470	10	µg/L	500	ND	94.2	70-130		
Manganese		510	10	µg/L	500	ND	102	70-130		
Mercury		9.37	2.0	µg/L	10.0	ND	93.7	70-130		
Nickel		510	10	µg/L	500	ND	102	70-130		

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 10/06/2020

Quality Control Sample Results - Metals (Dissolved)

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1303										
Matrix Spike (B0G1303-MS1)		Prepared: 07/20/20 Analyzed: 07/21/20				**Source: GG10016-01**				
EPA 200.8										
Selenium		540	10	µg/L	500	ND	108	70-130		
Silver		490	10	µg/L	500	ND	98.0	70-130		
Thallium		460	10	µg/L	500	ND	92.6	70-130		
Tin		505	150	µg/L	500	ND	101	70-130		
Vanadium		530	10	µg/L	500	15	103	70-130		
Zinc		530	50	µg/L	500	19	103	70-130		
Matrix Spike Dup (B0G1303-MSD1)		Prepared: 07/20/20 Analyzed: 07/21/20				**Source: GG10016-01**				
EPA 200.8										
Aluminum		520	40	µg/L	500	ND	105	70-130	0.285	20
Antimony		500	10	µg/L	500	ND	100	70-130	0.635	20
Arsenic		530	10	µg/L	500	ND	105	70-130	0.276	20
Barium		800	10	µg/L	500	310	97.4	70-130	2.93	20
Beryllium		540	10	µg/L	500	ND	109	70-130	0.525	20
Cadmium		500	2.0	µg/L	500	ND	101	70-130	0.774	20
Chromium		510	10	µg/L	500	ND	103	70-130	1.14	20
Cobalt		499	10	µg/L	500	ND	99.9	70-130	0.290	20
Copper		500	20	µg/L	500	ND	99.8	70-130	0.0919	20
Iron		28300	200	µg/L	25000	527	111	70-130	2.06	20
Lead		470	10	µg/L	500	ND	94.0	70-130	0.237	20
Manganese		510	10	µg/L	500	ND	103	70-130	0.927	20
Mercury		9.68	2.0	µg/L	10.0	ND	96.8	70-130	3.32	20
Nickel		500	10	µg/L	500	ND	100	70-130	1.70	20
Selenium		550	10	µg/L	500	ND	109	70-130	0.943	20
Silver		500	10	µg/L	500	ND	99.8	70-130	1.83	20
Thallium		470	10	µg/L	500	ND	94.6	70-130	2.08	20
Tin		507	150	µg/L	500	ND	101	70-130	0.361	20
Vanadium		510	10	µg/L	500	15	99.7	70-130	3.25	20
Zinc		520	50	µg/L	500	19	99.6	70-130	3.30	20
Matrix Spike (B0G1303-MS2)		Prepared: 07/20/20 Analyzed: 07/21/20				**Source: GG17019-10**				
EPA 200.8										
Aluminum		570	40	µg/L	500	ND	114	70-130		
Antimony		520	10	µg/L	500	ND	103	70-130		
Arsenic		530	10	µg/L	500	ND	107	70-130		
Barium		700	10	µg/L	500	230	94.0	70-130		
Beryllium		620	10	µg/L	500	ND	124	70-130		
Cadmium		520	2.0	µg/L	500	ND	103	70-130		
Chromium		530	10	µg/L	500	ND	107	70-130		
Cobalt		501	10	µg/L	500	ND	100	70-130		
Copper		490	20	µg/L	500	ND	98.4	70-130		
Iron		29200	200	µg/L	25000	499	115	70-130		

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 10/06/2020

Quality Control Sample Results - Metals (Dissolved)

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1303										
Matrix Spike (B0G1303-MS2)		Prepared: 07/20/20 Analyzed: 07/21/20				**Source: GG17019-10**				
EPA 200.8										
Lead		460	10	µg/L	500	ND	91.3	70-130		
Manganese		520	10	µg/L	500	ND	104	70-130		
Mercury		9.22	2.0	µg/L	10.0	ND	92.2	70-130		
Nickel		500	10	µg/L	500	ND	99.9	70-130		
Selenium		570	10	µg/L	500	ND	115	70-130		
Silver		490	10	µg/L	500	ND	97.2	70-130		
Thallium		460	10	µg/L	500	ND	91.8	70-130		
Tin		512	150	µg/L	500	ND	102	70-130		
Vanadium		540	10	µg/L	500	ND	109	70-130		
Zinc		510	50	µg/L	500	16	99.6	70-130		
Matrix Spike Dup (B0G1303-MSD2)		Prepared: 07/20/20 Analyzed: 07/21/20				**Source: GG17019-10**				
EPA 200.8										
Aluminum		560	40	µg/L	500	ND	112	70-130	2.15	20
Antimony		520	10	µg/L	500	ND	103	70-130	0.132	20
Arsenic		530	10	µg/L	500	ND	105	70-130	1.37	20
Barium		730	10	µg/L	500	230	98.6	70-130	3.23	20
Beryllium		610	10	µg/L	500	ND	121	70-130	1.79	20
Cadmium		510	2.0	µg/L	500	ND	101	70-130	1.63	20
Chromium		530	10	µg/L	500	ND	105	70-130	1.12	20
Cobalt		492	10	µg/L	500	ND	98.4	70-130	1.77	20
Copper		490	20	µg/L	500	ND	98.3	70-130	0.0665	20
Iron		28600	200	µg/L	25000	499	113	70-130	2.06	20
Lead		460	10	µg/L	500	ND	92.5	70-130	1.32	20
Manganese		520	10	µg/L	500	ND	104	70-130	0.524	20
Mercury		9.32	2.0	µg/L	10.0	ND	93.2	70-130	1.15	20
Nickel		490	10	µg/L	500	ND	99.0	70-130	0.981	20
Selenium		570	10	µg/L	500	ND	113	70-130	1.59	20
Silver		490	10	µg/L	500	ND	98.6	70-130	1.40	20
Thallium		460	10	µg/L	500	ND	92.2	70-130	0.480	20
Tin		512	150	µg/L	500	ND	102	70-130	0.0451	20
Vanadium		520	10	µg/L	500	ND	104	70-130	4.08	20
Zinc		510	50	µg/L	500	16	99.5	70-130	0.0641	20
Batch - B0G1507										
Blank (B0G1507-BLK1)		Prepared: 07/21/20 Analyzed: 07/22/20								
EPA 200.7										
Calcium		ND	0.10	mg/L						
Magnesium		ND	0.10	mg/L						
Potassium		ND	1.0	mg/L						
Sodium		ND	1.0	mg/L						
LCS (B0G1507-BS1)		Prepared: 07/21/20 Analyzed: 07/22/20								

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 10/06/2020

Quality Control Sample Results - Metals (Dissolved)

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1507										
LCS (B0G1507-BS1)		Prepared: 07/21/20 Analyzed: 07/22/20								
EPA 200.7										
Calcium		1.05	0.10	mg/L	1.00		105	85-115		
Magnesium		2.05	0.10	mg/L	2.00		103	85-115		
Potassium		1.93	1.0	mg/L	2.00		96.6	85-115		
Sodium		2.01	1.0	mg/L	2.00		100	85-115		
LCS Dup (B0G1507-BSD1)		Prepared: 07/21/20 Analyzed: 07/22/20								
EPA 200.7										
Calcium		1.04	0.10	mg/L	1.00		104	85-115	0.614	20
Magnesium		2.04	0.10	mg/L	2.00		102	85-115	0.420	20
Potassium		1.99	1.0	mg/L	2.00		99.6	85-115	3.07	20
Sodium		2.03	1.0	mg/L	2.00		102	85-115	1.06	20
Matrix Spike (B0G1507-MS1)		Prepared: 07/21/20 Analyzed: 07/22/20				**Source: GG13013-01**				
EPA 200.7										
Calcium		66.3	1.0	mg/L	10.0	55.5	108	70-130		
Magnesium		58.8	1.0	mg/L	20.0	37.3	108	70-130		
Potassium		24.3	10	mg/L	20.0	5.13	95.8	70-130		
Sodium	MS2	155	10	mg/L	20.0	123	156	70-130		
Matrix Spike Dup (B0G1507-MSD1)		Prepared: 07/21/20 Analyzed: 07/22/20				**Source: GG13013-01**				
EPA 200.7										
Calcium	MS3	60.8	1.0	mg/L	10.0	55.5	53.4	70-130	8.63	20
Magnesium		58.4	1.0	mg/L	20.0	37.3	106	70-130	0.580	20
Potassium		23.7	10	mg/L	20.0	5.13	92.7	70-130	2.60	20
Sodium	MS2	153	10	mg/L	20.0	123	148	70-130	1.12	20
Matrix Spike (B0G1507-MS2)		Prepared: 07/21/20 Analyzed: 07/22/20				**Source: GG16001-12**				
EPA 200.7										
Calcium	MS2	112	1.0	mg/L	10.0	95.4	164	70-130		
Magnesium		38.7	1.0	mg/L	20.0	18.5	101	70-130		
Potassium		22.8	10	mg/L	20.0	3.37	97.4	70-130		
Sodium		73.3	10	mg/L	20.0	51.4	109	70-130		
Matrix Spike Dup (B0G1507-MSD2)		Prepared: 07/21/20 Analyzed: 07/22/20				**Source: GG16001-12**				
EPA 200.7										
Calcium	MS2	113	1.0	mg/L	10.0	95.4	174	70-130	0.919	20
Magnesium		39.2	1.0	mg/L	20.0	18.5	104	70-130	1.13	20
Potassium		22.9	10	mg/L	20.0	3.37	97.8	70-130	0.357	20
Sodium		73.7	10	mg/L	20.0	51.4	112	70-130	0.615	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 10/06/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1502										
Blank (B0G1502-BLK1)		Prepared & Analyzed: 07/15/20								
EPA 8260B										
Surr: 4-Bromofluorobenzene		*24.7*		*µg/L*	*25.0*		*98.8*	*70-130*		
Surr: Dibromofluoromethane		*24.7*		*µg/L*	*25.0*		*98.8*	*70-130*		
Surr: Toluene-d8		*24.8*		*µg/L*	*25.0*		*99.3*	*70-130*		
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L						
1,1,2,2-Tetrachloroethane		ND	1.0	µg/L						
1,1,2-Trichloroethane		ND	0.50	µg/L						
1,1-Dichloroethane		ND	0.50	µg/L						
1,1-Dichloroethene		ND	0.50	µg/L						
1,2,3-Trichloropropane (123TCP)		ND	0.50	µg/L						
1,2,4-Trichlorobenzene		ND	1.0	µg/L						
1,2-Dibromo-3-chloropropane (DBCP)		ND	5.0	µg/L						
1,2-Dibromoethane (EDB)		ND	0.50	µg/L						
1,2-Dichlorobenzene		ND	0.50	µg/L						
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L						
1,2-Dichloropropane		ND	0.50	µg/L						
1,3-Dichlorobenzene		ND	0.50	µg/L						
1,4-Dichlorobenzene		ND	0.50	µg/L						
2-Butanone (MEK)		ND	10	µg/L						
2-Hexanone		ND	1.0	µg/L						
4-Methyl-2-pentanone (MIBK)		ND	1.0	µg/L						
Acetone		ND	10	µg/L						
Acrylonitrile		ND	5.0	µg/L						
Benzene		ND	0.50	µg/L						
Bromochloromethane		ND	0.50	µg/L						
Bromodichloromethane		ND	0.50	µg/L						
Bromoform		ND	1.0	µg/L						
Bromomethane		ND	1.0	µg/L						
Carbon disulfide		ND	0.50	µg/L						
Carbon tetrachloride		ND	0.50	µg/L						
Chlorobenzene		ND	0.50	µg/L						
Chloroethane		ND	0.50	µg/L						
Chloroform		ND	0.50	µg/L						
Chloromethane		ND	0.50	µg/L						
cis-1,2-Dichloroethene		ND	0.50	µg/L						
cis-1,3-Dichloropropene		ND	0.50	µg/L						
Dibromochloromethane		ND	0.50	µg/L						
Dibromomethane		ND	0.50	µg/L						
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L						
Di-isopropyl ether (DIPE)		ND	0.50	µg/L						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 10/06/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1502										
Blank (B0G1502-BLK1)		Prepared & Analyzed: 07/15/20								
EPA 8260B										
Ethanol		ND	50	µg/L						
Ethyl tert-Butyl Ether (ETBE)		ND	1.0	µg/L						
Ethylbenzene		ND	0.50	µg/L						
Hexachlorobutadiene		ND	1.0	µg/L						
Hexachloroethane		ND	1.0	µg/L						
Iodomethane		ND	5.0	µg/L						
m,p-Xylene		ND	1.0	µg/L						
Methyl tert-Butyl Ether (MTBE)		ND	1.0	µg/L						
Methylene chloride		ND	1.0	µg/L						
Naphthalene		ND	0.50	µg/L						
o-Xylene		ND	0.50	µg/L						
Styrene		ND	0.50	µg/L						
Tert-Amyl Methyl Ether (TAME)		ND	1.0	µg/L						
tert-Butyl alcohol (TBA)		ND	20	µg/L						
Tetrachloroethene (PCE)		ND	0.50	µg/L						
Toluene		ND	0.50	µg/L						
trans-1,2-Dichloroethene		ND	0.50	µg/L						
trans-1,3-Dichloropropene		ND	0.50	µg/L						
trans-1,4-Dichloro-2-butene		ND	5.0	µg/L						
Trichloroethene (TCE)		ND	0.50	µg/L						
Trichlorofluoromethane (CFC-11)		ND	0.50	µg/L						
Vinyl acetate		ND	0.50	µg/L						
Vinyl chloride		ND	0.50	µg/L						
Xylenes		ND	2.0	µg/L						
LCS (B0G1502-BS1)		Prepared & Analyzed: 07/15/20								
EPA 8260B										
Surr: 4-Bromofluorobenzene		*24.5*		*µg/L*	*25.0*		*98.1*	*70-130*		
Surr: Dibromofluoromethane		*24.6*		*µg/L*	*25.0*		*98.4*	*70-130*		
Surr: Toluene-d8		*24.7*		*µg/L*	*25.0*		*98.9*	*70-130*		
1,1-Dichloroethene		21.4	0.50	µg/L	20.0		107	70-130		
Benzene		20.4	0.50	µg/L	20.0		102	70-130		
Chlorobenzene		21.2	0.50	µg/L	20.0		106	70-130		
Toluene		20.8	0.50	µg/L	20.0		104	70-130		
Trichloroethene (TCE)		21.4	0.50	µg/L	20.0		107	70-130		
LCS Dup (B0G1502-BSD1)		Prepared & Analyzed: 07/15/20								
EPA 8260B										
Surr: 4-Bromofluorobenzene		*24.9*		*µg/L*	*25.0*		*99.6*	*70-130*		
Surr: Dibromofluoromethane		*24.5*		*µg/L*	*25.0*		*98.0*	*70-130*		
Surr: Toluene-d8		*25.0*		*µg/L*	*25.0*		*99.9*	*70-130*		
1,1-Dichloroethene		20.0	0.50	µg/L	20.0		99.9	70-130	7.05	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Solid Waste Division 5961 South Mooney Blvd. Visalia CA, 93277	**Project:** Teapot Dome WDR No. R5-2014-0021 **Project Number:** E94401.03 **Project Manager:** Jonah Trevino	**Reported:** 10/06/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0G1502										
LCS Dup (B0G1502-BSD1)		Prepared & Analyzed: 07/15/20								
EPA 8260B										
Benzene		19.4	0.50	µg/L	20.0		96.9	70-130	4.93	20
Chlorobenzene		20.8	0.50	µg/L	20.0		104	70-130	1.81	20
Toluene		20.1	0.50	µg/L	20.0		101	70-130	3.13	20
Trichloroethene (TCE)		20.6	0.50	µg/L	20.0		103	70-130	3.77	20

Notes and Definitions

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag). Same as DNQ - Detected, but Not Quantified.
MS2	Recovery for this analyte was biased high; associated blank spike recoveries are within range.
MS3	Recovery for this analyte was biased low; associated blank spike recoveries are within range.
RPD2	A high RPD was observed due to the low concentration of the target analyte.
µg/L	micrograms per liter (parts per billion concentration units)
mg/L	milligrams per liter (parts per million concentration units)
mg/kg	milligrams per kilogram (parts per million concentration units)
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
	Analysis of pH, filtration, and residual chlorine is to take place immediately after sampling in the field. If the test was performed in the laboratory, the hold time was exceeded. **(for aqueous matrices only)**

MOORE TWINING ASSOCIATES, INC. EST. 1898

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

CHAIN OF CUSTODY/ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

WORK ORDER #: GG14035
PAGE 1 **OF** 2

REPORT TO:

ATTENTION: Jonah Treviño
NAME: County of Tulare – Solid Waste Dept.
ADDRESS: 5955 S. Mooney Blvd
PHONE: 559-624-7197
FAX: 559-740-4448

☐ **INVOICE TO:** ☐ **REPORT COPY TO:**

ATTENTION: Jonah Treviño
NAME: County of Tulare – Solid Waste Dept.
ADDRESS: 5955 S. Mooney Blvd
PHONE: 559-624-7197
FAX: 559-740-4448

REPORTING:

☐ STANDARD FORMAT
☐ WRITE-ON (STATE FORM)
☐ GEOTRACKER/COELT (LUFT)
☐ PDF ☐ SPREADSHEET
☐ County DHS :
☐ Environmental Health Agency :
☐ OTHER:

SAMPLE INFORMATION

SAMPLED BY (PRINT): Joe Clark
SIGNATURE:

☐ PUBLIC SYSTEM ☐ ROUTINE
☐ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME: ☐ RUSH, DUE ON:
☐ STANDARD

SAMPLE TYPES:

SOLID:
BS – BIOSOLID
CR – CERAMIC
SL – SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW – WASTE WATER

PROJECT INFORMATION

CONTRACT/P.O. NO.: 14235B26373
PROJECT: Teapot Dome – WDR No. R5-2014-0021
PROJECT NUMBER: E94401.03
PROJECT MANAGER: Kirk Jacobsen

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☑ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION
2.6

	CLIENT SAMPLE ID	DATE	TIME	TYPE	IG-1, IG-9, IG-10	VOCs 8260 Short List (TCSW)
1	~~Field Blank~~ Trip Blank 002	7/13/20				
2	M-13A	7/14/20	1002	GW	X	X
3	M-13A Field Blank	7/14/20	1002	W		X
4	M-13B	7/14/20	1107	GW	X	X
5	M-13B Field Blank	7/14/20	1107	W		X

COMMENTS/ADDITIONAL INSTRUCTIONS:

Analyze Field Blank only if VOCs detected in the sample. Analyze Trip Blank only if VOCs detected in Field Blank.
- Filter for dissolved metals in the lab

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	MTA	7-14-20	1416		MTA

Moore Twining Associates

Sample Integrity — Page 2 of 2 — WO# GG14035 — MTA Bottles: Yes or No

COC Info

Was temperature within range? Chemistry ≤6°C Micro <10°C Temp_____°C	Yes No N/A	Did all bottle labels agree with COC?	Yes No N/A
If samples were taken today, is there evidence that chilling has begun? Recvd 2.6 C°	Yes No N/A	Was a sufficient amount of sample received?	Yes No N/A
Did all bottles arrive unbroken and intact?	Yes No N/A	Were correct containers and preservatives received for the tests requested?	Yes No N/A
Do samples have a hold time <72 hours?	Yes No N/A	Were there bubbles in VOA vials? (**Volatiles Only**)	Yes No N/A
		Was PM notified of discrepancies? PM: By/Time:	Yes No N/A

Bottles Received

125ml (A) 250ml (B) 1Liter (C) 40ml VOA (V)	1,3,5	2+4
Bacti $Na_2S_2O_3$		
None (P)		1-C
Cr6 Buffer (P) Borate Carbonate Buffer		
HNO_3 (P)		1-A
H_2SO_4 (P)		
NaOH (P)		1-A
NaOH+ZnAc (P)		1-C
Dissolved Oxygen 300ml (P)		
None (AG)		
None (CG) 500ml		
$Na_2S_2O_3$ 250ml (Brown P) 549		
$Na_2S_2O_3$ (AG)		
$Na_2S_2O_3$ (AG)		
Thio/K Citrate		
NH_4Cl (AG) 552		
HCl (AG)	1-V	3-V
None (CG) 500ml		
H_3PO_4 (AG)		3-V
Other:		
Plastic Bag		
Low Level Hg/Metals Double Bag		
Client Own		
Glass Jar: 125/ 250/ 500		
Soil Tube: Brass/ Steel/ Plastic		
5 g Encore		
Ascorboc Acid (AG) Voa		
1gallon Cubitainer		

Filter or Split

	Container	Preservative	Date/Time/Initials
S P F	125mL	HNO3	7-14-20 1528
S P F			
S P F			
S P F			
S P F			

Comments

Labeled by: _____ @_____ Labels checked by: _____ @1538

FL-SC-0003-06

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 18, 2020

Work Order #: **GK19017**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19017**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 70 **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Analytical Report for the Following Samples

Sample ID	Notes	Laboratory ID	Matrix	Date Sampled	Date Received
Map Key 70		GK19017-01	Drinking Water	11/17/20 08:30	11/19/20 14:35

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Mapkey 70	12/18/2020
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 70

GK19017-01 (Drinking Water) Sampled: 11/17/20 08:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2-Trichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,3-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3,5-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,4-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
4-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Benzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromodichloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromoform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Carbon tetrachloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Di-isopropyl ether (DIPE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Hexachlorobutadiene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isobutyl alcohol		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isopropylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
m,p-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methylene chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Mapkey 70	12/18/2020
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 70

GK19017-01 (Drinking Water) Sampled: 11/17/20 08:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
n-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
n-Propylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
o-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
p-Isopropyltoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
sec-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Styrene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butyl alcohol (TBA)		ND	2.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tetrachloroethene (PCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Toluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total 1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total Trihalomethanes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichloroethene (TCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Vinyl chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Xylenes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Surr: 1,2-Dichlorobenzene-d4		*93.0%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*
Surr: 4-Bromofluorobenzene		*92.0%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 70 **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.89*		*µg/L*	*2.00*		*94.5*	*70-130*		
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L						
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,2-Trichloroethane		ND	0.50	µg/L						
1,1-Dichloroethane		ND	0.50	µg/L						
1,1-Dichloroethene		ND	0.50	µg/L						
1,2,3-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trimethylbenzene		ND	0.50	µg/L						
1,2-Dichlorobenzene		ND	0.50	µg/L						
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L						
1,2-Dichloropropane		ND	0.50	µg/L						
1,3,5-Trimethylbenzene		ND	0.50	µg/L						
1,3-Dichlorobenzene		ND	0.50	µg/L						
1,3-Dichloropropane		ND	0.50	µg/L						
1,4-Dichlorobenzene		ND	0.50	µg/L						
2,2-Dichloropropane		ND	0.50	µg/L						
2-Chlorotoluene		ND	0.50	µg/L						
4-Chlorotoluene		ND	0.50	µg/L						
Benzene		ND	0.50	µg/L						
Bromobenzene		ND	0.50	µg/L						
Bromochloromethane		ND	0.50	µg/L						
Bromodichloromethane		ND	0.50	µg/L						
Bromoform		ND	0.50	µg/L						
Bromomethane		ND	0.50	µg/L						
Carbon tetrachloride		ND	0.50	µg/L						
Chlorobenzene		ND	0.50	µg/L						
Chloroethane		ND	0.50	µg/L						
Chloroform		ND	0.50	µg/L						
Chloromethane		ND	0.50	µg/L						
cis-1,2-Dichloroethene		ND	0.50	µg/L						
cis-1,3-Dichloropropene		ND	0.50	µg/L						
Dibromochloromethane		ND	0.50	µg/L						
Dibromomethane		ND	0.50	µg/L						
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L						
Di-isopropyl ether (DIPE)		ND	0.50	µg/L						
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L						
Ethylbenzene		ND	0.50	µg/L						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 70 **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Hexachlorobutadiene		ND	0.50	µg/L						
Isobutyl alcohol		ND	10	µg/L						
Isopropylbenzene		ND	0.50	µg/L						
m,p-Xylene		ND	0.50	µg/L						
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L						
Methylene chloride		ND	0.50	µg/L						
n-Butylbenzene		ND	0.50	µg/L						
n-Propylbenzene		ND	0.50	µg/L						
o-Xylene		ND	0.50	µg/L						
p-Isopropyltoluene		ND	0.50	µg/L						
sec-Butylbenzene		ND	0.50	µg/L						
Styrene		ND	0.50	µg/L						
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L						
tert-Butyl alcohol (TBA)		ND	2.0	µg/L						
tert-Butylbenzene		ND	0.50	µg/L						
Tetrachloroethene (PCE)		ND	0.50	µg/L						
Toluene		ND	0.50	µg/L						
Total 1,3-Dichloropropene		ND	0.50	µg/L						
Total Trihalomethanes		ND	0.50	µg/L						
trans-1,2-Dichloroethene		ND	0.50	µg/L						
trans-1,3-Dichloropropene		ND	0.50	µg/L						
Trichloroethene (TCE)		ND	0.50	µg/L						
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L						
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L						
Vinyl chloride		ND	0.50	µg/L						
Xylenes		ND	0.50	µg/L						
LCS (B0K2001-BS1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.99*		*µg/L*	*2.00*		*99.5*	*70-130*		
1,1-Dichloroethene		4.73	0.50	µg/L	5.00		94.6	70-130		
Benzene		4.96	0.50	µg/L	5.00		99.2	70-130		
Chlorobenzene		4.85	0.50	µg/L	5.00		97.0	70-130		
Toluene		4.82	0.50	µg/L	5.00		96.4	70-130		
Trichloroethene (TCE)		4.53	0.50	µg/L	5.00		90.6	70-130		
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.92*		*µg/L*	*2.00*		*96.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.93*		*µg/L*	*2.00*		*96.5*	*70-130*		
1,1-Dichloroethene		4.17	0.50	µg/L	5.00		83.4	70-130	12.6	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 70 **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Benzene		4.47	0.50	µg/L	5.00		89.4	70-130	10.4	20
Chlorobenzene		4.38	0.50	µg/L	5.00		87.6	70-130	10.2	20
Toluene		4.44	0.50	µg/L	5.00		88.8	70-130	8.21	20
Trichloroethene (TCE)		4.17	0.50	µg/L	5.00		83.4	70-130	8.28	20

Notes and Definitions

µg/L	micrograms per liter (parts per billion concentration units)
mg/L	milligrams per liter (parts per million concentration units)
mg/kg	milligrams per kilogram (parts per million concentration units)
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference

Analysis of pH, filtration, and residual chlorine is to take place immediately after sampling in the field.
If the test was performed in the laboratory, the hold time was exceeded. **(for aqueous matrices only)**

MOORE TWINING ASSOCIATES, INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: 6K19017
PAGE 1 **OF** 2

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, Ca 93277
PHONE: 624-8441
EMAIL / FAX:

☑ INVOICE TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia Ca 93277
PHONE:
EMAIL / FAX:

☐ REPORT COPY TO:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 70
PROJECT MANAGER:

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

LAB USE	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC'S)									STATION CODE
1	Mapkey 70	11-17	8:30	DW	X									
2	Field Blanks (2)	11-17	8:30		X									
3	Trip Blank (1)	11-17	8:30		X									

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co.	11-19	1435		MTA

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 MTA'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 MTA's terms and conditions for laboratory services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

Moore Twining Associates

Sample Integrity — Page 2 of 2 — WO# GK19017 — MTA Bottles: Yes or No

COC Info					
Was temperature within range? Chemistry ≤6°C Micro <10°C Temp ___ °C	Yes No N/A	Did all bottle labels agree with COC?	Yes No N/A	Were there bubbles in VOA vials? (Volatiles Only)	Yes No N/A
If samples were taken today, is there evidence that chilling has begun? Recvd ___ C°	Yes No N/A	Was a sufficient amount of sample received?	Yes No N/A	Was PM notified of discrepancies? PM: By/Time:	Yes No N/A
Did all bottles arrive unbroken and intact?	Yes No N/A	Were correct containers and preservatives received for the tests requested?	Yes No N/A		
Do samples have a hold time <72 hours?	Yes No N/A				

Bottles Received																
125ml (A) 250ml (B) 1Liter (C) 40ml VOA (V)	1	2	3													
Bacti $Na_2S_2O_3$																
None (P)																
Cr6 Buffer (P) Borate Carbonate Buffer																
HNO_3 (P)																
H_2SO_4 (P)																
NaOH (P)																
NaOH+ZnAc (P)																
Dissolved Oxygen 300ml (P)																
None (AG)																
None (CG) 500ml																
$Na_2S_2O_3$ 250ml (Brown P) 549																
$Na_2S_2O_3$ (AG)																
$Na_2S_2O_3$ (AG)																
Thio/K Citrate																
NH_4Cl (AG) 552																
HCl (AG)	3✓	2✓	1✓													
None (CG) 500ml																
H_3PO_4 (AG)																
Other:																
Plastic Bag																
Low Level Hg/Metals Double Bag																
Client Own																
Glass Jar: 125/ 250/ 500																
Soil Tube: Brass/ Steel/ Plastic																
5 g Encore																

Comments	Filter or Split	Container	Preservative	Date/Time/Initials
	S P F			
	S P F			
	S P F			
	S P F			
	S P F			

Labeled by: ✓ @ 1512 Labels checked by: ✓ @ 1513

FL-SC-0003-0

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 18, 2020

Work Order #: **GK19018**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19018**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map Key 71 **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Analytical Report for the Following Samples

Sample ID	Notes	Laboratory ID	Matrix	Date Sampled	Date Received
Map Key 71		GK19018-01	Drinking Water	11/17/20 09:00	11/19/20 14:35

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Map Key 71	12/18/2020
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 71

GK19018-01 (Drinking Water) Sampled: 11/17/20 09:00

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2-Trichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,3-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3,5-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,4-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
4-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Benzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromodichloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromoform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Carbon tetrachloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Di-isopropyl ether (DIPE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Hexachlorobutadiene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isobutyl alcohol		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isopropylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
m,p-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methylene chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Map Key 71	12/18/2020
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 71

GK19018-01 (Drinking Water) Sampled: 11/17/20 09:00

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
n-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
n-Propylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
o-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
p-Isopropyltoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
sec-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Styrene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butyl alcohol (TBA)		ND	2.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tetrachloroethene (PCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Toluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total 1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total Trihalomethanes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichloroethene (TCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Vinyl chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Xylenes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Surr: 1,2-Dichlorobenzene-d4		*94.0%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*
Surr: 4-Bromofluorobenzene		*94.0%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map Key 71 **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.89*		*µg/L*	*2.00*		*94.5*	*70-130*		
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L						
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,2-Trichloroethane		ND	0.50	µg/L						
1,1-Dichloroethane		ND	0.50	µg/L						
1,1-Dichloroethene		ND	0.50	µg/L						
1,2,3-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trimethylbenzene		ND	0.50	µg/L						
1,2-Dichlorobenzene		ND	0.50	µg/L						
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L						
1,2-Dichloropropane		ND	0.50	µg/L						
1,3,5-Trimethylbenzene		ND	0.50	µg/L						
1,3-Dichlorobenzene		ND	0.50	µg/L						
1,3-Dichloropropane		ND	0.50	µg/L						
1,4-Dichlorobenzene		ND	0.50	µg/L						
2,2-Dichloropropane		ND	0.50	µg/L						
2-Chlorotoluene		ND	0.50	µg/L						
4-Chlorotoluene		ND	0.50	µg/L						
Benzene		ND	0.50	µg/L						
Bromobenzene		ND	0.50	µg/L						
Bromochloromethane		ND	0.50	µg/L						
Bromodichloromethane		ND	0.50	µg/L						
Bromoform		ND	0.50	µg/L						
Bromomethane		ND	0.50	µg/L						
Carbon tetrachloride		ND	0.50	µg/L						
Chlorobenzene		ND	0.50	µg/L						
Chloroethane		ND	0.50	µg/L						
Chloroform		ND	0.50	µg/L						
Chloromethane		ND	0.50	µg/L						
cis-1,2-Dichloroethene		ND	0.50	µg/L						
cis-1,3-Dichloropropene		ND	0.50	µg/L						
Dibromochloromethane		ND	0.50	µg/L						
Dibromomethane		ND	0.50	µg/L						
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L						
Di-isopropyl ether (DIPE)		ND	0.50	µg/L						
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L						
Ethylbenzene		ND	0.50	µg/L						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:** Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:** Map Key 71	12/18/2020
Visalia CA, 93277	**Project Manager:** Allison Shuklian	

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Hexachlorobutadiene		ND	0.50	µg/L						
Isobutyl alcohol		ND	10	µg/L						
Isopropylbenzene		ND	0.50	µg/L						
m,p-Xylene		ND	0.50	µg/L						
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L						
Methylene chloride		ND	0.50	µg/L						
n-Butylbenzene		ND	0.50	µg/L						
n-Propylbenzene		ND	0.50	µg/L						
o-Xylene		ND	0.50	µg/L						
p-Isopropyltoluene		ND	0.50	µg/L						
sec-Butylbenzene		ND	0.50	µg/L						
Styrene		ND	0.50	µg/L						
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L						
tert-Butyl alcohol (TBA)		ND	2.0	µg/L						
tert-Butylbenzene		ND	0.50	µg/L						
Tetrachloroethene (PCE)		ND	0.50	µg/L						
Toluene		ND	0.50	µg/L						
Total 1,3-Dichloropropene		ND	0.50	µg/L						
Total Trihalomethanes		ND	0.50	µg/L						
trans-1,2-Dichloroethene		ND	0.50	µg/L						
trans-1,3-Dichloropropene		ND	0.50	µg/L						
Trichloroethene (TCE)		ND	0.50	µg/L						
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L						
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L						
Vinyl chloride		ND	0.50	µg/L						
Xylenes		ND	0.50	µg/L						
LCS (B0K2001-BS1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.99*		*µg/L*	*2.00*		*99.5*	*70-130*		
1,1-Dichloroethene		4.73	0.50	µg/L	5.00		94.6	70-130		
Benzene		4.96	0.50	µg/L	5.00		99.2	70-130		
Chlorobenzene		4.85	0.50	µg/L	5.00		97.0	70-130		
Toluene		4.82	0.50	µg/L	5.00		96.4	70-130		
Trichloroethene (TCE)		4.53	0.50	µg/L	5.00		90.6	70-130		
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.92*		*µg/L*	*2.00*		*96.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.93*		*µg/L*	*2.00*		*96.5*	*70-130*		
1,1-Dichloroethene		4.17	0.50	µg/L	5.00		83.4	70-130	12.6	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map Key 71 **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Benzene		4.47	0.50	µg/L	5.00		89.4	70-130	10.4	20
Chlorobenzene		4.38	0.50	µg/L	5.00		87.6	70-130	10.2	20
Toluene		4.44	0.50	µg/L	5.00		88.8	70-130	8.21	20
Trichloroethene (TCE)		4.17	0.50	µg/L	5.00		83.4	70-130	8.28	20

Notes and Definitions

µg/L	micrograms per liter (parts per billion concentration units)
mg/L	milligrams per liter (parts per million concentration units)
mg/kg	milligrams per kilogram (parts per million concentration units)
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference

Analysis of pH, filtration, and residual chlorine is to take place immediately after sampling in the field.
If the test was performed in the laboratory, the hold time was exceeded. **(for aqueous matrices only)**

MOORE TWINING ASSOCIATES, INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 Fresno Street • Fresno, CA 93721 • Phone (559) 268-7021 • Fax: (559) 268-0740

Analytical Chemistry Division
California ELAP Certification # 1371

Work Order #: 6K19018
Page 1 of 2

Report To:
Attention: Allison Shuklian
Company Name: Tul. Co. HHSA
Address: 5957 S Mooney Blvd.
Visalia, Ca 93277
Phone: 624-8441
Email / Fax:

Invoice To: ☑
Attention: Lucas Feldstein
Company Name: Tulare County Solid Waste
Address: 5955 S Mooney Blvd
Visalia Ca 93277
Phone:
Email / Fax:

☐ Report Copy To:

Reporting:
☒ Standard Format ☐ PDF
☐ EDT (SWRCB) ☐ Excel
☐ Geotracker/COELT (LUFT)
Global ID:
☐ County Environmental Health:
☐ State Water Resources Control Board:
☐ Other:

Sample Information
Sampled By (Print): Allison Shuklian
Signature:
☐ Public System ☐ Routine
☒ Private Well ☐ Repeat
☐ Other ☐ Replacement

Turn Around Time
☒ Standard
☐ Rush, Due On:

Sample Types
Solid:
BS - Biosolid
CR - Ceramic
SL - Soil/Solid
Liquid:
DW - Drinking Water
GW - Ground Water
OL - Oil
SF - Surface Water
ST - Storm Water
WW - Wastewater

Project Information
Contract / P.O. No.: Tulare County Solid Waste
Project: Teapot Dome Landfill - offsite wells
Project Number: Mapkey 71
Project Manager:

Analysis Requested

Lab Use — Notes on Received Condition:
☐ Custody Seal(s) Broken ☐ Samples(s) Damaged
☐ On Ice ☐ Ambient Temp. ☐ Incorrect Preservation

	Client Sample ID	Date	Time	Type	GPA 524.2 (VOC's)									Station Code
1	Mapkey 71	11-17	9:00	DW	X									
2	Field Blanks (2)	11-17	9:00		X									
3	Trip Blank (1)	11-17	9:00		X									

Comments / Additional Instructions:
Analyze Field Blanks only if positive results

Relinquished By	Company	Date	Time	Received By	Company
	Tulare	11-19	14:35		MTA

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 MTA'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 MTA's terms and conditions for laboratory services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

Moore Twining Associates

Sample Integrity — Page 2 of 2 — WO# GK19018 — MTA Bottles: Yes or No

COC Info				
Was temperature within range? Chemistry ≤6°C Micro <10°C Temp ___ °C	Yes No N/A	Did all bottle labels agree with COC?	Yes No N/A	Were there bubbles in VOA vials? (Volatiles Only) — Yes No N/A
If samples were taken today, is there evidence that chilling has begun? Recvd ___ C°	Yes No N/A	Was a sufficient amount of sample received?	Yes No N/A	Was PM notified of discrepancies? PM: By/Time: — Yes No N/A
Did all bottles arrive unbroken and intact?	Yes No N/A	Were correct containers and preservatives received for the tests requested?	Yes No N/A	
Do samples have a hold time <72 hours?	Yes No N/A			

Bottles Received																
125ml (A) 250ml (B) 1Liter (C) 40ml VOA (V)	1	2	3													
Bacti $Na_2S_2O_3$																
None (P)																
Cr6 Buffer (P) Borate Carbonate Buffer																
HNO_3 (P)																
H_2SO_4 (P)																
NaOH (P)																
NaOH+ZnAc (P)																
Dissolved Oxygen 300ml (P)																
None (AG)																
None (CG) 500ml																
$Na_2S_2O_3$ 250ml (Brown P) 549																
$Na_2S_2O_3$ (AG)																
$Na_2S_2O_3$ (AG)																
Thio/K Citrate																
NH_4Cl (AG) 552																
HCl (AG)	3V	2V	1V													
None (CG) 500ml																
H_3PO_4 (AG)																
Other:																
Plastic Bag																
Low Level Hg/Metals Double Bag																
Client Own																
Glass Jar: 125/ 250/ 500																
Soil Tube: Brass/ Steel/ Plastic																
5 g Encore																

Comments

Filter or Split	Container	Preservative	Date/Time/Initials
S P F			
S P F			
S P F			
S P F			
S P F			

Labeled by: ___ @ ___ Labels checked by: ___ @ 1510

FL-SC-0003-0

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 18, 2020

Work Order #: **GK19019**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19019**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 22 **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Analytical Report for the Following Samples

Sample ID	Notes	Laboratory ID	Matrix	Date Sampled	Date Received
Map Key 22		GK19019-01	Drinking Water	11/17/20 09:30	11/19/20 14:35

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Mapkey 22	12/18/2020
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 22

GK19019-01 (Drinking Water) Sampled: 11/17/20 09:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2-Trichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,3-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3,5-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,4-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
4-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Benzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromodichloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromoform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Carbon tetrachloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Di-isopropyl ether (DIPE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Hexachlorobutadiene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isobutyl alcohol		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isopropylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
m,p-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methylene chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Mapkey 22	12/18/2020
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 22

GK19019-01 (Drinking Water) Sampled: 11/17/20 09:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
n-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
n-Propylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
o-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
p-Isopropyltoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
sec-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Styrene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butyl alcohol (TBA)		ND	2.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tetrachloroethene (PCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Toluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total 1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total Trihalomethanes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichloroethene (TCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Vinyl chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Xylenes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Surr: 1,2-Dichlorobenzene-d4		*92.0%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*
Surr: 4-Bromofluorobenzene		*91.5%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 22 **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.89*		*µg/L*	*2.00*		*94.5*	*70-130*		
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L						
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,2-Trichloroethane		ND	0.50	µg/L						
1,1-Dichloroethane		ND	0.50	µg/L						
1,1-Dichloroethene		ND	0.50	µg/L						
1,2,3-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trimethylbenzene		ND	0.50	µg/L						
1,2-Dichlorobenzene		ND	0.50	µg/L						
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L						
1,2-Dichloropropane		ND	0.50	µg/L						
1,3,5-Trimethylbenzene		ND	0.50	µg/L						
1,3-Dichlorobenzene		ND	0.50	µg/L						
1,3-Dichloropropane		ND	0.50	µg/L						
1,4-Dichlorobenzene		ND	0.50	µg/L						
2,2-Dichloropropane		ND	0.50	µg/L						
2-Chlorotoluene		ND	0.50	µg/L						
4-Chlorotoluene		ND	0.50	µg/L						
Benzene		ND	0.50	µg/L						
Bromobenzene		ND	0.50	µg/L						
Bromochloromethane		ND	0.50	µg/L						
Bromodichloromethane		ND	0.50	µg/L						
Bromoform		ND	0.50	µg/L						
Bromomethane		ND	0.50	µg/L						
Carbon tetrachloride		ND	0.50	µg/L						
Chlorobenzene		ND	0.50	µg/L						
Chloroethane		ND	0.50	µg/L						
Chloroform		ND	0.50	µg/L						
Chloromethane		ND	0.50	µg/L						
cis-1,2-Dichloroethene		ND	0.50	µg/L						
cis-1,3-Dichloropropene		ND	0.50	µg/L						
Dibromochloromethane		ND	0.50	µg/L						
Dibromomethane		ND	0.50	µg/L						
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L						
Di-isopropyl ether (DIPE)		ND	0.50	µg/L						
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L						
Ethylbenzene		ND	0.50	µg/L						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:** Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:** Mapkey 22	12/18/2020
Visalia CA, 93277	**Project Manager:** Allison Shuklian	

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Hexachlorobutadiene		ND	0.50	µg/L						
Isobutyl alcohol		ND	10	µg/L						
Isopropylbenzene		ND	0.50	µg/L						
m,p-Xylene		ND	0.50	µg/L						
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L						
Methylene chloride		ND	0.50	µg/L						
n-Butylbenzene		ND	0.50	µg/L						
n-Propylbenzene		ND	0.50	µg/L						
o-Xylene		ND	0.50	µg/L						
p-Isopropyltoluene		ND	0.50	µg/L						
sec-Butylbenzene		ND	0.50	µg/L						
Styrene		ND	0.50	µg/L						
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L						
tert-Butyl alcohol (TBA)		ND	2.0	µg/L						
tert-Butylbenzene		ND	0.50	µg/L						
Tetrachloroethene (PCE)		ND	0.50	µg/L						
Toluene		ND	0.50	µg/L						
Total 1,3-Dichloropropene		ND	0.50	µg/L						
Total Trihalomethanes		ND	0.50	µg/L						
trans-1,2-Dichloroethene		ND	0.50	µg/L						
trans-1,3-Dichloropropene		ND	0.50	µg/L						
Trichloroethene (TCE)		ND	0.50	µg/L						
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L						
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L						
Vinyl chloride		ND	0.50	µg/L						
Xylenes		ND	0.50	µg/L						
LCS (B0K2001-BS1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.99*		*µg/L*	*2.00*		*99.5*	*70-130*		
1,1-Dichloroethene		4.73	0.50	µg/L	5.00		94.6	70-130		
Benzene		4.96	0.50	µg/L	5.00		99.2	70-130		
Chlorobenzene		4.85	0.50	µg/L	5.00		97.0	70-130		
Toluene		4.82	0.50	µg/L	5.00		96.4	70-130		
Trichloroethene (TCE)		4.53	0.50	µg/L	5.00		90.6	70-130		
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.92*		*µg/L*	*2.00*		*96.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.93*		*µg/L*	*2.00*		*96.5*	*70-130*		
1,1-Dichloroethene		4.17	0.50	µg/L	5.00		83.4	70-130	12.6	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 22 **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Benzene		4.47	0.50	µg/L	5.00		89.4	70-130	10.4	20
Chlorobenzene		4.38	0.50	µg/L	5.00		87.6	70-130	10.2	20
Toluene		4.44	0.50	µg/L	5.00		88.8	70-130	8.21	20
Trichloroethene (TCE)		4.17	0.50	µg/L	5.00		83.4	70-130	8.28	20

Notes and Definitions

µg/L	micrograms per liter (parts per billion concentration units)
mg/L	milligrams per liter (parts per million concentration units)
mg/kg	milligrams per kilogram (parts per million concentration units)
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference

Analysis of pH, filtration, and residual chlorine is to take place immediately after sampling in the field.
If the test was performed in the laboratory, the hold time was exceeded. **(for aqueous matrices only)**

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: 6K14014
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, Ca 93277
PHONE: 624-8441
EMAIL / FAX:

☑ INVOICE TO: ☐ REPORT COPY TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia Ca 93277
PHONE:
EMAIL / FAX:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 22
PROJECT MANAGER:

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLES(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC's)										STATION CODE
1	Mapkey 22	11-17	9:30	DW	X										
2	Field Blanks (2)	11-17	9:30		X										
3	Trip Blank (1)	11-17	9:30		X										

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co.	11-19	14:35		MTA

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 MTA'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 MTA's terms and conditions for laboratory services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

Moore Twining Associates

Sample Integrity — Page 2 of 2 — WO# GF19017 — MTA Bottles: Yes or No

COC Info				
Was temperature within range? Chemistry ≤6°C Micro <10°C Temp ___ °C	Yes No N/A	Did all bottle labels agree with COC?	Yes No N/A	Were there bubbles in VOA vials? (**Volatiles Only**) Yes No N/A
If samples were taken today, is there evidence that chilling has begun? Recvd ___ C°	Yes No N/A	Was a sufficient amount of sample received?	Yes No N/A	Was PM notified of discrepancies? PM: By/Time: Yes No N/A
Did all bottles arrive unbroken and intact?	Yes No N/A	Were correct containers and preservatives received for the tests requested?	Yes No N/A	
Do samples have a hold time <72 hours?	Yes No N/A			

Bottles Received															
125ml (A) 250ml (B) 1Liter (C) 40ml VOA (V)	1	2	3												
Bacti $Na_2S_2O_3$															
None (P)															
Cr6 Buffer (P) Borate Carbonate Buffer															
HNO_3 (P)															
H_2SO_4 (P)															
NaOH (P)															
NaOH+ZnAc (P)															
Dissolved Oxygen 300ml (P)															
None (AG)															
None (CG) 500ml															
$Na_2S_2O_3$ 250ml (Brown P) 549															
$Na_2S_2O_3$ (AG)															
$Na_2S_2O_3$ (AG)															
Thio/K Citrate															
NH_4Cl (AG) 552															
HCl (AG)	3V	2V	1V												
None (CG) 500ml															
H_3PO_4 (AG)															
Other:															
Plastic Bag															
Low Level Hg/Metals Double Bag															
Client Own															
Glass Jar: 125/ 250/ 500															
Soil Tube: Brass/ Steel/ Plastic															
5 g Encore															

Comments	Filter or Split	Container	Preservative	Date/Time/Initials
	S P F			
	S P F			
	S P F			
	S P F			
	S P F			

Labeled by: M @1509 Labels checked by: ✓ @1510

FL-SC-0003-06

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 18, 2020

Work Order #: **GK19020**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19020**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 24A **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Analytical Report for the Following Samples

Sample ID	Notes	Laboratory ID	Matrix	Date Sampled	Date Received
Map Key 24A		GK19020-01	Drinking Water	11/17/20 10:00	11/19/20 14:35

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Mapkey 24A	12/18/2020
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 24A

GK19020-01 (Drinking Water) Sampled: 11/17/20 10:00

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2-Trichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,3-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3,5-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,4-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
4-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Benzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromodichloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromoform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Carbon tetrachloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Di-isopropyl ether (DIPE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Hexachlorobutadiene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isobutyl alcohol		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isopropylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
m,p-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methylene chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Mapkey 24A	12/18/2020
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 24A

GK19020-01 (Drinking Water) Sampled: 11/17/20 10:00

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
n-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
n-Propylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
o-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
p-Isopropyltoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
sec-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Styrene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butyl alcohol (TBA)		ND	2.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tetrachloroethene (PCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Toluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total 1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total Trihalomethanes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichloroethene (TCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Vinyl chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Xylenes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Surr: 1,2-Dichlorobenzene-d4		*93.5%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*
Surr: 4-Bromofluorobenzene		*91.0%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 24A **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.89*		*µg/L*	*2.00*		*94.5*	*70-130*		
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L						
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,2-Trichloroethane		ND	0.50	µg/L						
1,1-Dichloroethane		ND	0.50	µg/L						
1,1-Dichloroethene		ND	0.50	µg/L						
1,2,3-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trimethylbenzene		ND	0.50	µg/L						
1,2-Dichlorobenzene		ND	0.50	µg/L						
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L						
1,2-Dichloropropane		ND	0.50	µg/L						
1,3,5-Trimethylbenzene		ND	0.50	µg/L						
1,3-Dichlorobenzene		ND	0.50	µg/L						
1,3-Dichloropropane		ND	0.50	µg/L						
1,4-Dichlorobenzene		ND	0.50	µg/L						
2,2-Dichloropropane		ND	0.50	µg/L						
2-Chlorotoluene		ND	0.50	µg/L						
4-Chlorotoluene		ND	0.50	µg/L						
Benzene		ND	0.50	µg/L						
Bromobenzene		ND	0.50	µg/L						
Bromochloromethane		ND	0.50	µg/L						
Bromodichloromethane		ND	0.50	µg/L						
Bromoform		ND	0.50	µg/L						
Bromomethane		ND	0.50	µg/L						
Carbon tetrachloride		ND	0.50	µg/L						
Chlorobenzene		ND	0.50	µg/L						
Chloroethane		ND	0.50	µg/L						
Chloroform		ND	0.50	µg/L						
Chloromethane		ND	0.50	µg/L						
cis-1,2-Dichloroethene		ND	0.50	µg/L						
cis-1,3-Dichloropropene		ND	0.50	µg/L						
Dibromochloromethane		ND	0.50	µg/L						
Dibromomethane		ND	0.50	µg/L						
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L						
Di-isopropyl ether (DIPE)		ND	0.50	µg/L						
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L						
Ethylbenzene		ND	0.50	µg/L						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 24A **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Hexachlorobutadiene		ND	0.50	µg/L						
Isobutyl alcohol		ND	10	µg/L						
Isopropylbenzene		ND	0.50	µg/L						
m,p-Xylene		ND	0.50	µg/L						
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L						
Methylene chloride		ND	0.50	µg/L						
n-Butylbenzene		ND	0.50	µg/L						
n-Propylbenzene		ND	0.50	µg/L						
o-Xylene		ND	0.50	µg/L						
p-Isopropyltoluene		ND	0.50	µg/L						
sec-Butylbenzene		ND	0.50	µg/L						
Styrene		ND	0.50	µg/L						
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L						
tert-Butyl alcohol (TBA)		ND	2.0	µg/L						
tert-Butylbenzene		ND	0.50	µg/L						
Tetrachloroethene (PCE)		ND	0.50	µg/L						
Toluene		ND	0.50	µg/L						
Total 1,3-Dichloropropene		ND	0.50	µg/L						
Total Trihalomethanes		ND	0.50	µg/L						
trans-1,2-Dichloroethene		ND	0.50	µg/L						
trans-1,3-Dichloropropene		ND	0.50	µg/L						
Trichloroethene (TCE)		ND	0.50	µg/L						
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L						
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L						
Vinyl chloride		ND	0.50	µg/L						
Xylenes		ND	0.50	µg/L						
LCS (B0K2001-BS1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.99*		*µg/L*	*2.00*		*99.5*	*70-130*		
1,1-Dichloroethene		4.73	0.50	µg/L	5.00		94.6	70-130		
Benzene		4.96	0.50	µg/L	5.00		99.2	70-130		
Chlorobenzene		4.85	0.50	µg/L	5.00		97.0	70-130		
Toluene		4.82	0.50	µg/L	5.00		96.4	70-130		
Trichloroethene (TCE)		4.53	0.50	µg/L	5.00		90.6	70-130		
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.92*		*µg/L*	*2.00*		*96.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.93*		*µg/L*	*2.00*		*96.5*	*70-130*		
1,1-Dichloroethene		4.17	0.50	µg/L	5.00		83.4	70-130	12.6	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 24A **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Benzene		4.47	0.50	µg/L	5.00		89.4	70-130	10.4	20
Chlorobenzene		4.38	0.50	µg/L	5.00		87.6	70-130	10.2	20
Toluene		4.44	0.50	µg/L	5.00		88.8	70-130	8.21	20
Trichloroethene (TCE)		4.17	0.50	µg/L	5.00		83.4	70-130	8.28	20

Notes and Definitions

µg/L	micrograms per liter (parts per billion concentration units)
mg/L	milligrams per liter (parts per million concentration units)
mg/kg	milligrams per kilogram (parts per million concentration units)
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference

Analysis of pH, filtration, and residual chlorine is to take place immediately after sampling in the field.
If the test was performed in the laboratory, the hold time was exceeded. **(for aqueous matrices only)**

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: 6K19020
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shnkllian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, Ca 93277
PHONE: 624-8441
EMAIL / FAX:

☒ INVOICE TO: ☐ REPORT COPY TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia Ca 93277
PHONE:
EMAIL / FAX:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shnkllian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - Offsite Wells
PROJECT NUMBER: Mapkey 24A
PROJECT MANAGER:

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLES(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC's)									STATION CODE
1	Mapkey 24A	11-17	10:00	DW	X									
2	Field Blanks (2)	11-17	10:00		X									
3	Trip Blank (1)	11-17	10:00		X									

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co.	11-19	14:35		MTA

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 subje monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are e 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 MTA's terms and conditions for labor services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

Moore Twining Associates

Sample Integrity — Page 2 of 2 — WO# 6M4020 — MTA Bottles: Yes or No

COC Info			
Was temperature within range? Chemistry ≤6°C Micro <10°C Temp ___ °C	Yes No N/A	Did all bottle labels agree with COC?	Yes No N/A
If samples were taken today, is there evidence that chilling has begun? Recvd ___ C°	Yes No N/A	Was a sufficient amount of sample received?	Yes No N/A
Did all bottles arrive unbroken and intact?	Yes No N/A	Were correct containers and preservatives received for the tests requested?	Yes No N/A
Do samples have a hold time <72 hours?	Yes No N/A		
Were there bubbles in VOA vials? (Volatiles Only)	Yes No N/A		
Was PM notified of discrepancies? PM: By/Time:	Yes No N/A		

Bottles Received																
125ml (A) 250ml (B) 1Liter (C) 40ml VOA (V)	1	2	3													
Bacti $Na_2S_2O_3$																
None (P)																
Cr6 Buffer (P) Borate Carbonate Buffer																
HNO_3 (P)																
H_2SO_4 (P)																
NaOH (P)																
NaOH+ZnAc (P)																
Dissolved Oxygen 300ml (P)																
None (AG)																
None (CG) 500ml																
$Na_2S_2O_3$ 250ml (Brown P) 549																
$Na_2S_2O_3$ (AG)																
$Na_2S_2O_3$ (AG)																
Thio/K Citrate																
NH_4Cl (AG) 552																
HCl (AG)	3✓	2✓	1✓													
None (CG) 500ml																
H_3PO_4 (AG)																
Other:																
Plastic Bag																
Low Level Hg/Metals Double Bag																
Client Own																
Glass Jar: 125/ 250/ 500																
Soil Tube: Brass/ Steel/ Plastic																
5 g Encore																

Comments

Filter or Split	Container	Preservative	Date/Time/Initials
S P F			
S P F			
S P F			
S P F			
S P F			

Labeled by: M @ 1514 Labels checked by: M @ 1515

FL-SC-0003-0

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 18, 2020

Work Order #: **GK19021**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19021**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map Key 4 **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Analytical Report for the Following Samples

Sample ID	Notes	Laboratory ID	Matrix	Date Sampled	Date Received
Map Key 4		GK19021-01	Drinking Water	11/17/20 10:30	11/19/20 14:35

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Map Key 4	12/18/2020
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 4

GK19021-01 (Drinking Water) Sampled: 11/17/20 10:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2-Trichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,3-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3,5-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,4-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
4-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Benzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromodichloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromoform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Carbon tetrachloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Di-isopropyl ether (DIPE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Hexachlorobutadiene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isobutyl alcohol		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isopropylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
m,p-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methylene chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Map Key 4	12/18/2020
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 4

GK19021-01 (Drinking Water) Sampled: 11/17/20 10:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
n-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
n-Propylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
o-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
p-Isopropyltoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
sec-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Styrene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butyl alcohol (TBA)		ND	2.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tetrachloroethene (PCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Toluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total 1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total Trihalomethanes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichloroethene (TCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Vinyl chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Xylenes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Surr: 1,2-Dichlorobenzene-d4		*94.5%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*
Surr: 4-Bromofluorobenzene		*93.0%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map Key 4 **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.89*		*µg/L*	*2.00*		*94.5*	*70-130*		
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L						
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,2-Trichloroethane		ND	0.50	µg/L						
1,1-Dichloroethane		ND	0.50	µg/L						
1,1-Dichloroethene		ND	0.50	µg/L						
1,2,3-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trimethylbenzene		ND	0.50	µg/L						
1,2-Dichlorobenzene		ND	0.50	µg/L						
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L						
1,2-Dichloropropane		ND	0.50	µg/L						
1,3,5-Trimethylbenzene		ND	0.50	µg/L						
1,3-Dichlorobenzene		ND	0.50	µg/L						
1,3-Dichloropropane		ND	0.50	µg/L						
1,4-Dichlorobenzene		ND	0.50	µg/L						
2,2-Dichloropropane		ND	0.50	µg/L						
2-Chlorotoluene		ND	0.50	µg/L						
4-Chlorotoluene		ND	0.50	µg/L						
Benzene		ND	0.50	µg/L						
Bromobenzene		ND	0.50	µg/L						
Bromochloromethane		ND	0.50	µg/L						
Bromodichloromethane		ND	0.50	µg/L						
Bromoform		ND	0.50	µg/L						
Bromomethane		ND	0.50	µg/L						
Carbon tetrachloride		ND	0.50	µg/L						
Chlorobenzene		ND	0.50	µg/L						
Chloroethane		ND	0.50	µg/L						
Chloroform		ND	0.50	µg/L						
Chloromethane		ND	0.50	µg/L						
cis-1,2-Dichloroethene		ND	0.50	µg/L						
cis-1,3-Dichloropropene		ND	0.50	µg/L						
Dibromochloromethane		ND	0.50	µg/L						
Dibromomethane		ND	0.50	µg/L						
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L						
Di-isopropyl ether (DIPE)		ND	0.50	µg/L						
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L						
Ethylbenzene		ND	0.50	µg/L						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:** Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:** Map Key 4	12/18/2020
Visalia CA, 93277	**Project Manager:** Allison Shuklian	

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Hexachlorobutadiene		ND	0.50	µg/L						
Isobutyl alcohol		ND	10	µg/L						
Isopropylbenzene		ND	0.50	µg/L						
m,p-Xylene		ND	0.50	µg/L						
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L						
Methylene chloride		ND	0.50	µg/L						
n-Butylbenzene		ND	0.50	µg/L						
n-Propylbenzene		ND	0.50	µg/L						
o-Xylene		ND	0.50	µg/L						
p-Isopropyltoluene		ND	0.50	µg/L						
sec-Butylbenzene		ND	0.50	µg/L						
Styrene		ND	0.50	µg/L						
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L						
tert-Butyl alcohol (TBA)		ND	2.0	µg/L						
tert-Butylbenzene		ND	0.50	µg/L						
Tetrachloroethene (PCE)		ND	0.50	µg/L						
Toluene		ND	0.50	µg/L						
Total 1,3-Dichloropropene		ND	0.50	µg/L						
Total Trihalomethanes		ND	0.50	µg/L						
trans-1,2-Dichloroethene		ND	0.50	µg/L						
trans-1,3-Dichloropropene		ND	0.50	µg/L						
Trichloroethene (TCE)		ND	0.50	µg/L						
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L						
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L						
Vinyl chloride		ND	0.50	µg/L						
Xylenes		ND	0.50	µg/L						
LCS (B0K2001-BS1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.99*		*µg/L*	*2.00*		*99.5*	*70-130*		
1,1-Dichloroethene		4.73	0.50	µg/L	5.00		94.6	70-130		
Benzene		4.96	0.50	µg/L	5.00		99.2	70-130		
Chlorobenzene		4.85	0.50	µg/L	5.00		97.0	70-130		
Toluene		4.82	0.50	µg/L	5.00		96.4	70-130		
Trichloroethene (TCE)		4.53	0.50	µg/L	5.00		90.6	70-130		
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.92*		*µg/L*	*2.00*		*96.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.93*		*µg/L*	*2.00*		*96.5*	*70-130*		
1,1-Dichloroethene		4.17	0.50	µg/L	5.00		83.4	70-130	12.6	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map Key 4 **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Benzene		4.47	0.50	µg/L	5.00		89.4	70-130	10.4	20
Chlorobenzene		4.38	0.50	µg/L	5.00		87.6	70-130	10.2	20
Toluene		4.44	0.50	µg/L	5.00		88.8	70-130	8.21	20
Trichloroethene (TCE)		4.17	0.50	µg/L	5.00		83.4	70-130	8.28	20

Notes and Definitions

µg/L	micrograms per liter (parts per billion concentration units)
mg/L	milligrams per liter (parts per million concentration units)
mg/kg	milligrams per kilogram (parts per million concentration units)
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference

Analysis of pH, filtration, and residual chlorine is to take place immediately after sampling in the field.
If the test was performed in the laboratory, the hold time was exceeded. **(for aqueous matrices only)**

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: GK19021
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, CA 93277
PHONE: 624-8441
EMAIL / FAX:

INVOICE TO: ☐ REPORT COPY TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia CA 93277
PHONE:
EMAIL / FAX:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 4
PROJECT MANAGER:

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

ANALYSIS REQUESTED

	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC's)									STATION CODE
1	Mapkey 4	11-17	10:30	DW	X									
2	Field Blanks (2)	11-17	10:30		X									
3	Trip Blank (1)	11-17	10:30		X									

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co	11-19	14:35		MTA

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 subje monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are e 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 MTA's terms and conditions for labor services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

Moore Twining Associates

Sample Integrity — Page 2 of 2 — WO# GK19021 — MTA Bottles: Yes or No

COC Info			
Was temperature within range? Chemistry ≤6°C Micro <10°C Temp ___ °C	Yes No N/A	Did all bottle labels agree with COC?	Yes No N/A
If samples were taken today, is there evidence that chilling has begun? Recvd ___ C°	Yes No N/A	Was a sufficient amount of sample received?	Yes No N/A
Did all bottles arrive unbroken and intact?	Yes No N/A	Were correct containers and preservatives received for the tests requested?	Yes No N/A
Do samples have a hold time <72 hours?	Yes No N/A		
Were there bubbles in VOA vials? **(Volatiles Only)**	Yes No N/A	Was PM notified of discrepancies? PM: By/Time:	Yes No N/A

Bottles Received																
125ml (A) 250ml (B) 1Liter (C) 40ml VOA (V)	1	2	3													
Bacti $Na_2S_2O_3$																
None (P)																
Cr6 Buffer (P) Borate Carbonate Buffer																
HNO_3 (P)																
H_2SO_4 (P)																
NaOH (P)																
NaOH+ZnAc (P)																
Dissolved Oxygen 300ml (P)																
None (AG)																
None (CG) 500ml																
$Na_2S_2O_3$ 250ml (Brown P) 549																
$Na_2S_2O_3$ (AG)																
$Na_2S_2O_3$ (AG)																
Thio/K Citrate																
NH_4Cl (AG) 552																
HCl (AG)	3V	2V	1V													
None (CG) 500ml																
H_3PO_4 (AG)																
Other:																
Plastic Bag																
Low Level Hg/Metals Double Bag																
Client Own																
Glass Jar: 125/ 250/ 500																
Soil Tube: Brass/ Steel/ Plastic																
5 g Encore																

Comments

Filter or Split	Container	Preservative	Date/Time/Initials
S P F			
S P F			
S P F			
S P F			
S P F			

Labeled by: ___ @ ___ Labels checked by: ___ @ 1515

FL-SC-0003-0

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 18, 2020

Work Order #: **GK19022**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19022**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 15 **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Analytical Report for the Following Samples

Sample ID	Notes	Laboratory ID	Matrix	Date Sampled	Date Received
Map Key 15		GK19022-01	Drinking Water	11/17/20 11:00	11/19/20 14:35

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Mapkey 15	12/18/2020
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 15

GK19022-01 (Drinking Water) Sampled: 11/17/20 11:00

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2-Trichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,3-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3,5-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,4-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
4-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Benzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromodichloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromoform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Carbon tetrachloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Di-isopropyl ether (DIPE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Hexachlorobutadiene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isobutyl alcohol		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isopropylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
m,p-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methylene chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Mapkey 15	12/18/2020
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 15

GK19022-01 (Drinking Water) Sampled: 11/17/20 11:00

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
n-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
n-Propylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
o-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
p-Isopropyltoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
sec-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Styrene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butyl alcohol (TBA)		ND	2.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tetrachloroethene (PCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Toluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total 1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total Trihalomethanes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichloroethene (TCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Vinyl chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Xylenes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Surr: 1,2-Dichlorobenzene-d4		*93.0%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*
Surr: 4-Bromofluorobenzene		*90.0%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 15 **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.89*		*µg/L*	*2.00*		*94.5*	*70-130*		
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L						
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,2-Trichloroethane		ND	0.50	µg/L						
1,1-Dichloroethane		ND	0.50	µg/L						
1,1-Dichloroethene		ND	0.50	µg/L						
1,2,3-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trimethylbenzene		ND	0.50	µg/L						
1,2-Dichlorobenzene		ND	0.50	µg/L						
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L						
1,2-Dichloropropane		ND	0.50	µg/L						
1,3,5-Trimethylbenzene		ND	0.50	µg/L						
1,3-Dichlorobenzene		ND	0.50	µg/L						
1,3-Dichloropropane		ND	0.50	µg/L						
1,4-Dichlorobenzene		ND	0.50	µg/L						
2,2-Dichloropropane		ND	0.50	µg/L						
2-Chlorotoluene		ND	0.50	µg/L						
4-Chlorotoluene		ND	0.50	µg/L						
Benzene		ND	0.50	µg/L						
Bromobenzene		ND	0.50	µg/L						
Bromochloromethane		ND	0.50	µg/L						
Bromodichloromethane		ND	0.50	µg/L						
Bromoform		ND	0.50	µg/L						
Bromomethane		ND	0.50	µg/L						
Carbon tetrachloride		ND	0.50	µg/L						
Chlorobenzene		ND	0.50	µg/L						
Chloroethane		ND	0.50	µg/L						
Chloroform		ND	0.50	µg/L						
Chloromethane		ND	0.50	µg/L						
cis-1,2-Dichloroethene		ND	0.50	µg/L						
cis-1,3-Dichloropropene		ND	0.50	µg/L						
Dibromochloromethane		ND	0.50	µg/L						
Dibromomethane		ND	0.50	µg/L						
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L						
Di-isopropyl ether (DIPE)		ND	0.50	µg/L						
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L						
Ethylbenzene		ND	0.50	µg/L						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 15 **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Hexachlorobutadiene		ND	0.50	µg/L						
Isobutyl alcohol		ND	10	µg/L						
Isopropylbenzene		ND	0.50	µg/L						
m,p-Xylene		ND	0.50	µg/L						
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L						
Methylene chloride		ND	0.50	µg/L						
n-Butylbenzene		ND	0.50	µg/L						
n-Propylbenzene		ND	0.50	µg/L						
o-Xylene		ND	0.50	µg/L						
p-Isopropyltoluene		ND	0.50	µg/L						
sec-Butylbenzene		ND	0.50	µg/L						
Styrene		ND	0.50	µg/L						
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L						
tert-Butyl alcohol (TBA)		ND	2.0	µg/L						
tert-Butylbenzene		ND	0.50	µg/L						
Tetrachloroethene (PCE)		ND	0.50	µg/L						
Toluene		ND	0.50	µg/L						
Total 1,3-Dichloropropene		ND	0.50	µg/L						
Total Trihalomethanes		ND	0.50	µg/L						
trans-1,2-Dichloroethene		ND	0.50	µg/L						
trans-1,3-Dichloropropene		ND	0.50	µg/L						
Trichloroethene (TCE)		ND	0.50	µg/L						
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L						
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L						
Vinyl chloride		ND	0.50	µg/L						
Xylenes		ND	0.50	µg/L						
LCS (B0K2001-BS1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.99*		*µg/L*	*2.00*		*99.5*	*70-130*		
1,1-Dichloroethene		4.73	0.50	µg/L	5.00		94.6	70-130		
Benzene		4.96	0.50	µg/L	5.00		99.2	70-130		
Chlorobenzene		4.85	0.50	µg/L	5.00		97.0	70-130		
Toluene		4.82	0.50	µg/L	5.00		96.4	70-130		
Trichloroethene (TCE)		4.53	0.50	µg/L	5.00		90.6	70-130		
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.92*		*µg/L*	*2.00*		*96.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.93*		*µg/L*	*2.00*		*96.5*	*70-130*		
1,1-Dichloroethene		4.17	0.50	µg/L	5.00		83.4	70-130	12.6	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 15 **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Benzene		4.47	0.50	µg/L	5.00		89.4	70-130	10.4	20
Chlorobenzene		4.38	0.50	µg/L	5.00		87.6	70-130	10.2	20
Toluene		4.44	0.50	µg/L	5.00		88.8	70-130	8.21	20
Trichloroethene (TCE)		4.17	0.50	µg/L	5.00		83.4	70-130	8.28	20

Notes and Definitions

µg/L	micrograms per liter (parts per billion concentration units)
mg/L	milligrams per liter (parts per million concentration units)
mg/kg	milligrams per kilogram (parts per million concentration units)
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference

Analysis of pH, filtration, and residual chlorine is to take place immediately after sampling in the field.
If the test was performed in the laboratory, the hold time was exceeded. **(for aqueous matrices only)**

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: 6K19022
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shnukiian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, Ca 93277
PHONE: 624-8441
EMAIL / FAX:

☒ INVOICE TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia Ca 93277
PHONE:
EMAIL / FAX:

☐ REPORT COPY TO:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shnukiian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 15
PROJECT MANAGER:

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC's)									STATION CODE
1	Mapkey 15	11-17	11:00	DW	X									
2	Field Blanks (2)	11-17	11:00		X									
3	Trip Blank (1)	11-17	11:00		X									

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co.	11-19	14:35		MTA

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 subje monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are e 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 MTA's terms and conditions for labor services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

Moore Twining Associates

Sample Integrity — Page 2 of 2 — WO# GH9022 — MTA Bottles: Yes or No

COC Info					
Was temperature within range? Chemistry ≤6°C Micro <10°C Temp ___ °C	Yes No N/A	Did all bottle labels agree with COC?	Yes No N/A	Were there bubbles in VOA vials? (Volatiles Only)	Yes No N/A
If samples were taken today, is there evidence that chilling has begun? Recvd ___ C°	Yes No N/A	Was a sufficient amount of sample received?	Yes No N/A	Was PM notified of discrepancies? PM: By/Time:	Yes No N/A
Did all bottles arrive unbroken and intact?	Yes No N/A	Were correct containers and preservatives received for the tests requested?	Yes No N/A		
Do samples have a hold time <72 hours?	Yes No N/A				

Bottles Received	1	2	3
125ml (A) 250ml (B) 1Liter (C) 40ml VOA (V)			
Bacti $Na_2S_2O_3$			
None (P)			
Cr6 Buffer (P) Borate Carbonate Buffer			
HNO_3 (P)			
H_2SO_4 (P)			
NaOH (P)			
NaOH+ZnAc (P)			
Dissolved Oxygen 300ml (P)			
None (AG)			
None (CG) 500ml			
$Na_2S_2O_3$ 250ml (Brown P) 549			
$Na_2S_2O_3$ (AG)			
$Na_2S_2O_3$ (AG)			
Thio/K Citrate			
NH_4Cl (AG) 552			
HCl (AG)	3V	2V	1V
None (CG) 500ml			
H_3PO_4 (AG)			
Other:			
Plastic Bag			
Low Level Hg/Metals Double Bag			
Client Own			
Glass Jar: 125/ 250/ 500			
Soil Tube: Brass/ Steel/ Plastic			
5 g Encore			

Comments

Filter or Split	Container	Preservative	Date/Time/Initials
S P F			
S P F			
S P F			
S P F			
S P F			

Labeled by: M @ 1517 Labels checked by: M @ 1518

FL-SC-0003-0

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 18, 2020

Work Order #: **GK19023**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19023**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map Key 85 **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Analytical Report for the Following Samples

Sample ID	Notes	Laboratory ID	Matrix	Date Sampled	Date Received
Map Key 85		GK19023-01	Drinking Water	11/17/20 11:30	11/19/20 14:35

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Map Key 85	12/18/2020
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 85

GK19023-01 (Drinking Water) Sampled: 11/17/20 11:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2-Trichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,3-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3,5-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,4-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
4-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Benzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromodichloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromoform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Carbon tetrachloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Di-isopropyl ether (DIPE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Hexachlorobutadiene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isobutyl alcohol		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isopropylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
m,p-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methylene chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Map Key 85	12/18/2020
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 85

GK19023-01 (Drinking Water) Sampled: 11/17/20 11:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
n-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
n-Propylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
o-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
p-Isopropyltoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
sec-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Styrene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butyl alcohol (TBA)		ND	2.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tetrachloroethene (PCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Toluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total 1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total Trihalomethanes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichloroethene (TCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Vinyl chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Xylenes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Surr: 1,2-Dichlorobenzene-d4		*89.5%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*
Surr: 4-Bromofluorobenzene		*90.0%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map Key 85 **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.89*		*µg/L*	*2.00*		*94.5*	*70-130*		
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L						
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,2-Trichloroethane		ND	0.50	µg/L						
1,1-Dichloroethane		ND	0.50	µg/L						
1,1-Dichloroethene		ND	0.50	µg/L						
1,2,3-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trimethylbenzene		ND	0.50	µg/L						
1,2-Dichlorobenzene		ND	0.50	µg/L						
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L						
1,2-Dichloropropane		ND	0.50	µg/L						
1,3,5-Trimethylbenzene		ND	0.50	µg/L						
1,3-Dichlorobenzene		ND	0.50	µg/L						
1,3-Dichloropropane		ND	0.50	µg/L						
1,4-Dichlorobenzene		ND	0.50	µg/L						
2,2-Dichloropropane		ND	0.50	µg/L						
2-Chlorotoluene		ND	0.50	µg/L						
4-Chlorotoluene		ND	0.50	µg/L						
Benzene		ND	0.50	µg/L						
Bromobenzene		ND	0.50	µg/L						
Bromochloromethane		ND	0.50	µg/L						
Bromodichloromethane		ND	0.50	µg/L						
Bromoform		ND	0.50	µg/L						
Bromomethane		ND	0.50	µg/L						
Carbon tetrachloride		ND	0.50	µg/L						
Chlorobenzene		ND	0.50	µg/L						
Chloroethane		ND	0.50	µg/L						
Chloroform		ND	0.50	µg/L						
Chloromethane		ND	0.50	µg/L						
cis-1,2-Dichloroethene		ND	0.50	µg/L						
cis-1,3-Dichloropropene		ND	0.50	µg/L						
Dibromochloromethane		ND	0.50	µg/L						
Dibromomethane		ND	0.50	µg/L						
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L						
Di-isopropyl ether (DIPE)		ND	0.50	µg/L						
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L						
Ethylbenzene		ND	0.50	µg/L						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map Key 85 **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Hexachlorobutadiene		ND	0.50	µg/L						
Isobutyl alcohol		ND	10	µg/L						
Isopropylbenzene		ND	0.50	µg/L						
m,p-Xylene		ND	0.50	µg/L						
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L						
Methylene chloride		ND	0.50	µg/L						
n-Butylbenzene		ND	0.50	µg/L						
n-Propylbenzene		ND	0.50	µg/L						
o-Xylene		ND	0.50	µg/L						
p-Isopropyltoluene		ND	0.50	µg/L						
sec-Butylbenzene		ND	0.50	µg/L						
Styrene		ND	0.50	µg/L						
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L						
tert-Butyl alcohol (TBA)		ND	2.0	µg/L						
tert-Butylbenzene		ND	0.50	µg/L						
Tetrachloroethene (PCE)		ND	0.50	µg/L						
Toluene		ND	0.50	µg/L						
Total 1,3-Dichloropropene		ND	0.50	µg/L						
Total Trihalomethanes		ND	0.50	µg/L						
trans-1,2-Dichloroethene		ND	0.50	µg/L						
trans-1,3-Dichloropropene		ND	0.50	µg/L						
Trichloroethene (TCE)		ND	0.50	µg/L						
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L						
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L						
Vinyl chloride		ND	0.50	µg/L						
Xylenes		ND	0.50	µg/L						
LCS (B0K2001-BS1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.99*		*µg/L*	*2.00*		*99.5*	*70-130*		
1,1-Dichloroethene		4.73	0.50	µg/L	5.00		94.6	70-130		
Benzene		4.96	0.50	µg/L	5.00		99.2	70-130		
Chlorobenzene		4.85	0.50	µg/L	5.00		97.0	70-130		
Toluene		4.82	0.50	µg/L	5.00		96.4	70-130		
Trichloroethene (TCE)		4.53	0.50	µg/L	5.00		90.6	70-130		
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.92*		*µg/L*	*2.00*		*96.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.93*		*µg/L*	*2.00*		*96.5*	*70-130*		
1,1-Dichloroethene		4.17	0.50	µg/L	5.00		83.4	70-130	12.6	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map Key 85 **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Benzene		4.47	0.50	µg/L	5.00		89.4	70-130	10.4	20
Chlorobenzene		4.38	0.50	µg/L	5.00		87.6	70-130	10.2	20
Toluene		4.44	0.50	µg/L	5.00		88.8	70-130	8.21	20
Trichloroethene (TCE)		4.17	0.50	µg/L	5.00		83.4	70-130	8.28	20

Notes and Definitions

µg/L	micrograms per liter (parts per billion concentration units)
mg/L	milligrams per liter (parts per million concentration units)
mg/kg	milligrams per kilogram (parts per million concentration units)
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference

Analysis of pH, filtration, and residual chlorine is to take place immediately after sampling in the field.
If the test was performed in the laboratory, the hold time was exceeded. **(for aqueous matrices only)**

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: 6K19023
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, Ca 93277
PHONE: 624-8441
EMAIL / FAX:

☑ INVOICE TO: ☐ REPORT COPY TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia Ca 93277
PHONE:
EMAIL / FAX:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 85
PROJECT MANAGER:

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

LAB USE	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC'S)										STATION CODE
1	Mapkey 85	11-17	11:30	DW	X										
2	Field Blanks (2)	11-17	11:30		X										
3	Trip Blank (1)	11-17	11:30		X										

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co.	11-19	14:35		MTA

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 subje monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are e 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 MTA's terms and conditions for labor services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

Moore Twining Associates

Sample Integrity — Page 2 of 2 — WO# GK/4073 — MTA Bottles: Yes or No

COC Info					
Was temperature within range? Chemistry ≤6°C Micro <10°C Temp ___ °C	Yes No N/A	Did all bottle labels agree with COC?	Yes No N/A	Were there bubbles in VOA vials? (Volatiles Only)	Yes No N/A
If samples were taken today, is there evidence that chilling has begun? Recvd ___ C°	Yes No N/A	Was a sufficient amount of sample received?	Yes No N/A	Was PM notified of discrepancies? PM: By/Time:	Yes No N/A
Did all bottles arrive unbroken and intact?	Yes No N/A	Were correct containers and preservatives received for the tests requested?	Yes No N/A		
Do samples have a hold time <72 hours?	Yes No N/A				

Bottles Received																
125ml (A) 250ml (B) 1Liter (C) 40ml VOA (V)	1	2	3													
Bacti $Na_2S_2O_3$																
None (P)																
Cr6 Buffer (P) Borate Carbonate Buffer																
HNO_3 (P)																
H_2SO_4 (P)																
NaOH (P)																
NaOH+ZnAc (P)																
Dissolved Oxygen 300ml (P)																
None (AG)																
None (CG) 500ml																
$Na_2S_2O_3$ 250ml (Brown P) 549																
$Na_2S_2O_3$ (AG)																
$Na_2S_2O_3$ (AG)																
Thio/K Citrate																
NH_4Cl (AG) 552																
HCl (AG)	3V	2V	1V													
None (CG) 500ml																
H_3PO_4 (AG)																
Other:																
Plastic Bag																
Low Level Hg/Metals Double Bag																
Client Own																
Glass Jar: 125/ 250/ 500																
Soil Tube: Brass/ Steel/ Plastic																
5 g Encore																

Comments	Filter or Split	Container	Preservative	Date/Time/Initials
	S P F			
	S P F			
	S P F			
	S P F			
	S P F			

Labeled by: M @ ___ Labels checked by: [illegible] @ 1516

FL-SC-0003-0

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 18, 2020

Work Order #: **GK19024**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19024**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 11 **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Analytical Report for the Following Samples

Sample ID	Notes	Laboratory ID	Matrix	Date Sampled	Date Received
Map Key 11		GK19024-01	Drinking Water	11/18/20 08:30	11/19/20 15:35

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Mapkey 11	12/18/2020
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 11

GK19024-01 (Drinking Water) Sampled: 11/18/20 08:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2-Trichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,3-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3,5-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,4-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
4-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Benzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromodichloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromoform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Carbon tetrachloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Di-isopropyl ether (DIPE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Hexachlorobutadiene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isobutyl alcohol		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isopropylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
m,p-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methylene chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Mapkey 11	12/18/2020
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 11

GK19024-01 (Drinking Water) Sampled: 11/18/20 08:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
n-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
n-Propylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
o-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
p-Isopropyltoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
sec-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Styrene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butyl alcohol (TBA)		ND	2.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tetrachloroethene (PCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Toluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total 1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total Trihalomethanes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichloroethene (TCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Vinyl chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Xylenes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Surr: 1,2-Dichlorobenzene-d4		*90.0%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*
Surr: 4-Bromofluorobenzene		*89.5%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 11 **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.89*		*µg/L*	*2.00*		*94.5*	*70-130*		
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L						
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,2-Trichloroethane		ND	0.50	µg/L						
1,1-Dichloroethane		ND	0.50	µg/L						
1,1-Dichloroethene		ND	0.50	µg/L						
1,2,3-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trimethylbenzene		ND	0.50	µg/L						
1,2-Dichlorobenzene		ND	0.50	µg/L						
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L						
1,2-Dichloropropane		ND	0.50	µg/L						
1,3,5-Trimethylbenzene		ND	0.50	µg/L						
1,3-Dichlorobenzene		ND	0.50	µg/L						
1,3-Dichloropropane		ND	0.50	µg/L						
1,4-Dichlorobenzene		ND	0.50	µg/L						
2,2-Dichloropropane		ND	0.50	µg/L						
2-Chlorotoluene		ND	0.50	µg/L						
4-Chlorotoluene		ND	0.50	µg/L						
Benzene		ND	0.50	µg/L						
Bromobenzene		ND	0.50	µg/L						
Bromochloromethane		ND	0.50	µg/L						
Bromodichloromethane		ND	0.50	µg/L						
Bromoform		ND	0.50	µg/L						
Bromomethane		ND	0.50	µg/L						
Carbon tetrachloride		ND	0.50	µg/L						
Chlorobenzene		ND	0.50	µg/L						
Chloroethane		ND	0.50	µg/L						
Chloroform		ND	0.50	µg/L						
Chloromethane		ND	0.50	µg/L						
cis-1,2-Dichloroethene		ND	0.50	µg/L						
cis-1,3-Dichloropropene		ND	0.50	µg/L						
Dibromochloromethane		ND	0.50	µg/L						
Dibromomethane		ND	0.50	µg/L						
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L						
Di-isopropyl ether (DIPE)		ND	0.50	µg/L						
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L						
Ethylbenzene		ND	0.50	µg/L						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 11 **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Hexachlorobutadiene		ND	0.50	µg/L						
Isobutyl alcohol		ND	10	µg/L						
Isopropylbenzene		ND	0.50	µg/L						
m,p-Xylene		ND	0.50	µg/L						
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L						
Methylene chloride		ND	0.50	µg/L						
n-Butylbenzene		ND	0.50	µg/L						
n-Propylbenzene		ND	0.50	µg/L						
o-Xylene		ND	0.50	µg/L						
p-Isopropyltoluene		ND	0.50	µg/L						
sec-Butylbenzene		ND	0.50	µg/L						
Styrene		ND	0.50	µg/L						
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L						
tert-Butyl alcohol (TBA)		ND	2.0	µg/L						
tert-Butylbenzene		ND	0.50	µg/L						
Tetrachloroethene (PCE)		ND	0.50	µg/L						
Toluene		ND	0.50	µg/L						
Total 1,3-Dichloropropene		ND	0.50	µg/L						
Total Trihalomethanes		ND	0.50	µg/L						
trans-1,2-Dichloroethene		ND	0.50	µg/L						
trans-1,3-Dichloropropene		ND	0.50	µg/L						
Trichloroethene (TCE)		ND	0.50	µg/L						
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L						
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L						
Vinyl chloride		ND	0.50	µg/L						
Xylenes		ND	0.50	µg/L						
LCS (B0K2001-BS1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.99*		*µg/L*	*2.00*		*99.5*	*70-130*		
1,1-Dichloroethene		4.73	0.50	µg/L	5.00		94.6	70-130		
Benzene		4.96	0.50	µg/L	5.00		99.2	70-130		
Chlorobenzene		4.85	0.50	µg/L	5.00		97.0	70-130		
Toluene		4.82	0.50	µg/L	5.00		96.4	70-130		
Trichloroethene (TCE)		4.53	0.50	µg/L	5.00		90.6	70-130		
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.92*		*µg/L*	*2.00*		*96.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.93*		*µg/L*	*2.00*		*96.5*	*70-130*		
1,1-Dichloroethene		4.17	0.50	µg/L	5.00		83.4	70-130	12.6	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 11 **Project Manager:** Allison Shuklian	**Reported:** 12/18/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Benzene		4.47	0.50	µg/L	5.00		89.4	70-130	10.4	20
Chlorobenzene		4.38	0.50	µg/L	5.00		87.6	70-130	10.2	20
Toluene		4.44	0.50	µg/L	5.00		88.8	70-130	8.21	20
Trichloroethene (TCE)		4.17	0.50	µg/L	5.00		83.4	70-130	8.28	20

Notes and Definitions

µg/L	micrograms per liter (parts per billion concentration units)
mg/L	milligrams per liter (parts per million concentration units)
mg/kg	milligrams per kilogram (parts per million concentration units)
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference

Analysis of pH, filtration, and residual chlorine is to take place immediately after sampling in the field.
If the test was performed in the laboratory, the hold time was exceeded. **(for aqueous matrices only)**

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: CK14024
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, CA 93277
PHONE: 624-8441
EMAIL / FAX:

☑ INVOICE TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia CA 93277
PHONE:
EMAIL / FAX:

☐ REPORT COPY TO:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 11
PROJECT MANAGER:

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLES(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC's)									STATION CODE
1	Mapkey 11	11-18	8:30	DW	X									
2	Field Blanks (2)	11-18	8:30		X									
3	Trip Blank (1)	11-18	8:30		X									

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co.	11-19	14:35		MTA

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 subje monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are e 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 MTA's terms and conditions for labor services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

Moore Twining Associates

Sample Integrity — Page 2 of 2 — WO# GK19024 — MTA Bottles: Yes or No

COC Info				
Was temperature within range? Chemistry ≤6°C Micro <10°C Temp ___ °C	Yes No N/A	Did all bottle labels agree with COC?	Yes No N/A	Were there bubbles in VOA vials? (Volatiles Only) — Yes No N/A
If samples were taken today, is there evidence that chilling has begun? Recvd ___ C°	Yes No N/A	Was a sufficient amount of sample received?	Yes No N/A	Was PM notified of discrepancies? PM: By/Time: — Yes No N/A
Did all bottles arrive unbroken and intact?	Yes No N/A	Were correct containers and preservatives received for the tests requested?	Yes No N/A	
Do samples have a hold time <72 hours?	Yes No N/A			

Bottles Received																
125ml (A) 250ml (B) 1Liter (C) 40ml VOA (V)	1	2	3													
Bacti $Na_2S_2O_3$																
None (P)																
Cr6 Buffer (P) Borate Carbonate Buffer																
HNO_3 (P)																
H_2SO_4 (P)																
NaOH (P)																
NaOH+ZnAc (P)																
Dissolved Oxygen 300ml (P)																
None (AG)																
None (CG) 500ml																
$Na_2S_2O_3$ 250ml (Brown P) 549																
$Na_2S_2O_3$ (AG)																
$Na_2S_2O_3$ (AG)																
Thio/K Citrate																
NH_4Cl (AG) 552																
HCl (AG)	3✓	2✓	1✓													
None (CG) 500ml																
H_3PO_4 (AG)																
Other:																
Plastic Bag																
Low Level Hg/Metals Double Bag																
Client Own																
Glass Jar: 125/ 250/ 500																
Soil Tube: Brass/ Steel/ Plastic																
5 g Encore																

Comments

Filter or Split	Container	Preservative	Date/Time/Initials
S P F			
S P F			
S P F			
S P F			
S P F			

Labeled by: W @1519 Labels checked by: M @1520

FL-SC-0003-0

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 22, 2020

Work Order #: **GK19025**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19025**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map Key 19 **Project Manager:** Allison Shuklian	**Reported:** 12/22/2020

Analytical Report for the Following Samples

Sample ID	Notes	Laboratory ID	Matrix	Date Sampled	Date Received
Map Key 19		GK19025-01	Drinking Water	11/18/20 09:00	11/19/20 14:35

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Map Key 19	12/22/2020
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 19

GK19025-01 (Drinking Water) Sampled: 11/18/20 09:00

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2-Trichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,3-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3,5-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,4-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
4-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Benzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromodichloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromoform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Carbon tetrachloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Di-isopropyl ether (DIPE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Hexachlorobutadiene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isobutyl alcohol		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isopropylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
m,p-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methylene chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Map Key 19	12/22/2020
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 19

GK19025-01 (Drinking Water) Sampled: 11/18/20 09:00

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
n-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
n-Propylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
o-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
p-Isopropyltoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
sec-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Styrene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butyl alcohol (TBA)		ND	2.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tetrachloroethene (PCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Toluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total 1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total Trihalomethanes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichloroethene (TCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Vinyl chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Xylenes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Surr: 1,2-Dichlorobenzene-d4		*90.0%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*
Surr: 4-Bromofluorobenzene		*89.5%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map Key 19 **Project Manager:** Allison Shuklian	**Reported:** 12/22/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.89*		*µg/L*	*2.00*		*94.5*	*70-130*		
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L						
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,2-Trichloroethane		ND	0.50	µg/L						
1,1-Dichloroethane		ND	0.50	µg/L						
1,1-Dichloroethene		ND	0.50	µg/L						
1,2,3-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trimethylbenzene		ND	0.50	µg/L						
1,2-Dichlorobenzene		ND	0.50	µg/L						
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L						
1,2-Dichloropropane		ND	0.50	µg/L						
1,3,5-Trimethylbenzene		ND	0.50	µg/L						
1,3-Dichlorobenzene		ND	0.50	µg/L						
1,3-Dichloropropane		ND	0.50	µg/L						
1,4-Dichlorobenzene		ND	0.50	µg/L						
2,2-Dichloropropane		ND	0.50	µg/L						
2-Chlorotoluene		ND	0.50	µg/L						
4-Chlorotoluene		ND	0.50	µg/L						
Benzene		ND	0.50	µg/L						
Bromobenzene		ND	0.50	µg/L						
Bromochloromethane		ND	0.50	µg/L						
Bromodichloromethane		ND	0.50	µg/L						
Bromoform		ND	0.50	µg/L						
Bromomethane		ND	0.50	µg/L						
Carbon tetrachloride		ND	0.50	µg/L						
Chlorobenzene		ND	0.50	µg/L						
Chloroethane		ND	0.50	µg/L						
Chloroform		ND	0.50	µg/L						
Chloromethane		ND	0.50	µg/L						
cis-1,2-Dichloroethene		ND	0.50	µg/L						
cis-1,3-Dichloropropene		ND	0.50	µg/L						
Dibromochloromethane		ND	0.50	µg/L						
Dibromomethane		ND	0.50	µg/L						
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L						
Di-isopropyl ether (DIPE)		ND	0.50	µg/L						
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L						
Ethylbenzene		ND	0.50	µg/L						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:** Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:** Map Key 19	12/22/2020
Visalia CA, 93277	**Project Manager:** Allison Shuklian	

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Hexachlorobutadiene		ND	0.50	µg/L						
Isobutyl alcohol		ND	10	µg/L						
Isopropylbenzene		ND	0.50	µg/L						
m,p-Xylene		ND	0.50	µg/L						
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L						
Methylene chloride		ND	0.50	µg/L						
n-Butylbenzene		ND	0.50	µg/L						
n-Propylbenzene		ND	0.50	µg/L						
o-Xylene		ND	0.50	µg/L						
p-Isopropyltoluene		ND	0.50	µg/L						
sec-Butylbenzene		ND	0.50	µg/L						
Styrene		ND	0.50	µg/L						
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L						
tert-Butyl alcohol (TBA)		ND	2.0	µg/L						
tert-Butylbenzene		ND	0.50	µg/L						
Tetrachloroethene (PCE)		ND	0.50	µg/L						
Toluene		ND	0.50	µg/L						
Total 1,3-Dichloropropene		ND	0.50	µg/L						
Total Trihalomethanes		ND	0.50	µg/L						
trans-1,2-Dichloroethene		ND	0.50	µg/L						
trans-1,3-Dichloropropene		ND	0.50	µg/L						
Trichloroethene (TCE)		ND	0.50	µg/L						
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L						
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L						
Vinyl chloride		ND	0.50	µg/L						
Xylenes		ND	0.50	µg/L						
LCS (B0K2001-BS1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.99*		*µg/L*	*2.00*		*99.5*	*70-130*		
1,1-Dichloroethene		4.73	0.50	µg/L	5.00		94.6	70-130		
Benzene		4.96	0.50	µg/L	5.00		99.2	70-130		
Chlorobenzene		4.85	0.50	µg/L	5.00		97.0	70-130		
Toluene		4.82	0.50	µg/L	5.00		96.4	70-130		
Trichloroethene (TCE)		4.53	0.50	µg/L	5.00		90.6	70-130		
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.92*		*µg/L*	*2.00*		*96.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.93*		*µg/L*	*2.00*		*96.5*	*70-130*		
1,1-Dichloroethene		4.17	0.50	µg/L	5.00		83.4	70-130	12.6	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map Key 19 **Project Manager:** Allison Shuklian	**Reported:** 12/22/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Benzene		4.47	0.50	µg/L	5.00		89.4	70-130	10.4	20
Chlorobenzene		4.38	0.50	µg/L	5.00		87.6	70-130	10.2	20
Toluene		4.44	0.50	µg/L	5.00		88.8	70-130	8.21	20
Trichloroethene (TCE)		4.17	0.50	µg/L	5.00		83.4	70-130	8.28	20

Notes and Definitions

µg/L	micrograms per liter (parts per billion concentration units)
mg/L	milligrams per liter (parts per million concentration units)
mg/kg	milligrams per kilogram (parts per million concentration units)
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference

Analysis of pH, filtration, and residual chlorine is to take place immediately after sampling in the field.
If the test was performed in the laboratory, the hold time was exceeded. **(for aqueous matrices only)**

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: 6K19025
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, CA 93277
PHONE: 624-8441
EMAIL / FAX:

INVOICE TO: ☐ REPORT COPY TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia CA 93277
PHONE:
EMAIL / FAX:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 19
PROJECT MANAGER:

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC'S)									STATION CODE
1	Mapkey 19	11-18	9:00	DW	X									
2	Field Blanks (2)	11-18	9:00		X									
3	Trip Blank (1)	11-18	9:00		X									

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co.	11-18	14:35		MTA

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 subje monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are e 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 MTA's terms and conditions for labor services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

Moore Twining Associates

Sample Integrity — Page 2 of 2 — WO# GK19025 — MTA Bottles: Yes or No

COC Info					
Was temperature within range? Chemistry ≤6°C Micro <10°C Temp ___ °C	Yes No N/A	Did all bottle labels agree with COC?	Yes No N/A	Were there bubbles in VOA vials? (**Volatiles Only**)	Yes No N/A
If samples were taken today, is there evidence that chilling has begun? Recvd ___ C°	Yes No N/A	Was a sufficient amount of sample received?	Yes No N/A	Was PM notified of discrepancies? PM: By/Time:	Yes No N/A
Did all bottles arrive unbroken and intact?	Yes No N/A	Were correct containers and preservatives received for the tests requested?	Yes No N/A		
Do samples have a hold time <72 hours?	Yes No N/A				

Bottles Received																
125ml (A) 250ml (B) 1Liter (C) 40ml VOA (V)	1	2	3													
Bacti $Na_2S_2O_3$																
None (P)																
Cr6 Buffer (P) Borate Carbonate Buffer																
HNO_3 (P)																
H_2SO_4 (P)																
NaOH (P)																
NaOH+ZnAc (P)																
Dissolved Oxygen 300ml (P)																
None (AG)																
None (CG) 500ml																
$Na_2S_2O_3$ 250ml (Brown P) 549																
$Na_2S_2O_3$ (AG)																
$Na_2S_2O_3$ (AG)																
Thio/K Citrate																
NH_4Cl (AG) 552																
HCl (AG)	3✓	2✓	1✓													
None (CG) 500ml																
H_3PO_4 (AG)																
Other:																
Plastic Bag																
Low Level Hg/Metals Double Bag																
Client Own																
Glass Jar: 125/ 250/ 500																
Soil Tube: Brass/ Steel/ Plastic																
5 g Encore																

Comments	Filter or Split	Container	Preservative	Date/Time/Initials
	S P F			
	S P F			
	S P F			
	S P F			
	S P F			

Labeled by: ___ @ ___ Labels checked by: ___ @ 1525

FL-SC-0003-0

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 22, 2020

Work Order #: **GK19026**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19026**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 18 **Project Manager:** Allison Shuklian	**Reported:** 12/22/2020

Analytical Report for the Following Samples

Sample ID	Notes	Laboratory ID	Matrix	Date Sampled	Date Received
Map Key 18		GK19026-01	Drinking Water	11/18/20 09:30	11/19/20 14:35

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Mapkey 18	12/22/2020
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 18

GK19026-01 (Drinking Water) Sampled: 11/18/20 09:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2-Trichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,3-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3,5-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,4-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
4-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Benzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromodichloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromoform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Carbon tetrachloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Di-isopropyl ether (DIPE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Hexachlorobutadiene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isobutyl alcohol		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isopropylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
m,p-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methylene chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Mapkey 18	12/22/2020
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 18

GK19026-01 (Drinking Water) Sampled: 11/18/20 09:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
n-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
n-Propylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
o-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
p-Isopropyltoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
sec-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Styrene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butyl alcohol (TBA)		ND	2.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tetrachloroethene (PCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Toluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total 1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total Trihalomethanes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichloroethene (TCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Vinyl chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Xylenes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Surr: 1,2-Dichlorobenzene-d4		*90.5%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*
Surr: 4-Bromofluorobenzene		*89.5%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 18 **Project Manager:** Allison Shuklian	**Reported:** 12/22/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.89*		*µg/L*	*2.00*		*94.5*	*70-130*		
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L						
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,2-Trichloroethane		ND	0.50	µg/L						
1,1-Dichloroethane		ND	0.50	µg/L						
1,1-Dichloroethene		ND	0.50	µg/L						
1,2,3-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trimethylbenzene		ND	0.50	µg/L						
1,2-Dichlorobenzene		ND	0.50	µg/L						
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L						
1,2-Dichloropropane		ND	0.50	µg/L						
1,3,5-Trimethylbenzene		ND	0.50	µg/L						
1,3-Dichlorobenzene		ND	0.50	µg/L						
1,3-Dichloropropane		ND	0.50	µg/L						
1,4-Dichlorobenzene		ND	0.50	µg/L						
2,2-Dichloropropane		ND	0.50	µg/L						
2-Chlorotoluene		ND	0.50	µg/L						
4-Chlorotoluene		ND	0.50	µg/L						
Benzene		ND	0.50	µg/L						
Bromobenzene		ND	0.50	µg/L						
Bromochloromethane		ND	0.50	µg/L						
Bromodichloromethane		ND	0.50	µg/L						
Bromoform		ND	0.50	µg/L						
Bromomethane		ND	0.50	µg/L						
Carbon tetrachloride		ND	0.50	µg/L						
Chlorobenzene		ND	0.50	µg/L						
Chloroethane		ND	0.50	µg/L						
Chloroform		ND	0.50	µg/L						
Chloromethane		ND	0.50	µg/L						
cis-1,2-Dichloroethene		ND	0.50	µg/L						
cis-1,3-Dichloropropene		ND	0.50	µg/L						
Dibromochloromethane		ND	0.50	µg/L						
Dibromomethane		ND	0.50	µg/L						
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L						
Di-isopropyl ether (DIPE)		ND	0.50	µg/L						
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L						
Ethylbenzene		ND	0.50	µg/L						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 18 **Project Manager:** Allison Shuklian	**Reported:** 12/22/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Hexachlorobutadiene		ND	0.50	µg/L						
Isobutyl alcohol		ND	10	µg/L						
Isopropylbenzene		ND	0.50	µg/L						
m,p-Xylene		ND	0.50	µg/L						
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L						
Methylene chloride		ND	0.50	µg/L						
n-Butylbenzene		ND	0.50	µg/L						
n-Propylbenzene		ND	0.50	µg/L						
o-Xylene		ND	0.50	µg/L						
p-Isopropyltoluene		ND	0.50	µg/L						
sec-Butylbenzene		ND	0.50	µg/L						
Styrene		ND	0.50	µg/L						
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L						
tert-Butyl alcohol (TBA)		ND	2.0	µg/L						
tert-Butylbenzene		ND	0.50	µg/L						
Tetrachloroethene (PCE)		ND	0.50	µg/L						
Toluene		ND	0.50	µg/L						
Total 1,3-Dichloropropene		ND	0.50	µg/L						
Total Trihalomethanes		ND	0.50	µg/L						
trans-1,2-Dichloroethene		ND	0.50	µg/L						
trans-1,3-Dichloropropene		ND	0.50	µg/L						
Trichloroethene (TCE)		ND	0.50	µg/L						
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L						
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L						
Vinyl chloride		ND	0.50	µg/L						
Xylenes		ND	0.50	µg/L						
LCS (B0K2001-BS1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.99*		*µg/L*	*2.00*		*99.5*	*70-130*		
1,1-Dichloroethene		4.73	0.50	µg/L	5.00		94.6	70-130		
Benzene		4.96	0.50	µg/L	5.00		99.2	70-130		
Chlorobenzene		4.85	0.50	µg/L	5.00		97.0	70-130		
Toluene		4.82	0.50	µg/L	5.00		96.4	70-130		
Trichloroethene (TCE)		4.53	0.50	µg/L	5.00		90.6	70-130		
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.92*		*µg/L*	*2.00*		*96.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.93*		*µg/L*	*2.00*		*96.5*	*70-130*		
1,1-Dichloroethene		4.17	0.50	µg/L	5.00		83.4	70-130	12.6	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 18 **Project Manager:** Allison Shuklian	**Reported:** 12/22/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Benzene		4.47	0.50	µg/L	5.00		89.4	70-130	10.4	20
Chlorobenzene		4.38	0.50	µg/L	5.00		87.6	70-130	10.2	20
Toluene		4.44	0.50	µg/L	5.00		88.8	70-130	8.21	20
Trichloroethene (TCE)		4.17	0.50	µg/L	5.00		83.4	70-130	8.28	20

Notes and Definitions

µg/L	micrograms per liter (parts per billion concentration units)
mg/L	milligrams per liter (parts per million concentration units)
mg/kg	milligrams per kilogram (parts per million concentration units)
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference

Analysis of pH, filtration, and residual chlorine is to take place immediately after sampling in the field.
If the test was performed in the laboratory, the hold time was exceeded. **(for aqueous matrices only)**

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: 2 6K19026
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, CA 93277
PHONE: 624-8441
EMAIL / FAX:

☒ INVOICE TO: ☐ REPORT COPY TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia CA 93277
PHONE:
EMAIL / FAX:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 18
PROJECT MANAGER:

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC's)	STATION CODE
1	Mapkey 18	11-18	9:30	DW	X	
2	Field Blanks (2)	11-18	9:30		X	
3	Trip Blank (1)	11-18	9:30		X	

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co.	11-19	1435		MTA

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 subje monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are e 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 MTA's terms and conditions for labor services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

Moore Twining Associates

Sample Integrity — Page 2 of 2 — WO# 9K/9026 — MTA Bottles: Yes or No

COC Info						
Was temperature within range? Chemistry ≤6°C Micro <10°C Temp ___ °C	Yes No N/A	Did all bottle labels agree with COC?	Yes No N/A	Were there bubbles in VOA vials? (**Volatiles Only**)	Yes No N/A
If samples were taken today, is there evidence that chilling has begun? Recvd ___ C°	Yes No N/A	Was a sufficient amount of sample received?	Yes No N/A	Was PM notified of discrepancies? PM: By/Time:	Yes No N/A
Did all bottles arrive unbroken and intact?	Yes No N/A	Were correct containers and preservatives received for the tests requested?	Yes No N/A		
Do samples have a hold time <72 hours?	Yes No N/A				

Bottles Received			
125ml (A) 250ml (B) 1Liter (C) 40ml VOA (V)	1	2	3
Bacti $Na_2S_2O_3$			
None (P)			
Cr6 Buffer (P) Borate Carbonate Buffer			
HNO_3 (P)			
H_2SO_4 (P)			
NaOH (P)			
NaOH+ZnAc (P)			
Dissolved Oxygen 300ml (P)			
None (AG)			
None (CG) 500ml			
$Na_2S_2O_3$ 250ml (Brown P) 549			
$Na_2S_2O_3$ (AG)			
$Na_2S_2O_3$ (AG)			
Thio/K Citrate			
NH_4Cl (AG) 552			
HCl (AG)	3✓	2✓	1✓
None (CG) 500ml			
H_3PO_4 (AG)			
Other:			
Plastic Bag			
Low Level Hg/Metals Double Bag			
Client Own			
Glass Jar: 125/ 250/ 500			
Soil Tube: Brass/ Steel/ Plastic			
5 g Encore			

Comments

Filter or Split		Container	Preservative	Date/Time/Initials
	S P F			
	S P F			
	S P F			
	S P F			
	S P F			

Labeled by: M @1525 Labels checked by: M @1526

FL-SC-0003-0

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 22, 2020

Work Order #: **GK19027**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19027**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map Key 17 **Project Manager:** Allison Shuklian	**Reported:** 12/22/2020

Analytical Report for the Following Samples

Sample ID	Notes	Laboratory ID	Matrix	Date Sampled	Date Received
Map Key 17		GK19027-01	Drinking Water	11/18/20 10:00	11/19/20 14:35

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Map Key 17	12/22/2020
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 17

GK19027-01 (Drinking Water) Sampled: 11/18/20 10:00

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2-Trichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,3-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3,5-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,4-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
4-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Benzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromodichloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromoform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Carbon tetrachloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Di-isopropyl ether (DIPE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Hexachlorobutadiene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isobutyl alcohol		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isopropylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
m,p-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methylene chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Map Key 17	12/22/2020
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 17

GK19027-01 (Drinking Water) Sampled: 11/18/20 10:00

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
n-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
n-Propylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
o-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
p-Isopropyltoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
sec-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Styrene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butyl alcohol (TBA)		ND	2.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tetrachloroethene (PCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Toluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total 1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total Trihalomethanes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichloroethene (TCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Vinyl chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Xylenes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Surr: 1,2-Dichlorobenzene-d4		*92.5%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*
Surr: 4-Bromofluorobenzene		*91.0%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map Key 17 **Project Manager:** Allison Shuklian	**Reported:** 12/22/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.89*		*µg/L*	*2.00*		*94.5*	*70-130*		
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L						
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,2-Trichloroethane		ND	0.50	µg/L						
1,1-Dichloroethane		ND	0.50	µg/L						
1,1-Dichloroethene		ND	0.50	µg/L						
1,2,3-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trimethylbenzene		ND	0.50	µg/L						
1,2-Dichlorobenzene		ND	0.50	µg/L						
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L						
1,2-Dichloropropane		ND	0.50	µg/L						
1,3,5-Trimethylbenzene		ND	0.50	µg/L						
1,3-Dichlorobenzene		ND	0.50	µg/L						
1,3-Dichloropropane		ND	0.50	µg/L						
1,4-Dichlorobenzene		ND	0.50	µg/L						
2,2-Dichloropropane		ND	0.50	µg/L						
2-Chlorotoluene		ND	0.50	µg/L						
4-Chlorotoluene		ND	0.50	µg/L						
Benzene		ND	0.50	µg/L						
Bromobenzene		ND	0.50	µg/L						
Bromochloromethane		ND	0.50	µg/L						
Bromodichloromethane		ND	0.50	µg/L						
Bromoform		ND	0.50	µg/L						
Bromomethane		ND	0.50	µg/L						
Carbon tetrachloride		ND	0.50	µg/L						
Chlorobenzene		ND	0.50	µg/L						
Chloroethane		ND	0.50	µg/L						
Chloroform		ND	0.50	µg/L						
Chloromethane		ND	0.50	µg/L						
cis-1,2-Dichloroethene		ND	0.50	µg/L						
cis-1,3-Dichloropropene		ND	0.50	µg/L						
Dibromochloromethane		ND	0.50	µg/L						
Dibromomethane		ND	0.50	µg/L						
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L						
Di-isopropyl ether (DIPE)		ND	0.50	µg/L						
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L						
Ethylbenzene		ND	0.50	µg/L						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map Key 17 **Project Manager:** Allison Shuklian	**Reported:** 12/22/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Hexachlorobutadiene		ND	0.50	µg/L						
Isobutyl alcohol		ND	10	µg/L						
Isopropylbenzene		ND	0.50	µg/L						
m,p-Xylene		ND	0.50	µg/L						
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L						
Methylene chloride		ND	0.50	µg/L						
n-Butylbenzene		ND	0.50	µg/L						
n-Propylbenzene		ND	0.50	µg/L						
o-Xylene		ND	0.50	µg/L						
p-Isopropyltoluene		ND	0.50	µg/L						
sec-Butylbenzene		ND	0.50	µg/L						
Styrene		ND	0.50	µg/L						
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L						
tert-Butyl alcohol (TBA)		ND	2.0	µg/L						
tert-Butylbenzene		ND	0.50	µg/L						
Tetrachloroethene (PCE)		ND	0.50	µg/L						
Toluene		ND	0.50	µg/L						
Total 1,3-Dichloropropene		ND	0.50	µg/L						
Total Trihalomethanes		ND	0.50	µg/L						
trans-1,2-Dichloroethene		ND	0.50	µg/L						
trans-1,3-Dichloropropene		ND	0.50	µg/L						
Trichloroethene (TCE)		ND	0.50	µg/L						
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L						
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L						
Vinyl chloride		ND	0.50	µg/L						
Xylenes		ND	0.50	µg/L						
LCS (B0K2001-BS1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.99*		*µg/L*	*2.00*		*99.5*	*70-130*		
1,1-Dichloroethene		4.73	0.50	µg/L	5.00		94.6	70-130		
Benzene		4.96	0.50	µg/L	5.00		99.2	70-130		
Chlorobenzene		4.85	0.50	µg/L	5.00		97.0	70-130		
Toluene		4.82	0.50	µg/L	5.00		96.4	70-130		
Trichloroethene (TCE)		4.53	0.50	µg/L	5.00		90.6	70-130		
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.92*		*µg/L*	*2.00*		*96.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.93*		*µg/L*	*2.00*		*96.5*	*70-130*		
1,1-Dichloroethene		4.17	0.50	µg/L	5.00		83.4	70-130	12.6	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map Key 17 **Project Manager:** Allison Shuklian	**Reported:** 12/22/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Benzene		4.47	0.50	µg/L	5.00		89.4	70-130	10.4	20
Chlorobenzene		4.38	0.50	µg/L	5.00		87.6	70-130	10.2	20
Toluene		4.44	0.50	µg/L	5.00		88.8	70-130	8.21	20
Trichloroethene (TCE)		4.17	0.50	µg/L	5.00		83.4	70-130	8.28	20

Notes and Definitions

µg/L	micrograms per liter (parts per billion concentration units)
mg/L	milligrams per liter (parts per million concentration units)
mg/kg	milligrams per kilogram (parts per million concentration units)
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference

Analysis of pH, filtration, and residual chlorine is to take place immediately after sampling in the field.
If the test was performed in the laboratory, the hold time was exceeded. **(for aqueous matrices only)**

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: 2 PAGE 1 OF 2 GK19027

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, CA 93277
PHONE: 624-8441
EMAIL / FAX:

INVOICE TO: ☐ REPORT COPY TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia CA 93277
PHONE:
EMAIL / FAX:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 17
PROJECT MANAGER:

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC'S)	STATION CODE
1	Mapkey 17	11-18	10:00	DW	X	
2	Field Blanks (2)	11-18	10:00		X	
3	Trip Blank (1)	11-18	10:00		X	

COMMENTS / ADDITIONAL INSTRUCTIONS: Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co.	11-19	14:35		MTA

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 subje monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are e 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 MTA's terms and conditions for labor services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

Moore Twining Associates

Sample Integrity — Page 2 of 2 — WO# GK19077 — MTA Bottles: Yes or No

COC Info					
Was temperature within range? Chemistry ≤6°C Micro <10°C Temp ___ °C	Yes No N/A	Did all bottle labels agree with COC?	Yes No N/A	Were there bubbles in VOA vials? (**Volatiles Only**)	Yes No N/A
If samples were taken today, is there evidence that chilling has begun? Recvd ___ C°	Yes No N/A	Was a sufficient amount of sample received?	Yes No N/A	Was PM notified of discrepancies? PM: By/Time:	Yes No N/A
Did all bottles arrive unbroken and intact?	Yes No N/A	Were correct containers and preservatives received for the tests requested?	Yes No N/A		
Do samples have a hold time <72 hours?	Yes No N/A				

Bottles Received			
125ml (A) 250ml (B) 1Liter (C) 40ml VOA (V)	1	2	3
Bacti $Na_2S_2O_3$			
None (P)			
Cr6 Buffer (P) Borate Carbonate Buffer			
HNO_3 (P)			
H_2SO_4 (P)			
NaOH (P)			
NaOH+ZnAc (P)			
Dissolved Oxygen 300ml (P)			
None (AG)			
None (CG) 500ml			
$Na_2S_2O_3$ 250ml (Brown P) 549			
$Na_2S_2O_3$ (AG)			
$Na_2S_2O_3$ (AG)			
Thio/K Citrate			
NH_4Cl (AG) 552			
HCl (AG)	3V	2V	1V
None (CG) 500ml			
H_3PO_4 (AG)			
Other:			
Plastic Bag			
Low Level Hg/Metals Double Bag			
Client Own			
Glass Jar: 125/ 250/ 500			
Soil Tube: Brass/ Steel/ Plastic			
5 g Encore			

Comments

Filter or Split	Container	Preservative	Date/Time/Initials
S P F			
S P F			
S P F			
S P F			
S P F			

Labeled by: ___ @ ___ Labels checked by: ___ @ 1525

FL-SC-0003-0

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 22, 2020

Work Order #: **GK19028**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19028**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 10A **Project Manager:** Allison Shuklian	**Reported:** 12/22/2020

Analytical Report for the Following Samples

Sample ID	Notes	Laboratory ID	Matrix	Date Sampled	Date Received
Map Key 10A		GK19028-01	Drinking Water	11/18/20 10:30	11/19/20 14:35

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Mapkey 10A	12/22/2020
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 10A

GK19028-01 (Drinking Water) Sampled: 11/18/20 10:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2-Trichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,3-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3,5-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,4-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
4-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Benzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromodichloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromoform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Carbon tetrachloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Di-isopropyl ether (DIPE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Hexachlorobutadiene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isobutyl alcohol		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isopropylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
m,p-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methylene chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:** Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:** Mapkey 10A	12/22/2020
Visalia CA, 93277	**Project Manager:** Allison Shuklian	

Map Key 10A

GK19028-01 (Drinking Water) Sampled: 11/18/20 10:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
n-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
n-Propylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
o-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
p-Isopropyltoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
sec-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Styrene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butyl alcohol (TBA)		ND	2.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tetrachloroethene (PCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Toluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total 1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total Trihalomethanes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichloroethene (TCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Vinyl chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Xylenes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Surr: 1,2-Dichlorobenzene-d4		*91.5%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*
Surr: 4-Bromofluorobenzene		*92.0%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 10A **Project Manager:** Allison Shuklian	**Reported:** 12/22/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.89*		*µg/L*	*2.00*		*94.5*	*70-130*		
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L						
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,2-Trichloroethane		ND	0.50	µg/L						
1,1-Dichloroethane		ND	0.50	µg/L						
1,1-Dichloroethene		ND	0.50	µg/L						
1,2,3-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trimethylbenzene		ND	0.50	µg/L						
1,2-Dichlorobenzene		ND	0.50	µg/L						
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L						
1,2-Dichloropropane		ND	0.50	µg/L						
1,3,5-Trimethylbenzene		ND	0.50	µg/L						
1,3-Dichlorobenzene		ND	0.50	µg/L						
1,3-Dichloropropane		ND	0.50	µg/L						
1,4-Dichlorobenzene		ND	0.50	µg/L						
2,2-Dichloropropane		ND	0.50	µg/L						
2-Chlorotoluene		ND	0.50	µg/L						
4-Chlorotoluene		ND	0.50	µg/L						
Benzene		ND	0.50	µg/L						
Bromobenzene		ND	0.50	µg/L						
Bromochloromethane		ND	0.50	µg/L						
Bromodichloromethane		ND	0.50	µg/L						
Bromoform		ND	0.50	µg/L						
Bromomethane		ND	0.50	µg/L						
Carbon tetrachloride		ND	0.50	µg/L						
Chlorobenzene		ND	0.50	µg/L						
Chloroethane		ND	0.50	µg/L						
Chloroform		ND	0.50	µg/L						
Chloromethane		ND	0.50	µg/L						
cis-1,2-Dichloroethene		ND	0.50	µg/L						
cis-1,3-Dichloropropene		ND	0.50	µg/L						
Dibromochloromethane		ND	0.50	µg/L						
Dibromomethane		ND	0.50	µg/L						
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L						
Di-isopropyl ether (DIPE)		ND	0.50	µg/L						
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L						
Ethylbenzene		ND	0.50	µg/L						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 10A **Project Manager:** Allison Shuklian	**Reported:** 12/22/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Hexachlorobutadiene		ND	0.50	µg/L						
Isobutyl alcohol		ND	10	µg/L						
Isopropylbenzene		ND	0.50	µg/L						
m,p-Xylene		ND	0.50	µg/L						
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L						
Methylene chloride		ND	0.50	µg/L						
n-Butylbenzene		ND	0.50	µg/L						
n-Propylbenzene		ND	0.50	µg/L						
o-Xylene		ND	0.50	µg/L						
p-Isopropyltoluene		ND	0.50	µg/L						
sec-Butylbenzene		ND	0.50	µg/L						
Styrene		ND	0.50	µg/L						
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L						
tert-Butyl alcohol (TBA)		ND	2.0	µg/L						
tert-Butylbenzene		ND	0.50	µg/L						
Tetrachloroethene (PCE)		ND	0.50	µg/L						
Toluene		ND	0.50	µg/L						
Total 1,3-Dichloropropene		ND	0.50	µg/L						
Total Trihalomethanes		ND	0.50	µg/L						
trans-1,2-Dichloroethene		ND	0.50	µg/L						
trans-1,3-Dichloropropene		ND	0.50	µg/L						
Trichloroethene (TCE)		ND	0.50	µg/L						
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L						
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L						
Vinyl chloride		ND	0.50	µg/L						
Xylenes		ND	0.50	µg/L						
LCS (B0K2001-BS1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.99*		*µg/L*	*2.00*		*99.5*	*70-130*		
1,1-Dichloroethene		4.73	0.50	µg/L	5.00		94.6	70-130		
Benzene		4.96	0.50	µg/L	5.00		99.2	70-130		
Chlorobenzene		4.85	0.50	µg/L	5.00		97.0	70-130		
Toluene		4.82	0.50	µg/L	5.00		96.4	70-130		
Trichloroethene (TCE)		4.53	0.50	µg/L	5.00		90.6	70-130		
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.92*		*µg/L*	*2.00*		*96.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.93*		*µg/L*	*2.00*		*96.5*	*70-130*		
1,1-Dichloroethene		4.17	0.50	µg/L	5.00		83.4	70-130	12.6	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Mapkey 10A **Project Manager:** Allison Shuklian	**Reported:** 12/22/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Benzene		4.47	0.50	µg/L	5.00		89.4	70-130	10.4	20
Chlorobenzene		4.38	0.50	µg/L	5.00		87.6	70-130	10.2	20
Toluene		4.44	0.50	µg/L	5.00		88.8	70-130	8.21	20
Trichloroethene (TCE)		4.17	0.50	µg/L	5.00		83.4	70-130	8.28	20

Notes and Definitions

µg/L	micrograms per liter (parts per billion concentration units)
mg/L	milligrams per liter (parts per million concentration units)
mg/kg	milligrams per kilogram (parts per million concentration units)
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference

Analysis of pH, filtration, and residual chlorine is to take place immediately after sampling in the field.
If the test was performed in the laboratory, the hold time was exceeded. **(for aqueous matrices only)**

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: 6K19028
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, CA 93277
PHONE: 624-8441
EMAIL / FAX:

INVOICE TO: ☐ REPORT COPY TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia CA 93277
PHONE:
EMAIL / FAX:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 10A
PROJECT MANAGER:

ANALYSIS REQUESTED

LAB USE — NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

LAB USE	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC'S)									STATION CODE
1	Mapkey 10A	11-18	10:30	DW	X									
2	Field Blanks (2)	11-18	10:30		X									
3	Trip Blank (1)	11-18	10:30		X									

COMMENTS / ADDITIONAL INSTRUCTIONS: Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co	11-19	1435		MTA

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 subje monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are e 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 MTA's terms and conditions for labor services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

Moore Twining Associates

Sample Integrity — Page 2 of 2 — WO# GK49028 — MTA Bottles: Yes or No

COC Info			
Was temperature within range? Chemistry ≤6°C Micro <10°C Temp ___ °C	Yes No N/A	Did all bottle labels agree with COC?	Yes No N/A
If samples were taken today, is there evidence that chilling has begun? Recvd ___ C°	Yes No N/A	Was a sufficient amount of sample received?	Yes No N/A
Did all bottles arrive unbroken and intact?	Yes No N/A	Were correct containers and preservatives received for the tests requested?	Yes No N/A
Do samples have a hold time <72 hours?	Yes No N/A		

Were there bubbles in VOA vials? (Volatiles Only)	Yes No N/A
Was PM notified of discrepancies? PM: By/Time:	Yes No N/A

Bottles Received																
125ml (A) 250ml (B) 1Liter (C) 40ml VOA (V)	1	2	3													
Bacti $Na_2S_2O_3$																
None (P)																
Cr6 Buffer (P) Borate Carbonate Buffer																
HNO_3 (P)																
H_2SO_4 (P)																
NaOH (P)																
NaOH+ZnAc (P)																
Dissolved Oxygen 300ml (P)																
None (AG)																
None (CG) 500ml																
$Na_2S_2O_3$ 250ml (Brown P) 549																
$Na_2S_2O_3$ (AG)																
$Na_2S_2O_3$ (AG)																
Thio/K Citrate																
NH_4Cl (AG) 552																
HCl (AG)	3V	2V	1V													
None (CG) 500ml																
H_3PO_4 (AG)																
Other:																
Plastic Bag																
Low Level Hg/Metals Double Bag																
Client Own																
Glass Jar: 125/ 250/ 500																
Soil Tube: Brass/ Steel/ Plastic																
5 g Encore																

Comments

Filter or Split		Container	Preservative	Date/Time/Initials
	S P F			
	S P F			
	S P F			
	S P F			
	S P F			

Labeled by: M @1527 Labels checked by: M @1528

FL-SC-0003-0

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

December 22, 2020

Work Order #: **GK19029**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **11/19/20** . For your reference, these analyses have been assigned laboratory work order number **GK19029**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map Key 13 **Project Manager:** Allison Shuklian	**Reported:** 12/22/2020

Analytical Report for the Following Samples

Sample ID	Notes	Laboratory ID	Matrix	Date Sampled	Date Received
Map Key 13		GK19029-01	Drinking Water	11/18/20 13:00	11/19/20 14:35

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Map Key 13	12/22/2020
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 13

GK19029-01 (Drinking Water) Sampled: 11/18/20 13:00

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1,2-Trichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,1-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,3-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2,4-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3,5-Trimethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,3-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
1,4-Dichlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2,2-Dichloropropane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
2-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
4-Chlorotoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Benzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromodichloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromoform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Bromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Carbon tetrachloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chlorobenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloroform		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Chloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
cis-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromochloromethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dibromomethane		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Di-isopropyl ether (DIPE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Ethylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Hexachlorobutadiene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isobutyl alcohol		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Isopropylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
m,p-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Methylene chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Map Key 13	12/22/2020
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 13

GK19029-01 (Drinking Water) Sampled: 11/18/20 13:00

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
n-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
n-Propylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
o-Xylene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
p-Isopropyltoluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
sec-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Styrene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butyl alcohol (TBA)		ND	2.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
tert-Butylbenzene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Tetrachloroethene (PCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Toluene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total 1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Total Trihalomethanes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,2-Dichloroethene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
trans-1,3-Dichloropropene		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichloroethene (TCE)		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Vinyl chloride		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Xylenes		ND	0.50	µg/L	1	B0K2001	11/20/20	11/20/20	EPA 524.2
Surr: 1,2-Dichlorobenzene-d4		*91.0%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*
Surr: 4-Bromofluorobenzene		*89.0%*	*Recovery Limits: 70% - 130%*			*B0K2001*	11/20/20	11/20/20	*EPA 524.2*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map Key 13 **Project Manager:** Allison Shuklian	**Reported:** 12/22/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.89*		*µg/L*	*2.00*		*94.5*	*70-130*		
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L						
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,2-Trichloroethane		ND	0.50	µg/L						
1,1-Dichloroethane		ND	0.50	µg/L						
1,1-Dichloroethene		ND	0.50	µg/L						
1,2,3-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trimethylbenzene		ND	0.50	µg/L						
1,2-Dichlorobenzene		ND	0.50	µg/L						
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L						
1,2-Dichloropropane		ND	0.50	µg/L						
1,3,5-Trimethylbenzene		ND	0.50	µg/L						
1,3-Dichlorobenzene		ND	0.50	µg/L						
1,3-Dichloropropane		ND	0.50	µg/L						
1,4-Dichlorobenzene		ND	0.50	µg/L						
2,2-Dichloropropane		ND	0.50	µg/L						
2-Chlorotoluene		ND	0.50	µg/L						
4-Chlorotoluene		ND	0.50	µg/L						
Benzene		ND	0.50	µg/L						
Bromobenzene		ND	0.50	µg/L						
Bromochloromethane		ND	0.50	µg/L						
Bromodichloromethane		ND	0.50	µg/L						
Bromoform		ND	0.50	µg/L						
Bromomethane		ND	0.50	µg/L						
Carbon tetrachloride		ND	0.50	µg/L						
Chlorobenzene		ND	0.50	µg/L						
Chloroethane		ND	0.50	µg/L						
Chloroform		ND	0.50	µg/L						
Chloromethane		ND	0.50	µg/L						
cis-1,2-Dichloroethene		ND	0.50	µg/L						
cis-1,3-Dichloropropene		ND	0.50	µg/L						
Dibromochloromethane		ND	0.50	µg/L						
Dibromomethane		ND	0.50	µg/L						
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L						
Di-isopropyl ether (DIPE)		ND	0.50	µg/L						
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L						
Ethylbenzene		ND	0.50	µg/L						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map Key 13 **Project Manager:** Allison Shuklian	**Reported:** 12/22/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
Blank (B0K2001-BLK1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Hexachlorobutadiene		ND	0.50	µg/L						
Isobutyl alcohol		ND	10	µg/L						
Isopropylbenzene		ND	0.50	µg/L						
m,p-Xylene		ND	0.50	µg/L						
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L						
Methylene chloride		ND	0.50	µg/L						
n-Butylbenzene		ND	0.50	µg/L						
n-Propylbenzene		ND	0.50	µg/L						
o-Xylene		ND	0.50	µg/L						
p-Isopropyltoluene		ND	0.50	µg/L						
sec-Butylbenzene		ND	0.50	µg/L						
Styrene		ND	0.50	µg/L						
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L						
tert-Butyl alcohol (TBA)		ND	2.0	µg/L						
tert-Butylbenzene		ND	0.50	µg/L						
Tetrachloroethene (PCE)		ND	0.50	µg/L						
Toluene		ND	0.50	µg/L						
Total 1,3-Dichloropropene		ND	0.50	µg/L						
Total Trihalomethanes		ND	0.50	µg/L						
trans-1,2-Dichloroethene		ND	0.50	µg/L						
trans-1,3-Dichloropropene		ND	0.50	µg/L						
Trichloroethene (TCE)		ND	0.50	µg/L						
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L						
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L						
Vinyl chloride		ND	0.50	µg/L						
Xylenes		ND	0.50	µg/L						
LCS (B0K2001-BS1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.99*		*µg/L*	*2.00*		*99.5*	*70-130*		
1,1-Dichloroethene		4.73	0.50	µg/L	5.00		94.6	70-130		
Benzene		4.96	0.50	µg/L	5.00		99.2	70-130		
Chlorobenzene		4.85	0.50	µg/L	5.00		97.0	70-130		
Toluene		4.82	0.50	µg/L	5.00		96.4	70-130		
Trichloroethene (TCE)		4.53	0.50	µg/L	5.00		90.6	70-130		
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.92*		*µg/L*	*2.00*		*96.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.93*		*µg/L*	*2.00*		*96.5*	*70-130*		
1,1-Dichloroethene		4.17	0.50	µg/L	5.00		83.4	70-130	12.6	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map Key 13 **Project Manager:** Allison Shuklian	**Reported:** 12/22/2020

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0K2001										
LCS Dup (B0K2001-BSD1)		Prepared & Analyzed: 11/20/20								
EPA 524.2										
Benzene		4.47	0.50	µg/L	5.00		89.4	70-130	10.4	20
Chlorobenzene		4.38	0.50	µg/L	5.00		87.6	70-130	10.2	20
Toluene		4.44	0.50	µg/L	5.00		88.8	70-130	8.21	20
Trichloroethene (TCE)		4.17	0.50	µg/L	5.00		83.4	70-130	8.28	20

Notes and Definitions

µg/L	micrograms per liter (parts per billion concentration units)
mg/L	milligrams per liter (parts per million concentration units)
mg/kg	milligrams per kilogram (parts per million concentration units)
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference

Analysis of pH, filtration, and residual chlorine is to take place immediately after sampling in the field.
If the test was performed in the laboratory, the hold time was exceeded. **(for aqueous matrices only)**

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: 6K19029
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, Ca 93277
PHONE: 624-8441
EMAIL / FAX:

☒ INVOICE TO: ☐ REPORT COPY TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia Ca 93277
PHONE:
EMAIL / FAX:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 13
PROJECT MANAGER:

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

LAB USE	CLIENT SAMPLE ID	DATE	TIME	TYPE	EPA 524.2 (VOC's)										STATION CODE
1	Mapkey 13	11-18	1:00	DW	X										
2	Field Blanks (2)	11-18	1:00		X										
3	Trip Blank (1)	11-18	1:00		X										

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co.	11-19-20	14:35		MTA

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 subje monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are e 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 MTA's terms and conditions for labor services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

Moore Twining Associates

Sample Integrity — Page 2 of 2 — WO# GK19029 — MTA Bottles: Yes or No

COC Info				
Was temperature within range? Chemistry ≤6°C Micro <10°C Temp ___ °C	Yes No N/A	Did all bottle labels agree with COC?	Yes No N/A	Were there bubbles in VOA vials? (Volatiles Only) — Yes No N/A
If samples were taken today, is there evidence that chilling has begun? Recvd ___ C°	Yes No N/A	Was a sufficient amount of sample received?	Yes No N/A	Was PM notified of discrepancies? PM: By/Time: — Yes No N/A
Did all bottles arrive unbroken and intact?	Yes No N/A	Were correct containers and preservatives received for the tests requested?	Yes No N/A	
Do samples have a hold time <72 hours?	Yes No N/A			

Bottles Received																
125ml (A) 250ml (B) 1Liter (C) 40ml VOA (V)	1	2	3													
Bacti $Na_2S_2O_3$																
None (P)																
Cr6 Buffer (P) Borate Carbonate Buffer																
HNO_3 (P)																
H_2SO_4 (P)																
NaOH (P)																
NaOH+ZnAc (P)																
Dissolved Oxygen 300ml (P)																
None (AG)																
None (CG) 500ml																
$Na_2S_2O_3$ 250ml (Brown P) 549																
$Na_2S_2O_3$ (AG)																
$Na_2S_2O_3$ (AG)																
Thio/K Citrate																
NH_4Cl (AG) 552																
HCl (AG)	3✓	2✓	1✓													
None (CG) 500ml																
H_3PO_4 (AG)																
Other:																
Plastic Bag																
Low Level Hg/Metals Double Bag																
Client Own																
Glass Jar: 125/ 250/ 500																
Soil Tube: Brass/ Steel/ Plastic																
5 g Encore																

Comments

Filter or Split		Container	Preservative	Date/Time/Initials
	S P F			
	S P F			
	S P F			
	S P F			
	S P F			

Labeled by: ✓ @ ___ Labels checked by: [illegible] @ 1530

FL-SC-0003-0

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

January 18, 2021

Work Order #: **GL15003**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **12/15/20** . For your reference, these analyses have been assigned laboratory work order number **GL15003**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map Key 74 **Project Manager:** Allison Shuklian	**Reported:** 01/18/2021

Analytical Report for the Following Samples

Sample ID	Notes	Laboratory ID	Matrix	Date Sampled	Date Received
Map Key 74		GL15003-01	Drinking Water	12/14/20 07:00	12/15/20 08:30

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Map Key 74	01/18/2021
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 74

GL15003-01 (Drinking Water) Sampled: 12/14/20 07:00

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,1,2-Trichloroethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,1-Dichloroethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,1-Dichloroethene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2,3-Trichlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2,4-Trichlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2,4-Trimethylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2-Dichlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2-Dichloropropane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,3,5-Trimethylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,3-Dichlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,3-Dichloropropane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,4-Dichlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
2,2-Dichloropropane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
2-Chlorotoluene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
4-Chlorotoluene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Benzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Bromobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Bromochloromethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Bromodichloromethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Bromoform		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Bromomethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Carbon tetrachloride		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Chlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Chloroethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Chloroform		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Chloromethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
cis-1,2-Dichloroethene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
cis-1,3-Dichloropropene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Dibromochloromethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Dibromomethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Di-isopropyl ether (DIPE)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Ethylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Hexachlorobutadiene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Isobutyl alcohol		ND	10	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Isopropylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
m,p-Xylene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Methylene chloride		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Map Key 74	01/18/2021
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 74

GL15003-01 (Drinking Water) Sampled: 12/14/20 07:00

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
n-Butylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
n-Propylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
o-Xylene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
p-Isopropyltoluene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
sec-Butylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Styrene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
tert-Butyl alcohol (TBA)		ND	2.0	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
tert-Butylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Tetrachloroethene (PCE)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Toluene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Total 1,3-Dichloropropene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Total Trihalomethanes		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
trans-1,2-Dichloroethene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
trans-1,3-Dichloropropene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Trichloroethene (TCE)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Vinyl chloride		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Xylenes		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Surr: 1,2-Dichlorobenzene-d4		*93.0%*	*Recovery Limits: 70% - 130%*			*B0L1601*	12/16/20	12/16/20	*EPA 524.2*
Surr: 4-Bromofluorobenzene		*89.5%*	*Recovery Limits: 70% - 130%*			*B0L1601*	12/16/20	12/16/20	*EPA 524.2*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map Key 74 **Project Manager:** Allison Shuklian	**Reported:** 01/18/2021

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0L1601										
Blank (B0L1601-BLK1)		Prepared & Analyzed: 12/16/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*2.04*		*µg/L*	*2.00*		*102*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.93*		*µg/L*	*2.00*		*96.5*	*70-130*		
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L						
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,2-Trichloroethane		ND	0.50	µg/L						
1,1-Dichloroethane		ND	0.50	µg/L						
1,1-Dichloroethene		ND	0.50	µg/L						
1,2,3-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trimethylbenzene		ND	0.50	µg/L						
1,2-Dichlorobenzene		ND	0.50	µg/L						
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L						
1,2-Dichloropropane		ND	0.50	µg/L						
1,3,5-Trimethylbenzene		ND	0.50	µg/L						
1,3-Dichlorobenzene		ND	0.50	µg/L						
1,3-Dichloropropane		ND	0.50	µg/L						
1,4-Dichlorobenzene		ND	0.50	µg/L						
2,2-Dichloropropane		ND	0.50	µg/L						
2-Chlorotoluene		ND	0.50	µg/L						
4-Chlorotoluene		ND	0.50	µg/L						
Benzene		ND	0.50	µg/L						
Bromobenzene		ND	0.50	µg/L						
Bromochloromethane		ND	0.50	µg/L						
Bromodichloromethane		ND	0.50	µg/L						
Bromoform		ND	0.50	µg/L						
Bromomethane		ND	0.50	µg/L						
Carbon tetrachloride		ND	0.50	µg/L						
Chlorobenzene		ND	0.50	µg/L						
Chloroethane		ND	0.50	µg/L						
Chloroform		ND	0.50	µg/L						
Chloromethane		ND	0.50	µg/L						
cis-1,2-Dichloroethene		ND	0.50	µg/L						
cis-1,3-Dichloropropene		ND	0.50	µg/L						
Dibromochloromethane		ND	0.50	µg/L						
Dibromomethane		ND	0.50	µg/L						
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L						
Di-isopropyl ether (DIPE)		ND	0.50	µg/L						
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L						
Ethylbenzene		ND	0.50	µg/L						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map Key 74 **Project Manager:** Allison Shuklian	**Reported:** 01/18/2021

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0L1601										
Blank (B0L1601-BLK1)		Prepared & Analyzed: 12/16/20								
EPA 524.2										
Hexachlorobutadiene		ND	0.50	µg/L						
Isobutyl alcohol		ND	10	µg/L						
Isopropylbenzene		ND	0.50	µg/L						
m,p-Xylene		ND	0.50	µg/L						
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L						
Methylene chloride		ND	0.50	µg/L						
n-Butylbenzene		ND	0.50	µg/L						
n-Propylbenzene		ND	0.50	µg/L						
o-Xylene		ND	0.50	µg/L						
p-Isopropyltoluene		ND	0.50	µg/L						
sec-Butylbenzene		ND	0.50	µg/L						
Styrene		ND	0.50	µg/L						
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L						
tert-Butyl alcohol (TBA)		ND	2.0	µg/L						
tert-Butylbenzene		ND	0.50	µg/L						
Tetrachloroethene (PCE)		ND	0.50	µg/L						
Toluene		ND	0.50	µg/L						
Total 1,3-Dichloropropene		ND	0.50	µg/L						
Total Trihalomethanes		ND	0.50	µg/L						
trans-1,2-Dichloroethene		ND	0.50	µg/L						
trans-1,3-Dichloropropene		ND	0.50	µg/L						
Trichloroethene (TCE)		ND	0.50	µg/L						
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L						
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L						
Vinyl chloride		ND	0.50	µg/L						
Xylenes		ND	0.50	µg/L						
LCS (B0L1601-BS1)		Prepared & Analyzed: 12/16/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*2.00*		*µg/L*	*2.00*		*100*	*70-130*		
Surr: 4-Bromofluorobenzene		*2.05*		*µg/L*	*2.00*		*102*	*70-130*		
1,1-Dichloroethene		4.95	0.50	µg/L	5.00		99.0	70-130		
Benzene		4.88	0.50	µg/L	5.00		97.6	70-130		
Chlorobenzene		4.83	0.50	µg/L	5.00		96.6	70-130		
Toluene		4.89	0.50	µg/L	5.00		97.8	70-130		
Trichloroethene (TCE)		4.87	0.50	µg/L	5.00		97.4	70-130		
LCS Dup (B0L1601-BSD1)		Prepared & Analyzed: 12/16/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*2.03*		*µg/L*	*2.00*		*102*	*70-130*		
1,1-Dichloroethene		4.43	0.50	µg/L	5.00		88.6	70-130	11.1	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map Key 74 **Project Manager:** Allison Shuklian	**Reported:** 01/18/2021

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0L1601										
LCS Dup (B0L1601-BSD1)		Prepared & Analyzed: 12/16/20								
EPA 524.2										
Benzene		4.45	0.50	µg/L	5.00		89.0	70-130	9.22	20
Chlorobenzene		4.50	0.50	µg/L	5.00		90.0	70-130	7.07	20
Toluene		4.51	0.50	µg/L	5.00		90.2	70-130	8.09	20
Trichloroethene (TCE)		4.42	0.50	µg/L	5.00		88.4	70-130	9.69	20

Notes and Definitions

µg/L	micrograms per liter (parts per billion concentration units)
mg/L	milligrams per liter (parts per million concentration units)
mg/kg	milligrams per kilogram (parts per million concentration units)
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference

Analysis of pH, filtration, and residual chlorine is to take place immediately after sampling in the field.
If the test was performed in the laboratory, the hold time was exceeded. **(for aqueous matrices only)**

MOORE TWINING ASSOCIATES, INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: GL15003
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, Ca 93277
PHONE: 624-8441
EMAIL / FAX:

INVOICE TO: ☒ ☐ REPORT COPY TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia Ca 93277
PHONE:
EMAIL / FAX:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 74
PROJECT MANAGER:

ANALYSIS REQUESTED

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLES(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

LAB USE	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOCs)										STATION CODE
1	Mapkey 74	12-14	7:00	DW	X										
2	Field Blanks (2)	12-14	7:00		X										
3	Trip Blank (1)	12-14	7:00		X										

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
[signature]	Tul Co.	12-15	0830	[signature]	MTA

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 MTA'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 MTA's terms and conditions for laboratory services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

FL-SC-0005-04 A

Moore Twining Associates

Sample Integrity — Page 2 of 2 — WO# GL15003 — MTA Bottles: Yes or No

COC Info

Was temperature within range? Chemistry ≤6°C Micro <10°C Temp_____°C	Yes No N/A	Did all bottle labels agree with COC?	Yes No N/A
If samples were taken today, is there evidence that chilling has begun? Recvd_____C°	Yes No N/A	Was a sufficient amount of sample received?	Yes No N/A
Did all bottles arrive unbroken and intact?	Yes No N/A	Were correct containers and preservatives received for the tests requested?	Yes No N/A
Do samples have a hold time <72 hours?	Yes No N/A		

Were there bubbles in VOA vials? (**Volatiles Only**)	Yes No N/A
Was PM notified of discrepancies? PM: By/Time:	Yes No N/A

Bottles Received

125ml (A) 250ml (B) 1Liter (C) 40ml VOA (V)	1	2	3
Bacti $Na_2S_2O_3$			
None (P)			
Cr6 Buffer (P) Borate Carbonate Buffer			
HNO_3 (P)			
H_2SO_4 (P)			
NaOH (P)			
NaOH+ZnAc (P)			
Dissolved Oxygen 300ml (P)			
None (AG)			
None (CG) 500ml			
$Na_2S_2O_3$ 250ml (Brown P) 549			
$Na_2S_2O_3$ (AG)			
$Na_2S_2O_3$ (CG)			
Thio/K Citrate			
NH_4Cl (AG) 552			
HCl (AG)	3-V	2-V	1-V
None (CG) 500ml			
H_3PO_4 (AG)			
Other:			
Plastic Bag			
Low Level Hg/Metals Double Bag			
Client Own			
Glass Jar: 125/ 250/ 500			
Soil Tube: Brass/ Steel/ Plastic			
5 g Encore			
Ascorboc Acid (AG) Voa			
1gallon Cubitainer			
Voa w/Sodium Thio + MCAA			

Filter or Split

	Container	Preservative	Date/Time/Initials
S P F			
S P F			
S P F			
S P F			
S P F			

Comments

Labeled by: M @_____ Labels checked by: MB @ 1010

FL-SC-0003-06

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

January 18, 2021

Work Order #: **GL15004**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **12/15/20** . For your reference, these analyses have been assigned laboratory work order number **GL15004**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map key 52 **Project Manager:** Allison Shuklian	**Reported:** 01/18/2021

Analytical Report for the Following Samples

Sample ID	Notes	Laboratory ID	Matrix	Date Sampled	Date Received
Map Key 52		GL15004-01	Drinking Water	12/14/20 07:45	12/15/20 08:30

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Map key 52	01/18/2021
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 52

GL15004-01 (Drinking Water) Sampled: 12/14/20 07:45

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,1,2-Trichloroethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,1-Dichloroethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,1-Dichloroethene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2,3-Trichlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2,4-Trichlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2,4-Trimethylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2-Dichlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2-Dichloropropane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,3,5-Trimethylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,3-Dichlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,3-Dichloropropane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,4-Dichlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
2,2-Dichloropropane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
2-Chlorotoluene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
4-Chlorotoluene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Benzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Bromobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Bromochloromethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Bromodichloromethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Bromoform		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Bromomethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Carbon tetrachloride		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Chlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Chloroethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Chloroform		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Chloromethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
cis-1,2-Dichloroethene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
cis-1,3-Dichloropropene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Dibromochloromethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Dibromomethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Di-isopropyl ether (DIPE)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Ethylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Hexachlorobutadiene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Isobutyl alcohol		ND	10	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Isopropylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
m,p-Xylene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Methylene chloride		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map key 52 **Project Manager:** Allison Shuklian	**Reported:** 01/18/2021

Map Key 52

GL15004-01 (Drinking Water) Sampled: 12/14/20 07:45

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
n-Butylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
n-Propylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
o-Xylene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
p-Isopropyltoluene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
sec-Butylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Styrene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
tert-Butyl alcohol (TBA)		ND	2.0	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
tert-Butylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Tetrachloroethene (PCE)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Toluene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Total 1,3-Dichloropropene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Total Trihalomethanes		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
trans-1,2-Dichloroethene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
trans-1,3-Dichloropropene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Trichloroethene (TCE)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Vinyl chloride		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Xylenes		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Surr: 1,2-Dichlorobenzene-d4		*99.5%*	*Recovery Limits: 70% - 130%*			*B0L1601*	12/16/20	12/16/20	*EPA 524.2*
Surr: 4-Bromofluorobenzene		*97.0%*	*Recovery Limits: 70% - 130%*			*B0L1601*	12/16/20	12/16/20	*EPA 524.2*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map key 52 **Project Manager:** Allison Shuklian	**Reported:** 01/18/2021

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0L1601										
Blank (B0L1601-BLK1)		Prepared & Analyzed: 12/16/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*2.04*		*µg/L*	*2.00*		*102*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.93*		*µg/L*	*2.00*		*96.5*	*70-130*		
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L						
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,2-Trichloroethane		ND	0.50	µg/L						
1,1-Dichloroethane		ND	0.50	µg/L						
1,1-Dichloroethene		ND	0.50	µg/L						
1,2,3-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trimethylbenzene		ND	0.50	µg/L						
1,2-Dichlorobenzene		ND	0.50	µg/L						
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L						
1,2-Dichloropropane		ND	0.50	µg/L						
1,3,5-Trimethylbenzene		ND	0.50	µg/L						
1,3-Dichlorobenzene		ND	0.50	µg/L						
1,3-Dichloropropane		ND	0.50	µg/L						
1,4-Dichlorobenzene		ND	0.50	µg/L						
2,2-Dichloropropane		ND	0.50	µg/L						
2-Chlorotoluene		ND	0.50	µg/L						
4-Chlorotoluene		ND	0.50	µg/L						
Benzene		ND	0.50	µg/L						
Bromobenzene		ND	0.50	µg/L						
Bromochloromethane		ND	0.50	µg/L						
Bromodichloromethane		ND	0.50	µg/L						
Bromoform		ND	0.50	µg/L						
Bromomethane		ND	0.50	µg/L						
Carbon tetrachloride		ND	0.50	µg/L						
Chlorobenzene		ND	0.50	µg/L						
Chloroethane		ND	0.50	µg/L						
Chloroform		ND	0.50	µg/L						
Chloromethane		ND	0.50	µg/L						
cis-1,2-Dichloroethene		ND	0.50	µg/L						
cis-1,3-Dichloropropene		ND	0.50	µg/L						
Dibromochloromethane		ND	0.50	µg/L						
Dibromomethane		ND	0.50	µg/L						
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L						
Di-isopropyl ether (DIPE)		ND	0.50	µg/L						
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L						
Ethylbenzene		ND	0.50	µg/L						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:** Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:** Map key 52	01/18/2021
Visalia CA, 93277	**Project Manager:** Allison Shuklian	

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0L1601										
Blank (B0L1601-BLK1)		Prepared & Analyzed: 12/16/20								
EPA 524.2										
Hexachlorobutadiene		ND	0.50	µg/L						
Isobutyl alcohol		ND	10	µg/L						
Isopropylbenzene		ND	0.50	µg/L						
m,p-Xylene		ND	0.50	µg/L						
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L						
Methylene chloride		ND	0.50	µg/L						
n-Butylbenzene		ND	0.50	µg/L						
n-Propylbenzene		ND	0.50	µg/L						
o-Xylene		ND	0.50	µg/L						
p-Isopropyltoluene		ND	0.50	µg/L						
sec-Butylbenzene		ND	0.50	µg/L						
Styrene		ND	0.50	µg/L						
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L						
tert-Butyl alcohol (TBA)		ND	2.0	µg/L						
tert-Butylbenzene		ND	0.50	µg/L						
Tetrachloroethene (PCE)		ND	0.50	µg/L						
Toluene		ND	0.50	µg/L						
Total 1,3-Dichloropropene		ND	0.50	µg/L						
Total Trihalomethanes		ND	0.50	µg/L						
trans-1,2-Dichloroethene		ND	0.50	µg/L						
trans-1,3-Dichloropropene		ND	0.50	µg/L						
Trichloroethene (TCE)		ND	0.50	µg/L						
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L						
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L						
Vinyl chloride		ND	0.50	µg/L						
Xylenes		ND	0.50	µg/L						
LCS (B0L1601-BS1)		Prepared & Analyzed: 12/16/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*2.00*		*µg/L*	*2.00*		*100*	*70-130*		
Surr: 4-Bromofluorobenzene		*2.05*		*µg/L*	*2.00*		*102*	*70-130*		
1,1-Dichloroethene		4.95	0.50	µg/L	5.00		99.0	70-130		
Benzene		4.88	0.50	µg/L	5.00		97.6	70-130		
Chlorobenzene		4.83	0.50	µg/L	5.00		96.6	70-130		
Toluene		4.89	0.50	µg/L	5.00		97.8	70-130		
Trichloroethene (TCE)		4.87	0.50	µg/L	5.00		97.4	70-130		
LCS Dup (B0L1601-BSD1)		Prepared & Analyzed: 12/16/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*2.03*		*µg/L*	*2.00*		*102*	*70-130*		
1,1-Dichloroethene		4.43	0.50	µg/L	5.00		88.6	70-130	11.1	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map key 52 **Project Manager:** Allison Shuklian	**Reported:** 01/18/2021

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0L1601										
LCS Dup (B0L1601-BSD1)		Prepared & Analyzed: 12/16/20								
EPA 524.2										
Benzene		4.45	0.50	µg/L	5.00		89.0	70-130	9.22	20
Chlorobenzene		4.50	0.50	µg/L	5.00		90.0	70-130	7.07	20
Toluene		4.51	0.50	µg/L	5.00		90.2	70-130	8.09	20
Trichloroethene (TCE)		4.42	0.50	µg/L	5.00		88.4	70-130	9.69	20

Notes and Definitions

µg/L	micrograms per liter (parts per billion concentration units)
mg/L	milligrams per liter (parts per million concentration units)
mg/kg	milligrams per kilogram (parts per million concentration units)
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference

Analysis of pH, filtration, and residual chlorine is to take place immediately after sampling in the field.
If the test was performed in the laboratory, the hold time was exceeded. **(for aqueous matrices only)**

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: GL15004
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, Ca 93277
PHONE: 624-8441
EMAIL / FAX:

☒ INVOICE TO: ☐ REPORT COPY TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia Ca 93277
PHONE:
EMAIL / FAX:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 52
PROJECT MANAGER:

ANALYSIS REQUESTED

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

LAB USE	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC'S)										STATION CODE
1	Mapkey 52	12-14	7:45	DW	X										
2	Field Blanks (2)	12-14	7:45		X										
3	Trip Blank (1)	12-14	7:45		X										

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
[signature]	Tul. Co.	12-15	0830	[signature]	MTA

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 MTA'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 MTA's terms and conditions for laboratory services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

FL-SC-0005-04 A

Sample Integrity

Page 2 of 2

Moore Twining Associates
WO# GL15004

MTA Bottles: Yes or No

COC Info

Was temperature within range? Chemistry ≤6°C Micro <10°C Temp_____°C	Yes No N/A	Did all bottle labels agree with COC?	Yes No N/A
If samples were taken today, is there evidence that chilling has begun? Recvd_____C°	Yes No N/A	Was a sufficient amount of sample received?	Yes No N/A
Did all bottles arrive unbroken and intact?	Yes No N/A	Were correct containers and preservatives received for the tests requested?	Yes No N/A
Do samples have a hold time <72 hours?	Yes No N/A		

Were there bubbles in VOA vials? (**Volatiles Only**)	Yes No N/A
Was PM notified of discrepancies? PM: By/Time:	Yes No N/A

Bottles Received

125ml (A) 250ml (B) 1Liter (C) 40ml VOA (V)	1	2	3												
Bacti $Na_2S_2O_3$															
None (P)															
Cr6 Buffer (P) Borate Carbonate Buffer															
HNO_3 (P)															
H_2SO_4 (P)															
NaOH (P)															
NaOH+ZnAc (P)															
Dissolved Oxygen 300ml (P)															
None (AG)															
None (CG) 500ml															
$Na_2S_2O_3$ 250ml (Brown P) 549															
$Na_2S_2O_3$ (AG)															
$Na_2S_2O_3$ (CG)															
Thio/K Citrate															
NH_4Cl (AG) 552															
HCl (AG)	3-V	2-V	1-V												
None (CG) 500ml															
H_3PO_4 (AG)															
Other:															
Plastic Bag															
Low Level Hg/Metals Double Bag															
Client Own															
Glass Jar: 125/ 250/ 500															
Soil Tube: Brass/ Steel/ Plastic															
5 g Encore															
Ascorboc Acid (AG) Voa															
1gallon Cubitainer															
Voa w/Sodium Thio + MCAA															

Filter or Split

	Container	Preservative	Date/Time/Initials
S P F			
S P F			
S P F			
S P F			
S P F			

Comments

Page 9 of 9

Labeled by: _____ @_____

Labels checked by: _____ @ 1010

FL-SC-0003-06

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

January 18, 2021

Work Order #: **GL15005**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **12/14/20** . For your reference, these analyses have been assigned laboratory work order number **GL15005**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map key 54 **Project Manager:** Allison Shuklian	**Reported:** 01/18/2021

Analytical Report for the Following Samples

Sample ID	Notes	Laboratory ID	Matrix	Date Sampled	Date Received
Map Key 54		GL15005-01	Drinking Water	12/14/20 08:30	12/14/20 08:30

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Map key 54	01/18/2021
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 54

GL15005-01 (Drinking Water) Sampled: 12/14/20 08:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,1,2-Trichloroethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,1-Dichloroethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,1-Dichloroethene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2,3-Trichlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2,4-Trichlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2,4-Trimethylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2-Dichlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2-Dichloropropane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,3,5-Trimethylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,3-Dichlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,3-Dichloropropane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,4-Dichlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
2,2-Dichloropropane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
2-Chlorotoluene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
4-Chlorotoluene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Benzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Bromobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Bromochloromethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Bromodichloromethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Bromoform		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Bromomethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Carbon tetrachloride		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Chlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Chloroethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Chloroform		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Chloromethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
cis-1,2-Dichloroethene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
cis-1,3-Dichloropropene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Dibromochloromethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Dibromomethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Di-isopropyl ether (DIPE)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Ethylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Hexachlorobutadiene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Isobutyl alcohol		ND	10	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Isopropylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
m,p-Xylene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Methylene chloride		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:** Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:** Map key 54	01/18/2021
Visalia CA, 93277	**Project Manager:** Allison Shuklian	

Map Key 54

GL15005-01 (Drinking Water) Sampled: 12/14/20 08:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
n-Butylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
n-Propylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
o-Xylene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
p-Isopropyltoluene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
sec-Butylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Styrene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
tert-Butyl alcohol (TBA)		ND	2.0	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
tert-Butylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Tetrachloroethene (PCE)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Toluene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Total 1,3-Dichloropropene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Total Trihalomethanes		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
trans-1,2-Dichloroethene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
trans-1,3-Dichloropropene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Trichloroethene (TCE)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Vinyl chloride		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Xylenes		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Surr: 1,2-Dichlorobenzene-d4		*91.0%*	*Recovery Limits: 70% - 130%*			*B0L1601*	12/16/20	12/16/20	*EPA 524.2*
Surr: 4-Bromofluorobenzene		*92.5%*	*Recovery Limits: 70% - 130%*			*B0L1601*	12/16/20	12/16/20	*EPA 524.2*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map key 54 **Project Manager:** Allison Shuklian	**Reported:** 01/18/2021

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0L1601										
Blank (B0L1601-BLK1)		Prepared & Analyzed: 12/16/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*2.04*		*µg/L*	*2.00*		*102*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.93*		*µg/L*	*2.00*		*96.5*	*70-130*		
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L						
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,2-Trichloroethane		ND	0.50	µg/L						
1,1-Dichloroethane		ND	0.50	µg/L						
1,1-Dichloroethene		ND	0.50	µg/L						
1,2,3-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trimethylbenzene		ND	0.50	µg/L						
1,2-Dichlorobenzene		ND	0.50	µg/L						
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L						
1,2-Dichloropropane		ND	0.50	µg/L						
1,3,5-Trimethylbenzene		ND	0.50	µg/L						
1,3-Dichlorobenzene		ND	0.50	µg/L						
1,3-Dichloropropane		ND	0.50	µg/L						
1,4-Dichlorobenzene		ND	0.50	µg/L						
2,2-Dichloropropane		ND	0.50	µg/L						
2-Chlorotoluene		ND	0.50	µg/L						
4-Chlorotoluene		ND	0.50	µg/L						
Benzene		ND	0.50	µg/L						
Bromobenzene		ND	0.50	µg/L						
Bromochloromethane		ND	0.50	µg/L						
Bromodichloromethane		ND	0.50	µg/L						
Bromoform		ND	0.50	µg/L						
Bromomethane		ND	0.50	µg/L						
Carbon tetrachloride		ND	0.50	µg/L						
Chlorobenzene		ND	0.50	µg/L						
Chloroethane		ND	0.50	µg/L						
Chloroform		ND	0.50	µg/L						
Chloromethane		ND	0.50	µg/L						
cis-1,2-Dichloroethene		ND	0.50	µg/L						
cis-1,3-Dichloropropene		ND	0.50	µg/L						
Dibromochloromethane		ND	0.50	µg/L						
Dibromomethane		ND	0.50	µg/L						
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L						
Di-isopropyl ether (DIPE)		ND	0.50	µg/L						
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L						
Ethylbenzene		ND	0.50	µg/L						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map key 54 **Project Manager:** Allison Shuklian	**Reported:** 01/18/2021

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0L1601										
Blank (B0L1601-BLK1)		Prepared & Analyzed: 12/16/20								
EPA 524.2										
Hexachlorobutadiene		ND	0.50	µg/L						
Isobutyl alcohol		ND	10	µg/L						
Isopropylbenzene		ND	0.50	µg/L						
m,p-Xylene		ND	0.50	µg/L						
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L						
Methylene chloride		ND	0.50	µg/L						
n-Butylbenzene		ND	0.50	µg/L						
n-Propylbenzene		ND	0.50	µg/L						
o-Xylene		ND	0.50	µg/L						
p-Isopropyltoluene		ND	0.50	µg/L						
sec-Butylbenzene		ND	0.50	µg/L						
Styrene		ND	0.50	µg/L						
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L						
tert-Butyl alcohol (TBA)		ND	2.0	µg/L						
tert-Butylbenzene		ND	0.50	µg/L						
Tetrachloroethene (PCE)		ND	0.50	µg/L						
Toluene		ND	0.50	µg/L						
Total 1,3-Dichloropropene		ND	0.50	µg/L						
Total Trihalomethanes		ND	0.50	µg/L						
trans-1,2-Dichloroethene		ND	0.50	µg/L						
trans-1,3-Dichloropropene		ND	0.50	µg/L						
Trichloroethene (TCE)		ND	0.50	µg/L						
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L						
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L						
Vinyl chloride		ND	0.50	µg/L						
Xylenes		ND	0.50	µg/L						
LCS (B0L1601-BS1)		Prepared & Analyzed: 12/16/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*2.00*		*µg/L*	*2.00*		*100*	*70-130*		
Surr: 4-Bromofluorobenzene		*2.05*		*µg/L*	*2.00*		*102*	*70-130*		
1,1-Dichloroethene		4.95	0.50	µg/L	5.00		99.0	70-130		
Benzene		4.88	0.50	µg/L	5.00		97.6	70-130		
Chlorobenzene		4.83	0.50	µg/L	5.00		96.6	70-130		
Toluene		4.89	0.50	µg/L	5.00		97.8	70-130		
Trichloroethene (TCE)		4.87	0.50	µg/L	5.00		97.4	70-130		
LCS Dup (B0L1601-BSD1)		Prepared & Analyzed: 12/16/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*2.03*		*µg/L*	*2.00*		*102*	*70-130*		
1,1-Dichloroethene		4.43	0.50	µg/L	5.00		88.6	70-130	11.1	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map key 54 **Project Manager:** Allison Shuklian	**Reported:** 01/18/2021

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0L1601										
LCS Dup (B0L1601-BSD1)		Prepared & Analyzed: 12/16/20								
EPA 524.2										
Benzene		4.45	0.50	µg/L	5.00		89.0	70-130	9.22	20
Chlorobenzene		4.50	0.50	µg/L	5.00		90.0	70-130	7.07	20
Toluene		4.51	0.50	µg/L	5.00		90.2	70-130	8.09	20
Trichloroethene (TCE)		4.42	0.50	µg/L	5.00		88.4	70-130	9.69	20

Notes and Definitions

µg/L	micrograms per liter (parts per billion concentration units)
mg/L	milligrams per liter (parts per million concentration units)
mg/kg	milligrams per kilogram (parts per million concentration units)
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference

Analysis of pH, filtration, and residual chlorine is to take place immediately after sampling in the field.
If the test was performed in the laboratory, the hold time was exceeded. **(for aqueous matrices only)**

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: GL15005
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shnukliman
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, Ca 93277
PHONE: 624-8441
EMAIL / FAX:

INVOICE TO: ☒ REPORT COPY TO: ☐
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia Ca 93277
PHONE:
EMAIL / FAX:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shnukliman
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 54
PROJECT MANAGER:

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLES(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

	CLIENT SAMPLE ID	DATE	TIME	TYPE	EPA 524.2 (VOC's)										STATION CODE
1	Mapkey 54	12-14	8:30	DW	X										
2	Field Blanks (2)	12-14	8:30		X										
3	Trip Blank (1)	12-14	8:30		X										

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
[signature]	Tul. Co.	12-15	0830	[signature]	MTA

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 monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are eith 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 MTA's terms and conditions for laborato services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021

FL-SC-0005-04 A

Moore Twining Associates

Sample Integrity — Page 2 of 2 — WO# GL45005 — MTA Bottles: Yes or No

COC Info

Was temperature within range? Chemistry ≤6°C Micro <10°C Temp_____°C	Yes No N/A	Did all bottle labels agree with COC?	Yes No N/A
If samples were taken today, is there evidence that chilling has begun? Recvd_____C°	Yes No N/A	Was a sufficient amount of sample received?	Yes No N/A
Did all bottles arrive unbroken and intact?	Yes No N/A	Were correct containers and preservatives received for the tests requested?	Yes No N/A
Do samples have a hold time <72 hours?	Yes No N/A	Were there bubbles in VOA vials? (**Volatiles Only**)	Yes No N/A
		Was PM notified of discrepancies? PM: By/Time:	Yes No N/A

Bottles Received

125ml (A) 250ml (B) 1Liter (C) 40ml VOA (V)	1	2	3												
Bacti $Na_2S_2O_3$															
None (P)															
Cr6 Buffer (P) Borate Carbonate Buffer															
HNO_3 (P)															
H_2SO_4 (P)															
NaOH (P)															
NaOH+ZnAc (P)															
Dissolved Oxygen 300ml (P)															
None (AG)															
None (CG) 500ml															
$Na_2S_2O_3$ 250ml (Brown P) 549															
$Na_2S_2O_3$ (AG)															
$Na_2S_2O_3$ (CG)															
Thio/K Citrate															
NH_4Cl (AG) 552															
HCl (AG)	3-V	2-V	1-V												
None (CG) 500ml															
H_3PO_4 (AG)															
Other:															
Plastic Bag															
Low Level Hg/Metals Double Bag															
Client Own															
Glass Jar: 125/ 250/ 500															
Soil Tube: Brass/ Steel/ Plastic															
5 g Encore															
Ascorboc Acid (AG) Voa															
1gallon Cubitainer															
Voa w/Sodium Thio + MCAA															

Filter or Split

	Container	Preservative	Date/Time/Initials
S P F			
S P F			
S P F			
S P F			
S P F			

Comments

Labeled by: _____ @_____ Labels checked by: _____ @ 1010

FL-SC-0003-06

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

January 18, 2021

Work Order #: **GL15006**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **12/15/20** . For your reference, these analyses have been assigned laboratory work order number **GL15006**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map key 38 **Project Manager:** Allison Shuklian	**Reported:** 01/18/2021

Analytical Report for the Following Samples

Sample ID	Notes	Laboratory ID	Matrix	Date Sampled	Date Received
Map Key 38		GL15006-01	Drinking Water	12/14/20 09:30	12/15/20 08:30

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Map key 38	01/18/2021
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 38

GL15006-01 (Drinking Water) Sampled: 12/14/20 09:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,1,2-Trichloroethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,1-Dichloroethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,1-Dichloroethene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2,3-Trichlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2,4-Trichlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2,4-Trimethylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2-Dichlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2-Dichloropropane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,3,5-Trimethylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,3-Dichlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,3-Dichloropropane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,4-Dichlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
2,2-Dichloropropane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
2-Chlorotoluene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
4-Chlorotoluene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Benzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Bromobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Bromochloromethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Bromodichloromethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Bromoform		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Bromomethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Carbon tetrachloride		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Chlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Chloroethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Chloroform		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Chloromethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
cis-1,2-Dichloroethene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
cis-1,3-Dichloropropene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Dibromochloromethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Dibromomethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Di-isopropyl ether (DIPE)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Ethylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Hexachlorobutadiene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Isobutyl alcohol		ND	10	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Isopropylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
m,p-Xylene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Methylene chloride		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map key 38 **Project Manager:** Allison Shuklian	**Reported:** 01/18/2021

Map Key 38

GL15006-01 (Drinking Water) Sampled: 12/14/20 09:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
n-Butylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
n-Propylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
o-Xylene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
p-Isopropyltoluene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
sec-Butylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Styrene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
tert-Butyl alcohol (TBA)		ND	2.0	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
tert-Butylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Tetrachloroethene (PCE)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Toluene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Total 1,3-Dichloropropene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Total Trihalomethanes		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
trans-1,2-Dichloroethene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
trans-1,3-Dichloropropene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Trichloroethene (TCE)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Vinyl chloride		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Xylenes		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Surr: 1,2-Dichlorobenzene-d4		*97.5%*	*Recovery Limits: 70% - 130%*			*B0L1601*	12/16/20	12/16/20	*EPA 524.2*
Surr: 4-Bromofluorobenzene		*93.0%*	*Recovery Limits: 70% - 130%*			*B0L1601*	12/16/20	12/16/20	*EPA 524.2*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map key 38 **Project Manager:** Allison Shuklian	**Reported:** 01/18/2021

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0L1601										
Blank (B0L1601-BLK1)		Prepared & Analyzed: 12/16/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*2.04*		*µg/L*	*2.00*		*102*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.93*		*µg/L*	*2.00*		*96.5*	*70-130*		
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L						
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,2-Trichloroethane		ND	0.50	µg/L						
1,1-Dichloroethane		ND	0.50	µg/L						
1,1-Dichloroethene		ND	0.50	µg/L						
1,2,3-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trimethylbenzene		ND	0.50	µg/L						
1,2-Dichlorobenzene		ND	0.50	µg/L						
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L						
1,2-Dichloropropane		ND	0.50	µg/L						
1,3,5-Trimethylbenzene		ND	0.50	µg/L						
1,3-Dichlorobenzene		ND	0.50	µg/L						
1,3-Dichloropropane		ND	0.50	µg/L						
1,4-Dichlorobenzene		ND	0.50	µg/L						
2,2-Dichloropropane		ND	0.50	µg/L						
2-Chlorotoluene		ND	0.50	µg/L						
4-Chlorotoluene		ND	0.50	µg/L						
Benzene		ND	0.50	µg/L						
Bromobenzene		ND	0.50	µg/L						
Bromochloromethane		ND	0.50	µg/L						
Bromodichloromethane		ND	0.50	µg/L						
Bromoform		ND	0.50	µg/L						
Bromomethane		ND	0.50	µg/L						
Carbon tetrachloride		ND	0.50	µg/L						
Chlorobenzene		ND	0.50	µg/L						
Chloroethane		ND	0.50	µg/L						
Chloroform		ND	0.50	µg/L						
Chloromethane		ND	0.50	µg/L						
cis-1,2-Dichloroethene		ND	0.50	µg/L						
cis-1,3-Dichloropropene		ND	0.50	µg/L						
Dibromochloromethane		ND	0.50	µg/L						
Dibromomethane		ND	0.50	µg/L						
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L						
Di-isopropyl ether (DIPE)		ND	0.50	µg/L						
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L						
Ethylbenzene		ND	0.50	µg/L						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map key 38 **Project Manager:** Allison Shuklian	**Reported:** 01/18/2021

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0L1601										
Blank (B0L1601-BLK1)		Prepared & Analyzed: 12/16/20								
EPA 524.2										
Hexachlorobutadiene		ND	0.50	µg/L						
Isobutyl alcohol		ND	10	µg/L						
Isopropylbenzene		ND	0.50	µg/L						
m,p-Xylene		ND	0.50	µg/L						
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L						
Methylene chloride		ND	0.50	µg/L						
n-Butylbenzene		ND	0.50	µg/L						
n-Propylbenzene		ND	0.50	µg/L						
o-Xylene		ND	0.50	µg/L						
p-Isopropyltoluene		ND	0.50	µg/L						
sec-Butylbenzene		ND	0.50	µg/L						
Styrene		ND	0.50	µg/L						
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L						
tert-Butyl alcohol (TBA)		ND	2.0	µg/L						
tert-Butylbenzene		ND	0.50	µg/L						
Tetrachloroethene (PCE)		ND	0.50	µg/L						
Toluene		ND	0.50	µg/L						
Total 1,3-Dichloropropene		ND	0.50	µg/L						
Total Trihalomethanes		ND	0.50	µg/L						
trans-1,2-Dichloroethene		ND	0.50	µg/L						
trans-1,3-Dichloropropene		ND	0.50	µg/L						
Trichloroethene (TCE)		ND	0.50	µg/L						
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L						
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L						
Vinyl chloride		ND	0.50	µg/L						
Xylenes		ND	0.50	µg/L						
LCS (B0L1601-BS1)		Prepared & Analyzed: 12/16/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*2.00*		*µg/L*	*2.00*		*100*	*70-130*		
Surr: 4-Bromofluorobenzene		*2.05*		*µg/L*	*2.00*		*102*	*70-130*		
1,1-Dichloroethene		4.95	0.50	µg/L	5.00		99.0	70-130		
Benzene		4.88	0.50	µg/L	5.00		97.6	70-130		
Chlorobenzene		4.83	0.50	µg/L	5.00		96.6	70-130		
Toluene		4.89	0.50	µg/L	5.00		97.8	70-130		
Trichloroethene (TCE)		4.87	0.50	µg/L	5.00		97.4	70-130		
LCS Dup (B0L1601-BSD1)		Prepared & Analyzed: 12/16/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*2.03*		*µg/L*	*2.00*		*102*	*70-130*		
1,1-Dichloroethene		4.43	0.50	µg/L	5.00		88.6	70-130	11.1	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map key 38 **Project Manager:** Allison Shuklian	**Reported:** 01/18/2021

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0L1601										
LCS Dup (B0L1601-BSD1)		Prepared & Analyzed: 12/16/20								
EPA 524.2										
Benzene		4.45	0.50	µg/L	5.00		89.0	70-130	9.22	20
Chlorobenzene		4.50	0.50	µg/L	5.00		90.0	70-130	7.07	20
Toluene		4.51	0.50	µg/L	5.00		90.2	70-130	8.09	20
Trichloroethene (TCE)		4.42	0.50	µg/L	5.00		88.4	70-130	9.69	20

Notes and Definitions

µg/L	micrograms per liter (parts per billion concentration units)
mg/L	milligrams per liter (parts per million concentration units)
mg/kg	milligrams per kilogram (parts per million concentration units)
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference

Analysis of pH, filtration, and residual chlorine is to take place immediately after sampling in the field.
If the test was performed in the laboratory, the hold time was exceeded. **(for aqueous matrices only)**

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: GL150006
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shnuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, Ca 93277
PHONE: 624-8441
EMAIL / FAX:

☑ INVOICE TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia Ca 93277
PHONE:
EMAIL / FAX:

☐ REPORT COPY TO:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shnuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 38
PROJECT MANAGER:

LAB USE
NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

ANALYSIS REQUESTED

	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC's)									STATION CODE
1	Mapkey 38	12/14	9:30	DW	X									
2	Field Blanks (2)	12/14	9:30		X									
3	Trip Blank (1)	12/14	9:30		X									

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
	Tul. Co.	12-15	0830		MTA

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 MTA'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 MTA's terms and conditions for laboratory services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

FL-SC-0005-04 A

Sample Integrity

Page 2 of 2

Moore Twining Associates
WO# GL15006

MTA Bottles: Yes or No

COC Info

Was temperature within range? Chemistry ≤6°C Micro <10°C Temp_____°C	Yes No N/A	Did all bottle labels agree with COC?	Yes No N/A
If samples were taken today, is there evidence that chilling has begun? Recvd_____C°	Yes No N/A	Was a sufficient amount of sample received?	Yes No N/A
Did all bottles arrive unbroken and intact?	Yes No N/A	Were correct containers and preservatives received for the tests requested?	Yes No N/A
Do samples have a hold time <72 hours?	Yes No N/A		

Were there bubbles in VOA vials? (**Volatiles Only**) — Yes No N/A

Was PM notified of discrepancies? — Yes No N/A

PM:
By/Time:

Bottles Received

125ml (A) 250ml (B) 1Liter (C) 40ml VOA (V)	1	2	3
Bacti $Na_2S_2O_3$			
None (P)			
Cr6 Buffer (P) Borate Carbonate Buffer			
HNO_3 (P)			
H_2SO_4 (P)			
NaOH (P)			
NaOH+ZnAc (P)			
Dissolved Oxygen 300ml (P)			
None (AG)			
None (CG) 500ml			
$Na_2S_2O_3$ 250ml (Brown P) 549			
$Na_2S_2O_3$ (AG)			
$Na_2S_2O_3$ (CG)			
Thio/K Citrate			
NH_4Cl (AG) 552			
HCl (AG)	3-✓	2-✓	1-✓
None (CG) 500ml			
H_3PO_4 (AG)			
Other:			
Plastic Bag			
Low Level Hg/Metals Double Bag			
Client Own			
Glass Jar: 125/ 250/ 500			
Soil Tube: Brass/ Steel/ Plastic			
5 g Encore			
Ascorboc Acid (AG) Voa			
1gallon Cubitainer			
Voa w/Sodium Thio + MCAA			

Filter or Split

	Container	Preservative	Date/Time/Initials
S P F			
S P F			
S P F			
S P F			
S P F			

Comments

Labeled by: ✓ @_____

Labels checked by: MB @ 1010

FL-SC-0003-06

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

January 18, 2021

Work Order #: **GL15007**

Allison Shuklian
Tulare County Health and Human Services
5957 South Mooney Blvd
Visalia, CA 93277

RE: Teapot Dome Landfill - Offsite Wells

Enclosed are the analytical results for samples received by our laboratory on **12/15/20** . For your reference, these analyses have been assigned laboratory work order number **GL15007**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map key 2 **Project Manager:** Allison Shuklian	**Reported:** 01/18/2021

Analytical Report for the Following Samples

Sample ID	Notes	Laboratory ID	Matrix	Date Sampled	Date Received
Map Key 2		GL15007-01	Drinking Water	12/14/20 10:00	12/15/20 08:30

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:**	Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:**	Map key 2	01/18/2021
Visalia CA, 93277	**Project Manager:**	Allison Shuklian	

Map Key 2

GL15007-01 (Drinking Water) Sampled: 12/14/20 10:00

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,1,2-Trichloroethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,1-Dichloroethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,1-Dichloroethene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2,3-Trichlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2,4-Trichlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2,4-Trimethylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2-Dichlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,2-Dichloropropane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,3,5-Trimethylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,3-Dichlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,3-Dichloropropane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
1,4-Dichlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
2,2-Dichloropropane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
2-Chlorotoluene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
4-Chlorotoluene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Benzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Bromobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Bromochloromethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Bromodichloromethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Bromoform		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Bromomethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Carbon tetrachloride		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Chlorobenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Chloroethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Chloroform		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Chloromethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
cis-1,2-Dichloroethene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
cis-1,3-Dichloropropene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Dibromochloromethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Dibromomethane		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Di-isopropyl ether (DIPE)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Ethylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Hexachlorobutadiene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Isobutyl alcohol		ND	10	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Isopropylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
m,p-Xylene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Methylene chloride		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:** Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:** Map key 2	01/18/2021
Visalia CA, 93277	**Project Manager:** Allison Shuklian	

Map Key 2

GL15007-01 (Drinking Water) Sampled: 12/14/20 10:00

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
524.2									
n-Butylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
n-Propylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
o-Xylene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
p-Isopropyltoluene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
sec-Butylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Styrene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
tert-Butyl alcohol (TBA)		ND	2.0	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
tert-Butylbenzene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Tetrachloroethene (PCE)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Toluene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Total 1,3-Dichloropropene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Total Trihalomethanes		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
trans-1,2-Dichloroethene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
trans-1,3-Dichloropropene		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Trichloroethene (TCE)		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Vinyl chloride		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Xylenes		ND	0.50	µg/L	1	B0L1601	12/16/20	12/16/20	EPA 524.2
Surr: 1,2-Dichlorobenzene-d4		*97.5%*	*Recovery Limits: 70% - 130%*			*B0L1601*	12/16/20	12/16/20	*EPA 524.2*
Surr: 4-Bromofluorobenzene		*94.5%*	*Recovery Limits: 70% - 130%*			*B0L1601*	12/16/20	12/16/20	*EPA 524.2*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map key 2 **Project Manager:** Allison Shuklian	**Reported:** 01/18/2021

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0L1601										
Blank (B0L1601-BLK1)		Prepared & Analyzed: 12/16/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*2.04*		*µg/L*	*2.00*		*102*	*70-130*		
Surr: 4-Bromofluorobenzene		*1.93*		*µg/L*	*2.00*		*96.5*	*70-130*		
1,1,1,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,1-Trichloroethane (TCA)		ND	0.50	µg/L						
1,1,2,2-Tetrachloroethane		ND	0.50	µg/L						
1,1,2-Trichloroethane		ND	0.50	µg/L						
1,1-Dichloroethane		ND	0.50	µg/L						
1,1-Dichloroethene		ND	0.50	µg/L						
1,2,3-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trichlorobenzene		ND	0.50	µg/L						
1,2,4-Trimethylbenzene		ND	0.50	µg/L						
1,2-Dichlorobenzene		ND	0.50	µg/L						
1,2-Dichloroethane (1,2-DCA)		ND	0.50	µg/L						
1,2-Dichloropropane		ND	0.50	µg/L						
1,3,5-Trimethylbenzene		ND	0.50	µg/L						
1,3-Dichlorobenzene		ND	0.50	µg/L						
1,3-Dichloropropane		ND	0.50	µg/L						
1,4-Dichlorobenzene		ND	0.50	µg/L						
2,2-Dichloropropane		ND	0.50	µg/L						
2-Chlorotoluene		ND	0.50	µg/L						
4-Chlorotoluene		ND	0.50	µg/L						
Benzene		ND	0.50	µg/L						
Bromobenzene		ND	0.50	µg/L						
Bromochloromethane		ND	0.50	µg/L						
Bromodichloromethane		ND	0.50	µg/L						
Bromoform		ND	0.50	µg/L						
Bromomethane		ND	0.50	µg/L						
Carbon tetrachloride		ND	0.50	µg/L						
Chlorobenzene		ND	0.50	µg/L						
Chloroethane		ND	0.50	µg/L						
Chloroform		ND	0.50	µg/L						
Chloromethane		ND	0.50	µg/L						
cis-1,2-Dichloroethene		ND	0.50	µg/L						
cis-1,3-Dichloropropene		ND	0.50	µg/L						
Dibromochloromethane		ND	0.50	µg/L						
Dibromomethane		ND	0.50	µg/L						
Dichlorodifluoromethane (CFC-12)		ND	0.50	µg/L						
Di-isopropyl ether (DIPE)		ND	0.50	µg/L						
Ethyl tert-Butyl Ether (ETBE)		ND	3.0	µg/L						
Ethylbenzene		ND	0.50	µg/L						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services	**Project:** Teapot Dome Landfill - Offsite Wells	**Reported:**
5957 South Mooney Blvd	**Project Number:** Map key 2	01/18/2021
Visalia CA, 93277	**Project Manager:** Allison Shuklian	

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0L1601										
Blank (B0L1601-BLK1)		Prepared & Analyzed: 12/16/20								
EPA 524.2										
Hexachlorobutadiene		ND	0.50	µg/L						
Isobutyl alcohol		ND	10	µg/L						
Isopropylbenzene		ND	0.50	µg/L						
m,p-Xylene		ND	0.50	µg/L						
Methyl tert-Butyl Ether (MTBE)		ND	3.0	µg/L						
Methylene chloride		ND	0.50	µg/L						
n-Butylbenzene		ND	0.50	µg/L						
n-Propylbenzene		ND	0.50	µg/L						
o-Xylene		ND	0.50	µg/L						
p-Isopropyltoluene		ND	0.50	µg/L						
sec-Butylbenzene		ND	0.50	µg/L						
Styrene		ND	0.50	µg/L						
Tert-Amyl Methyl Ether (TAME)		ND	3.0	µg/L						
tert-Butyl alcohol (TBA)		ND	2.0	µg/L						
tert-Butylbenzene		ND	0.50	µg/L						
Tetrachloroethene (PCE)		ND	0.50	µg/L						
Toluene		ND	0.50	µg/L						
Total 1,3-Dichloropropene		ND	0.50	µg/L						
Total Trihalomethanes		ND	0.50	µg/L						
trans-1,2-Dichloroethene		ND	0.50	µg/L						
trans-1,3-Dichloropropene		ND	0.50	µg/L						
Trichloroethene (TCE)		ND	0.50	µg/L						
Trichlorofluoromethane (CFC-11)		ND	5.0	µg/L						
Trichlorotrifluoroethane (CFC-113)		ND	10	µg/L						
Vinyl chloride		ND	0.50	µg/L						
Xylenes		ND	0.50	µg/L						
LCS (B0L1601-BS1)		Prepared & Analyzed: 12/16/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*2.00*		*µg/L*	*2.00*		*100*	*70-130*		
Surr: 4-Bromofluorobenzene		*2.05*		*µg/L*	*2.00*		*102*	*70-130*		
1,1-Dichloroethene		4.95	0.50	µg/L	5.00		99.0	70-130		
Benzene		4.88	0.50	µg/L	5.00		97.6	70-130		
Chlorobenzene		4.83	0.50	µg/L	5.00		96.6	70-130		
Toluene		4.89	0.50	µg/L	5.00		97.8	70-130		
Trichloroethene (TCE)		4.87	0.50	µg/L	5.00		97.4	70-130		
LCS Dup (B0L1601-BSD1)		Prepared & Analyzed: 12/16/20								
EPA 524.2										
Surr: 1,2-Dichlorobenzene-d4		*1.96*		*µg/L*	*2.00*		*98.0*	*70-130*		
Surr: 4-Bromofluorobenzene		*2.03*		*µg/L*	*2.00*		*102*	*70-130*		
1,1-Dichloroethene		4.43	0.50	µg/L	5.00		88.6	70-130	11.1	20

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Tulare County Health and Human Services 5957 South Mooney Blvd Visalia CA, 93277	**Project:** Teapot Dome Landfill - Offsite Wells **Project Number:** Map key 2 **Project Manager:** Allison Shuklian	**Reported:** 01/18/2021

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B0L1601										
LCS Dup (B0L1601-BSD1)		Prepared & Analyzed: 12/16/20								
EPA 524.2										
Benzene		4.45	0.50	µg/L	5.00		89.0	70-130	9.22	20
Chlorobenzene		4.50	0.50	µg/L	5.00		90.0	70-130	7.07	20
Toluene		4.51	0.50	µg/L	5.00		90.2	70-130	8.09	20
Trichloroethene (TCE)		4.42	0.50	µg/L	5.00		88.4	70-130	9.69	20

Notes and Definitions

µg/L	micrograms per liter (parts per billion concentration units)
mg/L	milligrams per liter (parts per million concentration units)
mg/kg	milligrams per kilogram (parts per million concentration units)
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference

Analysis of pH, filtration, and residual chlorine is to take place immediately after sampling in the field.
If the test was performed in the laboratory, the hold time was exceeded. **(for aqueous matrices only)**

MOORE TWINING ASSOCIATES INC.

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: GL15007
PAGE 1 OF 2

REPORT TO:
ATTENTION: Allison Shuklian
COMPANY NAME: Tul. Co. HHSA
ADDRESS: 5957 S Mooney Blvd.
Visalia, Ca 93277
PHONE: 624-8441
EMAIL / FAX:

☒ INVOICE TO:
ATTENTION: Lucas Feldstein
COMPANY NAME: Tulare County Solid Waste
ADDRESS: 5955 S Mooney Blvd
Visalia Ca 93277
PHONE:
EMAIL / FAX:

☐ REPORT COPY TO:

REPORTING:
☒ STANDARD FORMAT ☐ PDF
☐ EDT (SWRCB) ☐ EXCEL
☐ GEOTRACKER/COELT (LUFT)
GLOBAL ID:
☐ COUNTY ENVIRONMENTAL HEALTH:
☐ STATE WATER RESOURCES CONTROL BOARD:
☐ OTHER:

SAMPLE INFORMATION
SAMPLED BY (PRINT): Allison Shuklian
SIGNATURE:
☐ PUBLIC SYSTEM ☐ ROUTINE
☒ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☒ STANDARD
☐ RUSH, DUE ON:

SAMPLE TYPES
SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION
CONTRACT / P.O. NO.: Tulare County Solid Waste
PROJECT: Teapot Dome Landfill - offsite wells
PROJECT NUMBER: Mapkey 2
PROJECT MANAGER:

ANALYSIS REQUESTED

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLES(S) DAMAGED
☐ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION

LAB USE	CLIENT SAMPLE ID	DATE	TIME	TYPE	GPA 524.2 (VOC'S)										STATION CODE
1	Mapkey 2	12-14	10:00	DW	X										
2	Field Blanks (2)	12-14	10:00		X										
3	Trip Blank (1)	12-14	10:00		X										

COMMENTS / ADDITIONAL INSTRUCTIONS:
Analyze Field Blanks only if positive results

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
[signature]	Tul. Co	12-15	0830	[signature]	MTA

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 MTA'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 MTA's terms and conditions for laboratory services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

FL-SC-0005-04 A

Moore Twining Associates

Sample Integrity — Page 2 of 2 — WO# GL15007 — MTA Bottles: Yes or No

COC Info				
Was temperature within range? Chemistry ≤6°C Micro <10°C Temp_____°C	Yes No N/A	Did all bottle labels agree with COC?	Yes No N/A	Were there bubbles in VOA vials? (**Volatiles Only**) — Yes No N/A
If samples were taken today, is there evidence that chilling has begun? Recvd_____C°	Yes No N/A	Was a sufficient amount of sample received?	Yes No N/A	Was PM notified of discrepancies? PM: By/Time: — Yes No N/A
Did all bottles arrive unbroken and intact?	Yes No N/A	Were correct containers and preservatives received for the tests requested?	Yes No N/A	
Do samples have a hold time <72 hours?	Yes No N/A			

Bottles Received															
125ml (A) 250ml (B) 1Liter (C) 40ml VOA (V)	1	2	3												
Bacti $Na_2S_2O_3$															
None (P)															
Cr6 Buffer (P) Borate Carbonate Buffer															
HNO_3 (P)															
H_2SO_4 (P)															
NaOH (P)															
NaOH+ZnAc (P)															
Dissolved Oxygen 300ml (P)															
None (AG)															
None (CG) 500ml															
$Na_2S_2O_3$ 250ml (Brown P) 549															
$Na_2S_2O_3$ (AG)															
$Na_2S_2O_3$ (CG)															
Thio/K Citrate															
NH_4Cl (AG) 552															
HCl (AG)	3-V	2-V	1-V												
None (CG) 500ml															
H_3PO_4 (AG)															
Other:															
Plastic Bag															
Low Level Hg/Metals Double Bag															
Client Own															
Glass Jar: 125/ 250/ 500															
Soil Tube: Brass/ Steel/ Plastic															
5 g Encore															
Ascorboc Acid (AG) Voa															
1gallon Cubitainer															
Voa w/Sodium Thio + MCAA															

Comments

Filter or Split		Container	Preservative	Date/Time/Initials
	S P F			
	S P F			
	S P F			
	S P F			
	S P F			

Labeled by: _____ @_____ Labels checked by: _____ @ 1020

FL-SC-0003-06

APPENDIX E

FACILITY MONITORING INFORMATION

APPENDIX E-1

STANDARD OBSERVATION FORMS

STATE OF CALIFORNIA
CIWMB-52 (REV. 9/97)

Disposal Site Inspection Report

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD

Enforcement Agency:

Page of

FACILITY FILE NUMBER	PROGRAM CODE LOCAL = L STATE = S	INSPECTION DATE MM DD YY	TIME IN 9:00 / TIME OUT 12:00	INSPECTION TIME 9:00
		7 2 20		

FACILITY NAME: Teapot Dome		RECEIVED BY (OPERATOR)
FACILITY LOCATION: Porterville		OWNER: T-C- Solid waste
INSPECTOR: Jose Saldana	INSPECTOR SIGNATURE: [signature]	ALSO PRESENT

THE ABOVE FACILITY WAS INSPECTED FOR COMPLIANCE WITH APPLICABLE SECTIONS OF DIVISION 30 OF THE PUBLIC RESOURCES CODE (PRC) AND TITLE 27 CALIFORNIA CODE OF REGULATION (CCR).

THE STANDARDS BELOW ARE CONSIDERED IN COMPLIANCE UNLESS OTHERWISE MARKED WITH ONE OF THE FOLLOWING: V = VIOLATION A = AREA OF CONCERN NA = NOT APPLICABLE

PERMITS	V	A	NA
PRC 44004 - SIGNIFICANT CHANGE			
PRC 44014(b) - OPERATOR COMPLIES			
with TERMS & CONDITIONS OF PERMIT			
21640 - REVIEW OF PERMITS			
21600 - REPORT OF DISP SITE INFORMATION			
LOCATION RESTRICTIONS			
20270 - AIRPORT SAFETY			
OPERATING CRITERIA			
20510 - DISPOSAL SITE RECORDS			
20515 - MSWLF UNIT RECORDS			
20517 - DOCUMENT APPROVALS/REQUIREMENTS			
20520 - SIGNS			
20530 - SITE SECURITY			
20540 - ROADS			
20550 - SANITARY FACILITIES			
20560 - DRINKING WATER SUPPLY			
20570 - COMMUNICATIONS FACILITIES			
20580 - LIGHTING			
PERSONNEL			
20590 - PERSONNEL HEALTH & SAFETY			
20610 - TRAINING			
20615 - SUPERVISION			
20620 - SITE ATTENDANT			
CONFINED UNLOADING			
20630 - CONFINED UNLOADING			

SPREADING/COMPACTING	V	A	NA
20640 - SPREADING/COMPACTING			
20650 - GRADING OF FILL SURFACES			
20660 - STOCKPILING			
DAILY & INTERMEDIATE COVER			
20670 - AVAILABILITY COVER MATERIAL			
20680 - DAILY COVER			
20685 - PERFORMANCE STANDARDS			
20690 - (RESERVED)			
20700 - INTERMEDIATE COVER			
20701 - (RESERVED)			
HANDLING, EQUIPMENT & MAINTENANCE			
20710 - SCAVENGING/SALVAGING/STORAGE			
20720 - NON-SALVAGEABLE ITEMS			
20730 - VOLUME REDUCTION/ENERGY RECOVERY			
20740 - EQUIPMENT			
20750 - SITE MAINTENANCE			
CONTROLS			
20760 - NUISANCE CONTROL			
20770 - ANIMAL FEEDING			
20780 - OPEN BURNING/BURNING WASTES			
20790 - LEACHATE CONTROL			
20800 - DUST CONTROL			
20810 - VECTOR AND BIRD CONTROL			
20820 - DRAINAGE/EROSION CONTROL			
20830 - LITTER CONTROL			

CONTROLS	V	A	NA
20840 - NOISE CONTROL			
20860 - TRAFFIC CONTROL			
20870 - HAZARDOUS WASTES			
20880 - MEDICAL WASTES			
20890 - DEAD ANIMALS			
20900 - AIR CRITERIA			
GAS MONITORING & CONTROL			
20918 - EXEMPTIONS			
20919 - GAS CONTROL			
20919.5 - EXPLOSIVE GAS CONTROL			
CLOSURE			
21780 - SUBMITTAL CLOSURE PLANS			
TIRES			
17351 - FIRE PREVENTION			
17352 - FACILITY ACCESS SECURITY			
17353 - VECTOR CONTROL			
17354 - STORAGE			
17355 - DISPOSAL			
17356 - INDOOR STORAGE			
OTHER			

COMMENTS (USE SWIS-03 FOR ADDITIONAL SPACE)

no Areas of concern found

no violations given

DISTRIBUTION: TOP - CIWMB MIDDLE - EA BOTTOM - OPERATOR

Location: Teapot Dome Date: 7/2/20 Observer(s): Josie Se Hang

Landfill Standard Observations (Active & Inactive Sites)

1. RECEIVING WATERS AND GENERAL MONITORING OBSERVATIONS:

A. Any receiving waters[1]? If so, describe & locate on site map
none found
If not, proceed to 1.E. below.

B. Any evidence of floating or suspended materials of waste origin? (note source,& size of affected area, discoloration, turbidity and color observed) —

C. Were odors detected? (describe & note location, source and distance from source) —

D. Any water uses and/or water associated wildlife observed? (Describe and note types) —

E. Weather Conditions: Wind Direction: W; Estimated Velocity: 1 M.P.H.

F. Precipitation: Recent days: 0 inches in last 7 days.
Today: 0 inches in last 24 hours.

2. MONITORING ALONG PERIMETER OF WMU:

A. Liquid leaving landfill & approx. flowrate (describe & note location on map) none found

B. Liquid entering landfill & approx. flowrate (describe & note location on map) none found

C. Were odors detected? (describe & note location and distance from source on map) none detected

D. Erosion and/or daylighted refuse (describe & note location on map)
none found

3. LANDFILL MONITORING OF THE WMU:

A. Any evidence of ponded water? (describe approximate sizes & note locations on map) none found

B. Were odors detected? (describe & note distance from source & location on map)
none found

C. Any erosion and/or daylighted refuse? (describe & note location on map)
none found

1. "**Receiving Waters**" – any surface or ground water which actually or potentially receives waste constituents, leachate, or surface or ground waters which come in contact with waste materials or contaminated soils

Postclosure Maintenance Inspection Observations

A. Any evidence of Final Cover surface defects, erosion or ponding? (describe & note location on map) none found

B. Any evidence of Drainage System Problems? (describe & note location on map)
none found

C. Any evidence of Vegetative Cover stress or erosion? (describe & note location on map)
none found

STATE OF CALIFORNIA
CIWMB-52 (REV. 9/97)

Disposal Site Inspection Report

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD

Enforcement Agency:

Page of

FACILITY FILE NUMBER	PROGRAM CODE LOCAL = L STATE = S	INSPECTION DATE MM DD YY	TIME IN 12:00 / TIME OUT 3:00	INSPECTION TIME 12:00
		7 20 20		

FACILITY NAME Tcapt Domy	RECEIVED BY (OPERATOR)
FACILITY LOCATION Porterville, CA	OWNER T.C. Solid Waste
INSPECTOR Joe Saldana / INSPECTOR SIGNATURE JS	ALSO PRESENT

THE ABOVE FACILITY WAS INSPECTED FOR COMPLIANCE WITH APPLICABLE SECTIONS OF DIVISION 30 OF THE PUBLIC RESOURCES CODE (PRC) AND TITLE 27 CALIFORNIA CODE OF REGULATION (CCR).

THE STANDARDS BELOW ARE CONSIDERED IN COMPLIANCE UNLESS OTHERWISE MARKED WITH ONE OF THE FOLLOWING: V = VIOLATION A = AREA OF CONCERN NA = NOT APPLICABLE

PERMITS	V	A	NA
PRC 44004 - SIGNIFICANT CHANGE			
PRC 44014(b) - OPERATOR COMPLIES			
with TERMS & CONDITIONS OF PERMIT			
21640 - REVIEW OF PERMITS			
21600 - REPORT OF DISP SITE INFORMATION			
LOCATION RESTRICTIONS			
20270 - AIRPORT SAFETY			
OPERATING CRITERIA			
20510 - DISPOSAL SITE RECORDS			
20515 - MSWLF UNIT RECORDS			
20517 - DOCUMENT APPROVALS/REQUIREMENTS			
20520 - SIGNS			
20530 - SITE SECURITY			
20540 - ROADS			
20550 - SANITARY FACILITIES			
20560 - DRINKING WATER SUPPLY			
20570 - COMMUNICATIONS FACILITIES			
20580 - LIGHTING			
PERSONNEL			
20590 - PERSONNEL HEALTH & SAFETY			
20610 - TRAINING			
20615 - SUPERVISION			
20620 - SITE ATTENDANT			
CONFINED UNLOADING			
20630 - CONFINED UNLOADING			

SPREADING/COMPACTING	V	A	NA
20640 - SPREADING/COMPACTING			
20650 - GRADING OF FILL SURFACES			
20660 - STOCKPILING			
DAILY & INTERMEDIATE COVER			
20670 - AVAILABILITY COVER MATERIAL			
20680 - DAILY COVER			
20685 - PERFORMANCE STANDARDS			
20690 - (RESERVED)			
20700 - INTERMEDIATE COVER			
20701 - (RESERVED)			
HANDLING, EQUIPMENT & MAINTENANCE			
20710 - SCAVENGING/SALVAGING/STORAGE			
20720 - NON-SALVAGEABLE ITEMS			
20730 - VOLUME REDUCTION/ENERGY RECOVERY			
20740 - EQUIPMENT			
20750 - SITE MAINTENANCE			
CONTROLS			
20760 - NUISANCE CONTROL			
20770 - ANIMAL FEEDING			
20780 - OPEN BURNING/BURNING WASTES			
20790 - LEACHATE CONTROL			
20800 - DUST CONTROL			
20810 - VECTOR AND BIRD CONTROL			
20820 - DRAINAGE/EROSION CONTROL			
20830 - LITTER CONTROL			

CONTROLS	V	A	NA
20840 - NOISE CONTROL			
20860 - TRAFFIC CONTROL			
20870 - HAZARDOUS WASTES			
20880 - MEDICAL WASTES			
20890 - DEAD ANIMALS			
20900 - AIR CRITERIA			
GAS MONITORING & CONTROL			
20918 - EXEMPTIONS			
20919 - GAS CONTROL			
20919.5 - EXPLOSIVE GAS CONTROL			
CLOSURE			
21780 - SUBMITTAL CLOSURE PLANS			
TIRES			
17351 - FIRE PREVENTION			
17352 - FACILITY ACCESS SECURITY			
17353 - VECTOR CONTROL			
17354 - STORAGE			
17355 - DISPOSAL			
17356 - INDOOR STORAGE			
OTHER			

COMMENTS (USE SWIS-03 FOR ADDITIONAL SPACE)

no violations given

no Areas of con cern found

DISTRIBUTION: TOP - CIWMB MIDDLE - EA BOTTOM - OPERATOR

Location: Trapont Dome Date: 7/20/20 Observer(s): Jose Saldana

Landfill Standard Observations (Active & Inactive Sites)

1. **RECEIVING WATERS AND GENERAL MONITORING OBSERVATIONS:**

A. Any receiving waters[1]? If so, describe & locate on site map none found

If not, proceed to 1.E. below.

B. Any evidence of floating or suspended materials of waste origin? (note source,& size of affected area, discoloration, turbidity and color observed) ~~

C. Were odors detected? (describe & note location, source and distance from source) ~~

D. Any water uses and/or water associated wildlife observed? (Describe and note types) ~~

E. Weather Conditions: Wind Direction: W; Estimated Velocity: 3 M.P.H.

F. Precipitation: Recent days: 0 inches in last 7 days.
Today: 0 inches in last 24 hours.

2. MONITORING ALONG PERIMETER OF WMU:

A. Liquid leaving landfill & approx. flowrate (describe & note location on map) none found

B. Liquid entering landfill & approx. flowrate (describe & note location on map) none found

C. Were odors detected? (describe & note location and distance from source on map) none detected

D. Erosion and/or daylighted refuse (describe & note location on map)
none found

3. LANDFILL MONITORING OF THE WMU:

A. Any evidence of ponded water? (describe approximate sizes & note locations on map) none found

B. Were odors detected? (describe & note distance from source & location on map)
none detected

C. Any erosion and/or daylighted refuse? (describe & note location on map)
none found

1. "**Receiving Waters**" – any surface or ground water which actually or potentially receives waste constituents, leachate, or surface or ground waters which come in contact with waste materials or contaminated soils

Postclosure Maintenance Inspection Observations

A. Any evidence of Final Cover surface defects, erosion or ponding? (describe & note location on map) none found

B. Any evidence of Drainage System Problems? (describe & note location on map)
none found

C. Any evidence of Vegetative Cover stress or erosion? (describe & note location on map)
none found

STATE OF CALIFORNIA
CIWMB-52 (REV. 9/97)

Disposal Site Inspection Report

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD

Enforcement Agency:

Page of

FACILITY FILE NUMBER	PROGRAM CODE LOCAL = L STATE = S	INSPECTION DATE MM DD YY	TIME IN 9:00 / TIME OUT 12:00	INSPECTION TIME
		7 29 20		9:00

FACILITY NAME: Teapot Dome		RECEIVED BY (OPERATOR)
FACILITY LOCATION: Porterville		OWNER: T.C. Solid Waste
INSPECTOR: Jose Saldana	INSPECTOR SIGNATURE:	ALSO PRESENT

THE ABOVE FACILITY WAS INSPECTED FOR COMPLIANCE WITH APPLICABLE SECTIONS OF DIVISION 30 OF THE PUBLIC RESOURCES CODE (PRC) AND TITLE 27 CALIFORNIA CODE OF REGULATION (CCR).

THE STANDARDS BELOW ARE CONSIDERED IN COMPLIANCE UNLESS OTHERWISE MARKED WITH ONE OF THE FOLLOWING: V = VIOLATION A = AREA OF CONCERN NA = NOT APPLICABLE

PERMITS	V	A	NA
PRC 44004 - SIGNIFICANT CHANGE			
PRC 44014(b) - OPERATOR COMPLIES			
with TERMS & CONDITIONS OF PERMIT			
21640 - REVIEW OF PERMITS			
21600 - REPORT OF DISP SITE INFORMATION			
LOCATION RESTRICTIONS			
20270 - AIRPORT SAFETY			
OPERATING CRITERIA			
20510 - DISPOSAL SITE RECORDS			
20515 - MSWLF UNIT RECORDS			
20517 - DOCUMENT APPROVALS/REQUIREMENTS			
20520 - SIGNS			
20530 - SITE SECURITY			
20540 - ROADS			
20550 - SANITARY FACILITIES			
20560 - DRINKING WATER SUPPLY			
20570 - COMMUNICATIONS FACILITIES			
20580 - LIGHTING			
PERSONNEL			
20590 - PERSONNEL HEALTH & SAFETY			
20610 - TRAINING			
20615 - SUPERVISION			
20620 - SITE ATTENDANT			
CONFINED UNLOADING			
20630 - CONFINED UNLOADING			

SPREADING/COMPACTING	V	A	NA
20640 - SPREADING/COMPACTING			
20650 - GRADING OF FILL SURFACES			
20660 - STOCKPILING			
DAILY & INTERMEDIATE COVER			
20670 - AVAILABILITY COVER MATERIAL			
20680 - DAILY COVER			
20685 - PERFORMANCE STANDARDS			
20690 - (RESERVED)			
20700 - INTERMEDIATE COVER			
20701 - (RESERVED)			
HANDLING, EQUIPMENT & MAINTENANCE			
20710 - SCAVENGING/SALVAGING/STORAGE			
20720 - NON-SALVAGEABLE ITEMS			
20730 - VOLUME REDUCTION/ENERGY RECOVERY			
20740 - EQUIPMENT			
20750 - SITE MAINTENANCE			
CONTROLS			
20760 - NUISANCE CONTROL			
20770 - ANIMAL FEEDING			
20780 - OPEN BURNING/BURNING WASTES			
20790 - LEACHATE CONTROL			
20800 - DUST CONTROL			
20810 - VECTOR AND BIRD CONTROL			
20820 - DRAINAGE/EROSION CONTROL			
20830 - LITTER CONTROL			

CONTROLS	V	A	NA
20840 - NOISE CONTROL			
20860 - TRAFFIC CONTROL			
20870 - HAZARDOUS WASTES			
20880 - MEDICAL WASTES			
20890 - DEAD ANIMALS			
20900 - AIR CRITERIA			
GAS MONITORING & CONTROL			
20918 - EXEMPTIONS			
20919 - GAS CONTROL			
20919.5 - EXPLOSIVE GAS CONTROL			
CLOSURE			
21780 - SUBMITTAL CLOSURE PLANS			
TIRES			
17351 - FIRE PREVENTION			
17352 - FACILITY ACCESS SECURITY			
17353 - VECTOR CONTROL			
17354 - STORAGE			
17355 - DISPOSAL			
17356 - INDOOR STORAGE			
OTHER			

COMMENTS (USE SWIS-03 FOR ADDITIONAL SPACE)

no Areas of concern found

no violations given

DISTRIBUTION: TOP - CIWMB MIDDLE - EA BOTTOM - OPERATOR

Location: Trapper Dome Date: 7/29/20 Observer(s): Jose Saldana

Landfill Standard Observations (Active & Inactive Sites)

1. RECEIVING WATERS AND GENERAL MONITORING OBSERVATIONS:

A. Any receiving waters[1]? If so, describe & locate on site map none found

If not, proceed to 1.E. below.

B. Any evidence of floating or suspended materials of waste origin? (note source,& size of affected area, discoloration, turbidity and color observed) —

C. Were odors detected? (describe & note location, source and distance from source) —

D. Any water uses and/or water associated wildlife observed? (Describe and note types) —

E. Weather Conditions: Wind Direction: SW; Estimated Velocity: 0 M.P.H.

F. Precipitation: Recent days: 0 inches in last 7 days.
Today: 0 inches in last 24 hours.

2. MONITORING ALONG PERIMETER OF WMU:

A. Liquid leaving landfill & approx. flowrate (describe & note location on map) none found

B. Liquid entering landfill & approx. flowrate (describe & note location on map) none found

C. Were odors detected? (describe & note location and distance from source on map) none detected

D. Erosion and/or daylighted refuse (describe & note location on map)
none found

3. LANDFILL MONITORING OF THE WMU:

A. Any evidence of ponded water? (describe approximate sizes & note locations on map) none found

B. Were odors detected? (describe & note distance from source & location on map)
none detected

C. Any erosion and/or daylighted refuse? (describe & note location on map)
none found

1. "**Receiving Waters**" – any surface or ground water which actually or potentially receives waste constituents, leachate, or surface or ground waters which come in contact with waste materials or contaminated soils

Postclosure Maintenance Inspection Observations

A. Any evidence of Final Cover surface defects, erosion or ponding? (describe & note location on map) none found

B. Any evidence of Drainage System Problems? (describe & note location on map)
none found

C. Any evidence of Vegetative Cover stress or erosion? (describe & note location on map)
non found

STATE OF CALIFORNIA
CIWMB-52 (REV. 9/97)

Disposal Site Inspection Report

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD

Enforcement Agency:

FACILITY FILE NUMBER	PROGRAM CODE (LOCAL = L STATE = S)	INSPECTION DATE (MM DD YY)	TIME IN / TIME OUT	INSPECTION TIME
		08 24 20	TIME IN 0922 / TIME OUT 1230	0922

FACILITY NAME: Tepot Dome	RECEIVED BY (OPERATOR):
FACILITY LOCATION: Victorville	OWNER: TC. Solid Waste
INSPECTOR: Israel Garcia	INSPECTOR SIGNATURE: [signature] / ALSO PRESENT:

THE ABOVE FACILITY WAS INSPECTED FOR COMPLIANCE WITH APPLICABLE SECTIONS OF DIVISION 30 OF THE PUBLIC RESOURCES CODE (PRC) AND TITLE 27 CALIFORNIA CODE OF REGULATION (CCR).

THE STANDARDS BELOW ARE CONSIDERED IN COMPLIANCE UNLESS OTHERWISE MARKED WITH ONE OF THE FOLLOWING: V = VIOLATION A = AREA OF CONCERN NA = NOT APPLICABLE

PERMITS	V	A	NA
PRC 44004 - SIGNIFICANT CHANGE			
PRC 44014(b) - OPERATOR COMPLIES with TERMS & CONDITIONS OF PERMIT			
21640 - REVIEW OF PERMITS			
21600 - REPORT OF DISP SITE INFORMATION			
LOCATION RESTRICTIONS			
20270 - AIRPORT SAFETY			
OPERATING CRITERIA			
20510 - DISPOSAL SITE RECORDS			
20515 - MSWLF UNIT RECORDS			
20517 - DOCUMENT APPROVALS/REQUIREMENTS			
20520 - SIGNS			
20530 - SITE SECURITY			
20540 - ROADS			
20550 - SANITARY FACILITIES			
20560 - DRINKING WATER SUPPLY			
20570 - COMMUNICATIONS FACILITIES			
20580 - LIGHTING			
PERSONNEL			
[illegible] - PERSONNEL HEALTH & SAFETY			
[illegible]10 - TRAINING			
20615 - SUPERVISION			
20620 - SITE ATTENDANT			
CONFINED UNLOADING			
20630 - CONFINED UNLOADING			

SPREADING/COMPACTING	V	A	NA
20640 - SPREADING/COMPACTING			
20650 - GRADING OF FILL SURFACES			
20660 - STOCKPILING			
DAILY & INTERMEDIATE COVER			
20670 - AVAILABILITY COVER MATERIAL			
20680 - DAILY COVER			
20685 - PERFORMANCE STANDARDS			
20690 - (RESERVED)			
20700 - INTERMEDIATE COVER			
20701 - (RESERVED)			
HANDLING, EQUIPMENT & MAINTENANCE			
20710 - SCAVENGING/SALVAGING/STORAGE			
20720 - NON-SALVAGEABLE ITEMS			
20730 - VOLUME REDUCTION/ENERGY RECOVERY			
20740 - EQUIPMENT			
20750 - SITE MAINTENANCE			
CONTROLS			
20760 - NUISANCE CONTROL			
20770 - ANIMAL FEEDING			
20780 - OPEN BURNING/BURNING WASTES			
20790 - LEACHATE CONTROL			
20800 - DUST CONTROL			
20810 - VECTOR AND BIRD CONTROL			
20820 - DRAINAGE/EROSION CONTROL			
20830 - LITTER CONTROL			

CONTROLS	V	A	NA
20840 - NOISE CONTROL			
20860 - TRAFFIC CONTROL			
20870 - HAZARDOUS WASTES			
20880 - MEDICAL WASTES			
20890 - DEAD ANIMALS			
20900 - AIR CRITERIA			
GAS MONITORING & CONTROL			
20918 - EXEMPTIONS			
20919 - GAS CONTROL			
20919.5 - EXPLOSIVE GAS CONTROL			
CLOSURE			
21780 - SUBMITTAL CLOSURE PLANS			
TIRES			
17351 - FIRE PREVENTION			
17352 - FACILITY ACCESS SECURITY			
17353 - VECTOR CONTROL			
17354 - STORAGE			
17355 - DISPOSAL			
17356 - INDOOR STORAGE			
OTHER			

COMMENTS (USE SWIS-03 FOR ADDITIONAL SPACE)

no areas of concern found. No violations Given.

DISTRIBUTION: TOP - CIWMB MIDDLE - EA BOTTOM - OPERATOR

Location: Teapot Dome Date: 8/24/20 Observer(s): Israel Garcia

Landfill Standard Observations (Active & Inactive Sites)

1. RECEIVING WATERS AND GENERAL MONITORING OBSERVATIONS:

A. Any receiving waters[1]? If so, describe & locate on site map none found

If not, proceed to 1.E. below.

B. Any evidence of floating or suspended materials of waste origin? (note source,& size of affected area, discoloration, turbidity and color observed) _____

C. Were odors detected? (describe & note location, source and distance from source) _____

D. Any water uses and/or water associated wildlife observed? (Describe and note types) _____

E. Weather Conditions: Wind Direction: SW; Estimated Velocity: 1 M.P.H.

F. Precipitation: Recent days: 8 inches in last 7 days.
Today: 0 inches in last 24 hours.

2. MONITORING ALONG PERIMETER OF WMU:

A. Liquid leaving landfill & approx. flowrate (describe & note location on map) none

B. Liquid entering landfill & approx. flowrate (describe & note location on map) none

C. Were odors detected? (describe & note location and distance from source on map) no

D. Erosion and/or daylighted refuse (describe & note location on map)
none found

3. LANDFILL MONITORING OF THE WMU:

A. Any evidence of ponded water? (describe approximate sizes & note locations on map) no.

B. Were odors detected? (describe & note distance from source & location on map)
none detected

C. Any erosion and/or daylighted refuse? (describe & note location on map)
none

1. "**Receiving Waters**" – any surface or ground water which actually or potentially receives waste constituents, leachate, or surface or ground waters which come in contact with waste materials or contaminated soils

Postclosure Maintenance Inspection Observations

A. Any evidence of Final Cover surface defects, erosion or ponding? (describe & note location on map) none found

B. Any evidence of Drainage System Problems? (describe & note location on map)
none found

C. Any evidence of Vegetative Cover stress or erosion? (describe & note location on map)
none found

STATE OF CALIFORNIA
CIWMB-52 (REV. 9/97)

Disposal Site Inspection Report

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD

Enforcement Agency:

FACILITY FILE NUMBER	PROGRAM CODE (LOCAL = L STATE = S)	INSPECTION DATE (MM DD YY)	TIME IN / TIME OUT	INSPECTION TIME
		09 05 20	1200 / 1420	1200

FACILITY NAME: Teapot Dome	RECEIVED BY (OPERATOR)
FACILITY LOCATION: Porterville	OWNER: T.C. Solid Waste
INSPECTOR: Israel Garcia / INSPECTOR SIGNATURE: [signature]	ALSO PRESENT

THE ABOVE FACILITY WAS INSPECTED FOR COMPLIANCE WITH APPLICABLE SECTIONS OF DIVISION 30 OF THE PUBLIC RESOURCES CODE (PRC) AND TITLE 27 CALIFORNIA CODE OF REGULATION (CCR).

THE STANDARDS BELOW ARE CONSIDERED IN COMPLIANCE UNLESS OTHERWISE MARKED WITH ONE OF THE FOLLOWING: V = VIOLATION A = AREA OF CONCERN NA = NOT APPLICABLE

PERMITS	V	A	NA
PRC 44004 - SIGNIFICANT CHANGE			
PRC 44014(b) - OPERATOR COMPLIES with TERMS & CONDITIONS OF PERMIT			
21640 - REVIEW OF PERMITS			
21600 - REPORT OF DISP SITE INFORMATION			
LOCATION RESTRICTIONS			
20270 - AIRPORT SAFETY			
OPERATING CRITERIA			
20510 - DISPOSAL SITE RECORDS			
20515 - MSWLF UNIT RECORDS			
20517 - DOCUMENT APPROVALS/REQUIREMENTS			
20520 - SIGNS			
20530 - SITE SECURITY			
20540 - ROADS			
20550 - SANITARY FACILITIES			
20560 - DRINKING WATER SUPPLY			
20570 - COMMUNICATIONS FACILITIES			
20580 - LIGHTING			
PERSONNEL			
[illegible] - PERSONNEL HEALTH & SAFETY			
[illegible] - TRAINING			
20615 - SUPERVISION			
20620 - SITE ATTENDANT			
CONFINED UNLOADING			
20630 - CONFINED UNLOADING			

SPREADING/COMPACTING	V	A	NA
20640 - SPREADING/COMPACTING			
20650 - GRADING OF FILL SURFACES			
20660 - STOCKPILING			
DAILY & INTERMEDIATE COVER			
20670 - AVAILABILITY COVER MATERIAL			
20680 - DAILY COVER			
20685 - PERFORMANCE STANDARDS			
20690 - (RESERVED)			
20700 - INTERMEDIATE COVER			
20701 - (RESERVED)			
HANDLING, EQUIPMENT & MAINTENANCE			
20710 - SCAVENGING/SALVAGING/STORAGE			
20720 - NON-SALVAGEABLE ITEMS			
20730 - VOLUME REDUCTION/ENERGY RECOVERY			
20740 - EQUIPMENT			
20750 - SITE MAINTENANCE			
CONTROLS			
20760 - NUISANCE CONTROL			
20770 - ANIMAL FEEDING			
20780 - OPEN BURNING/BURNING WASTES			
20790 - LEACHATE CONTROL			
20800 - DUST CONTROL			
20810 - VECTOR AND BIRD CONTROL			
20820 - DRAINAGE/EROSION CONTROL			
20830 - LITTER CONTROL			

CONTROLS	V	A	NA
20840 - NOISE CONTROL			
20860 - TRAFFIC CONTROL			
20870 - HAZARDOUS WASTES			
20880 - MEDICAL WASTES			
20890 - DEAD ANIMALS			
20900 - AIR CRITERIA			
GAS MONITORING & CONTROL			
20918 - EXEMPTIONS			
20919 - GAS CONTROL			
20919.5 - EXPLOSIVE GAS CONTROL			
CLOSURE			
21780 - SUBMITTAL CLOSURE PLANS			
TIRES			
17351 - FIRE PREVENTION			
17352 - FACILITY ACCESS SECURITY			
17353 - VECTOR CONTROL			
17354 - STORAGE			
17355 - DISPOSAL			
17356 - INDOOR STORAGE			
OTHER			

COMMENTS (USE SWIS-03 FOR ADDITIONAL SPACE)

No areas of concern. No violations given.

DISTRIBUTION: TOP - CIWMB MIDDLE - EA BOTTOM - OPERATOR

Location: Teapot Dome Date: 09/05/20 Observer(s): Israel Garcia

Landfill Standard Observations (Active & Inactive Sites)

1. RECEIVING WATERS AND GENERAL MONITORING OBSERVATIONS:

A. Any receiving waters[1]? If so, describe & locate on site map no

If not, proceed to 1.E. below.

B. Any evidence of floating or suspended materials of waste origin? (note source,& size of affected area, discoloration, turbidity and color observed) _____

C. Were odors detected? (describe & note location, source and distance from source) _____

D. Any water uses and/or water associated wildlife observed? (Describe and note types) _____

E. Weather Conditions: Wind Direction: SE ; Estimated Velocity: 3 M.P.H.

F. Precipitation: Recent days: 0 inches in last 7 days.
Today: 0 inches in last 24 hours.

2. MONITORING ALONG PERIMETER OF WMU:

A. Liquid leaving landfill & approx. flowrate (describe & note location on map) none

B. Liquid entering landfill & approx. flowrate (describe & note location on map) none

C. Were odors detected? (describe & note location and distance from source on map) no

D. Erosion and/or daylighted refuse (describe & note location on map)
none

3. LANDFILL MONITORING OF THE WMU:

A. Any evidence of ponded water? (describe approximate sizes & note locations on map) no

B. Were odors detected? (describe & note distance from source & location on map)
no

C. Any erosion and/or daylighted refuse? (describe & note location on map)
no

1. "**Receiving Waters**" – any surface or ground water which actually or potentially receives waste constituents, leachate, or surface or ground waters which come in contact with waste materials or contaminated soils

Postclosure Maintenance Inspection Observations

A. Any evidence of Final Cover surface defects, erosion or ponding? (describe & note location on map) no

B. Any evidence of Drainage System Problems? (describe & note location on map)
no

C. Any evidence of Vegetative Cover stress or erosion? (describe & note location on map)
no

STATE OF CALIFORNIA
CIWMB-52 (REV. 9/97)

Disposal Site Inspection Report

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD

Enforcement Agency:

FACILITY FILE NUMBER	PROGRAM CODE (LOCAL = L STATE = S)	INSPECTION DATE (MM DD YY)	TIME IN / TIME OUT	INSPECTION TIME
		09 12 20	10:00 / 12:30	10:00

FACILITY NAME: Teapot Dome	RECEIVED BY (OPERATOR)
FACILITY LOCATION: Porterville, Ca	OWNER: T.C Solid Waste
INSPECTOR: Israel Garcia / INSPECTOR SIGNATURE: [signature]	ALSO PRESENT

THE ABOVE FACILITY WAS INSPECTED FOR COMPLIANCE WITH APPLICABLE SECTIONS OF DIVISION 30 OF THE PUBLIC RESOURCES CODE (PRC) AND TITLE 27 CALIFORNIA CODE OF REGULATION (CCR).

THE STANDARDS BELOW ARE CONSIDERED IN COMPLIANCE UNLESS OTHERWISE MARKED WITH ONE OF THE FOLLOWING: V = VIOLATION A = AREA OF CONCERN NA = NOT APPLICABLE

PERMITS	V	A	NA
PRC 44004 - SIGNIFICANT CHANGE			
PRC 44014(b) - OPERATOR COMPLIES with TERMS & CONDITIONS OF PERMIT			
21640 - REVIEW OF PERMITS			
21600 - REPORT OF DISP SITE INFORMATION			
LOCATION RESTRICTIONS			
20270 - AIRPORT SAFETY			
OPERATING CRITERIA			
20510 - DISPOSAL SITE RECORDS			
20515 - MSWLF UNIT RECORDS			
20517 - DOCUMENT APPROVALS/REQUIREMENTS			
20520 - SIGNS			
20530 - SITE SECURITY			
20540 - ROADS			
20550 - SANITARY FACILITIES			
20560 - DRINKING WATER SUPPLY			
20570 - COMMUNICATIONS FACILITIES			
20580 - LIGHTING			
PERSONNEL			
[illegible] - PERSONNEL HEALTH & SAFETY			
[illegible] - TRAINING			
20615 - SUPERVISION			
20620 - SITE ATTENDANT			
CONFINED UNLOADING			
20630 - CONFINED UNLOADING			

SPREADING/COMPACTING	V	A	NA
20640 - SPREADING/COMPACTING			
20650 - GRADING OF FILL SURFACES			
20660 - STOCKPILING			
DAILY & INTERMEDIATE COVER			
20670 - AVAILABILITY COVER MATERIAL			
20680 - DAILY COVER			
20685 - PERFORMANCE STANDARDS			
20690 - (RESERVED)			
20700 - INTERMEDIATE COVER			
20701 - (RESERVED)			
HANDLING, EQUIPMENT & MAINTENANCE			
20710 - SCAVENGING/SALVAGING/STORAGE			
20720 - NON-SALVAGEABLE ITEMS			
20730 - VOLUME REDUCTION/ENERGY RECOVERY			
20740 - EQUIPMENT			
20750 - SITE MAINTENANCE			
CONTROLS			
20760 - NUISANCE CONTROL			
20770 - ANIMAL FEEDING			
20780 - OPEN BURNING/BURNING WASTES			
20790 - LEACHATE CONTROL			
20800 - DUST CONTROL			
20810 - VECTOR AND BIRD CONTROL			
20820 - DRAINAGE/EROSION CONTROL			
20830 - LITTER CONTROL			

CONTROLS	V	A	NA
20840 - NOISE CONTROL			
20860 - TRAFFIC CONTROL			
20870 - HAZARDOUS WASTES			
20880 - MEDICAL WASTES			
20890 - DEAD ANIMALS			
20900 - AIR CRITERIA			
GAS MONITORING & CONTROL			
20918 - EXEMPTIONS			
20919 - GAS CONTROL			
20919.5 - EXPLOSIVE GAS CONTROL			
CLOSURE			
21780 - SUBMITTAL CLOSURE PLANS			
TIRES			
17351 - FIRE PREVENTION			
17352 - FACILITY ACCESS SECURITY			
17353 - VECTOR CONTROL			
17354 - STORAGE			
17355 - DISPOSAL			
17356 - INDOOR STORAGE			
OTHER			

COMMENTS (USE SWIS-03 FOR ADDITIONAL SPACE)

No areas of concern. No violations Given

DISTRIBUTION: TOP - CIWMB MIDDLE - EA BOTTOM - OPERATOR

Location: Teapot Dome Date: 9/12/20 Observer(s): Israel Garcia

Landfill Standard Observations (Active & Inactive Sites)

1. RECEIVING WATERS AND GENERAL MONITORING OBSERVATIONS:

A. Any receiving waters[1]? If so, describe & locate on site map no

If not, proceed to 1.E. below.

B. Any evidence of floating or suspended materials of waste origin? (note source,& size of affected area, discoloration, turbidity and color observed) _____

C. Were odors detected? (describe & note location, source and distance from source)_____

D. Any water uses and/or water associated wildlife observed? (Describe and note types)_____

E. Weather Conditions: Wind Direction: SE; Estimated Velocity: 10 M.P.H.

F. Precipitation: Recent days: 0 inches in last 7 days.
Today: 0 inches in last 24 hours.

2. MONITORING ALONG PERIMETER OF WMU:

A. Liquid leaving landfill & approx. flowrate (describe & note location on map) none

B. Liquid entering landfill & approx. flowrate (describe & note location on map) none

C. Were odors detected? (describe & note location and distance from source on map) no

D. Erosion and/or daylighted refuse (describe & note location on map)
none

3. LANDFILL MONITORING OF THE WMU:

A. Any evidence of ponded water? (describe approximate sizes & note locations on map) no

B. Were odors detected? (describe & note distance from source & location on map)
no

C. Any erosion and/or daylighted refuse? (describe & note location on map)_____
no

1. "**Receiving Waters**" – any surface or ground water which actually or potentially receives waste constituents, leachate, or surface or ground waters which come in contact with waste materials or contaminated soils

Postclosure Maintenance Inspection Observations

A. Any evidence of Final Cover surface defects, erosion or ponding? (describe & note location on map) no

B. Any evidence of Drainage System Problems? (describe & note location on map)_____
no

C. Any evidence of Vegetative Cover stress or erosion? (describe & note location on map)
no

STATE OF CALIFORNIA
CIWMB-52 (REV. 9/97)

Disposal Site Inspection Report

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD

Enforcement Agency:

FACILITY FILE NUMBER	PROGRAM CODE (LOCAL = L STATE = S)	INSPECTION DATE (MM DD YY)	TIME IN / TIME OUT	INSPECTION TIME
		MM 10 DD 03 YY 20	1400 / 1530	1400

NAME: Tegrot Dome	RECEIVED BY (OPERATOR)
FACILITY LOCATION: Porterville	OWNER: T.C Solid waste
INSPECTOR: Israel Garcia / INSPECTOR SIGNATURE:	ALSO PRESENT

THE ABOVE FACILITY WAS INSPECTED FOR COMPLIANCE WITH APPLICABLE SECTIONS OF DIVISION 30 OF THE PUBLIC RESOURCES CODE (PRC) AND TITLE 27 CALIFORNIA CODE OF REGULATION (CCR).

THE STANDARDS BELOW ARE CONSIDERED IN COMPLIANCE UNLESS OTHERWISE MARKED WITH ONE OF THE FOLLOWING: V = VIOLATION A = AREA OF CONCERN NA = NOT APPLICABLE

PERMITS	V	A	NA
PRC 44004 - SIGNIFICANT CHANGE			
PRC 44014(b) - OPERATOR COMPLIES with TERMS & CONDITIONS OF PERMIT			
21640 - REVIEW OF PERMITS			
21600 - REPORT OF DISP SITE INFORMATION			
LOCATION RESTRICTIONS			
20270 - AIRPORT SAFETY			
OPERATING CRITERIA			
20510 - DISPOSAL SITE RECORDS			
20515 - MSWLF UNIT RECORDS			
20517 - DOCUMENT APPROVALS/REQUIREMENTS			
20520 - SIGNS			
20530 - SITE SECURITY			
20540 - ROADS			
20550 - SANITARY FACILITIES			
20560 - DRINKING WATER SUPPLY			
20570 - COMMUNICATIONS FACILITIES			
20580 - LIGHTING			
PERSONNEL			
PERSONNEL HEALTH & SAFETY			
TRAINING			
20615 - SUPERVISION			
20620 - SITE ATTENDANT			
CONFINED UNLOADING			
20630 - CONFINED UNLOADING			

SPREADING/COMPACTING	V	A	NA
20640 - SPREADING/COMPACTING			
20650 - GRADING OF FILL SURFACES			
20660 - STOCKPILING			
DAILY & INTERMEDIATE COVER			
20670 - AVAILABILITY COVER MATERIAL			
20680 - DAILY COVER			
20685 - PERFORMANCE STANDARDS			
20690 - (RESERVED)			
20700 - INTERMEDIATE COVER			
20701 - (RESERVED)			
HANDLING, EQUIPMENT & MAINTENANCE			
20710 - SCAVENGING/SALVAGING/STORAGE			
20720 - NON-SALVAGEABLE ITEMS			
20730 - VOLUME REDUCTION/ENERGY RECOVERY			
20740 - EQUIPMENT			
20750 - SITE MAINTENANCE			
CONTROLS			
20760 - NUISANCE CONTROL			
20770 - ANIMAL FEEDING			
20780 - OPEN BURNING/BURNING WASTES			
20790 - LEACHATE CONTROL			
20800 - DUST CONTROL			
20810 - VECTOR AND BIRD CONTROL			
20820 - DRAINAGE/EROSION CONTROL			
20830 - LITTER CONTROL			

CONTROLS	V	A	NA
20840 - NOISE CONTROL			
20860 - TRAFFIC CONTROL			
20870 - HAZARDOUS WASTES			
20880 - MEDICAL WASTES			
20890 - DEAD ANIMALS			
20900 - AIR CRITERIA			
GAS MONITORING & CONTROL			
20918 - EXEMPTIONS			
20919 - GAS CONTROL			
20919.5 - EXPLOSIVE GAS CONTROL			
CLOSURE			
21780 - SUBMITTAL CLOSURE PLANS			
TIRES			
17351 - FIRE PREVENTION			
17352 - FACILITY ACCESS SECURITY			
17353 - VECTOR CONTROL			
17354 - STORAGE			
17355 - DISPOSAL			
17356 - INDOOR STORAGE			
OTHER			

COMMENTS (USE SWIS-03 FOR ADDITIONAL SPACE)

No areas of concern. No violations given

DISTRIBUTION: TOP - CIWMB MIDDLE - EA BOTTOM - OPERATOR

Location: Teapot Dome Date: 10/3/20 Observer(s): Israel Garcia

Landfill Standard Observations (Active & Inactive Sites)

1. RECEIVING WATERS AND GENERAL MONITORING OBSERVATIONS:

A. Any receiving waters[1]? If so, describe & locate on site map no

If not, proceed to 1.E. below.

B. Any evidence of floating or suspended materials of waste origin? (note source,& size of affected area, discoloration, turbidity and color observed) _____

C. Were odors detected? (describe & note location, source and distance from source) _____

D. Any water uses and/or water associated wildlife observed? (Describe and note types) _____

E. Weather Conditions: Wind Direction: SE; Estimated Velocity: 1-2 M.P.H.

F. Precipitation: Recent days: 0 inches in last 7 days.
Today: 0 inches in last 24 hours.

2. MONITORING ALONG PERIMETER OF WMU:

A. Liquid leaving landfill & approx. flowrate (describe & note location on map) none

B. Liquid entering landfill & approx. flowrate (describe & note location on map) none

C. Were odors detected? (describe & note location and distance from source on map) no

D. Erosion and/or daylighted refuse (describe & note location on map) none

3. LANDFILL MONITORING OF THE WMU:

A. Any evidence of ponded water? (describe approximate sizes & note locations on map) no

B. Were odors detected? (describe & note distance from source & location on map) no

C. Any erosion and/or daylighted refuse? (describe & note location on map) no

1. "Receiving Waters" – any surface or ground water which actually or potentially receives waste constituents, leachate, or surface or ground waters which come in contact with waste materials or contaminated soils

Postclosure Maintenance Inspection Observations

A. Any evidence of Final Cover surface defects, erosion or ponding? (describe & note location on map) no

B. Any evidence of Drainage System Problems? (describe & note location on map) no

C. Any evidence of Vegetative Cover stress or erosion? (describe & note location on map) no

STATE OF CALIFORNIA
CIWMB-52 (REV. 9/97)

Disposal Site Inspection Report

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD

Enforcement Agency:

FACILITY FILE NUMBER	PROGRAM CODE LOCAL = L STATE = S	INSPECTION DATE MM 10 DD 10 YY 20	TIME IN 1300 / TIME OUT 1500	INSPECTION TIME 1300
FACILITY NAME: Teapot Dome			RECEIVED BY (OPERATOR)	
FACILITY LOCATION: Porterville, Ca			OWNER: T. C Solid Waste	
INSPECTOR: Israel Garcia	INSPECTOR SIGNATURE: [signature]		ALSO PRESENT	

THE ABOVE FACILITY WAS INSPECTED FOR COMPLIANCE WITH APPLICABLE SECTIONS OF DIVISION 30 OF THE PUBLIC RESOURCES CODE (PRC) AND TITLE 27 CALIFORNIA CODE OF REGULATION (CCR).

THE STANDARDS BELOW ARE CONSIDERED IN COMPLIANCE UNLESS OTHERWISE MARKED WITH ONE OF THE FOLLOWING: V = VIOLATION A = AREA OF CONCERN NA = NOT APPLICABLE

PERMITS	V	A	NA
PRC 44004 - SIGNIFICANT CHANGE			
PRC 44014(b) - OPERATOR COMPLIES with TERMS & CONDITIONS OF PERMIT			
21640 - REVIEW OF PERMITS			
21600 - REPORT OF DISP SITE INFORMATION			
LOCATION RESTRICTIONS			
20270 - AIRPORT SAFETY			
OPERATING CRITERIA			
20510 - DISPOSAL SITE RECORDS			
20515 - MSWLF UNIT RECORDS			
20517 - DOCUMENT APPROVALS/REQUIREMENTS			
20520 - SIGNS			
20530 - SITE SECURITY			
20540 - ROADS			
20550 - SANITARY FACILITIES			
20560 - DRINKING WATER SUPPLY			
20570 - COMMUNICATIONS FACILITIES			
20580 - LIGHTING			
PERSONNEL			
PERSONNEL HEALTH & SAFETY			
TRAINING			
20615 - SUPERVISION			
20620 - SITE ATTENDANT			
CONFINED UNLOADING			
20630 - CONFINED UNLOADING			

SPREADING/COMPACTING	V	A	NA
20640 - SPREADING/COMPACTING			
20650 - GRADING OF FILL SURFACES			
20660 - STOCKPILING			
DAILY & INTERMEDIATE COVER			
20670 - AVAILABILITY COVER MATERIAL			
20680 - DAILY COVER			
20685 - PERFORMANCE STANDARDS			
20690 - (RESERVED)			
20700 - INTERMEDIATE COVER			
20701 - (RESERVED)			
HANDLING, EQUIPMENT & MAINTENANCE			
20710 - SCAVENGING/SALVAGING/STORAGE			
20720 - NON-SALVAGEABLE ITEMS			
20730 - VOLUME REDUCTION/ENERGY RECOVERY			
20740 - EQUIPMENT			
20750 - SITE MAINTENANCE			
CONTROLS			
20760 - NUISANCE CONTROL			
20770 - ANIMAL FEEDING			
20780 - OPEN BURNING/BURNING WASTES			
20790 - LEACHATE CONTROL			
20800 - DUST CONTROL			
20810 - VECTOR AND BIRD CONTROL			
20820 - DRAINAGE/EROSION CONTROL			
20830 - LITTER CONTROL			

CONTROLS	V	A	NA
20840 - NOISE CONTROL			
20860 - TRAFFIC CONTROL			
20870 - HAZARDOUS WASTES			
20880 - MEDICAL WASTES			
20890 - DEAD ANIMALS			
20900 - AIR CRITERIA			
GAS MONITORING & CONTROL			
20918 - EXEMPTIONS			
20919 - GAS CONTROL			
20919.5 - EXPLOSIVE GAS CONTROL			
CLOSURE			
21780 - SUBMITTAL CLOSURE PLANS			
TIRES			
17351 - FIRE PREVENTION			
17352 - FACILITY ACCESS SECURITY			
17353 - VECTOR CONTROL			
17354 - STORAGE			
17355 - DISPOSAL			
17356 - INDOOR STORAGE			
OTHER			

COMMENTS (USE SWIS-03 FOR ADDITIONAL SPACE)

no areas of Concern. No violations given.

DISTRIBUTION: TOP - CIWMB MIDDLE - EA BOTTOM - OPERATOR

Location: Teapot Dome. Date: 10/10/00 Observer(s): Israel Garcia

Landfill Standard Observations (Active & Inactive Sites)

1. RECEIVING WATERS AND GENERAL MONITORING OBSERVATIONS:

A. Any receiving waters[1]? If so, describe & locate on site map no

If not, proceed to 1.E. below.

B. Any evidence of floating or suspended materials of waste origin? (note source,& size of affected area, discoloration, turbidity and color observed) _____

C. Were odors detected? (describe & note location, source and distance from source) _____

D. Any water uses and/or water associated wildlife observed? (Describe and note types) _____

E. Weather Conditions: Wind Direction: SE; Estimated Velocity: 4-5 M.P.H.

F. Precipitation: Recent days: 0 inches in last 7 days.
Today: 0 inches in last 24 hours.

2. MONITORING ALONG PERIMETER OF WMU:

A. Liquid leaving landfill & approx. flowrate (describe & note location on map) none

B. Liquid entering landfill & approx. flowrate (describe & note location on map) none

C. Were odors detected? (describe & note location and distance from source on map) no

D. Erosion and/or daylighted refuse (describe & note location on map) none

3. LANDFILL MONITORING OF THE WMU:

A. Any evidence of ponded water? (describe approximate sizes & note locations on map) no

B. Were odors detected? (describe & note distance from source & location on map) no

C. Any erosion and/or daylighted refuse? (describe & note location on map) no

1. "Receiving Waters" – any surface or ground water which actually or potentially receives waste constituents, leachate, or surface or ground waters which come in contact with waste materials or contaminated soils

Postclosure Maintenance Inspection Observations

A. Any evidence of Final Cover surface defects, erosion or ponding? (describe & note location on map) none

B. Any evidence of Drainage System Problems? (describe & note location on map) no

C. Any evidence of Vegetative Cover stress or erosion? (describe & note location on map) no

STATE OF CALIFORNIA
CIWMB-52 (REV. 9/97)

Disposal Site Inspection Report

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD

Enforcement Agency:

FACILITY FILE NUMBER	PROGRAM CODE (LOCAL = L STATE = S)	INSPECTION DATE (MM DD YY)	TIME IN / TIME OUT	INSPECTION TIME
		10 31 20	1200 / 1430	1200

NAME: Teapot Dome	RECEIVED BY (OPERATOR)
FACILITY LOCATION: Porterville	OWNER: T.C Solid waste
INSPECTOR: Israel Garcia / INSPECTOR SIGNATURE: [signature]	ALSO PRESENT

THE ABOVE FACILITY WAS INSPECTED FOR COMPLIANCE WITH APPLICABLE SECTIONS OF DIVISION 30 OF THE PUBLIC RESOURCES CODE (PRC) AND TITLE 27 CALIFORNIA CODE OF REGULATION (CCR).

THE STANDARDS BELOW ARE CONSIDERED IN COMPLIANCE UNLESS OTHERWISE MARKED WITH ONE OF THE FOLLOWING: V = VIOLATION A = AREA OF CONCERN NA = NOT APPLICABLE

PERMITS	V	A	NA
PRC 44004 - SIGNIFICANT CHANGE			
PRC 44014(b) - OPERATOR COMPLIES with TERMS & CONDITIONS OF PERMIT			
21640 - REVIEW OF PERMITS			
21600 - REPORT OF DISP SITE INFORMATION			
LOCATION RESTRICTIONS			
20270 - AIRPORT SAFETY			
OPERATING CRITERIA			
20510 - DISPOSAL SITE RECORDS			
20515 - MSWLF UNIT RECORDS			
20517 - DOCUMENT APPROVALS/REQUIREMENTS			
20520 - SIGNS			
20530 - SITE SECURITY			
20540 - ROADS			
20550 - SANITARY FACILITIES			
20560 - DRINKING WATER SUPPLY			
20570 - COMMUNICATIONS FACILITIES			
20580 - LIGHTING			
PERSONNEL			
PERSONNEL HEALTH & SAFETY			
TRAINING			
20615 - SUPERVISION			
20620 - SITE ATTENDANT			
CONFINED UNLOADING			
20630 - CONFINED UNLOADING			

SPREADING/COMPACTING	V	A	NA
20640 - SPREADING/COMPACTING			
20650 - GRADING OF FILL SURFACES			
20660 - STOCKPILING			
DAILY & INTERMEDIATE COVER			
20670 - AVAILABILITY COVER MATERIAL			
20680 - DAILY COVER			
20685 - PERFORMANCE STANDARDS			
20690 - (RESERVED)			
20700 - INTERMEDIATE COVER			
20701 - (RESERVED)			
HANDLING, EQUIPMENT & MAINTENANCE			
20710 - SCAVENGING/SALVAGING/STORAGE			
20720 - NON-SALVAGEABLE ITEMS			
20730 - VOLUME REDUCTION/ENERGY RECOVERY			
20740 - EQUIPMENT			
20750 - SITE MAINTENANCE			
CONTROLS			
20760 - NUISANCE CONTROL			
20770 - ANIMAL FEEDING			
20780 - OPEN BURNING/BURNING WASTES			
20790 - LEACHATE CONTROL			
20800 - DUST CONTROL			
20810 - VECTOR AND BIRD CONTROL			
20820 - DRAINAGE/EROSION CONTROL			
20830 - LITTER CONTROL			

CONTROLS	V	A	NA
20840 - NOISE CONTROL			
20860 - TRAFFIC CONTROL			
20870 - HAZARDOUS WASTES			
20880 - MEDICAL WASTES			
20890 - DEAD ANIMALS			
20900 - AIR CRITERIA			
GAS MONITORING & CONTROL			
20918 - EXEMPTIONS			
20919 - GAS CONTROL			
20919.5 - EXPLOSIVE GAS CONTROL			
CLOSURE			
21780 - SUBMITTAL CLOSURE PLANS			
TIRES			
17351 - FIRE PREVENTION			
17352 - FACILITY ACCESS SECURITY			
17353 - VECTOR CONTROL			
17354 - STORAGE			
17355 - DISPOSAL			
17356 - INDOOR STORAGE			
OTHER			

COMMENTS (USE SWIS-03 FOR ADDITIONAL SPACE)

no violations given

DISTRIBUTION: TOP - CIWMB MIDDLE - EA BOTTOM - OPERATOR

Location: Teapot Dome Date: 10/31/20 Observer(s): Israel Garcia

Landfill Standard Observations (Active & Inactive Sites)

1. RECEIVING WATERS AND GENERAL MONITORING OBSERVATIONS:

A. Any receiving waters[1]? If so, describe & locate on site map no

If not, proceed to 1.E. below.

B. Any evidence of floating or suspended materials of waste origin? (note source,& size of affected area, discoloration, turbidity and color observed) _____

C. Were odors detected? (describe & note location, source and distance from source) _____

D. Any water uses and/or water associated wildlife observed? (Describe and note types) _____

E. Weather Conditions: Wind Direction: N; Estimated Velocity: 1-2 M.P.H.

F. Precipitation: Recent days: 0 inches in last 7 days.
Today: 0 inches in last 24 hours.

2. MONITORING ALONG PERIMETER OF WMU:

A. Liquid leaving landfill & approx. flowrate (describe & note location on map) none

B. Liquid entering landfill & approx. flowrate (describe & note location on map) none

C. Were odors detected? (describe & note location and distance from source on map) no

D. Erosion and/or daylighted refuse (describe & note location on map)
none

3. LANDFILL MONITORING OF THE WMU:

A. Any evidence of ponded water? (describe approximate sizes & note locations on map) no

B. Were odors detected? (describe & note distance from source & location on map)
no

C. Any erosion and/or daylighted refuse? (describe & note location on map)
no

1. "Receiving Waters" – any surface or ground water which actually or potentially receives waste constituents, leachate, or surface or ground waters which come in contact with waste materials or contaminated soils

Postclosure Maintenance Inspection Observations

A. Any evidence of Final Cover surface defects, erosion or ponding? (describe & note location on map) no

B. Any evidence of Drainage System Problems? (describe & note location on map)
no

C. Any evidence of Vegetative Cover stress or erosion? (describe & note location on map)
no

STATE OF CALIFORNIA
CIWMB-52 (REV. 9/97)

Disposal Site Inspection Report

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD

Enforcement Agency:

FACILITY FILE NUMBER	PROGRAM CODE (LOCAL = L STATE = S)	INSPECTION DATE (MM DD YY)	TIME IN / TIME OUT	INSPECTION TIME
		11 12 20	1000 / 1300	1000

NAME: Teapot Dome	RECEIVED BY (OPERATOR)
FACILITY LOCATION: Porterville	OWNER: TCSW
INSPECTOR: Israel Garcia / INSPECTOR SIGNATURE:	ALSO PRESENT

THE ABOVE FACILITY WAS INSPECTED FOR COMPLIANCE WITH APPLICABLE SECTIONS OF DIVISION 30 OF THE PUBLIC RESOURCES CODE (PRC) AND TITLE 27 CALIFORNIA CODE OF REGULATION (CCR).

THE STANDARDS BELOW ARE CONSIDERED IN COMPLIANCE UNLESS OTHERWISE MARKED WITH ONE OF THE FOLLOWING: V = VIOLATION A = AREA OF CONCERN NA = NOT APPLICABLE

PERMITS	V	A	NA
PRC 44004 - SIGNIFICANT CHANGE			
PRC 44014(b) - OPERATOR COMPLIES with TERMS & CONDITIONS OF PERMIT			
21640 - REVIEW OF PERMITS			
21600 - REPORT OF DISP SITE INFORMATION			
LOCATION RESTRICTIONS			
20270 - AIRPORT SAFETY			
OPERATING CRITERIA			
20510 - DISPOSAL SITE RECORDS			
20515 - MSWLF UNIT RECORDS			
20517 - DOCUMENT APPROVALS/REQUIREMENTS			
20520 - SIGNS			
20530 - SITE SECURITY			
20540 - ROADS			
20550 - SANITARY FACILITIES			
20560 - DRINKING WATER SUPPLY			
20570 - COMMUNICATIONS FACILITIES			
20580 - LIGHTING			
PERSONNEL			
PERSONNEL HEALTH & SAFETY			
TRAINING			
20615 - SUPERVISION			
20620 - SITE ATTENDANT			
CONFINED UNLOADING			
20630 - CONFINED UNLOADING			

SPREADING/COMPACTING	V	A	NA
20640 - SPREADING/COMPACTING			
20650 - GRADING OF FILL SURFACES			
20660 - STOCKPILING			
DAILY & INTERMEDIATE COVER			
20670 - AVAILABILITY COVER MATERIAL			
20680 - DAILY COVER			
20685 - PERFORMANCE STANDARDS			
20690 - (RESERVED)			
20700 - INTERMEDIATE COVER			
20701 - (RESERVED)			
HANDLING, EQUIPMENT & MAINTENANCE			
20710 - SCAVENGING/SALVAGING/STORAGE			
20720 - NON-SALVAGEABLE ITEMS			
20730 - VOLUME REDUCTION/ENERGY RECOVERY			
20740 - EQUIPMENT			
20750 - SITE MAINTENANCE			
CONTROLS			
20760 - NUISANCE CONTROL			
20770 - ANIMAL FEEDING			
20780 - OPEN BURNING/BURNING WASTES			
20790 - LEACHATE CONTROL			
20800 - DUST CONTROL			
20810 - VECTOR AND BIRD CONTROL			
20820 - DRAINAGE/EROSION CONTROL			
20830 - LITTER CONTROL			

CONTROLS	V	A	NA
20840 - NOISE CONTROL			
20860 - TRAFFIC CONTROL			
20870 - HAZARDOUS WASTES			
20880 - MEDICAL WASTES			
20890 - DEAD ANIMALS			
20900 - AIR CRITERIA			
GAS MONITORING & CONTROL			
20918 - EXEMPTIONS			
20919 - GAS CONTROL			
20919.5 - EXPLOSIVE GAS CONTROL			
CLOSURE			
21780 - SUBMITTAL CLOSURE PLANS			
TIRES			
17351 - FIRE PREVENTION			
17352 - FACILITY ACCESS SECURITY			
17353 - VECTOR CONTROL			
17354 - STORAGE			
17355 - DISPOSAL			
17356 - INDOOR STORAGE			
OTHER			

COMMENTS (USE SWIS-03 FOR ADDITIONAL SPACE)

No areas of concern

DISTRIBUTION: TOP - CIWMB MIDDLE - EA BOTTOM - OPERATOR

Location: Teapot Dome Date: 11-12-20 Observer(s): ISRAEL GARCIA

Landfill Standard Observations (Active & Inactive Sites)

1. RECEIVING WATERS AND GENERAL MONITORING OBSERVATIONS:

A. Any receiving waters[1]? If so, describe & locate on site map No

If not, proceed to 1.E. below.

B. Any evidence of floating or suspended materials of waste origin? (note source,& size of affected area, discoloration, turbidity and color observed) _____

C. Were odors detected? (describe & note location, source and distance from source) _____

D. Any water uses and/or water associated wildlife observed? (Describe and note types) _____

E. Weather Conditions: Wind Direction: N ; Estimated Velocity: 3-4 M.P.H.

F. Precipitation: Recent days: 0 inches in last 7 days.
Today: 0 inches in last 24 hours.

2. MONITORING ALONG PERIMETER OF WMU:

A. Liquid leaving landfill & approx. flowrate (describe & note location on map) no

B. Liquid entering landfill & approx. flowrate (describe & note location on map) NO

C. Were odors detected? (describe & note location and distance from source on map) NO

D. Erosion and/or daylighted refuse (describe & note location on map)
None

3. LANDFILL MONITORING OF THE WMU:

A. Any evidence of ponded water? (describe approximate sizes & note locations on map) NO

B. Were odors detected? (describe & note distance from source & location on map)
NO

C. Any erosion and/or daylighted refuse? (describe & note location on map)
NO

1. "Receiving Waters" – any surface or ground water which actually or potentially receives waste constituents, leachate, or surface or ground waters which come in contact with waste materials or contaminated soils

Postclosure Maintenance Inspection Observations

A. Any evidence of Final Cover surface defects, erosion or ponding? (describe & note location on map) NO

B. Any evidence of Drainage System Problems? (describe & note location on map)
NO

C. Any evidence of Vegetative Cover stress or erosion? (describe & note location on map)
NO

STATE OF CALIFORNIA
CIWMB-52 (REV. 9/97)

Disposal Site Inspection Report

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD

Enforcement Agency:

FACILITY FILE NUMBER	PROGRAM CODE LOCAL = L STATE = S	INSPECTION DATE MM 11 DD 20 YY 20	TIME IN 0800 / TIME OUT 1200	INSPECTION TIME 0900
NAME Teapot Dome			RECEIVED BY (OPERATOR)	
FACILITY LOCATION Porterville			OWNER Tl Solid Waste	
INSPECTOR Israel Garcia	INSPECTOR SIGNATURE		ALSO PRESENT	

THE ABOVE FACILITY WAS INSPECTED FOR COMPLIANCE WITH APPLICABLE SECTIONS OF DIVISION 30 OF THE PUBLIC RESOURCES CODE (PRC) AND TITLE 27 CALIFORNIA CODE OF REGULATION (CCR).

THE STANDARDS BELOW ARE CONSIDERED IN COMPLIANCE UNLESS OTHERWISE MARKED WITH ONE OF THE FOLLOWING: V = VIOLATION A = AREA OF CONCERN NA = NOT APPLICABLE

PERMITS	V	A	NA
PRC 44004 - SIGNIFICANT CHANGE			
PRC 44014(b) - OPERATOR COMPLIES with TERMS & CONDITIONS OF PERMIT			
21640 - REVIEW OF PERMITS			
21600 - REPORT OF DISP SITE INFORMATION			
LOCATION RESTRICTIONS			
20270 - AIRPORT SAFETY			
OPERATING CRITERIA			
20510 - DISPOSAL SITE RECORDS			
20515 - MSWLF UNIT RECORDS			
20517 - DOCUMENT APPROVALS/REQUIREMENTS			
20520 - SIGNS			
20530 - SITE SECURITY			
20540 - ROADS			
20550 - SANITARY FACILITIES			
20560 - DRINKING WATER SUPPLY			
20570 - COMMUNICATIONS FACILITIES			
20580 - LIGHTING			
PERSONNEL			
PERSONNEL HEALTH & SAFETY			
TRAINING			
20615 - SUPERVISION			
20620 - SITE ATTENDANT			
CONFINED UNLOADING			
20630 - CONFINED UNLOADING			

SPREADING/COMPACTING	V	A	NA
20640 - SPREADING/COMPACTING			
20650 - GRADING OF FILL SURFACES			
20660 - STOCKPILING			
DAILY & INTERMEDIATE COVER			
20670 - AVAILABILITY COVER MATERIAL			
20680 - DAILY COVER			
20685 - PERFORMANCE STANDARDS			
20690 - (RESERVED)			
20700 - INTERMEDIATE COVER			
20701 - (RESERVED)			
HANDLING, EQUIPMENT & MAINTENANCE			
20710 - SCAVENGING/SALVAGING/STORAGE			
20720 - NON-SALVAGEABLE ITEMS			
20730 - VOLUME REDUCTION/ENERGY RECOVERY			
20740 - EQUIPMENT			
20750 - SITE MAINTENANCE			
CONTROLS			
20760 - NUISANCE CONTROL			
20770 - ANIMAL FEEDING			
20780 - OPEN BURNING/BURNING WASTES			
20790 - LEACHATE CONTROL			
20800 - DUST CONTROL			
20810 - VECTOR AND BIRD CONTROL			
20820 - DRAINAGE/EROSION CONTROL			
20830 - LITTER CONTROL			

CONTROLS	V	A	NA
20840 - NOISE CONTROL			
20860 - TRAFFIC CONTROL			
20870 - HAZARDOUS WASTES			
20880 - MEDICAL WASTES			
20890 - DEAD ANIMALS			
20900 - AIR CRITERIA			
GAS MONITORING & CONTROL			
20918 - EXEMPTIONS			
20919 - GAS CONTROL			
20919.5 - EXPLOSIVE GAS CONTROL			
CLOSURE			
21780 - SUBMITTAL CLOSURE PLANS			
TIRES			
17351 - FIRE PREVENTION			
17352 - FACILITY ACCESS SECURITY			
17353 - VECTOR CONTROL			
17354 - STORAGE			
17355 - DISPOSAL			
17356 - INDOOR STORAGE			
OTHER			

COMMENTS (USE SWIS-03 FOR ADDITIONAL SPACE)

No areas of concern.

DISTRIBUTION: TOP - CIWMB MIDDLE - EA BOTTOM - OPERATOR

Location: Teapot Dome Date: 11/[redacted]20/20 Observer(s): Israel Garcia

Landfill Standard Observations (Active & Inactive Sites)

1. RECEIVING WATERS AND GENERAL MONITORING OBSERVATIONS:

A. Any receiving waters[1]? If so, describe & locate on site map none

If not, proceed to 1.E. below.

B. Any evidence of floating or suspended materials of waste origin? (note source,& size of affected area, discoloration, turbidity and color observed) _____

C. Were odors detected? (describe & note location, source and distance from source) _____

D. Any water uses and/or water associated wildlife observed? (Describe and note types) _____

E. Weather Conditions: Wind Direction: SE ; Estimated Velocity: 3-4 M.P.H.

F. Precipitation: Recent days: 0 inches in last 7 days.
Today: 0 inches in last 24 hours.

2. MONITORING ALONG PERIMETER OF WMU:

A. Liquid leaving landfill & approx. flowrate (describe & note location on map) None

B. Liquid entering landfill & approx. flowrate (describe & note location on map) none

C. Were odors detected? (describe & note location and distance from source on map) no

D. Erosion and/or daylighted refuse (describe & note location on map) none

3. LANDFILL MONITORING OF THE WMU:

A. Any evidence of ponded water? (describe approximate sizes & note locations on map) none

B. Were odors detected? (describe & note distance from source & location on map) no

C. Any erosion and/or daylighted refuse? (describe & note location on map) no

1. "Receiving Waters" – any surface or ground water which actually or potentially receives waste constituents, leachate, or surface or ground waters which come in contact with waste materials or contaminated soils

Postclosure Maintenance Inspection Observations

A. Any evidence of Final Cover surface defects, erosion or ponding? (describe & note location on map) no

B. Any evidence of Drainage System Problems? (describe & note location on map) no

C. Any evidence of Vegetative Cover stress or erosion? (describe & note location on map) no

STATE OF CALIFORNIA
CIWMB-52 (REV. 9/97)

Disposal Site Inspection Report

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD

Enforcement Agency:

FACILITY FILE NUMBER	PROGRAM CODE (LOCAL = L STATE = S)	INSPECTION DATE (MM DD YY)	TIME IN / TIME OUT	INSPECTION TIME
		12 09 20	0900 / 1200	0900

NAME: Teapot Dome

RECEIVED BY (OPERATOR):

FACILITY LOCATION: Porterville

OWNER: T.C Solid Waste

INSPECTOR: Israel Garcia

INSPECTOR SIGNATURE:

ALSO PRESENT:

THE ABOVE FACILITY WAS INSPECTED FOR COMPLIANCE WITH APPLICABLE SECTIONS OF DIVISION 30 OF THE PUBLIC RESOURCES CODE (PRC) AND TITLE 27 CALIFORNIA CODE OF REGULATION (CCR).

THE STANDARDS BELOW ARE CONSIDERED IN COMPLIANCE UNLESS OTHERWISE MARKED WITH ONE OF THE FOLLOWING: V = VIOLATION A = AREA OF CONCERN NA = NOT APPLICABLE

PERMITS	V	A	NA
PRC 44004 - SIGNIFICANT CHANGE			
PRC 44014(b) - OPERATOR COMPLIES with TERMS & CONDITIONS OF PERMIT			
21640 - REVIEW OF PERMITS			
21600 - REPORT OF DISP SITE INFORMATION			
LOCATION RESTRICTIONS			
20270 - AIRPORT SAFETY			
OPERATING CRITERIA			
20510 - DISPOSAL SITE RECORDS			
20515 - MSWLF UNIT RECORDS			
20517 - DOCUMENT APPROVALS/REQUIREMENTS			
20520 - SIGNS			
20530 - SITE SECURITY			
20540 - ROADS			
20550 - SANITARY FACILITIES			
20560 - DRINKING WATER SUPPLY			
20570 - COMMUNICATIONS FACILITIES			
20580 - LIGHTING			
PERSONNEL			
PERSONNEL HEALTH & SAFETY			
TRAINING			
20615 - SUPERVISION			
20620 - SITE ATTENDANT			
CONFINED UNLOADING			
20630 - CONFINED UNLOADING			

SPREADING/COMPACTING	V	A	NA
20640 - SPREADING/COMPACTING			
20650 - GRADING OF FILL SURFACES			
20660 - STOCKPILING			
DAILY & INTERMEDIATE COVER			
20670 - AVAILABILITY COVER MATERIAL			
20680 - DAILY COVER			
20685 - PERFORMANCE STANDARDS			
20690 - (RESERVED)			
20700 - INTERMEDIATE COVER			
20701 - (RESERVED)			
HANDLING, EQUIPMENT & MAINTENANCE			
20710 - SCAVENGING/SALVAGING/STORAGE			
20720 - NON-SALVAGEABLE ITEMS			
20730 - VOLUME REDUCTION/ENERGY RECOVERY			
20740 - EQUIPMENT			
20750 - SITE MAINTENANCE			
CONTROLS			
20760 - NUISANCE CONTROL			
20770 - ANIMAL FEEDING			
20780 - OPEN BURNING/BURNING WASTES			
20790 - LEACHATE CONTROL			
20800 - DUST CONTROL			
20810 - VECTOR AND BIRD CONTROL			
20820 - DRAINAGE/EROSION CONTROL			
20830 - LITTER CONTROL			

CONTROLS	V	A	NA
20840 - NOISE CONTROL			
20860 - TRAFFIC CONTROL			
20870 - HAZARDOUS WASTES			
20880 - MEDICAL WASTES			
20890 - DEAD ANIMALS			
20900 - AIR CRITERIA			
GAS MONITORING & CONTROL			
20918 - EXEMPTIONS			
20919 - GAS CONTROL			
20919.5 - EXPLOSIVE GAS CONTROL			
CLOSURE			
21780 - SUBMITTAL CLOSURE PLANS			
TIRES			
17351 - FIRE PREVENTION			
17352 - FACILITY ACCESS SECURITY			
17353 - VECTOR CONTROL			
17354 - STORAGE			
17355 - DISPOSAL			
17356 - INDOOR STORAGE			
OTHER			

COMMENTS (USE SWIS-03 FOR ADDITIONAL SPACE)

no areas of concern

DISTRIBUTION: TOP - CIWMB MIDDLE - EA BOTTOM - OPERATOR

Location: Teapot Dome Date: 12/9/20 Observer(s): Israel Garcia

Landfill Standard Observations (Active & Inactive Sites)

1. RECEIVING WATERS AND GENERAL MONITORING OBSERVATIONS:

A. Any receiving waters[1]? If so, describe & locate on site map none

If not, proceed to 1.E. below.

B. Any evidence of floating or suspended materials of waste origin? (note source,& size of affected area, discoloration, turbidity and color observed) _____

C. Were odors detected? (describe & note location, source and distance from source) _____

D. Any water uses and/or water associated wildlife observed? (Describe and note types) _____

E. Weather Conditions: Wind Direction: SE ; Estimated Velocity: 5 M.P.H.

F. Precipitation: Recent days: 0 inches in last 7 days.
Today: 0 inches in last 24 hours.

2. MONITORING ALONG PERIMETER OF WMU:

A. Liquid leaving landfill & approx. flowrate (describe & note location on map) none

B. Liquid entering landfill & approx. flowrate (describe & note location on map) none

C. Were odors detected? (describe & note location and distance from source on map) no

D. Erosion and/or daylighted refuse (describe & note location on map) none

3. LANDFILL MONITORING OF THE WMU:

A. Any evidence of ponded water? (describe approximate sizes & note locations on map) no

B. Were odors detected? (describe & note distance from source & location on map) no

C. Any erosion and/or daylighted refuse? (describe & note location on map) none

1. "Receiving Waters" – any surface or ground water which actually or potentially receives waste constituents, leachate, or surface or ground waters which come in contact with waste materials or contaminated soils

Postclosure Maintenance Inspection Observations

A. Any evidence of Final Cover surface defects, erosion or ponding? (describe & note location on map) no

B. Any evidence of Drainage System Problems? (describe & note location on map) no

C. Any evidence of Vegetative Cover stress or erosion? (describe & note location on map) no

STATE OF CALIFORNIA
CIWMB-52 (REV. 9/97)

Disposal Site Inspection Report

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD

Enforcement Agency:

FACILITY FILE NUMBER	PROGRAM CODE (LOCAL = L STATE = S)	INSPECTION DATE MM 12 DD 22 YY 20	TIME IN 1400 / TIME OUT 1600	INSPECTION TIME 1400
NAME: Teapot Dome			RECEIVED BY (OPERATOR)	
FACILITY LOCATION: Porterville, Ca			OWNER: TC Solid Waste	
INSPECTOR: Israel Garcia	INSPECTOR SIGNATURE: [signature]		ALSO PRESENT	

THE ABOVE FACILITY WAS INSPECTED FOR COMPLIANCE WITH APPLICABLE SECTIONS OF DIVISION 30 OF THE PUBLIC RESOURCES CODE (PRC) AND TITLE 27 CALIFORNIA CODE OF REGULATION (CCR).

THE STANDARDS BELOW ARE CONSIDERED IN COMPLIANCE UNLESS OTHERWISE MARKED WITH ONE OF THE FOLLOWING: V = VIOLATION A = AREA OF CONCERN NA = NOT APPLICABLE

PERMITS	V	A	NA
PRC 44004 - SIGNIFICANT CHANGE			
PRC 44014(b) - OPERATOR COMPLIES with TERMS & CONDITIONS OF PERMIT			
21640 - REVIEW OF PERMITS			
21600 - REPORT OF DISP SITE INFORMATION			
LOCATION RESTRICTIONS			
20270 - AIRPORT SAFETY			
OPERATING CRITERIA			
20510 - DISPOSAL SITE RECORDS			
20515 - MSWLF UNIT RECORDS			
20517 - DOCUMENT APPROVALS/REQUIREMENTS			
20520 - SIGNS			
20530 - SITE SECURITY			
20540 - ROADS			
20550 - SANITARY FACILITIES			
20560 - DRINKING WATER SUPPLY			
20570 - COMMUNICATIONS FACILITIES			
20580 - LIGHTING			
PERSONNEL			
PERSONNEL HEALTH & SAFETY			
TRAINING			
20615 - SUPERVISION			
20620 - SITE ATTENDANT			
CONFINED UNLOADING			
20630 - CONFINED UNLOADING			

SPREADING/COMPACTING	V	A	NA
20640 - SPREADING/COMPACTING			
20650 - GRADING OF FILL SURFACES			
20660 - STOCKPILING			
DAILY & INTERMEDIATE COVER			
20670 - AVAILABILITY COVER MATERIAL			
20680 - DAILY COVER			
20685 - PERFORMANCE STANDARDS			
20690 - (RESERVED)			
20700 - INTERMEDIATE COVER			
20701 - (RESERVED)			
HANDLING, EQUIPMENT & MAINTENANCE			
20710 - SCAVENGING/SALVAGING/STORAGE			
20720 - NON-SALVAGEABLE ITEMS			
20730 - VOLUME REDUCTION/ENERGY RECOVERY			
20740 - EQUIPMENT			
20750 - SITE MAINTENANCE			
CONTROLS			
20760 - NUISANCE CONTROL			
20770 - ANIMAL FEEDING			
20780 - OPEN BURNING/BURNING WASTES			
20790 - LEACHATE CONTROL			
20800 - DUST CONTROL			
20810 - VECTOR AND BIRD CONTROL			
20820 - DRAINAGE/EROSION CONTROL			
20830 - LITTER CONTROL			

CONTROLS	V	A	NA
20840 - NOISE CONTROL			
20860 - TRAFFIC CONTROL			
20870 - HAZARDOUS WASTES			
20880 - MEDICAL WASTES			
20890 - DEAD ANIMALS			
20900 - AIR CRITERIA			
GAS MONITORING & CONTROL			
20918 - EXEMPTIONS			
20919 - GAS CONTROL			
20919.5 - EXPLOSIVE GAS CONTROL			
CLOSURE			
21780 - SUBMITTAL CLOSURE PLANS			
TIRES			
17351 - FIRE PREVENTION			
17352 - FACILITY ACCESS SECURITY			
17353 - VECTOR CONTROL			
17354 - STORAGE			
17355 - DISPOSAL			
17356 - INDOOR STORAGE			
OTHER			

COMMENTS (USE SWIS-03 FOR ADDITIONAL SPACE)

No areas of concern.

DISTRIBUTION: TOP - CIWMB MIDDLE - EA BOTTOM - OPERATOR

Location: Teapot Dome Date: 12/22/10 Observer(s): Israel Garcia

Landfill Standard Observations (Active & Inactive Sites)

1. RECEIVING WATERS AND GENERAL MONITORING OBSERVATIONS:

A. Any receiving waters[1]? If so, describe & locate on site map no

If not, proceed to 1.E. below.

B. Any evidence of floating or suspended materials of waste origin? (note source,& size of affected area, discoloration, turbidity and color observed) _____

C. Were odors detected? (describe & note location, source and distance from source) _____

D. Any water uses and/or water associated wildlife observed? (Describe and note types) _____

E. Weather Conditions: Wind Direction: SE; Estimated Velocity: 4-5 M.P.H.

F. Precipitation: Recent days: 0 inches in last 7 days.
Today: 0 inches in last 24 hours.

2. MONITORING ALONG PERIMETER OF WMU:

A. Liquid leaving landfill & approx. flowrate (describe & note location on map) none

B. Liquid entering landfill & approx. flowrate (describe & note location on map) none

C. Were odors detected? (describe & note location and distance from source on map) no

D. Erosion and/or daylighted refuse (describe & note location on map) _____

3. LANDFILL MONITORING OF THE WMU:

A. Any evidence of ponded water? (describe approximate sizes & note locations on map) no

B. Were odors detected? (describe & note distance from source & location on map) none detected

C. Any erosion and/or daylighted refuse? (describe & note location on map) no

1. "Receiving Waters" – any surface or ground water which actually or potentially receives waste constituents, leachate, or surface or ground waters which come in contact with waste materials or contaminated soils

Postclosure Maintenance Inspection Observations

A. Any evidence of Final Cover surface defects, erosion or ponding? (describe & note location on map) no

B. Any evidence of Drainage System Problems? (describe & note location on map) no

C. Any evidence of Vegetative Cover stress or erosion? (describe & note location on map) no

APPENDIX E-2

SOLID WASTE DISPOSAL REPORTS

TULARE COUNTY NONHAZARDOUS SOLID WASTE MONITORING FOR TEAPOT DOME LANDFILL

WDR R5-2014-0021

TEAPOT DOME - SOLID WASTE DISPOSAL REPORT
THIRD QUARTER - 2020

MANNER: Area Fill Overhead
LOCATION: Teapot Dome Landfill

	JULY				AUGUST				SEPTEMBER				
WEIGHED LOADS				pounds				pounds				pounds	TOTAL
CLEAN DIRT				1,534,060				165,960				61,560	1,761,580
C & D				576,407				421,520				344,360	1,342,287
C&D ADC FROM PENA				0				0				0	0
HEAVY INERT MATERIAL				0				22,980				4,360	27,340
GENERAL REFUSE				23,604,400				21,386,230				21,049,460	66,040,090
TIRES BULK LOAD				20,520				31,980				5,560	58,060
CUT TIRES				0				0				0	0
TRANSFER STATION BIN				263,160				266,300				204,520	733,980
WOODWASTE WEIGHED				1,209,314				1,136,900				1,181,420	3,527,634
TOTAL LBS				27,207,661				23,431,870				22,851,240	73,490,971
TOTAL TONS (BY WEIGHT)				13,604				11,716				11,426	36,746
VOLUME/COUNT LOADS	count	lbs ea.	pounds	tons	count	lbs ea.	pounds	tons	count	lbs ea.	pounds	tons	tons
CAR BODY	0	3250	0	0.00	0	3250	0	0.00	0	3250	0	0.00	0
MINIMUM FLAT RATE	186	230	42,780	21.39	118	230	27,140	13.57	107	230	24,610	12.31	47
STANDARD FLAT RATE	2,810	675	1,896,750	948.38	2,360	675	1,606,500	803.25	2,199	675	1,484,325	742.16	2,494
REFRIGERATION UNIT	204	120	24,480	12.24	220	120	26,400	13.20	158	120	18,960	9.48	35
MATTRESSES	212	70	14,840	7.42	224	70	15,680	7.84	148	70	10,360	5.18	20
TIRES CAR	578	22	12,716	6.36	602	22	13,244	6.62	406	22	8,932	4.47	17
TIRES TRUCK	116	80	9,280	4.64	113	80	9,040	4.52	58	80	4,640	2.32	11
C & D FLAT RATE	22	675	14,850	7.43	17	675	11,475	5.74	18	675	12,150	6.08	19
WOODWASTE FLAT RATE	528	585	308,880	154.44	440	585	257,400	128.70	496	585	290,160	145.08	428
TOTAL TONS				1,162				983				927	3,072
TOTAL TONNAGE				14,766				12,699				12,353	39,818
DAILY TONNAGE	26	days open	568	tons/day	26	days open	488	tons/day	25	days open	494	tons/day	
REMOVED (BY WEIGHT)				pounds				pounds				pounds	
CLEAN DIRT				1,534,060				165,960				61,560	1,761,580
INERTS RECYCLED				0				0				0	0
MATTRESSES RECYCLED				14,840				15,680				10,360	40,880
METAL RECYCLED				0				0				0	0
CARDBOARD RECYCLED				0				0				0	0
PLASTIC RECYCLED				0				0				0	0
TIRES RECYCLED				0				131,700				89,140	220,840
WOODWASTE RECYCLED				1,518,194				1,394,300				1,471,580	4,384,074
BENEFICIAL REUSE (WOOD ADC)				0				0				0	0
BENEFICIAL REUSE (C&D DIRT ADC)				0				0				0	0
C & D RECYCLED				0				0				0	0
C & D TRANSFERRED TO VISALIA				0				0				0	0
LOAD CHECK PROGRAM				0				0				0	0
TOTAL LBS REMOVED				3,067,094				1,707,640				1,632,640	6,407,374
TOTAL TONS REMOVED				1,534				854				816	3,204
NET LANDFILL TONS				13,232				11,845				11,537	36,614

IN-PLACE VOLUMES

Total Gross Volume of Site	8,320,307 cy
Net Volume of Site (3:1) ratio)	6,240,230 cy
Net Capacity Remaining (beginning this quarter)	446,512 cy
Landfilled this quarter (in-place volume) tons X 1.796 cy per ton	65,759 cy
Net Capacity Remaining (ending this quarter)	380,753 cy
Percent Net Capacity Remaining (ending this quarter)	6%

MINIMUM ELEVATION

Minimum Elevation of Discharge this Quarter 368.0 (MSL)

LOCATION

Within the existing footprint

CERTIFICATION

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Signature

TULARE COUNTY NONHAZARDOUS SOLID WASTE MONITORING FOR TEAPOT DOME LANDFILL

WDR R5-2014-0021

TEAPOT DOME - SOLID WASTE DISPOSAL REPORT
FOURTH QUARTER - 2020

MANNER: Area Fill Overhead
LOCATION: Teapot Dome Landfill

	OCTOBER				NOVEMBER				DECEMBER				
WEIGHED LOADS				pounds				pounds				pounds	TOTAL
CLEAN DIRT				25,180				1,738,700				32,920	1,796,800
C & D				223,827				306,814				201,200	731,841
C&D ADC FROM PENA				0				0				0	0
HEAVY INERT MATERIAL				11,160				0				15,900	27,060
GENERAL REFUSE				22,768,380				19,801,050				20,983,460	63,552,890
TIRES BULK LOAD				43,500				13,640				7,300	64,440
CUT TIRES				0				0				0	0
TRANSFER STATION BIN				238,540				220,160				262,400	721,100
WOODWASTE WEIGHED				1,419,640				1,486,840				1,328,520	4,235,000
TOTAL LBS				24,730,227				23,567,204				22,831,700	71,129,131
TOTAL TONS (BY WEIGHT)				12,365				11,784				11,416	35,565
VOLUME/COUNT LOADS	count	lbs ea.	pounds	tons	count	lbs ea.	pounds	tons	count	lbs ea.	pounds	tons	tons
CAR BODY	0	3250	0	0.00	0	3250	0	0.00	0	3250	0	0.00	0
MINIMUM FLAT RATE	104	230	23,920	11.96	90	230	20,700	10.35	78	230	17,940	8.97	31
STANDARD FLAT RATE	2,427	675	1,638,225	819.11	2,052	675	1,385,100	692.55	2,002	675	1,351,350	675.68	2,187
REFRIGERATION UNIT	202	120	24,240	12.12	151	120	18,120	9.06	134	120	16,080	8.04	29
MATTRESSES	161	70	11,270	5.64	173	70	12,110	6.06	80	70	5,600	2.80	15
TIRES CAR	323	22	7,106	3.55	409	22	8,998	4.50	545	22	11,990	6.00	14
TIRES TRUCK	86	80	6,880	3.44	106	80	8,480	4.24	212	80	16,960	8.48	16
C & D FLAT RATE	15	675	10,125	5.06	11	675	7,425	3.71	15	675	10,125	5.06	14
WOODWASTE FLAT RATE	833	585	487,305	243.65	1,027	585	600,795	300.40	694	585	405,990	203.00	747
TOTAL TONS				1,105				1,031				918	3,054
TOTAL TONNAGE				13,470				12,814				12,334	38,618
DAILY TONNAGE	27	days open	499	tons/day	24	days open	534	tons/day	26	days open	474	tons/day	
REMOVED (BY WEIGHT)				pounds				pounds				pounds	
CLEAN DIRT				25,180				1,738,700				32,920	1,796,800
INERTS RECYCLED				0				0				0	0
MATTRESSES RECYCLED				11,270				12,110				5,600	28,980
METAL RECYCLED				0				0				0	0
CARDBOARD RECYCLED				0				0				0	0
PLASTIC RECYCLED				0				0				0	0
TIRES RECYCLED				6,880				93,900				95,520	196,300
WOODWASTE RECYCLED				1,906,945				2,087,635				1,734,510	5,729,090
BENEFICIAL REUSE (WOOD ADC)				0				0				0	0
BENEFICIAL REUSE (C&D DIRT ADC)				0				0				0	0
C & D RECYCLED				0				0				0	0
C & D TRANSFERRED TO VISALIA				0				0				0	0
LOAD CHECK PROGRAM				0				0				0	0
TOTAL LBS REMOVED				1,950,275				3,932,345				1,868,550	7,751,170
TOTAL TONS REMOVED				975				1,966				934	3,875
NET LANDFILL TONS				12,495				10,848				11,400	34,743

IN-PLACE VOLUMES

Total Gross Volume of Site	8,320,307 cy
Net Volume of Site (3:1) ratio)	6,240,230 cy
Net Capacity Remaining (beginning this quarter)	380,753 cy
Landfilled this quarter (in-place volume) tons X 1.796 cy per ton	62,398 cy
Net Capacity Remaining (ending this quarter)	318,355 cy
Percent Net Capacity Remaining (ending this quarter)	5%

MINIMUM ELEVATION

Minimum Elevation of Discharge this Quarter 368.0 (MSL)

LOCATION

Within the existing footprint

CERTIFICATION

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Signature