APPENDIX IV.H
Hazards

IV.H.1

Expanded Interim Remedial Action Plan

Chris Winsor
Waste and Remediation Manager

Tesoro Refining & Marketing Company LLC
A subsidiary of Marathon Petroleum Corporation

301 E. Ocean Blvd, Suite 1600
Long Beach, CA 90802

March 31, 2020

Via E-mail

Mr. Jeffrey Hu and Ms. Rebecca Orr
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Ste. 200
Los Angeles, CA 90013

Re: Expanded Interim Remedial Action – Installation and Startup Report
Golden Avenue Site in Long Beach, CA (SCP Case No. 0093A, Site ID No. 2040420)

Dear Mr. Hu and Ms. Orr:

Tesoro Refining & Marketing Company LLC and Tesoro SoCal Pipeline Company (together, Tesoro) submit the enclosed *Expanded Interim Remedial Action – Installation and Startup Report* to the Los Angeles Regional Water Quality Control Board (LARWQCB) on March 31, 2020 providing information on the soil vapor extraction (SVE) system expansion, startup, and operations.

Certification Statement

I, Chris Winsor, certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision, in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions, please contact me at (562) 495-6932.

Sincerely,

Chris Winsor
Waste and Remediation Manager

Submitted to:
LARWQCB
Los Angeles, CA

Prepared by:
AECOM
Long Beach, CA
60622765
March 31, 2020

Expanded Interim Remedial Action – Installation and Startup Report

Former BP/ARCO Pipelines Golden Avenue Site, Long Beach, California

SCP No. 0093A
Site ID No. 2040420

Prepared for:
Tesoro SoCal Pipeline Company LLC and Tesoro Refining & Marketing Company LLC

AECOM

Submitted to:
LARWQCB
Los Angeles, CA

Prepared by:
AECOM
Long Beach, CA
60622765
March 31, 2020

Expanded Interim Remedial Action – Installation and Startup Report

Former BP/ARCO Pipelines Golden Avenue Site, Long Beach, California

SCP No. 0093A
Site ID No. 2040420

Prepared By:
Madeline Worsnopp, P.G.
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AECOM

Submitted to:
LARWQCB
Los Angeles, CA

Prepared by:
AECOM
Long Beach, CA
60622765
March 31, 2020

Professional Certification

Expanded Interim Remedial Action – Installation and Startup Report

Former BP/ARCO Pipelines Golden Avenue Site, Long Beach, California

The staff of AECOM Technical Services, Inc. has prepared this work plan under the professional supervision of the person whose seal and signature appear hereon.

Madeline Worsnopp

_____

Madeline Worsnopp, P.G.
Project Manager
California Professional Geologist #9213

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1.0 Introduction

On behalf of Tesoro SoCal Pipeline Company LLC and Tesoro Refining & Marketing Company LLC (together, Tesoro), AECOM Technical Services, Inc. (AECOM) has prepared this Expanded Interim Remedial Action – Installation and Startup Report to document the soil vapor extraction (SVE) system expansion at the Golden Avenue Site ("the Site"; SCP Case No. 0093A, Global Site ID No. 2040420), along Golden Avenue, between Baker Street and Wardlow Road in Long Beach, California (Figure 1). The SVE system previously operated at the Golden Avenue Site was a catalytic oxidizer extracting vapor from one SVE well. The SVE well network was expanded to include an additional nine SVE wells, and a thermal oxidizer to support a higher treatment capacity was installed to replace the previous system's catalytic oxidizer. The expanded SVE system was placed into operation on February 18, 2020.

Approximately 11,720 pounds of volatile organic compounds (VOCs) and 22 pounds of benzene were removed from the ten extraction wells during the first two weeks of operation. The previous system removed approximately 20,062 lbs VOCs and 141 pounds of benzene prior to system expansion. Therefore, approximately 31,782 pounds of VOCs and 163 pounds of benzene were removed from the SVE Area and treated.

This report includes the following sections:

1. Background - includes regulatory basis, approach to design, and review of objectives.
2. SVE System Expansion: details of installation and construction activities
3. Startup, shakedown, and operations during the reporting period.
4. System operation, maintenance, and performance monitoring
5. Conclusions and recommendations

1.1 Background and Regulatory Requirements

This Expanded Interim Remedial Action – Installation and Startup Report provides details of the installation, construction, and startup of the soil vapor extraction (SVE) system. The scope of work was conducted in general accordance with the Revised Expanded Interim Remedial Action Plan (IRAP) (AECOM, 2018) submitted to the Los Angeles Regional Water Quality Control Board (LARWQCB) on October 31, 2018 and conditionally approved in a letter dated December 27, 2018 (Appendix A). The date for submittal of this technical report documenting the installation and startup of the expanded SVE system was extended in letters from the LARWQCB dated August 2, 2019 and January 24, 2020 (Appendix A). Per the LARWQCB December 27, 2018 approval letter for the IRAP, this technical report is required to include, at a minimum, the following:

1. Scaled maps showing the locations of the soil borings, vapor extraction wells, treatment compound, and remediation piping;
2. Data tables showing any collected analytical test results;
3. Laboratory reports, chain-of-custody documentation, and QA/QC data;
4. Soil boring logs;
5. Vapor extraction well construction details;
6. Copies of all necessary permits from appropriate agencies; and
7. Conclusions and recommendations.

Tesoro has conducted interim remedial action in the form of SVE since 2015, in accordance with the approved September 30, 2014 IRAP (AECOM, 2014). An Expanded IRAP was required by the

directive ("IRAP Directive") from the LARWQCB dated April 8, 2016, and a Revised Expanded IRAP was required in a follow up letter dated February 7, 2018[1] (Appendix A). The IRAP Directive was issued as an amendment to the existing Cleanup and Abatement Order No. R4-2013-0064 ("the Order"), issued by the LARWQCB to Tesoro's predecessors[2] on September 18, 2014.
The Order requires the investigation, monitoring, cleanup and abatement of the effects of waste allegedly discharged from pipelines located beneath the Golden Avenue Site. The Site is partially located upon and adjacent to a 20-acre portion of a former oil field and refinery waste treatment and oil recovery facility that operated from 1926 until at least 1998 by Oil Operators, Inc. (OOI)[3] (Figure 2). Although OOI's operations and/or other pipelines are likely sources of benzene, unrefined product, and refined product along the eastern boundary of the OOI site, Tesoro is listed as the sole responsible party in the Order.

Tesoro completed Site characterization in 2015 and identified four distinct areas along Golden Avenue with impacted groundwater. One area with near surface impacts where OOI, and later Tesoro, operated an SVE system was identified as "the SVE Area." A 2016 human health risk assessment at the Site identified no vapor intrusion health risks from subsurface impacts at the Site, including in the SVE Area.[4] Despite these findings, the IRAP Directive included a requirement that Tesoro prepare and submit an expanded IRAP for the SVE Area because:

> *… the currently implemented interim remedial action plan (IRAP) does not adequately address the CAO requirement 1 that the IRAP "accomplish uninterrupted soil vapor intrusion mitigation" …Additionally, the current radius of influence of extraction well VES-A does not adequately address the extent of the gasoline release in the SVE Area. The gasoline compounds, including benzene, in the adsorbed phase in the SVE Area are a continuing source of contaminated soil vapors, and therefore, are a source of continued risk to nearby residents. Thus, the scope of interim remedial actions needs to be expanded to meet the requirement of accomplishing vapor intrusion mitigation.* (IRAP Directive)

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[1] An Expanded IRAP and Conceptual Design Report was submitted to the LARWQCB in November 2016 and approved in February 2017. The design proposed installation of 12 horizontal wells as well as two vertical and two slant wells on the eastern side of OOI. Negotiations to obtain access to the OOI Site commenced in July 2017 and continued through preparatory activities undertaken to install the horizontal wells. In October 2017, OOI denied Tesoro access to install the horizontal wells and limited Tesoro's access for IRAP expansion to an area within 35 feet of Golden Avenue. The denial of access was based on development plans for future housing on the OOI property, proposed by a prospective purchaser. In February 2018, the LARWQCB issued a directive for a revised design for the expanded IRAP that incorporated the OOI access restrictions.

[2] The CAO was issued to Tesoro's predecessors-in-interest: BP Pipelines (North America), Inc., Atlantic Richfield Company, and ARCO Terminal Services Corporation ("ATSC") alleging they owned Lines 32, 34, and 252. Line 252 is not located at the Site, as discussed in section 2.4.1.1.3 of Tesoro's Site Conceptual Model (SCM) Report for the Golden Avenue Site. ARCO Pipe Line Company, a separate and distinct entity from those named in the CAO, previously owned Line 52, another line on Golden Avenue, which is now owned by Plains All American Pipeline, L.P ("Plains").

[3] Tesoro disagrees that it is the party responsible for impacts at the Site, and the submission of this IRAP Addendum is not intended to waive Tesoro's rights to seek review of the Order. Tesoro has considerable data and site operations information showing OOI's operations and/or other pipelines may be or are sources of benzene, unrefined product, and refined product along the eastern boundary of the OOI property.

[4] The results are provided in the Tesoro Site Assessment Report (SAR) and the SCM, which were submitted to the LARWQCB on November 13 and December 31, 2015 respectively. Tesoro prepared an addendum to the 2015 SCM Report, the 2016 SCM Update (SCM Update) submitted on January 19, 2017.

Contrary to the LARWQCB statement, and as discussed in later sections, all soil vapor monitoring nearby to the SVE Area confirms the absence of risk to nearby residents. Nevertheless, the system expansion was undertaken as required, to improve mass removal from the source area.

1.2 IRAP Design Basis

1.2.1 Approach

The SVE Area vadose zone soil and soil vapor is impacted with petroleum and non-petroleum hydrocarbon VOCs starting at shallow depths (between 5 and 10 feet below ground surface (bgs) and extending to groundwater (encountered at approximately 50 feet bgs), with the maximum soil concentrations detected in the upper 10 feet bgs (AECOM, 2018). The vadose zone consists of discrete lithologic zones of finer grained and coarser grained soils. The finer grained soils (silts and clays) are less permeable (than sands) and preferentially adsorb VOCs, prolonging the length of time required to remove hydrocarbon mass from these zones.

The SVE system installed in 2015 treated soil vapor from a single extraction well (VES-A) using a catalytic oxidizer. The revised IRAP approach is to extract vapor from an expanded well network using a new extraction system to maximize removal efficiency (Figures 3 and 4). The new extraction system is equipped with a higher capacity blower and a thermal oxidizer that allows higher vacuums to be applied to the formation resulting in greater radius of influence and larger mass removal rates. The expanded well network includes additional SVE wells screened within discrete lithologic zones (Table 1A). As the remediation progresses, the wells screened in the coarser-grained zones can be used to transport ambient air (and therefore more oxygen) into the more impacted finer grained materials, facilitating aerobic biodegradation in these soils.

1.2.2 SVE Area Soil Lithology

The SVE Area soils consist predominantly of silty sand and silts with a zone of clay and silt observed generally between 25 and 35 feet bgs (AECOM, 2018). The lithology of the SVE Area vadose zone consists generally of four stratigraphic layers:

- **Zone 1: Fine-grained shallow zone.** The upper 10 to 15 feet bgs consists predominately of silt (ML).
- **Zone 2: Coarse-grained shallow zone.** Below Zone 1, an approximately 10 to 15 feet thick soil zone consisting of silty sands (SM) and sands (SP).
- **Zone 3: Fine-grained deeper zone.** Below Zone 2, approximately 3 to 6 feet of clay (CL) underlain and/or interbedded with 2 to 4 feet of silt (ML) is located between 25 to 35 feet bgs.
- **Zone 4: Coarse-grained deeper zone.** Below Zone 3, approximately 15 to 20 feet of predominately silty sands (SM) and sands (SP) exist above groundwater. Groundwater is encountered at approximately 50 feet bgs in the SVE Area.

1.2.3 SVE Area Detected Compounds and Concentrations

The soil, soil vapor, and groundwater in the SVE Area is impacted with VOCs such as benzene, toluene, ethylbenzene, and xylene (BTEX); total petroleum hydrocarbons (TPH) that include gasoline range organics (GRO), diesel range organics (DRO) and oil range organics (ORO); and petroleum additives that include 1,2-dichloroethane (1,2-DCA), among others. Non-petroleum related chlorinated compounds have also been detected in soil, soil vapor, and groundwater in the SVE Area which are not sourced from a gasoline or diesel pipeline release. A detailed summary of the compounds detected in the SVE Area is provided in the Revised Expanded IRAP (AECOM, 2018). The extent of benzene, GRO, and DRO will be presented relative to system operations in Section 3.

1.3 Expanded IRAP Objectives

The objective of the expanded interim remedial action is to mitigate impacts in the vadose zone, particularly where concentrations of benzene in soil and soil vapor are highest. The highest concentrations of benzene, TPH-GRO, and TPH-DRO were detected in the upper 10 feet bgs along the eastern OOI property line (AECOM, 2018).

2.0 SVE System Expansion

The following sections describe the implementation of the Expanded IRAP, including design finalization, permitting, well installations, and construction activities.

2.1 Overview of Expansion Activities

The following sections detail the activities undertaken to expand the system, including:

1. Finalizing the System Design
2. Permitting with SCAQMD and the City of Long Beach
3. SVE well installation – soil sampling and analysis
4. Treatment system construction and installation

Startup and shakedown of the system is discussed in Section 3.

2.2 Detailed System Design

A detailed design package was prepared following approval of the Revised Expanded IRAP, for use in obtaining necessary permits (building, well, and air), obtaining contractor bids and constructing the expanded SVE system.

The detailed design was finalized during construction and is provided in the As-Built Drawings (Appendix B).

2.3 Permitting

Permitting activities for the revised expanded SVE system began in January 2019 after receiving LARWQCB approval of the Revised Expanded IRAP. The following permits are included in Appendices C1, C2, and C3, and described below.

- **SCAQMD Permit:** The SCAQMD issued Permit No. G49638 to construct and operate on December 28, 2017 for the original 2016 expanded SVE system design. The SCAQMD issued a new site-specific Permit No. R-G57614 to construct and operate on August 13, 2019 for the revised 2018 expanded SVE system design (Appendix C1).
- **SVE Well Permits:** Permits were obtained from the City of Long Beach Department of Health and Human Services and the Department of Public Works to install the SVE wells. Well permits were issued in July 2017 (Permit No. 2395) and in February 2019 (Permit No. 2578) (Appendix C2).
- **Building Permits:** A building permit was obtained for the construction of the new SVE treatment system for the electrical, plumbing, foundation, and fencing. Plumbing and electrical plan approval were received on May 29, 2019; Building Department approval was received on May 31, 2019; and the Fire Department approval was received on June 4, 2019 (Appendix C3).

2.4 Expanded SVE Well Network

The SVE well network consists of ten wells: the OOI SVE well VES-A, four wells installed in 2017, and five additional wells that allow for focused remediation within each zone and to avoid short circuiting of flow from occurring between the zones, as further described below.

- Existing SVE well VES-A was installed in 2012 by OOI with a well screen extending from 5 to 30 feet bgs across Zones 1 through 3. This well continues to provide mass removal and remains an active component of the current SVE system.
- Four wells (TSO-VE1, TSO-VE2, TSO-VE8 and TSO-VE9)[5] were installed by Tesoro in 2017. Vertical well TSO-VE1 and slant well TSO-VE9 are screened in Zone 4 while vertical well TSO-VE2 and slant well TSO-VE8 are screened in the silty clay Zone 3.
- Five additional wells were installed by Tesoro in 2019. TSO-VE3 and TSO-VE5 are screened in Zone 1 along Golden Avenue; adjacent to them, TSO-VE4 and TSO-VE6 are screened in Zone 2. TSO-VE7 is installed farther west of Golden Avenue and screened in Zone 4.

Existing SVE vacuum monitoring points TSO-SVE1 was supplemented with two additional vacuum monitoring points TSO-SVE3 and TSO-SVE4, which are nested wells with screens in each of the lithologic zones to monitor the ROI. TSO-SVE2 and vapor monitoring probe TSO-09 were decommissioned due their locations conflicting with the new treatment system pad (AECOM, 2018; Appendix B).

The boring logs for the nine new SVE wells are included in Appendix D. Lithologic cross-sections through the SVE Area showing the well screens are provided in Figures 5A and 5B. Well construction details for the SVE wells, vacuum monitoring points, and all the existing soil vapor probes are provided in Tables 1A, 1B, and 1C, respectively.

The following sections provide details on the procedures and details of the well installations.

2.4.1 Utility Clearance

Prior to ground disturbance activities, the planned locations of the additional wells and monitoring points were marked with white paint. AECOM contacted Underground Service Alert of Southern California (DigAlert) to review and clear the proposed locations of known utilities. Additionally, AECOM contracted a geophysical surveying contractor to locate shallow subsurface utilities or structures (pipelines, sewers, etc.) in the areas being investigated. These data along with available utility maps showing locations of subsurface structures, and dialogue with Tesoro personnel were utilized to confirm that the locations were clear of subsurface structures before proceeding. Where subsurface lines or geophysical anomalies were located, potholing was conducted to daylight the line or identify the cause of the anomaly. In addition to these methods, the upper 10 feet of each borehole was cleared of utilities using a combination of hand augers and air knifing.

2.4.2 Drilling Activities

Drilling of four SVE wells was completed in 2017 by Gregg Drilling & Testing, Inc. with a limited access hollow stem auger rig. Drilling of an additional five SVE wells and two quadruple nested vacuum monitoring wells was completed in 2019 by Cascade Drilling (Cascade) using a limited access hollow stem auger rig. Cascade also decommissioned a vapor monitoring probe (TSO-09)

[5] Previously identified as VE13 and VE14, respectively, in the original design proposed in the Expanded IRAP, submitted to the LARWQCB on November 10, 2016.

and a vacuum monitoring well (TSO-SVE1). Decommissioning was completed in accordance with DTSC procedures (DTSC, 2015).

Total depths of SVE boreholes TSO-VE3, TSO-VE4, TSO-VE5, TSO-VE6, and TSO-VE7 were based upon lithology encountered in the field and selected to reach the base of each soil vapor well's target soil zone (Table 1A). Lithology encountered during drilling was consistent with the lithologic zones described earlier. Boreholes TSO-SVE3 and TSO-SVE4 were drilled to depths just above the water table (Table 1B).

2.4.3 Soil Logging and Sample Collection Procedures

Below 10 feet bgs, continuous soil cores were collected from each of the nine new SVE well boreholes in 5-foot sections. The cores were laid out on plastic sheeting and the lithology was logged in detail. Grab soil samples were collected at a minimum of every 5 feet, or based on field observations, placed into Ziploc™ type bags, and allowed to volatilize for a few minutes before measuring headspace gas concentrations of VOCs using a photoionization detector (PID).

Soil samples were collected at 5-foot intervals from the deeper of the vertical and slant wells installed in 2017. Soil samples were also collected from the vacuum monitoring wells TSO-SVE3 and TSO-SVE4 in 2019, based on lithology representative of each soil zone. Soil samples were collected for laboratory analysis in accordance with Environmental Protection Agency (EPA) Method 5035. Samples were analyzed for TPH (GRO, DRO, and ORO) using EPA Method 8015M, VOCs using EPA Method 8260B, and for total and organic lead using EPA method 6010. Each sample was labeled, placed in an ice cooler, and sent under chain of custody procedures to TestAmerica, a State-certified fixed laboratory in Irvine, California.

Daily duplicates, field blanks, equipment blanks, and trip blanks were also collected. Equipment blanks were collected daily by running laboratory purge water over the driller's split spoon sampler and into sample bottles. Field blanks were collected daily by pouring laboratory purge water directly into sample bottles. Custody sealed trip blanks were submitted with each submitted cooler.

AECOM field personnel, working under the technical supervision of a California Professional Geologist, logged and classified soils encountered in the soil borings using the Unified Soil Classification System. Soils were logged continuously except where they were adjacent to previously logged boreholes. Observations such as color and grain size were recorded on the boring logs. A PID was used to monitor the presence and level of organic vapors from soil samples collected from the soil borings. The following sampling information was recorded on soil boring logs: boring number and location; sample identification numbers; date and time; sample depth; lithology description including soil type, particle size and distribution, color (using the Munsell soil color chart), and moisture content; description of any visible evidence of soil contamination (i.e., odor, staining); and organic vapor monitor readings. Soil boring logs are provided in Appendix D.

2.4.4 Soil Laboratory Analytical Results

The highest concentrations of benzene, GRO, and DRO in soil samples collected in 2017 and 2019 were detected in vacuum monitoring well TSO-SVE4, with GRO and DRO concentrations of 7,100 mg/kg and 49,000 mg/kg, respectively, at 11.5 feet (Zone 1 silts) and a benzene concentration of 17 mg/kg at 36.5 feet bgs (Zone 3 clay). The locations of the impacts in the SVE Area are consistent with previous findings.

Soil sample results are provided in Appendix E. Laboratory analytical reports are provided in Appendix F.

2.4.5 Waste Management

Decontamination water generated from the drilling and sampling activities were placed into 55-gallon drums and bins, sealed, and properly labeled. A composite soil sample was collected for waste characterization analysis by Test America, prior to disposal, and was determined to be non-hazardous.

Belshire Environmental Services, Inc. (Belshire) provided waste management services and transported the generated wastes to a Tesoro approved waste facility. Waste manifests are included in Appendix G.

2.4.6 Well Surveying

WM Surveys Inc., a California State licensed Land Surveyor, surveyed the northing and easting coordinates, the ground surface elevation, riser heights on the PVC casing and the well box covers at each of the new installed soil vapor wells and nested vacuum monitoring points. Horizontal measurements were surveyed to the nearest 0.1 foot in North America Datum 1983 (NAD83) coordinates. Elevations were surveyed to the nearest 0.01 foot and results were reported relative to the National Geodetic Vertical Datum 1929 (NGVD29). Survey results are included in Appendix H.

2.5 SVE Treatment System Construction & Installation

Construction activities for the revised expanded SVE treatment system began in August 2019 (after permitting was completed) and was completed in January 2020. The SVE system was installed as specified in the Revised Expanded IRAP.

Installation and construction activities included: utility clearance, clearing and grubbing, site grading and construction of a treatment slab and canopy, setting of well vaults, trenching and piping, fencing installation and sound proofing, installation of natural gas or other utility, inspections by the City of Long Beach, upgrading of electrical service and burial of conduit, and instrumentation set up.

A detailed SVE system layout is presented in Figure 4. A process flow diagram is presented on Figure 5. As-built design drawings are included in Appendix B. A description of the system components and how they operate is presented below.

2.5.1 SVE Piping Network and Process Control

The SVE piping and process controls were installed as specified in the Revised Expanded IRAP. The ten SVE wells are connected to the vapor treatment system by a header installed above ground as shown on the layout in Figure 4 and on the process flow diagram in Figure 6. Each SVE well is equipped with an above ground wellhead. The wellhead includes a passive vent for future use and manifold (Appendix B). The manifold includes a throttling valve, vacuum gauges, flow meter, and sampling port. The flow and vacuum from each SVE well are controlled manually by throttling the butterfly valve on the manifold. A passive vent is installed on each well head to allow the SVE well to be isolated from the extraction system and used to passively vent atmospheric air into the formation to optimize mass removal, should it be required. The sampling port is used to obtain vapor samples for chemical analysis to monitor mass removal and SVE effectiveness.

2.5.2 Vapor Treatment System

The vapor treatment system was installed as specified in the Revised Expanded IRAP. The vapor treatment system is a vertical gas thermal oxidizer (Model VGTO 750) manufactured by Catalytic Combustion Corporation. The thermal oxidizer has the following design specifications:

1. Total Flow Rate: 750 standard cubic feet per minute (scfm) (250 scfm from the SVE wells and 500 scfm dilution air)
2. Minimum Flow Rate: 250 scfm
3. Process Blower Capacity: 250 scfm at 10 in. Hg Vacuum
4. Maximum VOC Loading: 56 lb/hr
5. Minimum Operating Temperature: 1,400°F
6. High Temperature Alarm: 1,800°F
7. Oxidizer Design Destruction Efficiency: 99%

The thermal oxidizer consists of the following components (Figure 6):

1. Isolation Valve
2. Vapor/Liquid Separator
3. Condensate Pump
4. Inline Filter
5. Process Blower
6. Flame Arrestor
7. Burner and Combustion Chamber
8. Stack

A brief process description of the thermal oxidizer is presented below and shown on Figure 6.

Soil vapor enters the vapor liquid separator from the conveyance piping through isolation valve. The soil vapor then enters a vapor/liquid separator equipped with a demister where liquid or condensate is removed. When the vapor/liquid separator is full, a condensate pump pumps the liquid to a storage drum located outside the canopy (Figure 4). Dilution air can be drawn in at the vapor/liquid separator should it be required to reduce the influent VOCs concentration and maintain the thermal oxidizer within its operating capacity. The vapor exits the vapor/liquid separator and is drawn through the process blower where it mixes with air from the combustion blower prior to entering the combustion chamber. The process blower is controlled by a variable speed drive which modulates the blower speed to maintain a constant vacuum on the conveyance piping. VOCs in the vapor are then destroyed in the combustion chamber, and the treated vapors are discharged to the atmosphere through the stack.

For proper thermal destruction and compliance with the South Coast Air Quality Management District permit to operate (Appendix C1), the operating temperature in the combustion chamber will be maintained above 1,400 ˚F. Temperature control is performed by a programmable logic controller program that modulates the gas supply valve to allow more or less supplemental natural gas to mix with the soil vapor to increase or decrease the temperature in the combustion chamber.

2.5.3 Utilities

2.5.3.1 Natural Gas

The natural gas service to the Site is provided by City of Long Beach Gas and Oil (LBGO), with a connection located on the east side of the canopy (Figure 4, Appendix B). The service includes a meter and a shut-off valve. The line pressure is 7 pounds per square inch guage (psig). Meter readings for billing are performed remotely and regular access to the meter is not required.

2.5.3.2 Power

The electric power to the Site is provided by Southern California Edison (SCE). The power meter and main circuit breaker are located on a power pole located south of the SVE System (Appendix B). Meter readings for billing are performed remotely, and regular access to the meter is not required.

2.5.3.3 Control System Remote Access, Alarms, and Control

The thermal oxidizer's control panel is equipped with a cellular modem to allow for remote control and communications with the Human Machine Interface (HMI) and data logger. The cellular modem (eWON Flexy 205) is connected to ATT's 4G network.

3.0 System Startup and Analytical Testing

The following section includes details about the SVE system startup and testing during the first month of operations. The SVE system startup and shakedown took place during the week of February 10, 2020. Soil vapor extraction and continuous system operation began the week of February 18, 2020. Vapor samples were collected between February 18, 2020 and March 3, 2020. Monitoring of system operations and emissions began February 18, 2020 and was conducted for the first seven days of operation and weekly thereafter. The monitoring records included in this report are for the period between February 18 and March 16, 2020. Mass removal calculations and radius of influence estimates are also discussed in this section.

3.1 SVE System Startup and Shakedown Activities

SVE system startup and shakedown activities were completed during the week of February 10, 2020.

These activities included the following:

- Verifying the system was built according to the plans
- Testing and verifying system functionality
- Testing wells for flowrate and vacuum

The Engineer of Record and project engineer verified that the plant was built in accordance with and met the intent of the SVE System design. Minor changes to the design were made to adjust to field conditions and were approved by the Engineer of Record; changes did not deviate substantially from the Revised Expanded IRAP. The construction drawings were redlined, and changes were incorporated into the As-built drawings (Appendix B).

Upon completion of system installation, general system checks were performed to ensure the system was ready for startup. These checks included verifying all process connections were as designed, valves were in the correct operating position, and instrumentation was installed per the Process & Instrumentation Diagram (P&IDs). A thermal oxidizer check consisted of checking the electrical system, alarms, and remote monitoring systems, and verifying the proper operation of the thermal oxidizer. A technician from the manufacturer (Catalytic Combustion Company) performed the thermal oxidizer checks. The completed System Startup Checkup Check List is included in Appendix I.

After system checks were performed, continuous SVE from the ten extraction wells began on February 18 and continued through March 16, 2020. During SVE operations the throttle valve at the manifold of each wellheads was modulated to obtain the desired base flow rate while slowly increasing the line vacuum from 5 inches (in) of mercury (Hg) to 10 inHg to maximize the vacuum influence on the formation. The temperature of the thermal oxidizer was monitored to ensure that the VOC loading did not exceed its treatment capacity.

The SVE system was placed into continuous operation on Tuesday, February 18, 2020.

3.2 Vapor Sample Analytical Results

Vapor samples were collected from monitoring wells, SVE wells, and from the system between February 18 and March 3, 2020. Vapor analytical results are summarized in Tables 2, 3, and 4. Laboratory analytical reports for vapor samples are included in Appendix K.

Baseline Vacuum Monitoring Well Samples

Vapor samples were collected in Summa® canisters from the quadruple-nested vacuum monitoring wells during the first week of continuous operation and analyzed for fixed gases (D1946) and VOCs using EPA Methods TO-3 and TO-15 to establish base line concentrations. The highest concentrations of VOCs (110,000 micrograms per liter [µg/L] and 31,000 parts per million by volume [ppmV]) and benzene (1,100 µg/L and 330 ppmV) were detected in vapor samples from well TSO-SVE4 between 26-28 feet bgs in lithologic Zone 3. Results are provided in Table 2A (in µg/L) and Table 2B (in ppmV).

Soil Vapor Extraction Well Samples

The SVE wells were sampled three times after the system was placed into continuous operation for fixed gases (D1946) and VOCs using EPA Methods TO-3 and TO-15 to establish baseline concentrations and monitor concentration reductions during the continuous operation period after February 18, 2020. The samples were collected using Summa® canisters on Day One of continuous operation and every week thereafter. Results are provided in Table 3A (in µg/L) and Table 3B (in ppmV).

Total VOC and benzene concentrations measured in samples from the SVE wells during the first three weeks of operation are shown in Tables 3A and 3B and on Figures 7A and 7B. VOC concentrations decreased over the period from February 18, 2020 to March 3, 2020 between 12% and 84%, and benzene concentrations between 8 % and 65%, indicating that source removal is occurring.

Thermal Oxidizer Influent and Effluent Samples

Samples of the influent and effluent vapors to the thermal oxidizer were collected in Summa® canisters and analyzed for fixed gases (D1946) and VOCs using EPA Methods TO-3 and TO-15. Results are provided in Table 4A (in µg/L) and Table 4B (in ppmV). The influent vapor concentrations ranged from 7 ppmV to 2,700 ppmV. These results appear to underestimate the actual concentrations in the influent based on the concentrations in vapor from the vapor extraction wells (Tables 4A and 4B). Samples were recently obtained from multiple locations at the influent to the thermal oxidizer and are being analyzed to determine the nature and cause of the potential discrepancy.

After the first week of sampling results were reviewed, isopropyl alcohol was applied to the sampling equipment (e.g., hose connections, tubing, etc.) prior to sample collection, to identify leaks, if any, in the equipment. Isopropyl alcohol was detected in most of the Summa® canister samples at varying concentrations, indicating some equipment leakage. These leaks were likely due to the high system vacuum (10 inHg) that the Summa® canisters had to overcome to fill the canisters. The tube connections were tested for leaks prior to sampling and no observable leaks were found. Overall the results do not appear to be adversely affected by the leaks.

3.3 Compliance Monitoring

Vapor monitoring was conducted in accordance with the Revised Expanded IRAP and the SCAQMD permit. The effluent vapors from the thermal oxidizer were monitored using a flame ionization detector (FID) in compliance with the SCAQMD permit from February 10, 2020 through the present. The monitoring results for the period between February 18 and March 16, 2020, in ppmV calibrated to methane and hexane, are summarized in Table 5. The SCAQMD limits the total VOC effluent concentration to 36 ppmV calibrated to hexane. The effluent concentration ranged from 6.7 (on startup) and 0.0 ppmV. The effluent concentrations were within the SCAQMD permit limits.

Monitoring records from the period of continuous operation (February 18 to March 16, 2020) are provided in Appendix J.

3.4 SVE System Mass Removal and Operations

Approximately 11,720 pounds of VOCs and 22 pounds of benzene were removed from the 10 extraction wells during the period of continual operation from February 18 through March 3, 2020. The flows, concentrations, mass removed, and cumulative mass removed are summarized on Table 6. The average total flow from each zone during this period is summarized below:

- Zone 1: 113 scfm.
- Zone 2: 163 scfm.
- Zone 3: 40 scfm.
- Zone 4: 90 scfm.

The VOCs and Benzene mass removed from each zone is summarized below:

- Zone 1: 706 lbs VOCs, 1 lb benzene.
- Zone 2: 3,882 lbs VOCs, 7.3 lb benzene.
- Zone 3: 1,358 lbs VOCs, 1.6 lb benzene.
- Zone 4: 5,773 lbs VOCs, 12.0 lb benzene.

The average vacuum applied to each zone is summarized below:

- Zone 1: 7.6 inHg.
- Zone 2: 7.6 inHg.
- Zone 3: 9.3 inHg.
- Zone 4: 8.2 inHg.

The system operated with a 90 percent run time during this period. The system was shut down for approximately 53 hours during this period in response to occasional alarm conditions (e.g. inlet flow).

Approximately 20,062 lbs VOCs and 141 pounds of benzene were removed from VES-A prior to system expansion. Approximately 31,782 pounds of total VOCs and 163 pounds of benzene were removed by the expanded SVE system in the first two weeks of operation.

3.5 Vacuum Monitoring and Radius of Influence

The vacuum gradient induced by the soil vapor extraction system was measured by collecting vacuum readings from a network of vacuum monitoring wells and vapor probes across the Site. The network is comprised of 12 wells (Table 1B, Table 1C, and Table 7; Figure 3) with a total of 45 monitoring points screened across the four lithologic zones. The vacuum monitoring results are presented on Table 7.

The vacuum readings recorded on February 25, 2020, once system operational parameters were established, were used to generate vacuum gradient maps across the four lithologic zones (Figures 8A, 8B, 8C, and 8D). The vapor extraction wells were operating at maximum vacuum (9 inHg to 12 inHg) (Table 7), vacuum stabilized, and the system had operated for seven days. It can be seen from vacuum gradient maps that all the vapor monitoring points were affected by the applied vacuum from the SVE system.

The effective radius of influence (i.e. where there is vacuum to induce sufficient air flow to carry VOC vapor from the pore space to the extraction wells) was estimated for selected soil vapor extraction wells (Appendix L). The radius of influence (ROI) was calculated by drawing the best fit line through the vacuum readings and radial distance from the vapor extraction well and using ten percent of the applied vacuum to estimate the effective radius. The graphs and data are attached in Appendix L, and results are summarized below.

- Zone 1: TSO-VE3 ROI @10% - 30 feet.
- Zone 1: VES-A ROI @10% - 25 feet.
- Zone 2: TSO-VE4 ROI @10% - 30 feet.
- Zone 2: VES-A ROI @10% - 25 feet.
- Zone 3: TSO-VE2 (see discussion below.)
- Zone 3: TSO-VE8 (see discussion below.)
- Zone 4: TSO-VE2 ROI @10% - 60 feet.
- Zone 4: TSO-VE9 ROI @10% - 130 feet.

The vacuum influence on Zones 1 and 2 were similar (Figures 8A and Figure 8B). Zone 1 is comprised mainly of silts which is less permeable than sands. The sands in Zone 2 may be isolated by overlying silts and surrounding silty sand as shown in cross sections A-A' (Figure 5A) and B-B' (Figure (5B), respectively, limiting flow through the formation

The vacuum influence on Zones 3 and 4 (Figures 8C and Figure 8D) was much greater than in Zones 1 and 2. Zone 3 is comprised of a thin layer of clay and silts. Zone 3 transitions horizontally to a thin layer of silt to the west and south (See cross sections A-A' (Figure 5A) and B-B' (Figure (5B)). The ROIs for TSO-VE2 and TSO-VE8 in Zone 3 were estimated from the field data at 105 and 90 feet, respectively. The average flow from TSO-VE8 in Zone 3 was 8 scfm, which is consistent with what would be expected in clay, and the flow from TSO-SVE1 in Zone 4 (sand) was 24 scfm. Recognizing that the calculated ROIs for Zone 3 are outside of expected values typical SVE values for clay, the ROI for Zone 3 is likely approximately 10 feet. This discrepancy may be caused by short circuiting between Zones 3 and 4 (cross-section A-A' shows that the screen interval of TSO-VE2 crosses the clay and silt zone), resulting in higher estimated flows. Additionally, short-circuiting between the vapor monitoring points screens in TSO-SVE3, TSO-10, and TSO-13, which indicate an unusually high response in Zone 3, may be occurring. For example, the TSO-13-29.5 (Zone 3) and TSO-13-35.5 (Zone 4) have the same vacuum reading 8.4 in WC (Table 7) which indicates that there may be some short circuiting from the deeper monitoring point to the shallower point.

The effective ROIs appear to capture the full extent of benzene and GRO impacts identified in soil during previous assessment activities (AECOM, 2018).

4.0 System Operation, Maintenance, and Performance Monitoring

4.1 Operations & Maintenance

Maintenance of the SVE equipment has been and will be conducted in accordance with permit requirements and per the equipment manufacturer's specifications, standard practice, or otherwise, as needed. Operations and maintenance activities are logged.

The Golden Baker SVE system is permitted to operate by the SCAQMD Permit No. R-G57614 (Appendix C1). The equipment is permitted for thermal mode and catalytic modes. The equipment is currently setup in thermal mode but may be converted to catalytic mode by installing the catalyst bed and changing the minimum combustion temperatures. The conversion may be done when soil vapor VOC concentrations decrease to levels where it is no longer economical to treat in the thermal mode.

4.2 Operating Limits

The vapor treatment unit has the following operating limits per the SQAMD permit.

- Less than 36 ppmV total VOCs at the outlet of the vapor control system
- Maximum flow rate of 700 scfm well gas measured at the outlet of the blower.
- Combustion chamber temperature at $\geq$1,400 F.

4.3 Ongoing Monitoring, Sampling and Reporting

In accordance with the Revised Expanded IRAP and the SCAQMD permit, VOC effluent concentrations will be monitored on a weekly basis using a FID, PID, or SCAQMD approved OVA and calibrated to Hexane. Vapor temperatures will be measured downstream of the SVE blower discharge.

Vapor samples will be collected from the inlet and outlet of the thermal oxidizer once a month and analyzed by EPA Method TO-3 or EPA Method TO-15 for the following analytes (See Figure 6, Appendix B for sample port locations):

- Total Volatile Organic Compounds
- Benzene
- Ethyl Benzene
- 1,2-Dichloroethane
- Methylene Chloride
- Trichloroethylene (TCE)
- Perchloroethylene (PCE)
- Total Trace Carcinogenic Air Contaminants

When vapor samples are collected for analytical testing, the samples will be collected in Tedlar® bags or Summa® canisters, labeled, accompanied with a completed chain of custody form, and shipped to a California state-certified fixed based laboratory for VOC analysis using EPA Method 8260B or equivalent. A SVE Monitoring Report will be submitted quarterly in accordance with the LARWQCB required schedule on July 31, October 31, January 31, and April 30.

The three nearby soil vapor monitoring probes – TSO-SV1, TSO-SV2, and TSO-SV3 – have been monitored on a semiannual basis as part of the former SVE system performance monitoring. The deeper probe on the OOI property, TSO-SV1, showed a rebound in VOC concentrations during the most recent sampling event in November 2019, after approximately 5 months of non-operation of the former SVE system. The soil vapor monitoring results of the remaining SVE Area probes are generally non-detect (Appendix M). These data confirm the localized nature of the impacts and the effectiveness of the SVE system operations in preventing vapor migration.

4.3.1 System Optimization and Operation

Soil vapor from each extraction well will be monitored to evaluate and optimize system performance, in accordance with the Revised Expanded IRAP.

As approved by the LARWQCB, the system will be shut down when VOC removal reaches asymptotic conditions, or continued recovery is economically or technically impractical. At such time, natural attenuation will function to address any potential diffusion-limited residual contamination that may be present in fine-grained soils in the SVE Area.

5.0 Conclusions and Recommendations

5.1 Conclusions

Approximately 11,720 pounds of VOCs and 22 pounds of benzene were removed from the ten extraction wells during the period of operation between February 18, 2020 and March 3, 2020. Approximately 20,062 lbs VOCs and 141 pounds of benzene were removed from VES-A prior to system expansion. Therefore, approximately 31,782 pounds of total VOCs and 163 pounds of benzene have been removed as of March 3, 2020.

Vacuum influence was measured in surrounding vapor probes up to 100 feet from the SVE wells. The effective ROIs were calculated as approximately 30 feet in Zones 1 and 2 and up to 100 feet in Zone 4. The ROI for Zone 3 is likely about10 feet based on typical properties for clay. Using these numbers, the system captures the full extent of benzene and GRO impacts in the SVE Area identified in soil during previous assessment activities (AECOM, 2018).

5.2 Recommendations

Soil vapor from each extraction well will be monitored to evaluate and optimize system performance in accordance with the Revised Expanded IRAP.

SVE Monitoring Report will be submitted to the LARWQCB on a quarterly basis in accordance with directive requirements for submittal on July 31, October 31, January 31, and April 30.

6.0 References

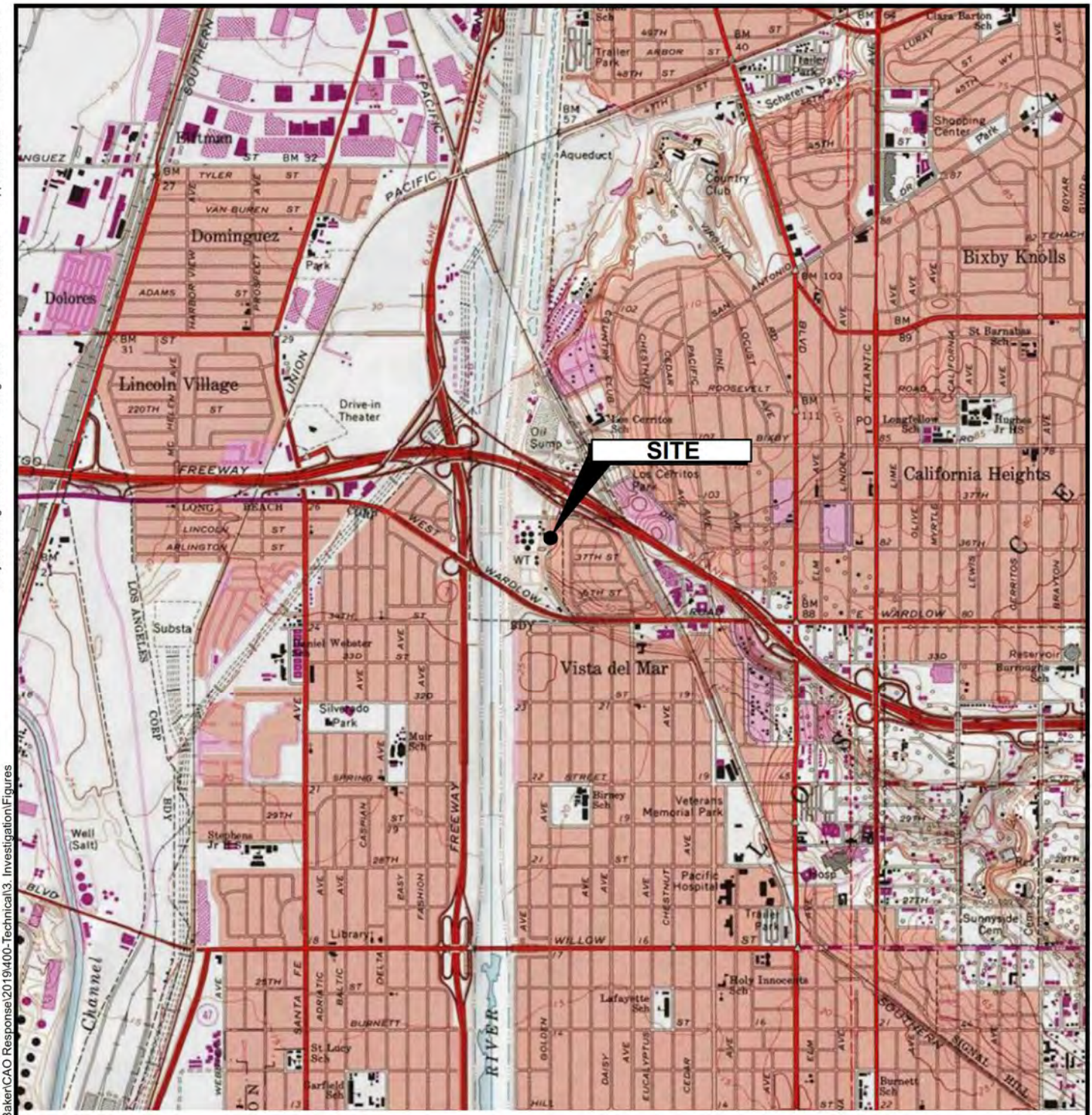
AECOM, 2014. Tesoro Logistics Operations LLC Interim Remedial Action Plan for Golden Avenue Site, between Baker Street and West Wardlow Road, Long Beach, California. September 30.

AECOM, 2018. Second Quarter 2018 Soil Vapor Extraction (SVE) System Monitoring Report – Golden Avenue between Baker Street and Wardlow Road in Long Beach, California. July 31.

AECOM, 2019. Second Quarter 2019 Soil Vapor Extraction (SVE) System Monitoring Report – Golden Avenue between Baker Street and Wardlow Road in Long Beach, California. July 31.

Cal EPA, 2015. *Advisory-Active Soil Gas Investigations*. Department of Toxic Substances Control, LARWQCB, San Francisco Regional Water Quality Control Board. July.

Figures



REFERENCE:
USGS 7.5-Minute Series (Topographic) Map
Long Beach, California Quadrangle 1981

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Filename: P:\Tesoro LAR Carson\GLBK - Golden Baker\CAO Response\2019\400-Technical\3. Investigation\Figures
Project Management Initials: Designer: SM Checked: MW Approved: FM ANSI A 8.5" x 11"

GOLDEN AVENUE SITE
Long Beach, California
Project No.: 60622765 Date: 2020-03-24

SITE LOCATION MAP
EXPANDED INTERIM REMEDIATION - INSTALLATION AND STARTUP REPORT

AECOM

Figure: 1

Last saved by: JANG.SEO (2020-03-26) Last Plotted: 2015-04-10
Filename: \\ORANGE.NA.AECOMNET.COM\ORANGE\DCS\PROJECTS\ENV\ET\DATA1\GIS\TESORO\GOLDEN_BAKER\PROJECT\SVE_PLAN\MXD\2020\FIGURE 2 SITE VICINITY MAP.MXD
Project Management Initials: Designer: SM
Checked: MW Approved: -- ANSI A 8.5" x 11"

GOLDEN AVENUE SITE
Long Beach, California
Project No.: 60622765 Date: 2020-03-16

SITE VICINITY MAP
EXPANDED INTERIM REMEDIATION - INSTALLATION AND STARTUP REPORT

AECOM

Figure 2

OIL OPERATORS, INC.
SOUTH PROPERTY

TS0-11

SVE AREA BOUNDARY

TS0-VE1

TS0-VE2

TS0-SV3

TS0-SVE4

TS0-VE4

TS0-VE7

TS0-VE3

TS0-VE5

TS0-SV1

TS0-VE7 RISER

TS0-VE6

TS0-VE8

TS0-VE9

VES-A

TS0-10

TS0-SVE1

TS0-SV2

TS0-SVE3

SVE
SYSTEM

GOLDEN AVE

VES-D

TS0-13

TS0-04

N

0 20 40

1" = 40'

LEGEND

- SOIL VAPOR MONITORING PROBES (SHALLOW & MULTI-DEPTH)
- VAPOR MONITORING POINTS
- VAPOR EXTRACTION WELLS
- PROPERTY BOUNDARY

Project Management Initials: Designer: Checked: Approved: ANSI B 11" x 17"

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Filename: \\ORANGE.NA.AECOMNET.COM\ORANGE\DCS\PROJECTS\ENV\IET\DATA1\GIS\TES.ORO\GOLDEN_BAKER\PROJECT\SVE_PLAN\MXD\2020\FIGURE 3 SVE SYSTEM AND WELL LAYOUT.MXD

GOLDEN AVENUE SITE
Long Beach, California
Project No.: 60622765 Date: 2020-03-10

SVE SYSTEM AND WELL LAYOUT
EXPANDED INTERIM REMEDIATION **- INSTALLATION AND STARTUP REPORT**

AECOM
Figure: 3

ANSI B 11" x 17"

N

0 10'

1" = 10'

CONDENSATE DRUM STORAGE AND CONTAINMENT

3' MAN GATE

TSO-SV1

8' CHAIN LINK FENCE (TYP)

TSO-VE-9 (SLANT WELL)

TSO-VE-8 (SLANT WELL)

10' ACCESS GATE

CANOPY

TSO-SVE3

TSO-VE-7

CONC WELL BOX FOR TSO-VE-7

LOW POINT DRAIN

10' ACCESS GATE

43

LOW POINT DRAIN

SVE

DN

TSO-VE-7 (RISER AND MANIFOLD)

3' MAN GATE

POWER PANEL AND TRANSFORMER

EXIST WELL VES-A

THERMAL OXIDIZER

EMERGENCY SHUTOFF

TSO-SVE4

TYPICAL VAPOR EXTRACTION WELL

TSO-VE-2

TOE OF SLOPE

TSO-SVE2

TSO-VE-6

4" SCH 40 CS SVE HEADER (TYP)

TSO-VE-4

TOP OF SLOPE

TSO-VE-5

TSO-VE-3

TSO-VE-1

TREE STUMP

IRRIG BOX

GATE

SVE

CL FENCE

SHRUB

SHRUB

12" PIPELINE 32

AC BERM

AC BERM

VAPOR MANIFOLD

HIGH POINT VENT

GAS SERVICE LOCATION

PETRO

6" PIPELINE 52

1¼" GAS

EXIST STAIRS AND GATE ENTRANCE - KNOX BOX FOR EMERGENCY SERVICES ACCESS

CONVEYANCE PIPING

8" PIPELINE 34

ABAND 8" GOLDEN EAGLE

GOLDEN AVENUE

GAS CONNECTION LOCATION

2" GAS

8" VCP SEWER

Filename: E:\PROJECTS\60482246 - GOLDEN-BAKER SVE SYSTEM EXPANSION\CADD\FIGURES\60622765-GBSVEE-IRAP-FIG04-SYS LAYOUT.DWG

Expanded IRAP Installation and Startup Report
712 Baker Street, Long Beach, CA 90806
Tesoro Refining & Marketing Company LLC
Project No.: 60622765 Date: March 2020

SVE SYSTEM DETAILED LAYOUT

AECOM

Figure: 4

NORTH

A

SOUTH

A'

TSO-11 (PROJECTED 37.7 FEET E)

TSO-VE1 & TSO-VE2 (PROJECTED 13.2 FEET E & 17.7 FEET E RESPECTIVELY)

TSO-VE4 & TSO-VE3 (PROJECTED 14.8 FEET E & 17.1 FEET E RESPECTIVELY)

TSO-SVE4 (PROJECTED 24.7 FEET E)

TSO-VE7 (PROJECTED 35.9 FEET E)

TSO-VE6 & TSO-VE5 (PROJECTED 16.4 FEET E 13.4 FEET E RESPECTIVELY)

TSO-VE8 (PROJECTED 33.1 FEET E)

TSO-VE9 (PROJECTED 33.2 E)

VES-A (PROJECTED 23.2 FEET E)

TSO-SVE3 (PROJECTED 37.5 E)

TSO-13 (PROJECTED 27.1 FEET E)

TSO-04 (PROJECTED 39 FEET W)

ELEVATION (FT MSL)

50 45 40 35 30 25 20 15 10 5 0 -5 -10 -15

DEPTH (FT BGS)

0 5 10 15 20 25 30 35 40 45 50 55 60

zone 1

zone 2

zone 3

zone 4

TSO-VE3

TSO-VE5

TSO-VE6

TSO-VE4

VES-A

TSO-VE8

TSO-VE2

TSO-VE7

TSO-VE9

TSO-VE1

0 10' 20'

H: 1" = 10'
V: 1" = 5'

0 5' 10'

LEGEND

- SOIL VAPOR MONITORING PROBES
- VACUUM MONITORING WELLS
- VAPOR EXTRACTION WELLS
- WATER LEVEL
- asphalt
- SP - POORLY GRADED SAND
  SP - SM - POORLY GRADED SAND WITH SILT
- SM - SILTY SAND
- ML - SILT
- CL - CLAYS

WELL SCREEN

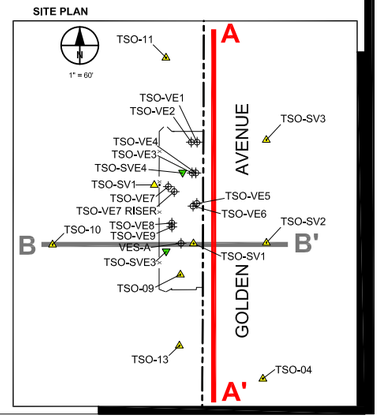
ABBREVIATIONS

BGS	BELOW GROUND SURFACE
FT	FEET
mg/kg	MILLIGRAMS PER KILOGRAM
MSL	MEAN SEA LEVEL

NOTES

TSO-VE8 AND TSO-VE9 ARE PREVIOUSLY IDENTIFIED AS TSO-VE13 AND TSO-VE14 IN ORIGINAL DESIGN

SITE PLAN



AECOM

Figure: 5A

LITHOLOGIC CROSS-SECTION – NORTH-SOUTH (A-A')

GOLDEN AVENUE SITE
Long Beach, California
Project No.: 60622765 Date: 2020-02-24

OIL OPERATORS, INC.
SOUTH PROPERTY

GOLDEN AVENUE

WEST

EAST

B

B'

TSO-10

TSO-SVE3 (PROJECTED 5.6 N)

OOI PROPERTY X FENCE LINE

TSO-B6 (PROJECTED 19.6 S)

STREET CURB

TSO-SV2 (PROJECTED 1.4 S)

zone 1

zone 2

zone 3

zone 4

ELEVATION (FT MSL)

50
45
40
35
30
25
20
15
10
5
0
-5
-10
-15

DEPTH (FT BGS)

0
5
10
15
20
25
30
35
40
45
50
55
60

0 10' 20'

H: 1" = 10'
V: 1" = 5'

0 5' 10'

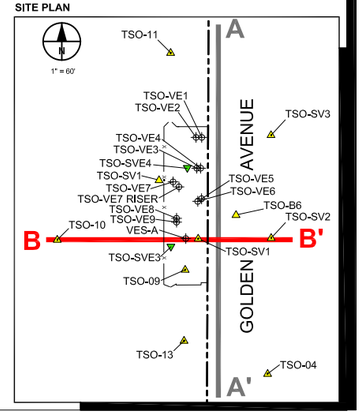
LEGEND

- SOIL VAPOR MONITORING PROBES
- VACUUM MONITORING WELLS
- VAPOR EXTRACTION WELLS
- WATER LEVEL
- asphalt
- SP - POORLY GRADED SAND
  SP - SM - POORLY GRADED SAND WITH SILT
- SM - SILTY SAND
- ML - SILT
- CL - CLAYS
- WELL SCREEN

ABBREVIATIONS

BGS	BELOW GROUND SURFACE
FT	FEET
mg/kg	MILLIGRAMS PER KILOGRAM
MSL	MEAN SEA LEVEL

SITE PLAN



AECOM

Figure: 5B

LITHOLOGIC CROSS-SECTION – WEST-EAST (B-B')

GOLDEN AVENUE SITE
Long Beach, California
Project No.: 60622705 Date: 2020-02-24

Project Management Mgdlin Designer: Checked: Approved: ANSI C (17" x 22")

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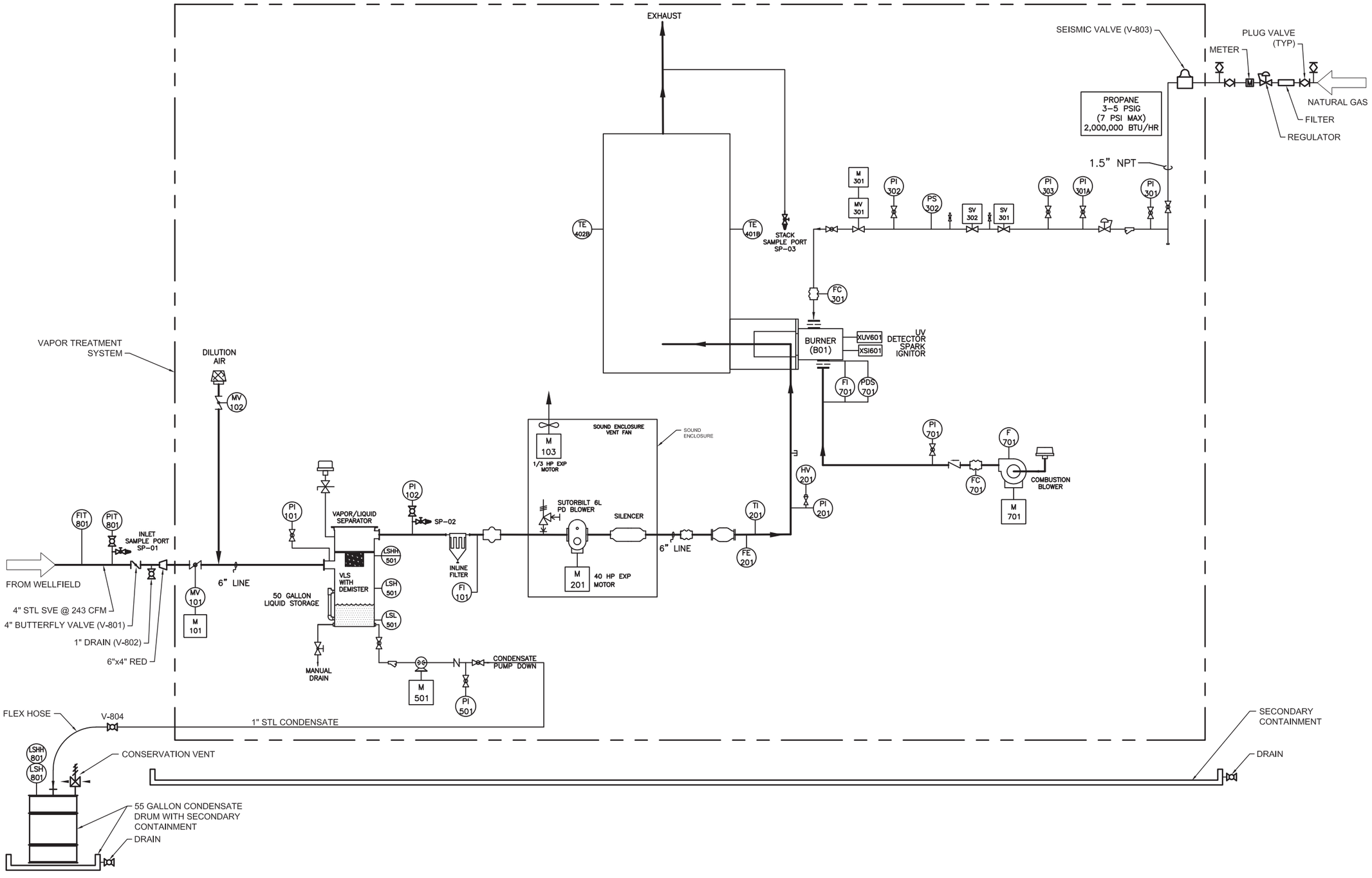
File name: I:\SAN22_XX\ACCDOCS\CORONADO\ACCDOCS\PROJECTS\ENVIRDATA\YGBITES\ORS\GOLDEN_BAKER\PROJECTS\VE_PLAN\MXD\2020\SVEFIGURE X CONCEPTUAL EXPANDED IN LITHOLOGIC CROSS-SECTION_SHP_ANSI D.DWG



Expanded IRAP Installation and Startup Report
712 Baker Street, Long Beach, CA 90806
Tesoro Refining & Marketing Company LLC
Project No.: 60622765 Date: March 2020

PROCESS FLOW DIAGRAM
TREATMENT SYSTEM

AECOM
Figure: 6

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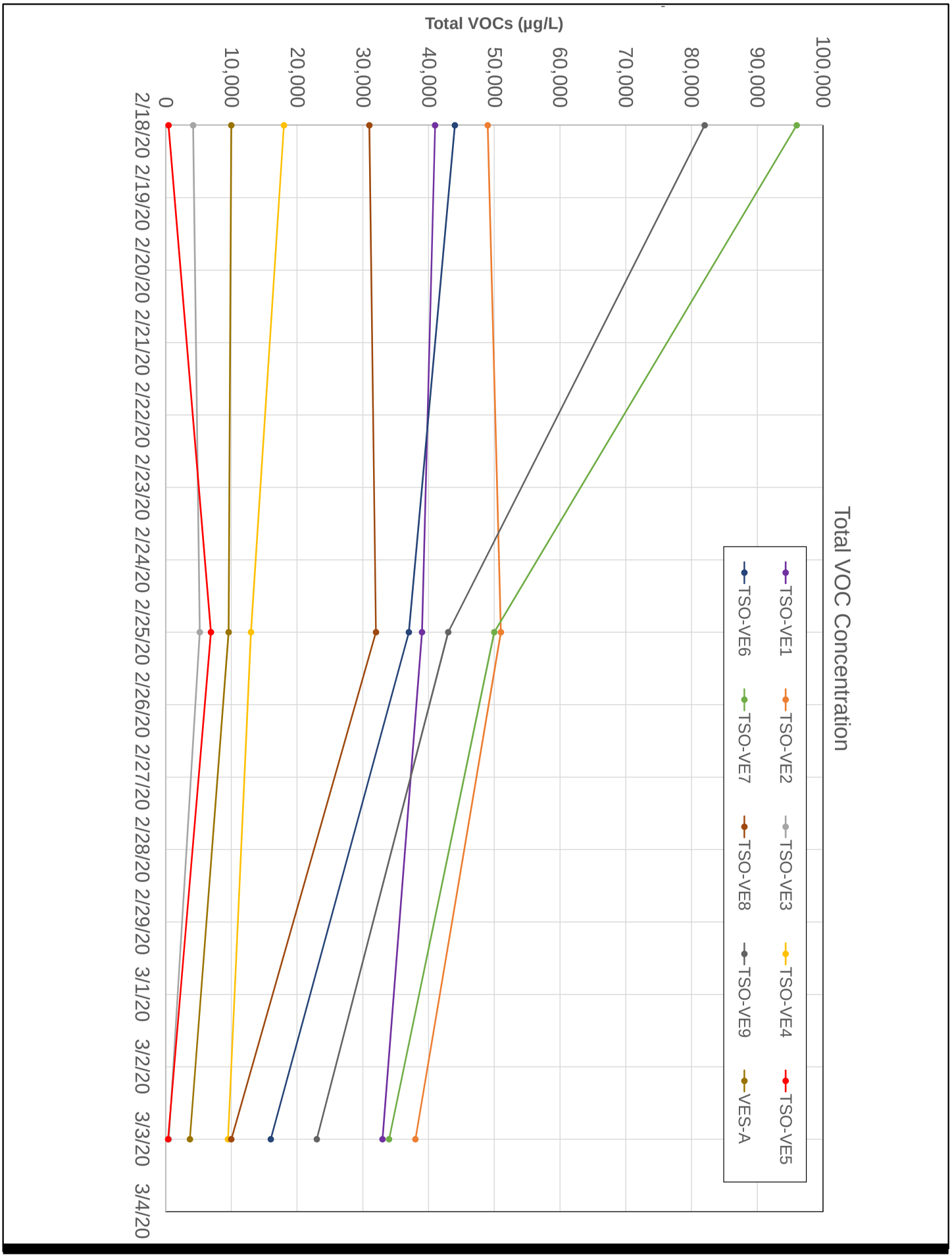
Filename: C:\LONG BEACH PROJECT\MXD\12_07_SUBMITTAL_SET\FIG 7 PIPELINE INSPECTION MAP.MXD



GOLDEN AVENUE SITE
Long Beach, California
Project No.:60622765 Date: 2020-03-24

VAPOR CONCENTRATIONS DURING STARTUP - VOCS

AECOM
Figure: 7A

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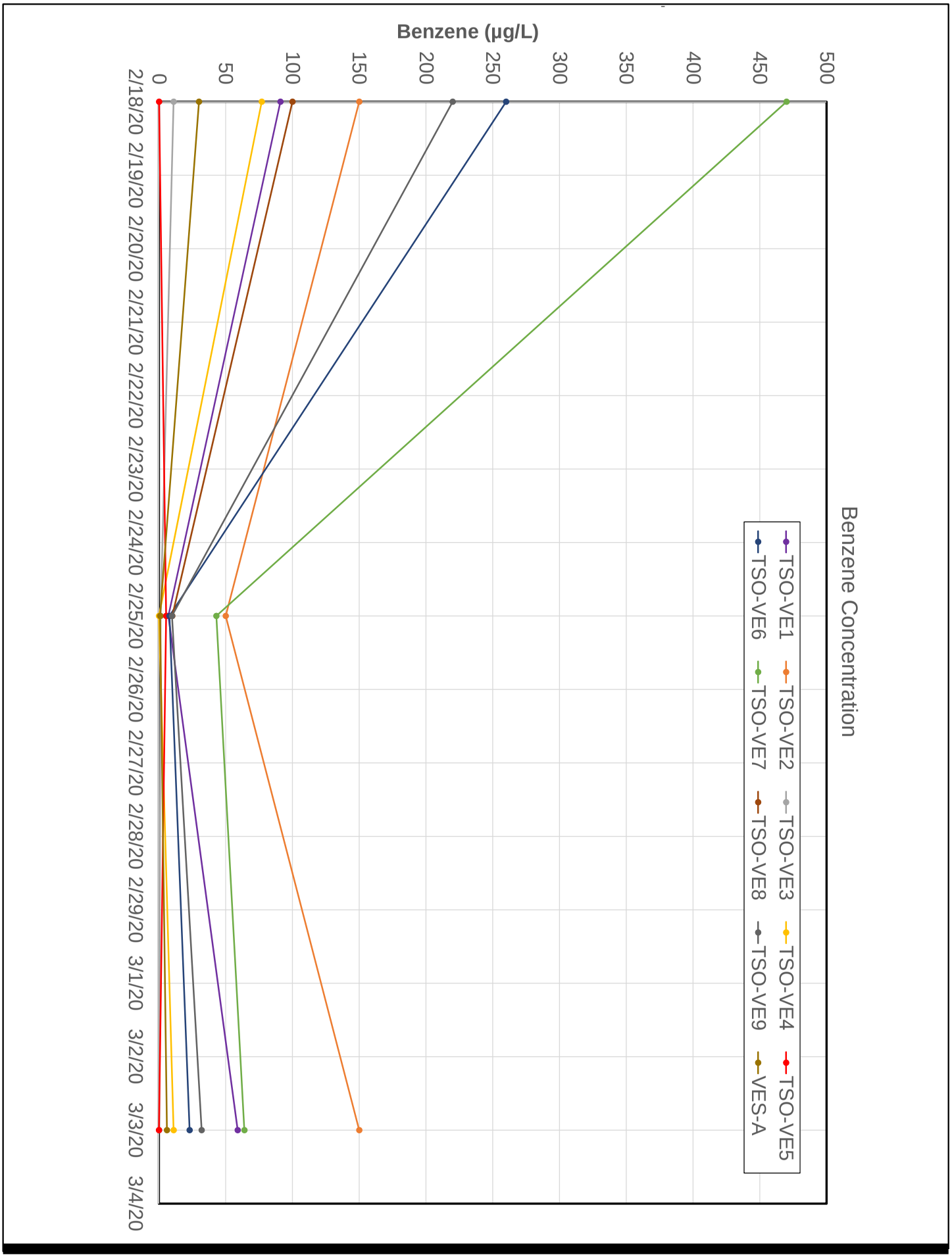
Filename: C:\LONG BEACH PROJECT\MXD\12_07_SUBMITTAL_SET\FIG 7 PIPELINE INSPECTION MAP.MXD



GOLDEN AVENUE SITE
Long Beach, California
Project No.:60622765 Date: 2020-03-24

VAPOR CONCENTRATIONS DURING STARTUP - BENZENE

AECOM
Figure: 7B

OIL OPERATORS, INC.
SOUTH PROPERTY

SVE AREA BOUNDARY

TSO-11
1.538

TSO-SV3
1.147

TSO-VE2
TSO-VE1

TSO-VE4
TSO-VE3
124.45

TSO-SVE4
2.9

TSO-SV1
1.545

TSO-VE7

TSO-VE6
TSO-VE5
117.9

TSO-VE8
TSO-VE9

VES-A
144.1

TSO-SVE3
16

TSO-SVE1
30

TSO-SV2
0.598

TSO-10
0.339

SVE
SYSTEM

VES-D

TSO-13
3.397

GOLDEN AVE

TSO-04

1
10
20
30
40
50
60
70
80
90
100
110

N

0 20 40

1" = 20'

LEGEND

- SOIL VAPOR MONITORING PROBES (SHALLOW & MULTI-DEPTH)
- VAPOR MONITORING POINTS
- VAPOR EXTACTION WELLS
- LITHOLOGIC ZONE 1 - VACUUM ISOBAR (inchesH2O)
- PROPERTY BOUNDARY

Project Management Initials:
Designer:
Checked:
Approved:
ANSI B 11" x 17"

Last saved by: AKIHIRO.KURAKAKE (2020-03-26) Last Plotted: 2015-04-10
Filename: C:\USERS\AKIHIRO.KURAKAKE\DOCUMENTS\HIRO\20200318\SVE_PLANMXD\2020\SVE_FIGURE_8A_VACUUM_GRADIENT_MAP_ZONE_1_20200326.MXD

GOLDEN AVENUE SITE
Long Beach, California
Project No.: 60622765 Date: 2020-03-10

VACUUM GRADIENT MAP – ZONE 1
EXPANDED IRAP - SVE INSTALLATION AND STARTUP REPORT

AECOM
Figure: 8A

OIL OPERATORS, INC.
SOUTH PROPERTY

SVE AREA BOUNDARY

TS0-11
3.411

TS0-SV3
1.511

TS0-VE2
TS0-VE1

TS0-VE4
131
TS0-VE3

TS0-SVE4
18

TS0-SV1
9.8

TS0-VE7

TS0-VE6
111.35
TS0-VE5

TS0-VE9
TS0-VE8

VES-A
144.1
TS0-SVE1

TS0-SVE3
22

TS0-SV2
0.786

TS0-10
0.691

SVE
SYSTEM

VES-D

TS0-13
6.6

TS0-04
0.297

GOLDEN AVE

10
7
110
120
130
120
100
90
80
70
60
50
40
30
20
10
1

N

0 20 40

1" = 20'

LEGEND

- SOIL VAPOR MONITORING PROBES (SHALLOW & MULTI-DEPTH)
- VAPOR MONITORING POINTS
- VAPOR EXTACTION WELLS
- LITHOLOGIC ZONE 2 - VACUUM ISOBAR (inchesH2O)
- PROPERTY BOUNDARY

Project Manager Initials: Designer: Checked: Approved: ANSI B 11" x 17"

Last saved by: AKIHIRO.KURAKAKE (2020-03-26) Last Plotted: 2015-04-10
Filename: C:\USERS\AKIHIRO.KURAKAKE\DOCUMENTS\HIRO\20200318\SVE_PLAN\MXD\2020\SVE_FIGURE_8B_VACUUM_GRADIENT_MAP_ZONE_2_20200326.MXD

GOLDEN AVENUE SITE
Long Beach, California
Project No.: 60622765 Date: 2020-03-10

VACUUM GRADIENT MAP – ZONE 2
EXPANDED IRAP - SVE INSTALLATION AND STARTUP REPORT

AECOM
Figure: 8B

OIL OPERATORS, INC.
SOUTH PROPERTY

SVE AREA BOUNDARY

TSO-11

TSO-VE2
111.35

TSO-VE1

TSO-SV3

TSO-VE4

TSO-VE3

TSO-SVE4
32

TSO-SV1

TSO-VE7

TSO-VE6

TSO-VE5

TSO-VE8
157.2

TSO-VE9

VES-A
144.1

TSO-SVE1

TSO-SV2

TSO-10
6.6

TSO-SVE3
24

SVE
SYSTEM

VES-D

TSO-13
8.4

GOLDEN AVE

TSO-04
8

60 70 80 90 100 110 120 130 140 150 50 40 30 20 10

N

0 20 40

1" = 20'

LEGEND

- SOIL VAPOR MONITORING PROBES (SHALLOW & MULTI-DEPTH)
- VAPOR MONITORING POINTS
- VAPOR EXTACTION WELLS
- LITHOLOGIC ZONE 3 - VACUUM ISOBAR (inchesH2O)
- PROPERTY BOUNDARY

Project Management Initials: Designer: Checked: Approved: ANSI B 11" x 17"

Last saved by: AKIHIRO.KURAKAKE (2020-03-26) Last Plotted: 2015-04-10
Filename: C:\USERS\AKIHIRO.KURAKAKE\DOCUMENTS\HIRO\20200318\SVE_PLAN\MXD\2020\SVE_FIGURE_8C_VACUUM_GRADIENT_MAP_ZONE_3_20200326.MXD

GOLDEN AVENUE SITE
Long Beach, California
Project No.: 60622765 Date: 2020-03-10

VACUUM GRADIENT MAP – ZONE 3
EXPANDED IRAP - SVE INSTALLATION AND STARTUP REPORT

AECOM
Figure: 8C

OIL OPERATORS, INC.
SOUTH PROPERTY

SVE AREA BOUNDARY

TS0-11
9

TS0-VE2
TS0-VE1
131

TS0-SV3

TS0-VE4
TS0-VE3
TS0-SVE4
35

TS0-SV1

TS0-VE7
131

TS0-VE6
TS0-VE5

TS0-VE9
TS0-VE8
144.1

VES-A
TS0-SVE1

TS0-SV2

TS0-10
6.8

TS0-SVE3
25

SVE
SYSTEM

VES-D

GOLDEN AVE

TS0-13
8.4

TS0-04
8.6

10 20 30 40 50 60 70 80 90 100 110 120 130 140

N

0 20 40

1" = 20'

LEGEND

- SOIL VAPOR MONITORING PROBES (SHALLOW & MULTI-DEPTH)
- VAPOR MONITORING POINTS
- VAPOR EXTACTION WELLS
- LITHOLOGIC ZONE 4 - VACUUM ISOBAR (inchesH2O)
- PROPERTY BOUNDARY

Project Management Initials: Designer: Checked: Approved: ANSI B 11" x 17"

Last saved by: AKIHIRO.KURAKAKE (2020-03-26) Last Plotted: 2015-04-10
Filename: C:\USERS\AKIHIRO.KURAKAKE\DOCUMENTS\HIRO\20200318\SVE_PLAN\MXD\2020\SVE_FIGURE_8D_VACUUM_GRADIENT_MAP_ZONE_4_20200326.MXD

GOLDEN AVENUE SITE
Long Beach, California
Project No.: 60622765 Date: 2020-03-10

VACUUM GRADIENT MAP – ZONE 4
EXPANDED IRAP - SVE INSTALLATION AND STARTUP REPORT

AECOM
Figure: 8D

Tables

Table 1A
Vapor Extraction Well Construction Details
Expanded IRAP - Installation and Startup Report
Golden Baker Site, Long Beach, California

Well ID	Well Type	Target Lithology Zone[4]	Dominant Soil Type	Screen Interval	Screen Length	Casing Diameter	Borehole Diameter	Depth of Boring	Screen Slot Size	Blank Casing and Screen Type	Well Completion	Depth to Groundwater During Drilling
				(feet bgs)	feet	(inches)	(inches)	(feet bgs)	(inches)		(feet)	(feet)
TSO-VE1	Vapor Extraction	4	SP	36-43	7	4	10	50	0.02	Sch 40 PVC	None	Not Encountered
TSO-VE2	Vapor Extraction	3	ML/CL	27-32	5	4	10	35	0.02	Sch 40 PVC	None	Not Encountered
TSO-VE3	Vapor Extraction	1	ML	7-13[1]	6	4	10	16.5	0.02	Sch 40 PVC	None (3.47 ft stick up)*	Not Encountered
TSO-VE4	Vapor Extraction	2	SP	14.92-21.92[2]	7	4	10	26.5	0.02	Sch 40 PVC	None (0.38 ft stick up)*	Not Encountered
TSO-VE5	Vapor Extraction	1	ML	5-12	7	4	10	16.5	0.02	Sch 40 PVC	None (3.12 ft stick up)*	Not Encountered
TSO-VE6	Vapor Extraction	2	SP	15-24[3]	9	4	10	28	0.02	Sch 40 PVC	None (3 ft stick up)*	Not Encountered
TSO-VE7	Vapor Extraction	4	SP	30-40	10	4	10	48	0.02	Sch 40 PVC	None (-0.3 ft stick up)*	46
TSO-VE8^	Vapor Extraction	3	ML/CL	26-33	7	4	10	36.5 @ 30°	0.02	Sch 40 PVC	None	Not Encountered
TSO-VE9^	Vapor Extraction	4	SP	35-42	7	4	10	50 @ 30°	0.02	Sch 40 PVC	None	Not Encountered
VES-A	Vapor Extraction	1-3	ML/SM/SP	5-30	25	2	8	30	0.02	Sch 40 PVC	None	Not Encountered

Notes:

bgs = below ground surface

Sch 40 PVC = Schedule 40 Polyvinyl chloride

1: Screen constructed with 5 ft screen and 1 ft screen extenstion

2: Screen constructed with 5 ft screen and 1 ft screen extenstion

3: Screen constructed with 8 ft screen and 1 ft screen extenstion

4. Zone Lithology are as follows:

Zone 1 = Silt

Zone 2 = Sand and Silty Sand

Zone 3 = Silt/Clay

Zone 4 = Sand

* Riser pipe stick up from ground surface

^ Slant Wells

Table 1B
Vacuum Monitoring Well Construction Details
Expanded IRAP - Installation and Startup Report
Golden Baker Site, Long Beach, California

VAPOR MONITORING WELLS												
Well ID	**Well Type**	**Target Lithology Zone[4]**	**Screen Interval**	**Screen Length**	**Casing Diameter**	**Borehole Diameter**	**Depth of Boring**	**Screen Slot Size**	**Blank Casing and Screen Type**	**Well Completion**	**Depth to Groundwater During Drilling**	**Other notes**
			(feet bgs)	**feet**	**(inches)**	**(inches)**	**(feet bgs)**	**(inches)**		**(feet)**	**(feet)**	
TSO-SVE1	Vapor monitoring well	1 & 2	10-15	5	1	4	50	0.02	Sch 40 PVC	None	Not Encountered	
TSO-SVE2	Vapor monitoring well	1 & 2	10-15	5	1	4	35	0.02	Sch 40 PVC	None	Not Encountered	decommissioned in 2019
TSO-SVE3	Vapor monitoring well	1, 2, 3, 4	6-8, 16-18, 24-26, 35-37	2	1	10	46.5	0.02	Sch 40 PVC	flush mount	Not Encountered	
TSO-SVE4	Vapor monitoring well	1, 2, 3, 4	8-10, 18-20, 26-28, 38-40	2	1	10	48	0.02	Sch 40 PVC	flush mount	47 ft bgs	

Notes:

Zone lithologies are as follows:

Zone 1 = Silt
Zone 2 = Sand and Silty Sand
Zone 3 = Silt/Clay
Zone 4 = Sand

Table 1C
Soil Vapor Probe Construction Details
Expanded IRAP - Installation and Startup Report
Golden Baker Site, Long Beach, California

SOIL VAPOR PROBES				
Well ID	**Screen Interval (center of screen)**	**Depth of Boring**	**Depth to Groundwater During Drilling**	**other notes**
	(feet bgs)	**(feet bgs)**	**(feet)**	
TSO-01	2.5, 5.5, 10, 15, 26	43	34.95	
TSO-02	5, 10, 15, 25, 34	49	41.51	
TSO-03	2.5, 5.5, 10, 15, 25, 35, 50	64	59.50	
TSO-04	2.5, 5.5, 10, 15, 25, 35, 45	59	50.25	
TSO-05	2.5, 5.5, 10, 15, 24.5, 35, 45	59	50.03	
TSO-06	5, 10, 15, 25, 35	50	45.17	
TSO-07	5, 10, 25, 35	41.5	--	
TSO-08	5, 10, 15, 25, 35	43	38.55	
TSO-09	5, 10, 15, 28, 35	48.5	43.96	decommissioned in 2019
TSO-10	5, 10, 15, 25, 35	45	41.53	
TSO-11	5, 10, 15, 29, 35	48	43.39	
TSO-12	5, 10, 15, 25, 35	45	38.45	
TSO-13	5, 10, 15, 29, 35	48.5	42.91	
TSO-14	5, 10, 15, 25, 35	51	44.95	
TSO-15	5, 10, 15, 25, 35	51	46.33	
TSO-16	5, 10, 15, 25, 35	42.5	40.62	
TSO-17	5, 10, 15, 25	39	32.72	
TSO-18	5, 10, 15, 25	44.5	34.46	
TSO-19	5, 10, 15, 25	43	34.15	
TSO-20	5, 10, 15, 25	34	28.53	
TSO-21	2.5, 5.5, 10, 15, 25, 35, 50	67	59.50	
TSO-22	2.5, 5.5, 10, 15, 25, 35, 50	66	58.80	
TSO-23	2.5, 5.5, 10, 15, 25, 35, 50	62.5	59.82	
TSO-24	2.5, 5.5, 10	10.5	--	
TSO-SV1	5, 10	10.5	N/A	OOI Property
TSO-SV2	5, 10	10.5	N/A	Golden Avenue
TSO-SV3	5, 10	10.5	N/A	Golden Avenue

Notes:
Probes are 6-inch stainless-steel mesh screens attached to 0.25 nylaflow or teflon tubin

Table 2A
Vapor Monitoring Point Sample Analytical Results (2020) - µg/L
Expanded IRAP - Installation and Startup Report
Golden Baker Site, Long Beach, California

Chemical Name	Well Name: Sample Date: Screen Interval: Units:	TSO-SVE-3 2/11/2020 6 - 8 ft	TSO-SVE-3 2/11/2020 16 - 18 ft	TSO-SVE-3 2/11/2020 24 - 26 ft	TSO-SVE-3 2/11/2020 35 - 37 ft	TSO-SVE-4 2/11/2020 8 - 10 ft	TSO-SVE-4 2/11/2020 18 - 20 ft	TSO-SVE-4 2/11/2020 26 - 28 ft	TSO-SVE-4 2/11/2020 35 - 37 ft
Fixed Gases (D1946)									
Carbon dioxide	%	**15**	**14**	**14**	**15**	**15**	**15**	**16**	**13**
Methane	%	**0.11 J**	**0.74**	**1.2**	**1.5**	**0.58**	**3**	**3.1**	**3**
Nitrogen	%	**81**	**78**	**78**	**78**	**81**	**75**	**75**	**76**
Oxygen + Argon	%	**3.4**	**6.6**	**3.5**	**3.2**	**3.6**	**4.4**	**4.4**	**5.6**
VOCS (TO-3)									
VOCs ≥ C3 as Hexane	µg/L	**380**	**8,600**	**72,000**	**73,000**	**4,100**	**20,000**	**110,000**	**83,000**
VOCS (TO-15)									
1,2,4-Trimethylbenzene	µg/L	**0.14 J**	**18**	< 29	**66**	**32**	**76**	< 29	< 46
1,2-Dichloroethane	µg/L	< 0.051	< 1.3	< 8.1	**29**	< 0.65	< 2.5	< 8.1	**43**
1,3,5-Trimethylbenzene	µg/L	**0.12**	**12**	**15**	**32**	**13**	**25**	< 9.8	< 15
4-Ethyltoluene	µg/L	< 0.061	**3.8**	**12**	**26**	**11**	**27**	< 9.8	< 15
Acetone	µg/L	< 0.12	< 3.0	< 19	< 19	**1.8**	< 5.9	< 19	**31**
Benzene	µg/L	**0.95**	**44**	**600**	**490**	**14**	**100**	**1100**	**530**
Carbon Disulfide	µg/L	**0.14 J**	< 3.9	< 25	< 25	< 2.0	< 7.8	< 25	< 39
Ethylbenzene	µg/L	**0.14**	**6.2**	**16**	**170**	**53**	**100**	**120**	**93**
Isopropyl alcohol	µg/L	< 0.31	< 7.7	< 49	< 49	< 3.9	< 15	< 49	**37 J**
m/p-xylene	µg/L	**0.3**	**5.6**	**290**	**500**	**150**	**170**	**230**	**270**
Methylene Chloride	µg/L	< 0.43	**2 J**	< 69	< 69	**1.3 J**	< 22	< 69	**41 J**
o-Xylene	µg/L	**0.074**	< 1.4	**98**	**170**	**71**	**9**	**52**	**87**
Toluene	µg/L	**0.13**	**1.1 J**	**240**	**450**	**110**	**9.9**	**130**	**460**

Notes:
% = percent
µg/L = micrograms per liter
VOCs = volatile organic compounds
< = not detected above reporting level
J = estimated value

Table 2B
Vapor Monitoring Point Sample Analytical Results (2020) - ppmv
Expanded IRAP - Installation and Startup Report
Golden Baker Site, Long Beach, California

Chemical Name	Well Name: Sample Date: Screen Interval: Units:	TSO-SVE-3 2/11/2020 6 - 8 ft	TSO-SVE-3 2/11/2020 16 - 18 ft	TSO-SVE-3 2/11/2020 24 - 26 ft	TSO-SVE-3 2/11/2020 35 - 37 ft	TSO-SVE-4 2/11/2020 8 - 10 ft	TSO-SVE-4 2/11/2020 18 - 20 ft	TSO-SVE-4 2/11/2020 26 - 28 ft	TSO-SVE-4 2/11/2020 35 - 37 ft
Fixed Gases (D1946)									
Carbon dioxide	%	**15**	**14**	**14**	**15**	**15**	**15**	**16**	**13**
Methane	%	**0.11 J**	**0.74**	**1.2**	**1.5**	**0.58**	**3.0**	**3.1**	**3.0**
Nitrogen	%	**81**	**78**	**78**	**78**	**81**	**75**	**75**	**76**
Oxygen + Argon	%	**3.4**	**6.6**	**3.5**	**3.2**	**3.6**	**4.4**	**4.4**	**5.6**
VOCS (TO-3)									
VOCs ≥ C3 as Hexane	ppmv	**110**	**2,400**	**20,000**	**21,000**	**1,200**	**5,800**	**31,000**	**24,000**
VOCS (TO-15)									
1,2,4-Trimethylbenzene	ppmv	**0.028 J**	**3.7**	< 6.0	**13**	**6.5**	**15**	< 6.0	< 9.4
1,2-Dichloroethane	ppmv	< 0.013	< 0.31	< 2.0	**7.1**	< 0.16	< 0.63	< 2.0	**11**
1,3,5-Trimethylbenzene	ppmv	**0.024**	**2.4**	**3.1**	**6.4**	**2.7**	**5.1**	< 2.0	< 3.1
4-Ethyltoluene	ppmv	< 0.013	**0.77**	**2.4**	**5.3**	**2.3**	**5.6**	< 2.0	< 3.1
Acetone	ppmv	< 0.050	< 1.3	< 8.0	< 8.0	**0.74**	< 2.5	< 8.0	**13**
Benzene	ppmv	**0.30**	**14**	**190**	**150**	**4.3**	**33**	**330**	**170**
Carbon Disulfide	ppmv	**0.046 J**	< 1.3	< 8.0	< 8.0	< 0.64	< 2.5	< 8.0	< 13
Ethylbenzene	ppmv	**0.033**	**1.4**	**3.8**	**38**	**12**	**24**	**27**	**22**
Isopropyl alcohol	ppmv	< 0.13	< 3.1	< 20	< 20	< 1.6	< 6.3	< 20	**15 J**
m/p-xylene	ppmv	**0.070**	**1.3**	**67**	**120**	**35**	**40**	**54**	**61**
Methylene Chloride	ppmv	< 0.13	**0.56 J**	< 20	< 20	**0.36 J**	< 6.3	< 20	**12 J**
o-Xylene	ppmv	**0.017**	< 0.31	**23**	**39**	**16**	**2.1**	**12**	**20**
Toluene	ppmv	**0.034**	**0.28 J**	**65**	**120**	**28**	**2.6**	**35**	**120**

Notes:
% = percent
ppmv = parts per million by volume
VOCs = volatile organic compounds
< = not detected above reporting level
J = estimated value

Table 3A
Vapor Extraction Well Sample Analytical Results (2020) - µg/L
Expanded IRAP - Installation and Startup Report
Golden Baker Site, Long Beach, California

Chemical Name	Well Name: Sample Date: Screen Interval: Units:	TSO-VE1 2/18/2020 36 - 43 ft	TSO-VE1 2/25/2020 36 - 43 ft	TSO-VE1 3/3/2020 36 - 43 ft	TSO-VE2 2/18/2020 27 - 32 ft	TSO-VE2 2/25/2020 27 - 32 ft	TSO-VE2 3/3/2020 27 - 32 ft	TSO-VE3 2/18/2020 7 - 13 ft	TSO-VE3 2/25/2020 7 - 13 ft	TSO-VE3 3/3/2020 7 - 13 ft
Fixed Gases (D1946)										
Carbon dioxide	%	**14**	**9.3**	**13**	**14**	**3.3**	**2.7**	**1.0**	< 0.50	< 0.50
Methane	%	**0.41 J**	< 0.50	< 0.50	**0.48 J**	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Nitrogen	%	**78**	**77**	**79**	**76**	**76**	**74**	**75**	**75**	**76**
Oxygen + Argon	%	**5.6**	**11**	**6.4**	**5.1**	**21**	**21**	**21**	**23**	**23**
VOCS (TO-3)										
VOCs ≥ C3 as Hexane	µg/L	**41000**	**39,000**	**33,000**	**49,000**	**51,000**	**38,000**	**4,200**	**5,200**	**500**
VOCS (TO-15)										
1,2,4-Trimethylbenzene	µg/L	**30**	< 15	**38**	< 29	< 18	**17**	**10**	**3.7**	**19**
1,2-Dichloroethane	µg/L	< 3.2	< 4.0	< 0.81	**15**	< 5.1	**11**	< 0.51	< 0.81	< 0.081
1,3,5-Trimethylbenzene	µg/L	**14**	< 4.9	**17**	< 9.8	< 6.1	**8.1**	**5.1**	**1.6**	**8.2**
2-Butanone	µg/L	< 7.1	< 8.8	< 1.8	< 18	< 11	< 3.5	< 1.1	< 1.8	< 0.18
4-Ethyltoluene	µg/L	**15**	< 4.9	**19**	**8.7 J**	< 6.1	**8.5**	**4.0**	**1.4**	**7.0**
Acetone	µg/L	< 7.6	< 9.5	< 1.9	< 19	< 12	< 3.8	**0.87 J**	< 1.9	**3.5**
Benzene	µg/L	**91**	**7.1**	**59**	**150**	**50**	**150**	**11**	**1.3**	**0.17**
Carbon Disulfide	µg/L	< 10	< 12	**0.81 J**	< 25	< 16	**1.4 J**	**0.24 J**	< 2.5	**0.045 J**
Chloroethane	µg/L	< 2.1	< 2.6	**0.34 J**	< 5.3	< 3.3	< 1.1	< 0.33	< 0.53	< 0.053
Ethylbenzene	µg/L	**79**	**12**	**51**	**57**	**17**	**62**	**22**	**5.9**	**12**
Isopropyl alcohol	µg/L	< 20	**960**	**14**	< 49	**6.8 J**	**26**	< 3.1	**800**	**92**
m/p-xylene	µg/L	**86**	**17 J**	**70**	**79**	**26**	**78**	**33**	**11**	**30**
Naphthalene	µg/L	< 10	< 13	< 2.6	< 26	< 16	< 5.2	< 1.6	< 2.6	**0.34**
n-Butylbenzene	µg/L	< 13	< 16	< 3.3	< 33	< 21	< 6.6	< 2.1	< 3.3	**1.0**
o-Xylene	µg/L	**21**	**5.2**	**21**	**9.1**	< 5.4	**6.8**	**3.9**	**1.6**	**7.6**
sec-Butylbenzene	µg/L	< 13	< 16	< 3.3	< 33	< 21	< 6.6	< 2.1	< 3.3	**0.41**
tert-Butyl Alcohol	µg/L	< 9.7	< 12	< 2.4	< 24	< 15	< 4.9	< 1.5	< 2.4	< 0.24
Toluene	µg/L	**18**	< 3.8	**44**	**22**	**9.5**	**30**	**1.6**	**0.60 J**	**0.48**

Notes:
% = percent
µg/L = micrograms per liter
VOCs = volatile organic compounds
< = not detected above reporting level
J = estimated value

Table 3A
Vapor Extraction Well Sample Analytical Results (2020) - µg/L
Expanded IRAP - Installation and Startup Report
Golden Baker Site, Long Beach, California

Chemical Name	Well Name: Sample Date: Screen Interval: Units:	TSO-VE4 2/18/2020 15 - 22 ft	TSO-VE4 2/25/2020 15 - 22 ft	TSO-VE4 3/3/2020 15 - 22 ft	TSO-VE5 2/18/2020 5 - 12 ft	TSO-VE5 2/25/2020 5 - 12 ft	TSO-VE5 3/3/2020 5 - 12 ft	TSO-VE6 2/18/2020 15 - 24 ft	TSO-VE6 2/25/2020 15 - 24 ft	TSO-VE6 3/3/2020 15 - 24 ft
Fixed Gases (D1946)										
Carbon dioxide	%	**8.9**	**1.4**	**0.87**	**0.31 J**	< 0.50	< 0.50	**8.8**	**1.5**	**0.92**
Methane	%	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Nitrogen	%	**80**	**76**	**77**	**75**	**76**	**78**	**81**	**76**	**77**
Oxygen + Argon	%	**8.0**	**22**	**23**	**23**	**23**	**24**	**9.7**	**22**	**23**
VOCS (TO-3)										
VOCs ≥ C3 as Hexane	µg/L	**18,000**	**13,000**	**9,500**	**450**	**6,900**	**380**	**44,000**	**37,000**	**16,000**
VOCS (TO-15)										
1,2,4-Trimethylbenzene	µg/L	**64**	< 5.9	**40**	**0.72**	**16**	**5.6**	**31**	< 5.9	**44**
1,2-Dichloroethane	µg/L	< 1.6	< 1.6	< 1.6	< 0.081	< 0.81	< 0.051	< 8.1	< 1.6	< 2.5
1,3,5-Trimethylbenzene	µg/L	**28**	< 2.0	**19**	**0.56**	**7.1**	**2.5**	**31**	**9.0**	**26**
2-Butanone	µg/L	< 3.5	< 3.5	< 3.5	< 0.18	< 1.8	< 0.11	< 18	< 3.5	< 5.5
4-Ethyltoluene	µg/L	**24**	< 2.0	**17**	**0.35**	**6.0**	**2.0**	**29**	**7.9**	**23**
Acetone	µg/L	< 3.8	< 3.8	**3.7 J**	< 0.19	< 1.9	**1.5**	< 19	**5.9**	**23**
Benzene	µg/L	**77**	< 1.3	**11**	**0.12**	**5.4**	**0.019 J**	**260**	**7.9**	**23**
Carbon Disulfide	µg/L	< 5.0	< 5.0	**0.89 J**	< 0.25	**0.34 J**	< 0.16	< 25	< 5.0	< 7.8
Chloroethane	µg/L	< 1.1	< 1.1	< 1.1	< 0.053	< 0.53	< 0.033	< 5.3	< 1.1	< 1.6
Ethylbenzene	µg/L	**62**	< 1.7	**50**	**1.3**	**22**	**2.7**	**290**	**44**	**79**
Isopropyl alcohol	µg/L	< 9.8	**1600**	**6100**	< 0.49	**210**	**3.0**	< 49	**160**	**32**
m/p-xylene	µg/L	**150**	< 6.9	**78**	**2.0**	**33**	**5.3**	**230**	**70**	**250**
Naphthalene	µg/L	< 5.2	< 5.2	< 5.2	< 0.26	< 2.6	< 0.16	< 26	< 5.2	< 8.2
n-Butylbenzene	µg/L	< 6.6	< 6.6	< 6.6	< 0.33	< 3.3	**0.34**	< 33	< 6.6	< 10
o-Xylene	µg/L	**9.4**	< 1.7	**19**	**0.49**	**5.8**	**1.4**	< 8.7	**13**	**68**
sec-Butylbenzene	µg/L	< 6.6	< 6.6	< 6.6	< 0.33	< 3.3	**0.15 J**	< 33	< 6.6	< 10
tert-Butyl Alcohol	µg/L	< 4.9	< 4.9	< 4.9	< 0.24	< 2.4	**0.10 J**	< 24	< 4.9	< 7.6
Toluene	µg/L	**9.1**	< 1.5	**39**	**0.13**	**9.6**	**0.037 J**	**20**	**45**	**200**

Notes:
% = percent
µg/L = micrograms per liter
VOCs = volatile organic compounds
< = not detected above reporting level
J = estimated value

Table 3A
Vapor Extraction Well Sample Analytical Results (2020) - µg/L
Expanded IRAP - Installation and Startup Report
Golden Baker Site, Long Beach, California

Chemical Name	Well Name: Sample Date: Screen Interval: Units:	TSO-VE7 2/18/2020 30 - 40 ft	TSO-VE7 2/25/2020 30 - 40 ft	TSO-VE7 3/3/2020 30 - 40 ft	TSO-VE8 2/18/2020 26 - 33 ft	TSO-VE8 2/25/2020 26 - 33 ft	TSO-VE8 3/3/2020 26 - 33 ft	TSO-VE9 2/18/2020 35 - 42 ft	TSO-VE9 2/25/2020 35 - 42 ft	TSO-VE9 3/3/2020 35 - 42 ft
Fixed Gases (D1946)										
Carbon dioxide	%	**15**	**6.4**	**7.1**	**6.7**	**1.7**	**1.7**	**9.5**	**11**	**7.6**
Methane	%	**1.1**	< 0.50	**0.17TSO-VE4**	**0.11 J**	< 0.50	< 0.50	**0.20 J**	< 0.50	< 0.50
Nitrogen	%	**78**	**78**	**82**	**76**	**78**	**76**	**72**	**80**	**78**
Oxygen + Argon	%	**4.5**	**11**	**10**	**14**	**23**	**22**	**8.7**	**8.4**	**14**
VOCS (TO-3)										
VOCs ≥ C3 as Hexane	µg/L	**96,000**	**50,000**	**34,000**	**31,000**	**32,000**	**10,000**	**82,000**	**43,000**	**23,000**
VOCS (TO-15)										
1,2,4-Trimethylbenzene	µg/L	**11TSO-VE4**	< 18	**18**	< 5.9	< 12	**10**	< 29	**7.4**	**42**
1,2-Dichloroethane	µg/L	**31**	< 5.1	< 2.0	< 1.6	< 3.2	< 1.3	< 8.1	< 1.6	< 1.6
1,3,5-Trimethylbenzene	µg/L	**6.9**	< 6.1	**9.1**	**3.3**	< 3.9	**12**	< 9.8	**3.8**	**23**
2-Butanone	µg/L	< 8.8	< 11	< 4.4	< 3.5	< 7.1	< 2.8	< 18	**5.9**	< 3.5
4-Ethyltoluene	µg/L	**5.6**	< 6.1	**8.2**	**3.5**	< 3.9	**12**	< 9.8	**3.5**	**21**
Acetone	µg/L	< 9.5	< 12	< 4.8	< 3.8	< 7.6	**2.5 J**	< 19	< 3.8	**3.4 J**
Benzene	µg/L	**470**	**43**	**64**	**100**	**10**	**28**	**220**	**9.8**	**32**
Carbon Disulfide	µg/L	< 12	< 16	**1.3 J**	< 5.0	< 10	< 3.9	< 25	< 5.0	**0.85 J**
Chloroethane	µg/L	< 2.6	< 3.3	< 1.3	< 1.1	< 2.1	< 0.82	< 5.3	< 1.1	< 1.1
Ethylbenzene	µg/L	**61**	**18**	**63**	**84**	**17**	**36**	**79**	**20**	**110**
Isopropyl alcohol	µg/L	< 25	**250**	< 12	< 9.8	**770**	**4.2 J**	< 49	**120**	**3.5 J**
m/p-xylene	µg/L	**200**	**56**	**200**	**48**	**53**	**240**	**240**	**64**	**340**
Naphthalene	µg/L	< 13	< 16	< 6.6	< 5.2	< 10	< 4.1	< 26	< 5.2	< 5.2
n-Butylbenzene	µg/L	< 16	< 21	< 8.2	< 6.6	< 13	< 5.1	< 33	< 6.6	< 6.6
o-Xylene	µg/L	**62**	**17**	**60**	**7.8**	**8.5**	**83**	**76**	**24**	**130**
sec-Butylbenzene	µg/L	< 16	< 21	< 8.2	< 6.6	< 13	< 5.1	< 33	< 6.6	< 6.6
tert-Butyl Alcohol	µg/L	< 12	< 15	< 6.1	< 4.9	< 9.7	< 3.8	< 24	< 4.9	< 4.9
Toluene	µg/L	**460**	**75**	**200**	**67**	**41**	**53**	**670**	**50**	**190**

Notes:
% = percent
µg/L = micrograms per liter
VOCs = volatile organic compounds
< = not detected above reporting level
J = estimated value

Table 3A
Vapor Extraction Well Sample Analytical Results (2020) - µg/L
Expanded IRAP - Installation and Startup Report
Golden Baker Site, Long Beach, California

Chemical Name	Well Name: Sample Date: Screen Interval: Units:	VES-A 2/18/2020 5 - 30 ft	VES-A 2/25/2020 5 - 30 ft	VES-A 3/3/2020 5 - 30 ft
Fixed Gases (D1946)				
Carbon dioxide	%	**5.0**	**0.62**	**0.85**
Methane	%	< 0.50	< 0.50	< 0.50
Nitrogen	%	**75**	**74**	**76**
Oxygen + Argon	%	**17**	**22**	**23**
VOCS (TO-3)				
VOCs ≥ C3 as Hexane	µg/L	**10,000**	**9,600**	**3,700**
VOCS (TO-15)				
1,2,4-Trimethylbenzene	µg/L	**14**	< 3.7	**23**
1,2-Dichloroethane	µg/L	< 0.81	< 1.0	< 0.65
1,3,5-Trimethylbenzene	µg/L	**11**	**1.4**	**14**
2-Butanone	µg/L	< 1.8	< 2.2	< 1.4
4-Ethyltoluene	µg/L	**6.3**	< 1.2	**8.7**
Acetone	µg/L	**1.8 J**	< 2.4	< 1.5
Benzene	µg/L	**30**	**0.91**	**6.0**
Carbon Disulfide	µg/L	**0.38 J**	< 3.1	**0.37 J**
Chloroethane	µg/L	< 0.53	< 0.66	< 0.42
Ethylbenzene	µg/L	**21**	**2.0**	**18**
Isopropyl alcohol	µg/L	< 4.9	**1000**	**120**
m/p-xylene	µg/L	**64**	**7.0**	**45**
Naphthalene	µg/L	< 2.6	< 3.3	< 2.1
n-Butylbenzene	µg/L	< 3.3	< 4.1	< 2.6
o-Xylene	µg/L	**18**	**2.3**	**16**
sec-Butylbenzene	µg/L	< 3.3	< 4.1	< 2.6
tert-Butyl Alcohol	µg/L	< 2.4	< 3.0	< 1.9
Toluene	µg/L	**37**	**2.6**	**19**

Notes:
% = percent
µg/L = micrograms per liter
VOCs = volatile organic compounds
< = not detected above reporting level
J = estimated value

Table 3B
Vapor Extraction Well Sample Analytical Results (2020) - ppmv
Expanded IRAP - Installation and Startup Report
Golden Baker Site, Long Beach, California

Chemical Name	Well Name: Sample Date: Screen Interval: Units:	TSO-VE1 2/18/2020 36 - 43 ft	TSO-VE1 2/25/2020 36 - 43 ft	TSO-VE1 3/3/2020 36 - 43 ft	TSO-VE2 2/18/2020 27 - 32 ft	TSO-VE2 2/25/2020 27 - 32 ft	TSO-VE2 3/3/2020 27 - 32 ft	TSO-VE3 2/18/2020 7 - 13 ft	TSO-VE3 2/25/2020 7 - 13 ft	TSO-VE3 3/3/2020 7 - 13 ft
Fixed Gases (D1946)										
Carbon dioxide	%	**14**	**9.3**	**13**	**14**	**3.3**	**2.7**	**1.0**	< 0.50	< 0.50
Methane	%	**0.41 J**	< 0.50	< 0.50	**0.48 J**	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Nitrogen	%	**78**	**77**	**79**	**76**	**76**	**74**	**75**	**75**	**76**
Oxygen + Argon	%	**5.6**	**11**	**6.4**	**5.1**	**21**	**21**	**21**	**23**	**23**
VOCS (TO-3)										
VOCs ≥ C3 as Hexane	ppmv	**12,000**	**11,000**	**9,400**	**14,000**	**15,000**	**11,000**	**1,200**	**1,500**	**140**
VOCS (TO-15)										
1,2,4-Trimethylbenzene	ppmv	**6.1**	< 3.0	**7.7**	< 6.0	< 3.8	**3.4**	**2.1**	**0.74**	**3.8**
1,2-Dichloroethane	ppmv	< 0.80	< 1.0	< 0.20	**3.7**	< 1.3	**2.6**	< 0.13	< 0.20	< 0.020
1,3,5-Trimethylbenzene	ppmv	**2.9**	< 1.0	**3.5**	< 2.0	< 1.3	**1.7**	**1.0**	**0.33**	**1.7**
2-Butanone	ppmv	< 2.4	< 3.0	< 0.60	< 6.0	< 3.8	< 1.2	< 0.38	< 0.60	< 0.060
4-Ethyltoluene	ppmv	**3.1**	< 1.0	**3.8**	**1.8 J**	< 1.3	**1.7**	**0.81**	**0.29**	**1.4**
Acetone	ppmv	< 3.2	< 4.0	< 0.80	< 8.0	< 5.0	< 1.6	**0.37 J**	< 0.80	**1.5**
Benzene	ppmv	**29**	**2.2**	**19**	**48**	**16**	**46**	**3.3**	**0.39**	**0.053**
Carbon Disulfide	ppmv	< 3.2	< 4.0	**0.26 J**	< 8.0	< 5.0	**0.44 J**	**0.076 J**	< 0.80	**0.015 J**
Chloroethane	ppmv	< 0.80	< 1.0	**0.13 J**	< 2.0	< 1.3	< 0.40	< 0.13	< 0.20	< 0.020
Ethylbenzene	ppmv	**18**	**2.7**	**12**	**13**	**4.0**	**14**	**5.0**	**1.4**	**2.9**
Isopropyl alcohol	ppmv	< 8.0	**390**	**5.6**	< 20	**2.8**	**10**	< 1.3	**330**	**38**
m/p-xylene	ppmv	**20**	**3.9 J**	**16**	**18**	**6.1**	**18**	**7.7**	**2.5**	**6.9**
Naphthalene	ppmv	< 2.0	< 2.5	< 0.50	< 5.0	< 3.1	< 1.0	< 0.31	< 0.50	**0.065**
n-Butylbenzene	ppmv	< 2.4	< 3.0	< 0.60	< 6.0	< 3.8	< 1.2	< 0.38	< 0.60	**0.18**
o-Xylene	ppmv	**4.8**	**1.2**	**4.8**	**2.1**	< 1.3	**1.6**	**0.90**	**0.37**	**1.7**
sec-Butylbenzene	ppmv	< 2.4	< 3.0	< 0.60	< 6.0	< 3.8	< 1.2	< 0.38	< 0.60	**0.074**
tert-Butyl Alcohol	ppmv	< 3.2	< 4.0	< 0.80	< 8.0	< 5.0	< 1.6	< 0.50	< 0.80	< 0.080
Toluene	ppmv	**4.8**	< 1.0	**12**	**5.8**	**2.5**	**8.0**	**0.41**	**0.16 J**	**0.13**

Notes:
% = percent
ppmv = parts per million by volume
VOCs = volatile organic compounds
< = not detected above reporting level
J = estimated value

Table 3B
Vapor Extraction Well Sample Analytical Results (2020) - ppmv
Expanded IRAP - Installation and Startup Report
Golden Baker Site, Long Beach, California

Chemical Name	Well Name: Sample Date: Screen Interval: Units:	TSO-VE4 2/18/2020 15 - 22 ft	TSO-VE4 2/25/2020 15 - 22 ft	TSO-VE4 3/3/2020 15 - 22 ft	TSO-VE5 2/18/2020 5 - 12 ft	TSO-VE5 2/25/2020 5 - 12 ft	TSO-VE5 3/3/2020 5 - 12 ft	TSO-VE6 2/18/2020 15 - 24 ft	TSO-VE6 2/25/2020 15 - 24 ft	TSO-VE6 3/3/2020 15 - 24 ft
Fixed Gases (D1946)										
Carbon dioxide	%	**8.9**	**1.4**	**0.87**	**0.31 J**	< 0.50	< 0.50	**8.8**	**1.5**	**0.92**
Methane	%	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Nitrogen	%	**80**	**76**	**77**	**75**	**76**	**78**	**81**	**76**	**77**
Oxygen + Argon	%	**8.0**	**22**	**23**	**23**	**23**	**24**	**9.7**	**22**	**23**
VOCS (TO-3)										
VOCs ≥ C3 as Hexane	ppmv	**5,000**	**3,700**	**2,700**	**130**	**2,000**	**110**	**12,000**	**11,000**	**4,600**
VOCS (TO-15)										
1,2,4-Trimethylbenzene	ppmv	**13**	< 1.2	**8.1**	**0.15**	**3.3**	**1.1**	**6.4**	< 1.2	**8.9**
1,2-Dichloroethane	ppmv	< 0.40	< 0.40	< 0.40	< 0.020	< 0.20	< 0.013	< 2.0	< 0.40	< 0.63
1,3,5-Trimethylbenzene	ppmv	**5.8**	< 0.40	**3.8**	**0.11**	**1.4**	**0.52**	**6.3**	**1.8**	**5.3**
2-Butanone	ppmv	< 1.2	< 1.2	< 1.2	< 0.060	< 0.60	< 0.038	< 6.0	< 1.2	< 1.9
4-Ethyltoluene	ppmv	**4.9**	< 0.40	**3.5**	**0.071**	**1.2**	**0.41**	**5.9**	**1.6**	**4.6**
Acetone	ppmv	< 1.6	< 1.6	**1.5 J**	< 0.080	< 0.80	**0.65**	< 8.0	**2.5**	**9.6**
Benzene	ppmv	**24**	< 0.40	**3.4**	**0.036**	**1.7**	**0.0060 J**	**83**	**2.5**	**7.1**
Carbon Disulfide	ppmv	< 1.6	< 1.6	**0.29 J**	< 0.080	**0.11 J**	< 0.050	< 8.0	< 1.6	< 2.5
Chloroethane	ppmv	< 0.40	< 0.40	< 0.40	< 0.020	< 0.20	< 0.013	< 2.0	< 0.40	< 0.63
Ethylbenzene	ppmv	**14**	< 0.40	**11**	**0.30**	**5.0**	**0.61**	**66**	**10**	**18**
Isopropyl alcohol	ppmv	< 4.0	**650**	**2500**	< 0.20	**84**	**1.2**	< 20	**63**	**13**
m/p-xylene	ppmv	**35**	< 1.6	**18**	**0.46**	**7.5**	**1.2**	**53**	**16**	**57**
Naphthalene	ppmv	< 1.0	< 1.0	< 1.0	< 0.050	< 0.50	< 0.031	< 5.0	< 1.0	< 1.6
n-Butylbenzene	ppmv	< 1.2	< 1.2	< 1.2	< 0.060	< 0.60	**0.063**	< 6.0	< 1.2	< 1.9
o-Xylene	ppmv	**2.2**	< 0.40	**4.4**	**0.11**	**1.3**	**0.33**	< 2.0	**2.9**	**16**
sec-Butylbenzene	ppmv	< 1.2	< 1.2	< 1.2	< 0.060	< 0.60	**0.027 J**	< 6.0	< 1.2	< 1.9
tert-Butyl Alcohol	ppmv	< 1.6	< 1.6	< 1.6	< 0.080	< 0.80	**0.033 J**	< 8.0	< 1.6	< 2.5
Toluene	ppmv	**2.4**	< 0.40	**10**	**0.035**	**2.5**	**0.0097 J**	**5.3**	**12**	**53**

Notes:
% = percent
ppmv = parts per million by volume
VOCs = volatile organic compounds
< = not detected above reporting level
J = estimated value

Table 3B
Vapor Extraction Well Sample Analytical Results (2020) - ppmv
Expanded IRAP - Installation and Startup Report
Golden Baker Site, Long Beach, California

Chemical Name	Well Name: Sample Date: Screen Interval: Units:	TSO-VE7 2/18/2020 30 - 40 ft	TSO-VE7 2/25/2020 30 - 40 ft	TSO-VE7 3/3/2020 30 - 40 ft	TSO-VE8 2/18/2020 26 - 33 ft	TSO-VE8 2/25/2020 26 - 33 ft	TSO-VE8 3/3/2020 26 - 33 ft	TSO-VE9 2/18/2020 35 - 42 ft	TSO-VE9 2/25/2020 35 - 42 ft	TSO-VE9 3/3/2020 35 - 42 ft
Fixed Gases (D1946)										
Carbon dioxide	%	**15**	**6.4**	**7.1**	**6.7**	**1.7**	**1.7**	**9.5**	**11**	**7.6**
Methane	%	**1.1**	< 0.50	**0.17 J**	**0.11 J**	< 0.50	< 0.50	**0.20 J**	< 0.50	< 0.50
Nitrogen	%	**78**	**78**	**82**	**76**	**78**	**76**	**72**	**80**	**78**
Oxygen + Argon	%	**4.5**	**11**	**10**	**14**	**23**	**22**	**8.7**	**8.4**	**14**
VOCS (TO-3)										
VOCs ≥ C3 as Hexane	ppmv	**27,000**	**14,000**	**9,500**	**8,900**	**9,000**	**2,900**	**23,000**	**12,000**	**6,700**
VOCS (TO-15)										
1,2,4-Trimethylbenzene	ppmv	**2.3 J**	< 3.8	**3.6**	< 1.2	< 2.4	**2.1**	< 6.0	**1.5**	**8.6**
1,2-Dichloroethane	ppmv	**7.6**	< 1.3	< 0.50	< 0.40	< 0.80	< 0.31	< 2.0	< 0.40	< 0.40
1,3,5-Trimethylbenzene	ppmv	**1.4**	< 1.3	**1.9**	**0.66**	< 0.80	**2.4**	< 2.0	**0.78**	**4.7**
2-Butanone	ppmv	< 3.0	< 3.8	< 1.5	< 1.2	< 2.4	< 0.94	< 6.0	**2.0**	< 1.2
4-Ethyltoluene	ppmv	**1.1**	< 1.3	**1.7**	**0.71**	< 0.80	**2.4**	< 2.0	**0.72**	**4.2**
Acetone	ppmv	< 4.0	< 5.0	< 2.0	< 1.6	< 3.2	**1.1 J**	< 8.0	< 1.6	**1.4 J**
Benzene	ppmv	**150**	**14**	**20**	**33**	**3.1**	**8.6**	**70**	**3.1**	**10**
Carbon Disulfide	ppmv	< 4.0	< 5.0	**0.41 J**	< 1.6	< 3.2	< 1.3	< 8.0	< 1.6	**0.27 J**
Chloroethane	ppmv	< 1.0	< 1.3	< 0.50	< 0.40	< 0.80	< 0.31	< 2.0	< 0.40	< 0.40
Ethylbenzene	ppmv	**14**	**4.2**	**15**	**19**	**4.0**	**8.4**	**18**	**4.6**	**25**
Isopropyl alcohol	ppmv	< 10	**100**	< 5.0	< 4.0	**310**	**1.7 J**	< 20	**49**	**1.4 J**
m/p-xylene	ppmv	**45**	**13**	**46**	**11**	**12**	**55**	**56**	**15**	**79**
Naphthalene	ppmv	< 2.5	< 3.1	< 1.3	< 1.0	< 2.0	< 0.78	< 5.0	< 1.0	< 1.0
n-Butylbenzene	ppmv	< 3.0	< 3.8	< 1.5	< 1.2	< 2.4	< 0.94	< 6.0	< 1.2	< 1.2
o-Xylene	ppmv	**14**	**4.0**	**14**	**1.8**	**1.9**	**19**	**18**	**5.5**	**29**
sec-Butylbenzene	ppmv	< 3.0	< 3.8	< 1.5	< 1.2	< 2.4	< 0.94	< 6.0	< 1.2	< 1.2
tert-Butyl Alcohol	ppmv	< 4.0	< 5.0	< 2.0	< 1.6	< 3.2	< 1.3	< 8.0	< 1.6	< 1.6
Toluene	ppmv	**120**	**20**	**54**	**18**	**11**	**14**	**180**	**13**	**49**

Notes:
% = percent
ppmv = parts per million by volume
VOCs = volatile organic compounds
< = not detected above reporting level
J = estimated value

Table 3B
Vapor Extraction Well Sample Analytical Results (2020) - ppmv
Expanded IRAP - Installation and Startup Report
Golden Baker Site, Long Beach, California

Chemical Name	Well Name: Sample Date: Screen Interval: Units:	VES-A 2/18/2020 5 - 30 ft	VES-A 2/25/2020 5 - 30 ft	VES-A 3/3/2020 5 - 30 ft
Fixed Gases (D1946)				
Carbon dioxide	%	**5.0**	**0.62**	**0.85**
Methane	%	< 0.50	< 0.50	< 0.50
Nitrogen	%	**75**	**74**	**76**
Oxygen + Argon	%	**17**	**22**	**23**
VOCS (TO-3)				
VOCs ≥ C3 as Hexane	ppmv	**2,900**	**2,700**	**1,100**
VOCS (TO-15)				
1,2,4-Trimethylbenzene	ppmv	**2.8**	< 0.75	**4.6**
1,2-Dichloroethane	ppmv	< 0.20	< 0.25	< 0.16
1,3,5-Trimethylbenzene	ppmv	**2.2**	**0.28**	**2.9**
2-Butanone	ppmv	< 0.60	< 0.75	< 0.48
4-Ethyltoluene	ppmv	**1.3**	< 0.25	**1.8**
Acetone	ppmv	**0.75 J**	< 1.0	< 0.64
Benzene	ppmv	**9.3**	**0.29**	**1.9**
Carbon Disulfide	ppmv	**0.12 J**	< 1.0	**0.12 J**
Chloroethane	ppmv	< 0.20	< 0.25	< 0.16
Ethylbenzene	ppmv	**4.9**	**0.45**	**4.0**
Isopropyl alcohol	ppmv	< 2.0	**420**	**48**
m/p-xylene	ppmv	**15**	**1.6**	**10**
Naphthalene	ppmv	< 0.50	< 0.63	< 0.40
n-Butylbenzene	ppmv	< 0.60	< 0.75	< 0.48
o-Xylene	ppmv	**4.1**	**0.53**	**3.7**
sec-Butylbenzene	ppmv	< 0.60	< 0.75	< 0.48
tert-Butyl Alcohol	ppmv	< 0.80	< 1.0	< 0.64
Toluene	ppmv	**9.9**	**0.69**	**5.1**

Notes:
% = percent
ppmv = parts per million by volume
VOCs = volatile organic compounds
< = not detected above reporting level
J = estimated value

Table 4A
SVE System Influent and Effluent Sample Analytical Results (2020) - µg/L
Expanded IRAP - Installation and Startup Report
Golden Baker Site, Long Beach, California

Chemical Name	Well Name: Sample Date: Sample Name: Units:	Effluent 2/18/2020 SP-03	Influent 2/18/2020 SP-01	Influent 2/25/2020 SP-01	Influent 3/3/2020 SP-01
Fixed Gases (D1946)					
Carbon dioxide	%	**12**	**0.20 J**	**0.56**	**1.9**
Nitrogen	%	**78**	**75**	**76**	**77**
Oxygen + Argon	%	**9.3**	**22**	**23**	**21**
VOCS (TO-3)					
VOCs ≥ C3 as Hexane	µg/L	**5.8 J**	**23**	**3,500**	**9,400**
VOCS (TO-15)					
1,2,4-Trimethylbenzene	µg/L	**0.0065 J**	**0.19**	< 1.5	**21 J**
1,3,5-Trimethylbenzene	µg/L	**0.0026**	**0.12**	< 0.49	**12**
2-Butanone	µg/L	**0.042**	**0.0031 J**	< 0.88	< 18
2-Hexanone	µg/L	**0.010**	< 0.0077	< 1.2	< 25
4-Ethyltoluene	µg/L	< 0.0025	**0.061**	< 0.49	**10**
Acetone	µg/L	**5.7**	**0.023**	**2.2**	< 19
Benzene	µg/L	**0.21**	**0.047**	**1.2**	**15**
Chlorobenzene	µg/L	**0.00080 J**	< 0.0029	< 0.46	< 9.2
Chloromethane	µg/L	**0.0030**	**0.0013**	< 0.21	< 4.1
Dichlorodifluoromethane	µg/L	< 0.0025	**0.0027 J**	< 0.49	< 9.9
Ethylbenzene	µg/L	**0.018**	**0.22**	**2.4**	**38**
Isopropyl alcohol	µg/L	**0.0099 J**	< 0.015	**94**	**550**
m/p-xylene	µg/L	**0.060**	**0.75**	**5.0**	**100**
Methyl bromide	µg/L	**0.0041**	< 0.0024	< 0.39	< 7.8
n-Butylbenzene	µg/L	< 0.0082	**0.0065 J**	< 1.6	< 33
o-Xylene	µg/L	**0.027**	**0.37**	**1.3**	**31**
sec-Butylbenzene	µg/L	< 0.0082	**0.0064 J**	< 1.6	< 33
Styrene	µg/L	**0.039**	< 0.0080	< 1.3	< 26
tert-Butyl Alcohol	µg/L	**0.0080**	**0.10**	< 1.2	< 24
Toluene	µg/L	**0.062**	**0.61**	**4.0**	**74**
Trichlorofluoromethane	µg/L	< 0.0056	**0.0075**	< 1.1	< 22
Vinyl Acetate	µg/L	**0.12**	< 0.0088	< 1.4	< 28

Notes:
% = percent
µg/L = micrograms per liter
VOCs = volatile organic compounds
< = not detected above reporting level
J = estimated value

Table 4B
SVE System Influent and Effluent Sample Analytical Results (2020) - ppmv
Expanded IRAP - Installation and Startup Report
Golden Baker Site, Long Beach, California

Chemical Name	Well Name: Sample Date: Sample Name: Units:	Effluent 2/18/2020 SP-03	Influent 2/18/2020 SP-01	Influent 2/25/2020 SP-01	Influent 3/3/2020 SP-01
Fixed Gases (D1946)					
Carbon dioxide	%	**12**	**0.20 J**	**0.56**	**1.9**
Nitrogen	%	**78**	**75**	**76**	**77**
Oxygen + Argon	%	**9.3**	**22**	**23**	**21**
VOCS (TO-3)					
VOCs ≥ C3 as Hexane	ppmv	**1.6 J**	**7**	**990**	**2,700**
VOCS (TO-15)					
1,2,4-Trimethylbenzene	ppmv	**0.0013 J**	**0.039**	< 0.30	**4.2**
1,3,5-Trimethylbenzene	ppmv	**0.00053**	**0.024**	< 0.10	**2.4**
2-Butanone	ppmv	**0.014**	**0.0010 J**	< 0.30	< 6.0
2-Hexanone	ppmv	**0.0024**	< 0.0019	< 0.30	< 6.0
4-Ethyltoluene	ppmv	< 0.00050	**0.012**	< 0.10	**2.0**
Acetone	ppmv	**2.4**	**0.0099**	**0.94**	< 8.0
Benzene	ppmv	**0.065**	**0.015**	**0.37**	**4.8**
Chlorobenzene	ppmv	**0.00017 J**	< 0.00063	< 0.10	< 2.0
Chloromethane	ppmv	**0.0015**	**0.00064**	< 0.10	< 2.0
Dichlorodifluoromethane	ppmv	< 0.00050	**0.00055 J**	< 0.10	< 2.0
Ethylbenzene	ppmv	**0.0041**	**0.050**	**0.56**	**8.8**
Isopropyl alcohol	ppmv	**0.0040 J**	< 0.0063	**38**	**230**
m/p-xylene	ppmv	**0.014**	**0.17**	**1.2**	**24**
Methyl bromide	ppmv	**0.0011**	< 0.00063	< 0.10	< 2.0
n-Butylbenzene	ppmv	< 0.0015	**0.0012 J**	< 0.30	< 6.0
o-Xylene	ppmv	**0.0063**	**0.085**	**0.31**	**7.1**
sec-Butylbenzene	ppmv	< 0.0015	**0.0012 J**	< 0.30	< 6.0
Styrene	ppmv	**0.0091**	< 0.0019	< 0.30	< 6.0
tert-Butyl Alcohol	ppmv	**0.0026**	**0.034**	< 0.40	< 8.0
Toluene	ppmv	**0.017**	**0.16**	**1.1**	**20**
Trichlorofluoromethane	ppmv	< 0.0010	**0.0013**	< 0.20	< 4.0
Vinyl Acetate	ppmv	**0.033**	< 0.0025	< 0.40	< 8.0

Notes:
% = percent
ppmv = parts per million by volume
VOCs = volatile organic compounds
< = not detected above reporting level
J = estimted value

Table 5
Effluent Volatile Organic Compounds Concentration
Expanded IRAP - Installation and Startup Report
Golden Baker Site, Long Beach, California

Date	Time	Eflluent VOC	Eflluent VOC
		FID (ppmv methane)	FID (ppmv hexane)
2/18/2020	11:45:00 AM	4.2	6.7
2/19/2020	7:15:00 AM	0.0	0.0
2/19/2020	9:00:00 AM	0.0	0.0
2/20/2020	7:00:00 AM	0.0	0.0
2/21/2020	7:10:00 AM	0.0	0.0
2/22/2020	7:00:00 AM	0.0	0.0
2/23/2020	7:15:00 AM	0.0	0.0
2/24/2020	7:35:00 AM	0.0	0.0
2/25/2020	7:30:00 AM	0.0	0.0
3/2/2020	10:35:00 AM	0.0	0.0
3/3/2020	9:25:00 AM	0.0	0.0
3/9/2020	2:50:00 PM	0.0	0.0
3/16/2020	1:00:00 PM	0.0	0.0

Notes:

VOC Volatile Organic Compounds

FID Flame Ionization Detector

ppmv parts per million volume

1. Effluent VOC concentration shall not exceed 36 ppmv hexane per SCAQMD Permit R-G57614
2. VOC Hexane (ppm) = VOC Methane (ppm) x 1.6

Table 6
Mass Removal Estimates
Expanded IRAP - Installation and Startup Report
Golden Baker Site, Long Beach, California

Date	Time	Sample ID	Total Run Hours	Time Weighted Average Flow Rate	Flow Adjustment Factor	Adjusted Flow Rate	Concentration		Mass Removed		Cummulative Mass Removed		Mass Removal Rate		Applied Vacuum
							VOCs >/= C3 as Hexane	Benzene	VOCs >/= C3 as Hexane	Benzene	VOCs >/= C3 as Hexane	Benzene	VOCs >/= C3 as Hexane	Benzene	
			hours	SCFM		SCFM	µg/L	µg/L	lbs	lbs	lbs	lbs	lbs/hr	lbs/hr	in Hg
VE-1															
2/18/2020	1:20:00 PM	2020018-TSO-VE1-36	0	24.0	0.85	20.31	41000	91	0.000	0.000	0.000	0.000	0.000	0.000	7.0
2/25/2020	3:45:00 PM	20200225-TSO-VE1-36	181.5	24.3	0.87	21.13	39000	7.1	574.620	0.705	574.620	0.705	3.166	0.004	10.0
3/3/2020	3:45:00 PM	20200303-TSO-VE1-36	325.6	23.8	0.92	21.88	33000	59	425.212	0.390	999.832	1.095	3.071	0.003	5.5
VE-2															
2/18/2020	1:20:00 PM	2020018-TSO-VE2-27	0	19.0	0.85	16.08	49000	150	0.000	0.000	0.000	0.000	0.000	0.000	8.5
2/25/2020	3:45:00 PM	20200225-TSO-VE2-27	181.5	19.8	0.87	17.21	51000	50	584.986	1.170	584.986	1.170	3.223	0.006	8.5
3/3/2020	3:45:00 PM	20200303-TSO-VE2-27	325.6	20.8	0.92	19.12	38000	150	459.217	1.032	1044.203	2.202	3.207	0.007	6.0
VE-3															
2/18/2020	1:20:00 PM	2020018-TSO-VE3-7	0	29.5	0.85	24.96	4200	11	0.000	0.000	0.000	0.000	0.000	0.000	7.0
2/25/2020	3:45:00 PM	20200225-TSO-VE3-7	181.5	36.6	0.87	31.86	5200	1.3	101.824	0.133	101.824	0.133	0.561	0.001	9.5
3/3/2020	3:45:00 PM	20200303-TSO-VE3-7	325.6	46.0	0.92	42.38	500	0.17	65.199	0.017	167.023	0.150	0.513	0.000	6.5
VE-4															
2/18/2020	1:20:00 PM	2020018-TSO-VE4-15	0	28.0	0.85	23.69	18000	77	0.000	0.000	0.000	0.000	0.000	0.000	5.0
2/25/2020	3:45:00 PM	20200225-TSO-VE4-15	181.5	36.9	0.87	32.11	13000	0	338.425	0.841	338.425	0.841	1.865	0.005	10.0
3/3/2020	3:45:00 PM	20200303-TSO-VE4-15	325.6	90.0	0.92	82.92	9500	11	503.541	0.246	841.966	1.087	2.586	0.003	7.0
VE-5															
2/18/2020	1:20:00 PM	2020018-TSO-VE5-5	0	21.0	0.85	17.77	450	0.12	0.000	0.000	0.000	0.000	0.000	0.000	5.5
2/25/2020	3:45:00 PM	20200225-TSO-VE5-5	181.5	33.2	0.87	28.94	6900	5.4	72.309	0.054	72.309	0.054	0.398	2.99E-04	9.0
3/3/2020	3:45:00 PM	20200303-TSO-VE5-5	325.6	49.5	0.92	45.60	380	0.019	89.608	0.067	161.917	0.121	0.497	3.72E-04	5.0
VE-6															
2/18/2020	1:20:00 PM	2020018-TSO-VE6-15	0	6.5	0.85	5.50	44000	260	0.000	0.000	0.000	0.000	0.000	0.000	5.0
2/25/2020	3:45:00 PM	20200225-TSO-VE6-15	181.5	64.0	0.87	55.76	37000	7.9	1535.478	5.078	1535.478	5.078	8.460	0.028	8.5
3/3/2020	3:45:00 PM	20200303-TSO-VE6-15	325.6	85.5	0.92	78.77	16000	23	1126.813	0.657	2662.291	5.735	8.177	0.018	5.5
VE-7															
2/18/2020	1:20:00 PM	2020018-TSO-VE7-30	0	42.5	0.85	35.96	96000	470	0.000	0.000	0.000	0.000	0.000	0.000	9.0
2/25/2020	3:45:00 PM	20200225-TSO-VE7-30	181.5	32.9	0.87	28.63	50000	43	1420.893	4.993	1420.893	4.993	7.829	0.028	10.0
3/3/2020	3:45:00 PM	20200303-TSO-VE7-30	325.6	29.5	0.92	27.18	34000	64	616.185	0.785	2037.078	5.777	6.256	0.018	4.5

Table 6
Mass Removal Estimates
Expanded IRAP - Installation and Startup Report
Golden Baker Site, Long Beach, California

Date	Time	Sample ID	Total Run Hours	Time Weighted Average Flow Rate	Flow Adjustment Factor	Adjusted Flow Rate	Concentration		Mass Removed		Cummulative Mass Removed		Mass Removal Rate		Applied Vacuum
							VOCs >/= C3 as Hexane	Benzene	VOCs >/= C3 as Hexane	Benzene	VOCs >/= C3 as Hexane	Benzene	VOCs >/= C3 as Hexane	Benzene	
			hours	SCFM		SCFM	µg/L	µg/L	lbs	lbs	lbs	lbs	lbs/hr	lbs/hr	in Hg
VE-8															
2/18/2020	1:20:00 PM	2020018-TSO-VE8-26	0	13.0	0.85	11.00	31000	100	0.000	0.000	0.000	0.000	0.000	0.000	12.0
2/25/2020	3:45:00 PM	20200225-TSO-VE8-26	181.5	9.5	0.87	8.28	32000	10	177.273	0.310	177.273	0.310	0.977	0.002	12.0
3/3/2020	3:45:00 PM	20200303-TSO-VE8-26	325.6	7.0	0.92	6.45	10000	28	73.107	0.066	250.380	0.376	0.769	0.001	10.0
VE-9															
2/18/2020	1:20:00 PM	2020018-TSO-VE9-35	0	53.0	0.85	44.85	82000	220	0.000	0.000	0.000	0.000	0.000	0.000	8.0
2/25/2020	3:45:00 PM	20200225-TSO-VE9-35	181.5	51.5	0.87	44.87	43000	9.8	1906.759	3.505	1906.759	3.505	10.506	0.019	11.0
3/3/2020	3:45:00 PM	20200303-TSO-VE9-35	325.6	47.9	0.92	44.09	23000	32	785.417	0.497	2692.177	4.003	8.268	0.012	5.0
VES-A															
2/18/2020	1:20:00 PM	2020018-VES-A	0	81.0	0.85	68.54	10000	30	0.000	0.000	0.000	0.000	0.000	0.000	11.0
2/25/2020	3:45:00 PM	20200225-VES-A	181.5	85.4	0.87	74.37	9600	0.91	495.535	0.781	495.535	0.781	2.730	0.004	11.0
3/3/2020	3:45:00 PM	20200303-VES-A	325.6	111.3	0.92	102.49	3700	6	367.927	0.191	863.462	0.973	2.652	0.003	8.5
										Total	**11,720**	**22**	**--**	**--**	**--**

Note:

SCFM	Standard Cubic Feet per Minute	lbs	Pounds
µg/L	Microgram per Liter	in Hg	Inches of Mercury
lbs/hr	Pounds per hour		

1. The time selected for each day is the time that the last well was sampled.
2. The well flow rate is adjusted to match the total flow recorded into the thermal oxidizers.

Mass Removed Calculated using the following formula

$$M = \frac{(C_1+C_2)}{2}\frac{\mu g}{L} \times \frac{10^{-6}}{1}\frac{g}{\mu g} \times \frac{1}{453.592}\frac{lb}{g} \times \frac{28.32}{1}\frac{L}{ft^3} \times Q_w \frac{ft^3}{min} \times \frac{60}{1}\frac{min}{hr} \times T\ hr$$

Where

C_1	Concentration from previous week	Q_w	Weighted Average Flow Rate
C_2	Concentration from current week	T	Run time

Table 7
Measured Vacuum Monitoring Data
Expanded IRAP - Installation and Startup Report
Golden Baker Site, Long Beach, California

Well	Screen Interval	Lithologic zone	soil	Vacuum Reading (in WC)												
	ft bgs			2/17/2020	2/18/2020	2/19/2020	2/20/2020	2/21/2020	2/22/2020	2/23/2020	2/24/2020	2/25/2020	3/2/2020	3/3/2020	3/9/2020	3/16/2020
TSO-10	5.5	1	ML	0.177	0.171	0.195	0.247	--	--	--	0.27	0.266	0.124	0.141	0.083	0.210
	10.5	1	ML	0.122	0.229	0.29	0.327	--	--	--	0.352	0.339	0.196	0.234	0.177	0.000
	15.5	2	SM	0.449	0.44	0.52	0.631	--	--	--	0.702	0.691	0.478	0.606	0.552	0.632
	25.5	3	ML	3.862	4.19	6.2	6.6	--	--	--	6.4	6.6	3.891	5.2	3.898	3.723
	35.5	4	SM	3.637	4.4	6.4	6.8	--	--	--	6.6	6.8	4	5.2	4.225	3.810
TSO-11	5.5	1	ML	0.042	0.000	0.000	0.076	--	--	--	0.124	0.152	0.000	0.000	0.000	0.000
	10.5	1	ML	0.482	0.684	0.024	0.444	--	--	--	1.498	1.538	0.139	0.478	0.01	1.525
	15.5	2	SM	1.455	1.439	1.668	1.605	--	--	--	3.377	3.411	2.788	3.067	2.358	3.033
	29.5	4	SM	3.252	0.221	6.2	5.6	--	--	--	6.8	6.4	4.6	4.8	0.659	4.431
	35.5	4	SM	5.4	6	8	8.6	--	--	--	8.4	9	5.8	6.4	5.8	5.8
TSO-13	5.5	1	SM	0.173	0.733	0.911	1.044	--	--	--	1.602	1.813	1.576	1.767	1.651	1.596
	10.5	1	ML	0.453	1.828	2.308	2.636	--	--	--	3.377	3.397	3.393	3.728	3.369	3.310
	15.5	2	SM	1.035	4.361	4.8	5.6	--	--	--	6.4	6.6	5	5.4	5	6.6
	29.5	3	ML/CL	6.6	6.4	8.8	9.8	--	--	--	8.6	8.4	6.2	7.6	6.2	5.8
	35.5	4	SM	7.4	3.122	5	10	--	--	--	8.2	8.4	2.8	7.6	2.421	4.4
TSO-15	5.5	2	SP	0.000	0.000	0.000	0.014	--	--	--	0.000	0.000	0.000	0.000	0.000	0.000
	10.5	2	SP	0.000	0.000	0.000	0.017	--	--	--	0.000	0.000	0.000	0.000	0.000	0.000
	15.5	2	SM	0.013	0.000	0.000	0.034	--	--	--	0.033	0.036	0.000	0.019	0.000	0.000
	25.5	2	SM	0.000	0.013	0.5	0.326	--	--	--	0.036	0.142	0.000	0.009	0.000	0.000
	38.5	4	SM	0.216	0.653	1.347	2.04	--	--	--	1.599	1.872	0.000	1.502	0.000	0.000
TSO-04	2.5	2	SM	0.127	0.000	0.124	0.181	--	--	--	0.196	0.205	0.169	0.169	0.137	0.000
	5.5	2	SM	0.128	0.139	0.165	0.218	--	--	--	0.249	0.256	0.200	0.245	0.17	0.000
	10.5	2	SM	0.171	0.143	0.194	0.243	--	--	--	0.254	0.297	0.245	0.302	0.173	0.132
	14.5	2	SM	0.339	0.177	0.231	0.249	--	--	--	0.268	0.29	3.2	2.248	0.329	0.221
	25.5	3	ML	2.914	3.55	4.224	5	--	--	--	5	5	5.8	5.8	4.8	3.0
	35.5	3	ML	4.8	4.8	7.6	8.2	--	--	--	8	8	5.2	5.8	3.2	2.659
	45.5	4	SM	4.8	5	7.6	8.4	--	--	--	8.6	8.6	5.2	6.6	3.283	2.647

Table 7
Measured Vacuum Monitoring Data
Expanded IRAP - Installation and Startup Report
Golden Baker Site, Long Beach, California

Well	Screen Interval	Lithologic zone	soil	Vacuum Reading (in WC)												
	ft bgs			2/17/2020	2/18/2020	2/19/2020	2/20/2020	2/21/2020	2/22/2020	2/23/2020	2/24/2020	2/25/2020	3/2/2020	3/3/2020	3/9/2020	3/16/2020
TSO SV1	4.5-5.5	1	SM	0.625	0.577	0.647	0.686	--	--	--	1.629	1.545	1.141	1.111	0.982	0.876
	9.5-11	2	SP-SM	4.6	4.274	5	5.4	--	--	--	9.8	9.8	9	9.2	9.2	7.8
TSO SV2	4.5-5.5	Z1/Z2	SC/SM	0.485	0.553	0.567	0.596	--	--	--	0.611	0.598	0.954	0.898	0.844	0.741
	9.5-11	2	SP-SM	0.526	0.642	0.654	0.626	--	--	--	0.969	0.786	1.117	1.027	0.963	0.897
TSO SV3	4.5-5.5	Z1/Z2	SC/SM	0.747	0.812	1.003	1.051	--	--	--	1.042	1.147	2.090	1.895	1.962	1.768
	9.5-11	2	SP-SM	1.093	1.137	1.275	1.406	--	--	--	1.382	1.511	2.462	2.643	2.438	2.251
TSO-12	14.5-15.5	1	ML	0.000	0.336	0.000	0.000	--	--	--	0	0	0	0	0	0
	24.5-25.5	2	SM	0.024	0.229	0.000	1.126	--	--	--	0.82	1.136	1.511	0.396	0.032	0.026
	34.5-35.5	4	SM	0.604	0.151	0.213	0.79	--	--	--	0.918	0.821	0.192	0.944	0	0
TSO-SVE1	10-15		--	OR	10	12	26	--	--	--	30	30	28	28	25	25
TSO-SVE3	8	1	--	9.4	9.8	9	14	14	16	15	16	16	13	9.8	14	14
	17	2	--	OR (> 10)	10	10	20	20	22	25	20	22	16	24	24	24
	26	3	--	OR (> 10)	10	12	24	24	25	24	25	24	18	20	18	20
	37	4	--	OR (> 10)	10	12	25	25	25	25	25	25	18	20	16	18
TSO-SVE4	10	1	--	2.4	2.4	2.6	16	2.6	2.422	4.4	2.8	2.9	4.379	4.217	5	4
	20	2	--	OR (> 10)	10	10	15	16	17	33	17	18	36	36	37	36
	28	3	--	OR (> 10)	14	22	31	32	33	34	32	32	28	30	28	28
	40	4	--	OR (> 10)	16	24	35	34	34	34	34	35	28	30	26	28

Notes:
OR Over Range
in WC inches of water column

IV.H.2

Document Review—Remedial Action Plan

Converse Consultants
Geotechnical Engineering, Environmental & Groundwater Science, Inspection & Testing Services

August 5, 2020

Mr. Tony Locacciato, AICP
Partner
Meridian Consultants
920 Hampshire Road
Suite A-5
Westlake Village, California 91361

Subject: **Document Review – Remedial Action Plan**
Proposed River Park Residential Development
712 W Baker Street
Long Beach, California
Converse Project No. 19-41-290-01

Mr. Locacciato:

Converse Consultants (Converse) appreciates the opportunity to present our Review of the draft Remedial Action Plan, dated August 2019, prepared by California Environmental, and the California Regional Water Quality Control Board (CRWQCB) comments, dated May 2020, to Meridian Consultants for the Proposed River Park Residential Development of the former Oil Operators Inc. (OOI) property at 712 W. Baker Street in the City of Long Beach, California. This work was conducted in accordance with our proposal dated May 26, 2020 and authorized by Mr. Tony Locacciato of Meridian Consultants on May 28, 2020.

Project Site Description

The 20.12-acre property is located south of the San Diego Freeway (Interstate 405), north of Wardlow Road, east of the Los Angeles River Channel and Long Beach Freeway (Interstate 710) and west of Golden Avenue in the City of Long Beach, California as shown on **Figure No. 1, *Site Location Map***. A new single-family residential development is proposed for the property that will include townhome style residences with associated access driveways, parking, and recreational improvements. Residential development is planned on the 13.3-acre southern parcel at 712 West Baker Street (APN 7203-002-005). The 4.8-acre northern parcel at 701 West Baker Street (APN 7203-002-001) is planned to remain as an open-space or be developed as a park. A four (4) foot deep retention swale for stormwater runoff is planned along the western length of the property. The proposed site grading is planned to be a balanced cut/fill operation with the exception of

possible export of environmentally impacted earth materials that do not met the site remediation criteria and requirements.

Extensive environmental studies for soil gas, soil and ground water, site monitoring and site remediation activities have been performed on the Oil Operators, Inc. (OOI) property parcels from 1984 to present. Wastewater treatment activities have occurred on the property parcels since the 1920s. OOI operated an oil field wastewater treatment facility that treated oil field brines and wastewater that were direct by-products of crude oil drilling and oil production. Environmental monitoring and remediation activities on the property are still on going to further clean-up the site. Environmental remediation activities on the property parcels are currently being monitored and reviewed by the lead environmental enforcement agencies including the City of Long Beach and the State of California Los Angeles Regional Water Quality Control Board.

In 1959, a wastewater treatment plant was constructed on the property that consisted of five (5) circular concrete-walled skimming basins and associated pumps, aboveground storage tanks, pipelines and related small buildings and support facilities. The treatment plant was located north of two (2) rectangular-shaped, clay-lined, settling basins in the southern portion of the project site. The settling basins were referred to as Basin 1 and Basin 2. Basin 1 received oily residual solids that settled out of the produced water. Basin 2 received relatively clean processed water that was discharged off-site. The approximate location of the wastewater treatment plant on the central portion of the property is shown on **Figure No. 1, *Site Location Map***.

In 1998 the water treatment facility ceased operations. In October 2000, the City of Long Beach Fire Department directed that liquid hydrocarbon products, wastewater and sludge be removed from the site and that hydrocarbon impacted soils and groundwater be remediated. The existing buildings, facilities, above ground storage tanks, structures, and pipelines were cleaned, demolished and disposed off-site in 2000 and 2001.

The existing site conditions are shown on **Figure No. 2, *Project Site Aerial Photo***. Existing ground surface elevations range from approximately 25 feet to 40 feet above mean sea level (msl). The proposed building pads for the residential development are planned to range between approximate elevations 34 feet to 41 feet above mean sea level (msl).

Two responsible parties have been identified related to impacts at the Site. Oil Operators, Inc (OOI) has been identified as the responsible party related to the water treatment activities conducted at the site at the Site under Consent Decree with city of Long Beach. Tesoro (nee BP Pipelines) for the gasoline and VOCs from pipeline leaks along the

eastern portion of the site from pipelines located in Golden Avenue under CRWQCB Cleanup and Abatement Order (CAO) R4-2013-0064.

Proposed Development

A new single-family residential development (River Park) with building pad elevations approximately 34.2 feet to 41.1 feet above mean sea level (msl) is proposed for parcel 7203-002-005, 712 Baker Street. The north parcel, 7203-002-001, 701 Baker Street will remain as an open-space/park area. The conceptual **Site Development Plan – Figure 3** depicts the general areas of the proposed development. Recreation areas are planned north of Baker St. and in the southern half of the project north of Wardlow Road. A future homeowner's association will have overall responsibility for maintenance of common areas, the recreation centers, maintaining drainage facilities, and for management of future operations and maintenance plan for the anticipated engineering controls.

The preliminary design depicts excavated areas on the east portion of the property with an overall east to west project slope. A four-foot deep, retention basin for stormwater runoff control is planned along the western length of the property. The proposed grading is generally a balanced cut/fill operation except for the possible export of impacted soil that does not meet the recommended risk-based concentration (RBC). Imported fill is required to make up for impacted soil that needs to be disposed of offsite during implementation of the approved RAP.

Remedial Actions

There are two remedial actions currently underway at the Property. Remediation of the impacts from pipeline leaks pipeline along Golden Avenue by Tesoro Logistics.

Current remedial activities at the OOI Property consist of:

- Ongoing soil remediation (bioremediation) activities, undertaken in response to the Consent Decree issued in 2002, under the oversight of the City of Long Beach Department of Health and Human Services, Division of Hazardous Materials (LBDHHS).

- The groundwater monitoring (GWM) activities performed under the oversight of the California Regional Water Quality Control Board - Los Angeles Region (LARWQCB).

- A Vapor Extraction System (VES) in the eastern part of the Site from 2012 to 2014 to reduce vapor phase benzene concentrations adjacent to Golden Avenue.

The draft RAP outlines the continued remediation of the OOI Property.

Remedial Action Plan

In August 2019 a Remedial Action Plan (Draft Conceptual RAP) was prepared by California Environmental for Integral Partners for the Oil Operators(OOI) property. The plan was submitted to the Los Angeles Regional Water Quality Board for review.

The purpose of the RAP is to outline a pathway for completion of remediation activities that leads to the issuance of a No Further Action determination by the lead enforcement agencies (the City of Long Beach and the state of California – Los Angeles Regional Water Quality Control Board, LARWQCB).

Chemicals of concern

The following chemicals of concern (COCs) were identified in the RAP:

Soil Vapor - Soil vapor investigations conducted at the site reported the presence of methane, vapor phase benzene and total petroleum hydrocarbons in the gasoline and light hydrocarbon range (TPH-g). The onsite VOCs in soil gas are related to the Tesoro pipeline leaks.

The presence of methane is consistent with the presence of active TPH bioremediation cells on the property along with the biologic breakdown of the TPH in the lower vadose zone

Elevated concentrations of methane were found in the eastern, central, and southern portions of the property. Beneath Basins 1 and 2 at the Site, south of Baker Street, the highest methane concentration detected at 5 feet bgs was 374,000 ppmv. This location is within the active bioremediation zone where ephemeral pockets of elevated methane are expected due to the active bioremediation being conducted. Methane gas concentrations were typically lower (~5,000 ppmv) in the 5-foot depth samples outside of the bioremediation cells as compared to the deeper 15-foot samples.

The maximum vapor phase TPH-g concentration was 78,000 ug/l in TSO15-35 feet, located adjacent to the historical pipeline leaks.

Soil - Based on multiple investigations conducted from 1981 to 2020 and a Human Health Risk Assessment dated 2016, prepared by Mearns Consulting, for OOI, the RAP identified the following COCs in the soil along with proposed screening levels:

- Lead in soil ≤ 80 mg/Kg (upper 10 ft)
- Arsenic in soil ≤ 10 mg/Kg (upper 5 ft)
- TPH in soil based upon carbon range (upper 0-10 ft),
- C_4-C_{12} < 370 mg/Kg
- C_{13}-C_{22} < 5,500 mg/Kg,
- C_{23}-C_{32} < 5,000 mg/Kg
- C_{32}-C_{40} < 6,500 mg/Kg

Groundwater - No COCs were identified in the groundwater based on the quarterly groundwater monitoring showing that the OOI site COCs (TPH-o and lead) have not significantly impacted the groundwater quality beneath the site.

Groundwater beneath the eastern portion of the site is impacted with TPH-g and VOCs that reportedly have migrated onsite from offsite pipeline releases. Accumulations of gasoline product (LNAPL) were periodically found in monitoring well Brycon MW1 from 2013-2019. The pipeline release RP (Tesoro), as required by the LARWQCB Clean-up and Abatement Order (CAO) R4-2013-0064, will install an expanded vapor extraction system (VES) for removal of the vapor phase pipeline-related VOCs present beneath the OOI property

Arsenic is present in groundwater at concentrations up to 0.711 mg/L. This is greater than the MCL of 0.01 mg/L. The concentrations of arsenic in groundwater are reportedly correlated with the TPHg plume in groundwater.

Remedial Alternatives

The following alternatives were evaluated:

Alternative 1 – No Action. This alternative was rejected since it yields a site where exposure to the near surface COCs is likely and is therefore incompatible with the proposed residential development.

Alternative 2 - Complete excavation of all COCs exceeding the RBCs. This alternative would require the excavation, treatment, and disposal of more than 77,000 cubic yards of impacted soil, just from the north of Baker parcel alone. Over 10,000 end-dump truck trips would be required to transport the impacted soil and import clean fill. The truck traffic, noise and associated deep excavation work would pose risks and nuisances that would be unacceptable for the adjacent residential community. This option has a large carbon footprint that cannot easily be offset.

Alternative 3 - Placement of an Engineered Cap over the impacted soil north of Baker Street for future use as open space or a park and clean-up of the south parcel to the proposed RBCs to allow for construction of the proposed residential community.

The following summarizes the proposed mitigation measures:

COC		Locations	Proposed Mitigation Measure
Vapor Phase	Methane	NoB	Engineered cap
		SoB	Engineering control – Vapor intrusion membrane – residential VES implement by Tesoro
	TPHg/VOCs	NoB	None (No Structures)
		SoB	Engineering control - passive, membrane –residential/ VES implemented by Tesoro
Soil	TPH	NoB	Engineered Cap
	Lead		Engineered Cap
	Arsenic		Engineered Cap
	TPH	SoB	Bioremediated to RBCs or dispose offsite
	Lead		Remove and dispose > RBC within the REI
	Arsenic		Remove and dispose > RBC within the REI
Groundwater	TPH-g/VOCs	Nob & SoB	RP for pipeline release to implement clean-up as required by LARWQCB
	Arsenic		Remediation not required - Monitor

Nob – North of Baker, SoB South of Baker, RBC Risk based Concentration

Proposed Remedial Activities

The RAP proposes removal and treatment of TPH impacted soil that exceeds the site-specific cleanup goals for the 13.3-acre south parcel (7203-002-005) to be developed as a new residential community. Containment through placement of an Engineered Cap is recommended for the 4.8-acre north parcel (APN 7203-002-001) that will remain as open space or developed as a park. Civil engineering drawings that include provisions for VOC/methane vapor control, grading, drainage control, and design drawings for the

Engineered Cap will be prepared and submitted once the major components of the RAP are approved by the LARWQCB.

The proposed RAP includes the following components:

1) Continued bioremediation under the oversight from the city of Long Beach and the LARWQCB of the TPH impacted soil to meet the proposed RBCs associated with the identified COCs.
2) Obtain an LARWQCB issued Waste Discharge Requirements (WDR) (if required) for onsite reuse of the treated TPH impacted soil.
3) Verification sampling of all treated and imported soil prior to placement as engineered-compacted fill to ensure conformance with the approved RBCs.
4) Placement of the soil that meets the proposed RBGs as engineered compacted fill below the proposed finish grade.
5) The RAP defines the Remedial Earth Interval (REI) at the site as the area from the future ground surface to a depth of 10 feet below grade. The residential risk-based clean up goals (RBCs) are applicable within the REI.
6) Segregation and selective grading for the onsite soil that contains low or non-detect concentrations of the COCs for use as engineered fill within the upper portion of the REI.
7) Engineering design and placement of an Engineered Cap on the north parcel that will remain as open space. Civil engineering drawings that will include provisions for grading, drainage control, and design of the Engineered Cap, a soil management plan (SMP) and plans for VOC/methane vapor control system. As part of the cap engineering design, a treatability study will be performed on the TPH, arsenic and lead-affected soil located at the North Parcel. The purpose of the treatability study is to ensure that the affected soil can be mixed with cement and cement kiln dust, to develop a suitable soil/cement mixture that when cured develops a $1x10^{-7}$ cm/sec vertical hydraulic conductivity. Thus, protecting (long-term) human health and groundwater quality.
8) Continuous environmental monitoring and implementation of a Soil Management Plan (SMP) for all remediation earthwork until final rough grades are achieved.
9) Design and future installation of a passive sub-slab vapor intrusion mitigation system (membrane and venting) for all future onsite residential and associated structures. Future HOA to enforce Operations and Maintenance Implementation Plan (OMIP) for the vapor intrusion mitigation system.

10) Continued operation by Tesoro of the VES unit(s) associated with remediation of the TPHg/VOC release from the offsite petroleum pipelines.

11) Abandonment of the existing monitoring wells and establishment of the final monitoring well network for use in post- remediation groundwater monitoring. Sampling of the deeper groundwater zone beneath Area 3 to assess for impacts below the upper saturated zone.

12) Development of a land use covenant (LUC) including restriction on development for the CAP parcel, protection and maintenance of engineering controls, including the Engineered Cap, on the north parcel, a prohibition of pumping and use of groundwater; for future access requirements associated with operation of the VES unit(s) and for groundwater monitoring activities, to limit exposure to soils below the recommended REI, and the requirement for installation of a vapor intrusion mitigation system for all onsite structures.

13) It is anticipated that a future homeowner's association will have overall responsibility for maintenance of common areas, the recreation centers, maintaining drainage facilities, and for management of future operations and maintenance plan for the anticipated engineering controls. Financial assurance instruments for the maintenance operations may need to be implemented. An access agreement will be required for the RP to sample and ultimately decommission the groundwater monitoring well network.

Figures 5 through 11 and 17 from the RAP, depicting graphically the extent of remediation, are attached as **Appendix A.**

Water Board Response

On May 21, 2020, the LARWQCB issued comments on the proposed RAP. The comments are summarized below. A copy of the comments is provided in **Appendix B.**

1 The Draft Conceptual RAP proposes site-specific risk-based clean-up goals (RBGs) for soil based on a site-specific Human Health Risk Assessment (HHRA) dated January 14, 2016, prepared by Mearns Consulting, LLC. The Draft Conceptual RAP states that the proposed RBGs were agreed to following review and consultation with Dr. James Carlisle of the Office of Environmental Health Hazard Assessment (OEHHA). However, an OEHHA Memorandum dated February 18, 2016 prepared by Dr. James Carlisle states that OEHHA cannot support Mearns' risk and hazard estimates for soil contaminants. California Environmental has provided follow-up

email correspondence between OEHHA and Mearns where OEHHA provides some recommendations for soil RBGs which have been incorporated into the Draft Conceptual RAP. **However, the email also points to the need for additional discussion to determine exposure point concentrations. Furthermore, the email is not an official memorandum from OEHHA agreeing with the RBGs now proposed in the Draft Conceptual RAP.**

Additionally, the HHRA uses the Johnson & Ettinger (J&E) soil gas screen model and groundwater screen model modified by the Department of Toxic Substances Control Human and Ecological Risk Office (DTSC HERO, December 2014) to assess the potential risks and hazards due to exposure to contaminants detected in soil vapors at 5 feet and 15 feet below the ground surface (bgs) and in groundwater at 47 feet bgs for a residential exposure scenario. However, OEHHA no longer recommends use of the J&E model for screening sites and is instead recommending an empirically derived default attenuation factor of 0.03 following guidance from U.S. EPA (2015). **Therefore, the risks for a potential residential exposure scenario should be reevaluated according to updated guidance**.

The proposed clean-up goals for the Site should be consistent with State Water Resources Control Board (SWRCB) Resolution 92-49, which states that the Regional Board shall "Ensure that dischargers are required to clean up and abate the effects of discharges in a manner that promotes attainment of either background water quality, or the best water quality which is reasonable…" **Therefore, prior to the use of RBGs as clean-up goals, it must be demonstrated that cleanup to background water quality is not reasonable, based on those justifications included in SWRCB Resolution 92-49, such as technical and/or economic infeasibility. Regional Board staff suggest the preparation of a feasibility study to demonstrate that the proposed clean-up goals are consistent with SWRCB Resolution 92-49**.

2 With respect to arsenic in groundwater, **additional technical justification should be presented to the Regional Board to support the claim that Site historical operations did not contribute to the elevated arsenic concentrations detected in Site groundwater. If sufficient justification cannot be provided to prove this claim, then a plan to remediate the Site's release of arsenic to groundwater should be developed and included in the final remedial action plan**.

3 With respect to light non aqueous phase liquid detected near monitoring well Brycon MW1, **additional investigation may be necessary to determine the source of the LNAPL impacts, unless additional documentation can be provided to disprove Tesoro's theory (e.g. documents identifying what the piping transported, what**

the sump held, etc.). The final RAP should include a contingency for remediation of the LNAPL impacts to soil and groundwater, unless it can be determined that the Site is not the source of the release.

4. Regional Board staff are not convinced that management of these systems by an HOA will adequately safeguard human health at the Site. **The final RAP should provide detailed descriptions of how these operations would be handled by the HOA (e.g. retaining a consultant to conduct monitoring and repairs, etc.), and/or provide detailed examples of how this role has been successfully performed by other HOAs, as relayed by your consultant, California Environmental.**

5. **Sampling matrix will need to be forwarded to OEHHA for their review and concurrence once the final RAP is submitted**.

Comments

For the residential portion of the project, the plan primarily involves the creation of a 10-foot remedial earth interval to separate soil impacted with elevated levels of TPH and metals, specifically arsenic and lead, from the residential development. In addition, vapor mitigation barrier is proposed beneath the residential structures to mitigate the impacts from methane and VOCs.

For the north parcel, which is proposed as open space, an engineered cap and a land use covenant restricting development is proposed.

In addition, a groundwater monitoring network is proposed to replace the current monitoring wells impacted by the development.

Based upon our review of the above, we have the following comments:

- We agree with the Water Boards comment that additional discussion regarding cleanup goals and the preparation of an updated HHRA, consistent with current requirements.

- It is noted that there is some disagreement between OOI and Tesoro regarding the sources of arsenic, LNAPL and soil vapor. Tesoro has stated the following:

    - "Tesoro disagrees that it is the party responsible for impacts at the Site, and the submission of this IRAP Addendum is not intended to waive Tesoro's

rights to seek review of the Order. Tesoro has considerable data and site operations information showing OOI's operations and/or other pipelines may be or are sources of benzene, unrefined product, and refined product along the eastern boundary of the OOI property".

- With respect to the HOA being responsible for the operation and maintenance of the engineering controls, it is our recommendation that the responsibility for maintaining the operation and maintenance remain with the responsible parties and access agreements provided to the responsible parties by the HOA to allow access for the operation and maintenance.

Conclusion

The contaminants and impacts to the Property from the OOI operations appear to have been adequately defined and delineated. Mitigation measures as outlined in the Draft RAP should be sufficient to allow to the use of the site for residential development pending review by the Water Board and the City of Long Beach.

On site bioremediation will continue pursuant to the current permit requirements.

The previously identified impacts from offsite sources are being mitigated as outlined in the Tesoro IRAP. If additional impacts from offsite sources are identified mitigation measure will be amended to address them.

There is some disagreement between the responsible parties as to the source of some impacts. Further investigation may be required to correctly clarify and /or identify the source(s) of the impact.

Regardless, the measures under regulatory oversight should be sufficient to allow redevelopment of the site for residential purposes.

No time frame for the remedial activities was presented in the RAP. Based on the proposed activities enumerated in the RAP, the implementation of the remedial earth interval can be conducted during grading activities at the site. The installation of a subslab membrane and venting can occur in the initial phase of construction.

Implementation of the IRAP is estimated at 64 weeks for design, permitting and installation with quarterly reporting for 2 years after installation and semi-annual reporting thereafter. The total remedial period is not known.

Closure

We appreciate the opportunity to be of service. Should you have any questions or comments regarding this report, please contact Norman Eke at (626) 930-1260.

CONVERSE CONSULTANTS

John Ziegler
Senior Professional

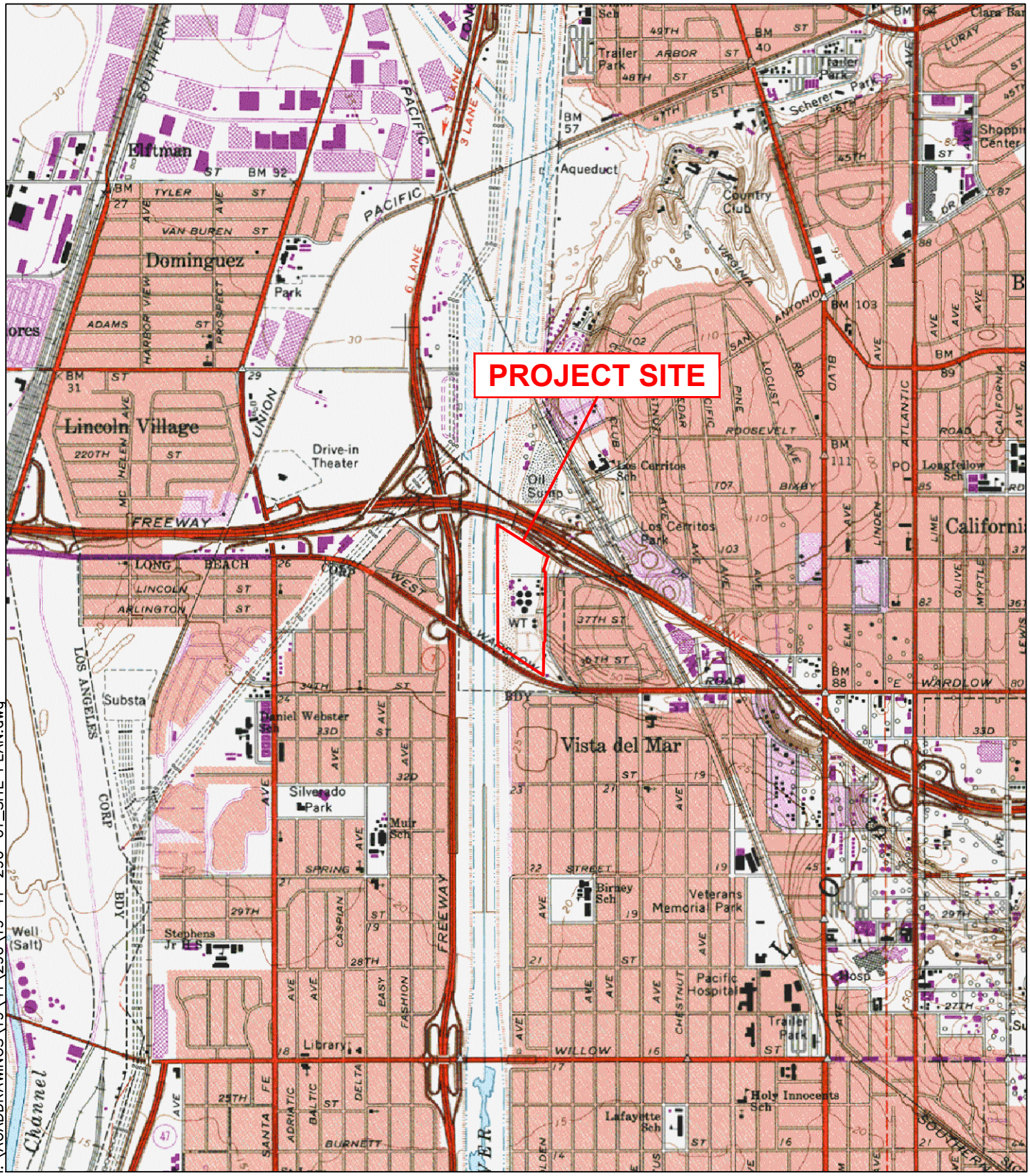
Norman S. Eke
Senior Vice President

Appendix A – RAP Figures (or do we include a copy of the RAP all 1062 pages of it)
Appendix B– Water Board Comments

Figure 1 – Site Location
Figure 2 - Existing Site Conditions
Figure 3 - Proposed Development

Figures

Converse Project No. 19-41-290-01



I:\ACADDRAWINGS\19\41\290\19-41-290-01_SITE PLAN.dwg

SITE LOCATION MAP

0 1,000' 2,000'

SCALE: 1"=2,000'
SCALE IN FEET

Converse Consultants

PROPOSED 20-ACRE RESIDENTIAL DEVELOPMENT
712 BAKER STREET
LONG BEACH, CALIFORNIA

Figure No.
19-41-290-01

Figure No.
1

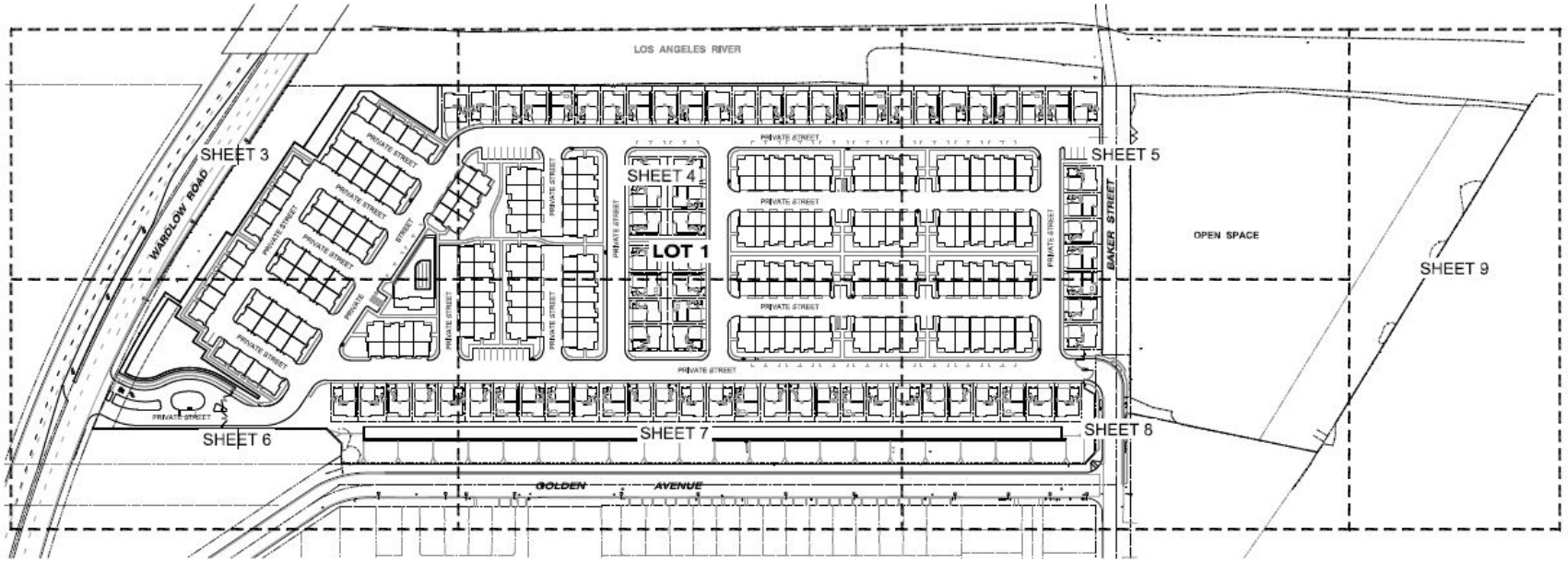
PROJECT SITE AERIAL PHOTO

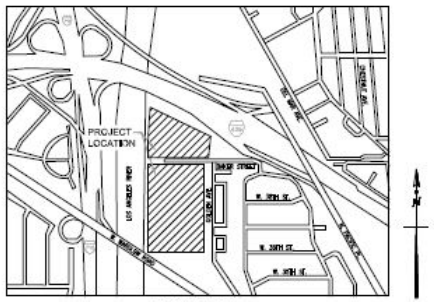
Converse Consultants

PROPOSED 20-ACRE RESIDENTIAL DEVELOPMENT
712 BAKER STREET
LONG BEACH, CALIFORNIA

Project No.
19-41-290-01

Figure No.
2





LEGEND:

SYMBOL	DESCRIPTION
	BOUNDARY LINE
	STREET CENTERLINE
	RIGHT OF WAY
	EASEMENT
	EXISTING CHAIN LINK FENCE
	PROPOSED TUBULAR FENCE
	EXISTING CONTOUR AND ELEVATION
	EXISTING RETAINING WALL
	PROPOSED RETAINING WALL
	UNDERGROUND GAS
	UNDERGROUND WATER
	UNDERGROUND SEWER
	STORM DRAIN
	BUILDING PERIMETER
	UNIT NUMBER
	SEWER MANHOLE
	POWER POLE
	STREET LIGHT

ABBREVIATIONS:

AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
BOT.	BOTTOM
C/L	CENTER LINE
CONC.	CONCRETE
DWY.	DRIVEWAY
EX.	EXISTING
EXIST.	EXISTING
FH	FIRE HYDRANT
MAX.	MAXIMUM
SWR	SEWER
SMH	SEWER MANHOLE
SCO	SEWER CLEAN-OUT
SD	STORM DRAIN
SL	STREET LIGHT
PROP.	PROPOSED
PP	POWER POLE
P/L	PROPERTY LINE
R/W	RIGHT OF WAY
WTR	WATER

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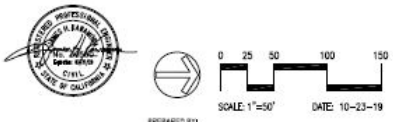
SUBDIVIDER:

INTERNAL COMMUNITIES
888 SAN CLEMENTE, SUITE 100
NEWPORT BEACH CALIFORNIA 92660
ATTN: PETER HARDY
PHONE NO. (949) 720-3612

GENERAL NOTES:

EXISTING PARCELS:	6
EXISTING AREA:	888,213 S.F. (20.34 ACRES)
EXISTING ZONE DISTRICT:	CS (COMMERCIAL STORAGE) & R-1-H (SINGLE-FAMILY RESIDENTIAL, STANDARD LOT)
ASSESSORS PARCEL NUMBERS:	7203-032-001, 005, 007, 008, 009, & 010
PROPOSED LOTS:	1 LOT CONDOMINIUM TRACT (INCLUDING PRIVATE STREET EASEMENT)
PROPOSED LOT AREA:	899,888 S.F. (20.89 ACRES) INCLUDING STREET VACATION PER SEPARATE INSTRUMENT
PROPOSED LAND USE:	RESIDENTIAL (226 UNITS)
OFF-SITE IMPROVEMENTS:	PROPOSED IMPROVEMENTS ALONG WARDLOW ROAD, GOLDEN AVENUE, AND BAKER STREET
DEDICATION:	PROPOSED DEDICATION ALONG BAKER STREET
UTILITIES:	EXISTING AND PROPOSED PUBLIC UTILITIES INCLUDING EASEMENTS SHALL BE DEDICATED. UTILITY SIZES AND LOCATIONS SHOWN HEREON ARE PRELIMINARY AND SUBJECT TO CHANGE AT THE TIME OF FINAL ENGINEERING DESIGN.
FLOOD ZONE:	ZONE "X" (UNSHADED) AS AREAS DETERMINED TO BE OUTSIDE THE AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT PER FEMA MAP 06037C1855F WITH EFFECTIVE DATE SEPTEMBER 26, 2008



Proposed Site Plan

William Lyon Homes
Haven 226
Ontario, California

Converse Consultants

Project No:

19-41-290-01

FIGURE **3**

RAP Figures

Appendix A

May 21, 2020

Mr. Kevin Laney
Oil Operators, Inc.
2852 Gundry Avenue
Signal Hill, CA 90755

SUBJECT: COMMENTS ON THE DRAFT CONCEPTUAL REMEDIAL ACTION PLAN

SITE: OIL OPERATORS, INC., 712 BAKER STREET, LONG BEACH, CALIFORNIA (SCP NO. 0093, SITE ID NO. 2044M00)

Dear Mr. Laney:

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) is the state regulatory agency with primary responsibility for protecting groundwater and surface water quality for all beneficial uses within major portions of Los Angeles and Ventura Counties, including the referenced site (Site).

Regional Board staff have reviewed the draft *Remedial Action Plan* (Draft Conceptual RAP) dated August 2019, prepared by your consultant California Environmental. Upon receipt of the Draft Conceptual RAP, Regional Board staff identified and discussed various issues with your consultants, California Environmental and The Brownfield Redevelopment Group Co. During a call on April 3, 2020, California Environmental requested a comment letter from the Regional Board summarizing the issues identified in the Draft Conceptual RAP. This letter has been prepared in response to the request.

COMMENTS

Based on our review of the Draft Conceptual RAP, the following comments should be addressed in the final RAP submitted to the Regional Board:

1. The Draft Conceptual RAP proposes site-specific risk-based clean-up goals (RBGs) for soil based on a site-specific Human Health Risk Assessment (HHRA) dated January 14, 2016, prepared by Mearns Consulting, LLC. The Draft Conceptual RAP states that the proposed RBGs were agreed to following review and consultation with Dr. James Carlisle of the Office of Environmental Health Hazard Assessment (OEHHA). However, an OEHHA Memorandum dated February 18, 2016 prepared by Dr. James Carlisle states that OEHHA cannot support Mearns' risk and hazard estimates for soil contaminants. California Environmental has provided follow-up email correspondence between OEHHA and Mearns where OEHHA provides some recommendations for soil RBGs which have been incorporated into the Draft Conceptual RAP. However, the email also points to the need for additional discussion to determine exposure point concentrations. Furthermore,

the email is not an official memorandum from OEHHA agreeing with the RBGs now proposed in the Draft Conceptual RAP.

Additionally, the HHRA uses the Johnson & Ettinger (J&E) soil gas screen model and groundwater screen model modified by the Department of Toxic Substances Control Human and Ecological Risk Office (DTSC HERO, December 2014) to assess the potential risks and hazards due to exposure to contaminants detected in soil vapors at 5 feet and 15 feet below the ground surface (bgs) and in groundwater at 47 feet bgs for a residential exposure scenario. However, OEHHA no longer recommends use of the J&E model for screening sites and is instead recommending an empirically derived default attenuation factor of 0.03 following guidance from U.S. EPA (2015).[1] Therefore, the risks for a potential residential exposure scenario should be reevaluated according to updated guidance.

Finally, the proposed clean-up goals for the Site should be consistent with State Water Resources Control Board (SWRCB) Resolution 92-49, which states that the Regional Board shall "Ensure that dischargers are required to clean up and abate the effects of discharges in a manner that promotes attainment of either background water quality, or the best water quality which is reasonable…" Therefore, prior to the use of RBGs as clean-up goals, it must be demonstrated that cleanup to background water quality is not reasonable, based on those justifications included in SWRCB Resolution 92-49, such as technical and/or economic infeasibility. Regional Board staff suggest the preparation of a feasibility study to demonstrate that the proposed clean-up goals are consistent with SWRCB Resolution 92-49.

2. The Draft Conceptual RAP states that the arsenic detected in groundwater at concentrations higher than expected background concentrations is unrelated to historical activities at the Site. The Draft Conceptual RAP cites a technical PowerPoint presentation to the Regional Board, which presents the following theory:

> Arsenic naturally occurs in Site aquifer sediments. Under oxic conditions, the arsenic is adsorbed to naturally occurring iron, manganese, and aluminum hydroxides on Site alluvial aquifer sediments. Elevated groundwater arsenic concentrations at the Site are caused by the introduction of biodegradable petroleum hydrocarbons into groundwater, which promotes groundwater microbial activity (and thus consumption of oxygen), creating a reducing environment. Oxygen depletion and the reducing geochemical conditions in the groundwater causes the release and mobilization of iron, and therefore arsenic, into groundwater.
>
> In conclusion, the long-term releases of gasoline and diesel fuel from numerous fuel pipelines beneath Golden Avenue east of the Site caused and continues to cause reducing conditions in Site groundwater. These fuel releases generated a dissolved-phase arsenic groundwater plume, which can be observed on the eastern portion of the Site along Golden Avenue and is absent downgradient on the western portion of the Site near the Los Angeles River.

Regional Board staff acknowledge the likely occurrence of mobilization of naturally occurring arsenic in soil sediments to groundwater due to reducing conditions caused by

[1] https://www.epa.gov/vaporintrusion/technical-guide-assessing-and-mitigating-vapor-intrusion-pathway-subsurface-vapor

biodegradation of petroleum hydrocarbons released into groundwater. However, historical activities at the Site may have also contributed to the occurrence of arsenic in Site groundwater. The well containing the highest concentration of arsenic in groundwater is TMW6, which is located centrally on the Site, not on the eastern portion. Laboratory analytical data for influent wastewater to the Site's historical wastewater facility provided to Regional Board staff showed that at least one water sample contained arsenic. Additionally, the *Subsurface Characterization Report of the Southern Portion of Oil Operators, Inc.* (Report) dated December 12, 1991, prepared for the Site reported that arsenic was detected in shallow soils at the Site at concentrations significantly greater than presumed background concentrations, up to 190 ppm. The Report states that "these levels of lead and arsenic are soluble and may leach to the groundwater." Therefore, additional technical justification should be presented to the Regional Board to support the claim that Site historical operations did not contribute to the elevated arsenic concentrations detected in Site groundwater. If sufficient justification cannot be provided to prove this claim, then a plan to remediate the Site's release of arsenic to groundwater should be developed and included in the final remedial action plan.

3. The Draft Conceptual RAP does not propose to address the light non-aqueous phase liquid (LNAPL) impacts detected near groundwater monitoring well Brycon MW1 due to the assumption that these impacts originate from the petroleum pipelines beneath Golden Avenue. However, the results of the supplemental assessment for the LNAPL impacts conducted by California Environmental in April through June 2019 did not definitively show that the petroleum pipelines are the source of LNAPL detected. A comment letter dated January 28, 2020, prepared by AECOM on behalf of Tesoro for the adjacent BP Pipeline/ARCO cleanup site (which includes the petroleum pipelines) provides an alternative explanation for the presence of the LNAPL. According to this letter, piping at approximately 20 to 25 feet below the ground surface (bgs) that connected a sump at the Site to the sewer overlies the area with the highest detected LNAPL impacts. The letter infers that this is the source of the LNAPL. This hypothesis is supported by the absence of significant soil impact in the vadose zone above 25 feet bgs. Therefore, additional investigation may be necessary to determine the source of the LNAPL impacts, unless additional documentation can be provided to disprove Tesoro's theory (e.g. documents identifying what the piping transported, what the sump held, etc.). The final RAP should include a contingency for remediation of the LNAPL impacts to soil and groundwater, unless it can be determined that the Site is not the source of the release.

4. The Draft Conceptual RAP proposes to emplace an engineered cap on the north parcel that will remain as open space and design and install a passive sub-slab vapor intrusion mitigation system (vapor membrane and venting) for all future onsite residential and associated inhabitable structures. The proposal includes development of a land use covenant to restrict development on the north parcel and to require the installation of a vapor intrusion mitigation system for all onsite structures with provisions for the protection and maintenance of engineering controls. The Draft Conceptual RAP states that "It is anticipated that a future homeowner's association (HOA) will have responsibility … for management of future operations and maintenance plan for the anticipated engineering controls." Regional Board staff are not convinced that management of these systems by an HOA will adequately safeguard human health at the Site. The final RAP should provide detailed descriptions of how these operations would be handled by the HOA (e.g. retaining a consultant to conduct monitoring and repairs, etc.), and/or provide detailed examples of how this role has been successfully performed by other HOAs, as relayed by your consultant, California Environmental.

5. The proposed soil verification sampling matrix will need to be forwarded to OEHHA for their review and concurrence once the final RAP is submitted.

If you have any questions, please contact Ms. Rebecca Orr at (213) 576-6811 or rebecca.orr@waterboards.ca.gov or Mr. Jeffrey Hu at (213) 576-6803 or jeffrey.hu@waterboards.ca.gov.

Sincerely,

_____
Renee Purdy
Executive Officer

cc (via email):
Mr. Alan Burks, Wrigley Association
Mr. Charles Buckley, California Environmental
Ms. Joan Greenwood, Wrigley Area Neighborhood Alliance
Ms. Carmen Piro, Long Beach Human Health Services
Ms. Nichole Stewart, for the Countryside Lane Homeowners Association
Mr. Anthony Silva, The Brownfield Redevelopment Group Co.
Mr. John Stanek, Integral Partners, LLC
Mr. Eric Weeks, Integral Communities
Ms. Gabriele Windgasse, California Department of Public Health
Mr. Chris Windsor, Tesoro Logistic Operations LLC
Ms. Madeline Worsnopp, AECOM Technical Services, Inc.
Councilmember Roberto Uranga, City of Long Beach

Water Board Comments

Appendix B

B1 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	84	1,130	1,214
10 ft bgs	33	2,300	3,800	6,133
15 ft bgs	ND (<1)	5.4	4.5	10
20 ft bgs	ND (<1)	2	2.9	5
30 ft bgs	ND (<1)	2.3	ND (<1)	2

B2 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	12	32	44
10 ft bgs	6.1	**3,200**	**5,600**	**8,806**
15 ft bgs	34	870	1,250	2,164
20 ft bgs	160	**11,000**	**13,400**	**24,560**
35 ft bgs	150	**5,400**	**6,800**	**12,350**

B28 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	490	**6,100**	6,590
10 ft bgs	25	51	64	140
15 ft bgs	ND (<1)	1.3	ND(<2)	ND(<2)
20 ft bgs	ND (<1)	1.1	ND(<2)	ND(<2)
30 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)

B6 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	35	2,100	2,900	5,035
10 ft bgs	3.4	940	**11,500**	**12,443**
15 ft bgs	ND (<1)	3.1	12.4	16
20 ft bgs	ND (<1)	5.5	9.5	15
30 ft bgs	ND (<1)	4.5	3.8	8

B17 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	360	1,730	2,090
10 ft bgs	ND (<1)	ND (<1)	1.3	1
20 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
30 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)

B18 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
3 ft bgs	ND (<1)	**6,400**	**21,900**	**28,300**
10 ft bgs	13	**5,500**	**5,700**	**11,213**
20 ft bgs	ND (<1)	ND (<1)	1.1	1
30 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)

B25 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	3	10.6	14
10 ft bgs	ND (<1)	ND (<1)	2.9	3
15 ft bgs	ND (<1)	ND (<1)	2.8	3
20 ft bgs	ND (<1)	ND (<1)	2.4	2
30 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
40 ft bgs	ND (<1)	1	4.2	5

B16 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
3 ft bgs	ND (<1)	ND (<10)	271	271
10 ft bgs	ND (<1)	ND (<1)	2.9	3
20 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
30 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)

B15 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	ND (<1)	3.8	4
10 ft bgs	ND (<1)	ND (<1)	1.5	2
20 ft bgs	ND (<1)	1.6	3.1	5
30 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)

B20 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	20	4,900	6,400	11,320
10 ft bgs	ND (<1)	1	2.3	3
20 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
35 ft bgs	ND (<1)	2	8.5	11

B24 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	17	79	96
10 ft bgs	ND (<1)	710	**6,800**	7,510
15 ft bgs	ND (<1)	1.6	3.8	5
20 ft bgs	ND (<1)	1.8	9.7	12
30 ft bgs	ND (<1)	ND (<1)	1.2	1
40 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)

B30 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	1,400	3,200	4,600
10 ft bgs	1.3	**3,200**	**6,400**	**9,601**
20 ft bgs	ND (<1)	2.3	1.8	4
30 ft bgs	ND (<1)	ND (<1)	1.3	1

B22 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	1,700	3,000	4,700
10 ft bgs	ND (<1)	5.8	9.4	15
20 ft bgs	ND (<1)	1.2	1.6	3
30 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)

B21 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	1.5	33	35
10 ft bgs	ND (<1)	48	105	153
15 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
20 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
30 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)

B14 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	490	1,950	2,440
10 ft bgs	ND (<1)	60	430	490
20 ft bgs	ND (<1)	170	490	660
35 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)

B13 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	4.4	59	63
10 ft bgs	ND (<1)	180	3,500	3,680
20 ft bgs	ND (<1)	190	470	660
35 ft bgs	ND (<1)	1.5	ND(<2)	2

B24 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	ND (<1)	1.1	ND (<10)
10 ft bgs	1.3	102.4	381	490
15 ft bgs	66	1,720	2,866	4,900
20 ft bgs	ND (<1)	ND (<1)	ND (<2)	ND (<10)

B27 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	**3,000**	**8,100**	**11,100**
10 ft bgs	15	2,400	3,300	5,715
15 ft bgs	ND (<1)	9.3	8.4	18
20 ft bgs	ND (<1)	2.5	ND(<2)	3
30 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
40 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)

B12 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
10 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
20 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
35 ft bgs	**4,100**	55	ND(<20)	4,155

B20 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	11.7	788	1,640	2,400
15 ft bgs	196	4,010	6,160	10,000
20 ft bgs	15.6	630	1,244	1,900
25 ft bgs	ND (<1)	ND (<1)	ND (<2)	ND (<10)

B3 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	2,800	**5,700**	**8,500**
10 ft bgs	ND (<1)	8.4	14.6	23
15 ft bgs	ND (<1)	5.4	18.1	24
20 ft bgs	ND (<1)	17	27	44
35 ft bgs	110	**3,100**	3,400	6,610

B4 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	19	**3,600**	**6,600**	**10,219**
10 ft bgs	42	1,500	2,000	3,542
15 ft bgs	38	1,700	2,500	4,238
20 ft bgs	25	1,100	1,500	2,625
35 ft bgs	65	2,200	2,600	4,865

B26 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	190	1,760	1,950
10 ft bgs	ND (<1)	2.2	6.4	9
15 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
20 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
30 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
40 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
50 ft bgs	ND (<1)	1	ND(<2)	1

B5 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	37	**5,700**	**8,900**	**14,637**
10 ft bgs	18	1,500	2,250	3,768
15 ft bgs	ND (<1)	7.8	11.5	19
20 ft bgs	ND (<1)	1.6	1.4	3
30 ft bgs	ND (<1)	1	ND(<2)	ND(<2)

B19 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	1.4	4.2	6
10 ft bgs	ND (<1)	1.4	1.2	3
20 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
30 ft bgs	ND (<1)	1.6	1.1	3

B7 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	2.4	1,200	1,890	3,092
10 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
20 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
30 ft bgs	ND (<1)	3.3	4.1	7

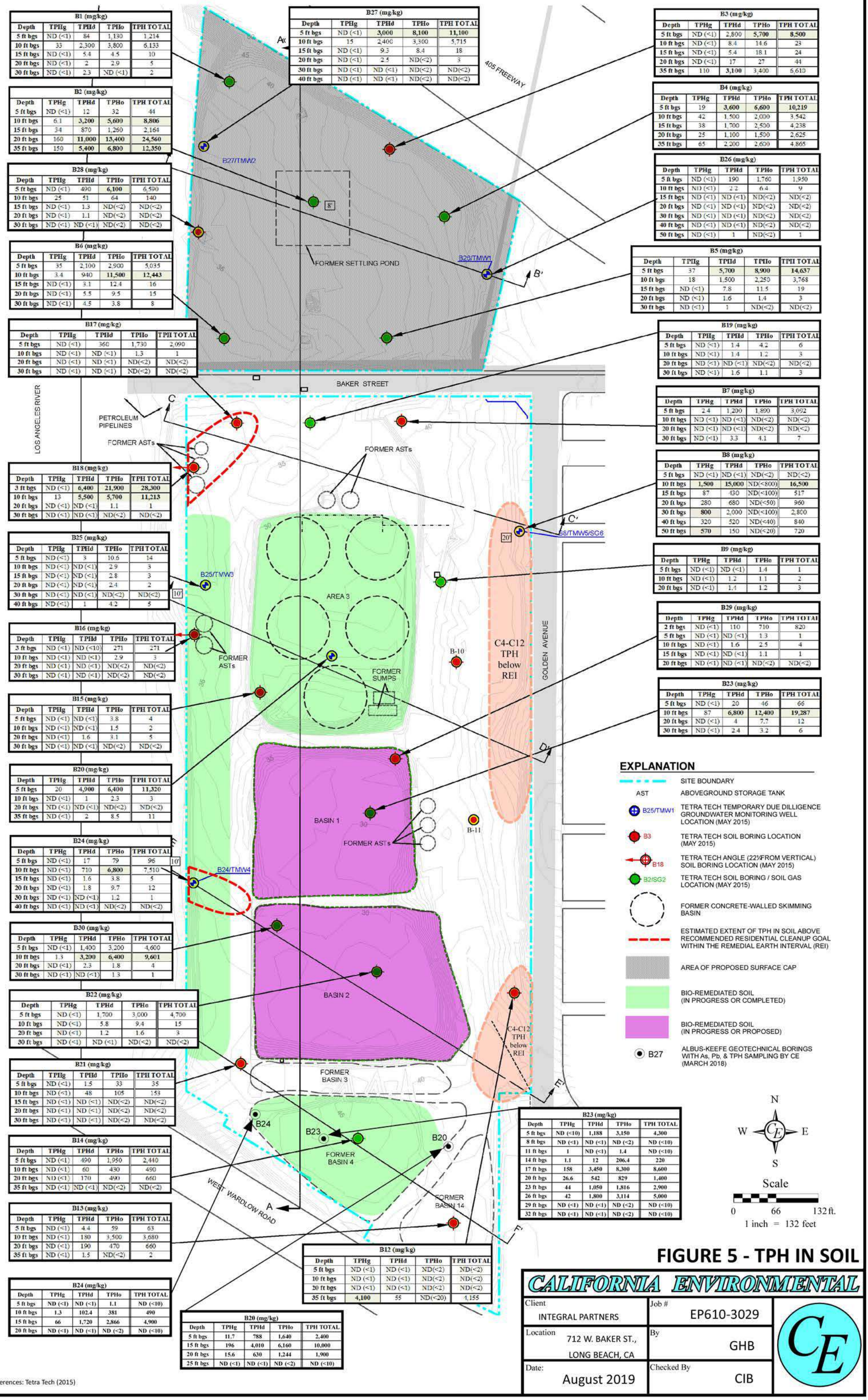
B8 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
10 ft bgs	**1,500**	**15,000**	ND(<800)	**16,500**
15 ft bgs	87	430	ND(<100)	517
20 ft bgs	280	680	ND(<50)	960
30 ft bgs	**800**	2,000	ND(<100)	2,800
40 ft bgs	320	520	ND(<40)	840
50 ft bgs	**570**	150	ND(<20)	720

B9 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	ND (<1)	1.4	1
10 ft bgs	ND (<1)	1.2	1.1	2
20 ft bgs	ND (<1)	1.4	1.2	3

B29 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
2 ft bgs	ND (<1)	110	710	820
5 ft bgs	ND (<1)	ND (<1)	1.3	1
10 ft bgs	ND (<1)	1.6	2.5	4
15 ft bgs	ND (<1)	ND (<1)	1.1	1
20 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)

B23 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	20	46	66
10 ft bgs	87	**6,800**	**12,400**	**19,287**
20 ft bgs	ND (<1)	4	7.7	12
30 ft bgs	ND (<1)	2.4	3.2	6

B23 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<10)	1,188	3,150	4,300
8 ft bgs	ND (<1)	ND (<1)	ND (<2)	ND (<10)
11 ft bgs	1	ND (<1)	1.4	ND (<10)
14 ft bgs	1.1	12	206.4	220
17 ft bgs	158	3,450	8,300	8,600
20 ft bgs	26.6	542	829	1,400
23 ft bgs	44	1,050	1,816	2,900
26 ft bgs	42	1,800	3,114	5,000
29 ft bgs	ND (<1)	ND (<1)	ND (<2)	ND (<10)
32 ft bgs	ND (<1)	ND (<1)	ND (<2)	ND (<10)



EXPLANATION

- SITE BOUNDARY
- AST — ABOVEGROUND STORAGE TANK
- B25/TMW1 — TETRA TECH TEMPORARY DUE DILLIGENCE GROUNDWATER MONITORING WELL LOCATION (MAY 2015)
- B3 — TETRA TECH SOIL BORING LOCATION (MAY 2015)
- B18 — TETRA TECH ANGLE (22½ FROM VERTICAL) SOIL BORING LOCATION (MAY 2015)
- B2/SG2 — TETRA TECH SOIL BORING / SOIL GAS LOCATION (MAY 2015)
- FORMER CONCRETE-WALLED SKIMMING BASIN
- ESTIMATED EXTENT OF TPH IN SOIL ABOVE RECOMMENDED RESIDENTIAL CLEANUP GOAL WITHIN THE REMEDIAL EARTH INTERVAL (REI)
- AREA OF PROPOSED SURFACE CAP
- BIO-REMEDIATED SOIL (IN PROGRESS OR COMPLETED)
- BIO-REMEDIATED SOIL (IN PROGRESS OR PROPOSED)
- B27 — ALBUS-KEEFE GEOTECHNICAL BORINGS WITH As, Pb, & TPH SAMPLING BY CE (MARCH 2018)

N W E S

Scale

0 66 132 ft.

1 inch = 132 feet

FIGURE 5 - TPH IN SOIL

References: Tetra Tech (2015)

CALIFORNIA ENVIRONMENTAL

Client: INTEGRAL PARTNERS	Job #: EP610-3029
Location: 712 W. BAKER ST., LONG BEACH, CA	By: GHB
Date: August 2019	Checked By: CIB

B1		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	11	7.3
10 ft bgs	200	6.6
15 ft bgs	5.5	1.9
20 ft bgs	5.2	5.4
30 ft bgs	3.4	3

B27		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	65	4.7
10 ft bgs	28	6.0
15 ft bgs	6.2	22
20 ft bgs	6.3	18
30 ft bgs	1.8	<1
40 ft bgs	1.4	<1

B28		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	16	1.9
10 ft bgs	7.5	3.2
15 ft bgs	8.5	16
20 ft bgs	6.7	11
30 ft bgs	1.4	<1

B6		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	170	6.7
10 ft bgs	19	1.2
15 ft bgs	4.5	5.8
20 ft bgs	5.6	8.2
30 ft bgs	1.7	<1

B17		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	3.9	4.5
10 ft bgs	3.1	1.8
20 ft bgs	9.2	27
30 ft bgs	1.8	<1

B18		
Depth	Pb (mg/kg)	As (mg/kg)
3 ft bgs	610	2.8
10 ft bgs	4.4	2.1
20 ft bgs	7.5	9
30 ft bgs	2.4	1.6

B19		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	6.5	1.5
10 ft bgs	4.6	2.5
20 ft bgs	6.5	3.4
30 ft bgs	1.7	1.7

B25		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	2.8	1.3
10 ft bgs	3.4	<1
15 ft bgs	5.4	23
20 ft bgs	5.9	7.4
30 ft bgs	2.2	1.1
40 ft bgs	1.7	1.1

B16		
Depth	Pb (mg/kg)	As (mg/kg)
3 ft bgs	5.3	1.8
10 ft bgs	18	<1
20 ft bgs	6	4.5
30 ft bgs	8.7	15

B15		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	2.5	<1
10 ft bgs	5	1.1
20 ft bgs	4.7	2.1
30 ft bgs	2.8	3.0

B23		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	5.8	5.2
10 ft bgs	29	26
20 ft bgs	4.2	26
30 ft bgs	1.7	<1

B24		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	9.1	13
10 ft bgs	2.6	<1
15 ft bgs	3.7	<1
20 ft bgs	3.8	7.9
30 ft bgs	1.4	<1
40 ft bgs	8.4	2.4

B30		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	18	3
10 ft bgs	820	120
20 ft bgs	3.6	1.5
30 ft bgs	1.4	<1

B21		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	30	6
10 ft bgs	28	11
15 ft bgs	2.7	<1
20 ft bgs	6.1	3.5
30 ft bgs	1.7	<1

B13		
Depth	Pb (mg/kg)	As (mg/kg)
2 ft bgs	46	12
5 ft bgs	54	<1
10 ft bgs	57	38
20 ft bgs	15	22
35 ft bgs	5.5	22

B3		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	480	8.2
10 ft bgs	5.2	4.0
15 ft bgs	5.1	6.8
20 ft bgs	5.1	5.1
35 ft bgs	5	4.9

B2		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	12	2.1
10 ft bgs	140	11
15 ft bgs	64	5
20 ft bgs	290	30
35 ft bgs	9.1	9.1

HA1		
Depth	Pb (mg/kg)	As (mg/kg)
1 ft bgs	390	9.8
5 ft bgs	450	9.3
10 ft bgs	110	18

B4		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	520	11
10 ft bgs	86	3.2
15 ft bgs	460	23
20 ft bgs	82	12
35 ft bgs	3.8	<1

B26		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	21	9.8
10 ft bgs	6.2	4.2
15 ft bgs	2.4	2.1
20 ft bgs	1.7	1.5
30 ft bgs	2.7	11
40 ft bgs	1.1	1.9
50 ft bgs	5.7	16

B5		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	280	5.9
10 ft bgs	160	14
15 ft bgs	5.1	6.6
20 ft bgs	2.4	1.9
30 ft bgs	2.9	1

B7		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	12	3.7
10 ft bgs	7.5	5.2
20 ft bgs	4.6	4.8
30 ft bgs	2.5	5.5

B8		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	5.2	2.8
10 ft bgs	11	24
15 ft bgs	2.1	1.9
20 ft bgs	2.2	1.8
30 ft bgs	4	4.7
40 ft bgs	1.8	5.7
50 ft bgs	4.7	35

B9		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	5.6	1.9
10 ft bgs	4.7	14
20 ft bgs	7.4	25

B10		
Depth	Pb (mg/kg)	As (mg/kg)
2 ft bgs	8.9	1.4

B20		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	3	<1
10 ft bgs	6.8	6.1
20 ft bgs	1.7	3.5
30 ft bgs	1.1	<1

B29		
Depth	Pb (mg/kg)	As (mg/kg)
2 ft bgs	11	2.2
5 ft bgs	6.5	2
10 ft bgs	6	2.2
15 ft bgs	2	2.1
20 ft bgs	1.7	1.2

B11		
Depth	Pb (mg/kg)	As (mg/kg)
2 ft bgs	21	1.7

B12		
Depth	Pb (mg/kg)	As (mg/kg)
2 ft bgs	10	2.1
5 ft bgs	2.8	1.9
10 ft bgs	2	2.4
20 ft bgs	2.1	1.5
35 ft bgs	6.1	14

B22		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	16	2.5
10 ft bgs	5.5	14
20 ft bgs	1.6	1.3
30 ft bgs	1.5	<1

B14		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	69	16
10 ft bgs	32	20
20 ft bgs	16	7.7
35 ft bgs	2	<1

B2(AEMC)		
Depth	Pb (mg/kg)	As (mg/kg)
10 ft bgs	<1	10
20 ft bgs	<1	1.1
30 ft bgs	<1	1.8
40 ft bgs	21	3.7

B12(BC)		
Depth	Pb (mg/kg)	As (mg/kg)
10 ft bgs	5.0	5.1
20 ft bgs	3.3	5.5
30 ft bgs	7.2	41

B6(BC)		
Depth	Pb (mg/kg)	As (mg/kg)
10 ft bgs	6.7	4.4
20 ft bgs	6.9	14
30 ft bgs	1.2	6.3

B7(BC)		
Depth	Pb (mg/kg)	As (mg/kg)
10 ft bgs	4.6	6.3
20 ft bgs	3.9	5.8
30 ft bgs	3.5	8.2

B26 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	36	30
10 ft bgs	70	24
15 ft bgs	13	12
20 ft bgs	4.7	5.9

B27 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	47	3.3
10 ft bgs	160	61
15 ft bgs	26	18
20 ft bgs	38	35
25 ft bgs	<3.0	2.7

B22 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	6.8	5.4
10 ft bgs	120	50
15 ft bgs	130	49
20 ft bgs	<3.0	3.5
25 ft bgs	5.6	28

B24 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	46	4.4
10 ft bgs	77	14
15 ft bgs	120	58
20 ft bgs	4.7	4

B23 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	68	19
8 ft bgs	6.9	6.8
11 ft bgs	20	22
14 ft bgs	19	15
17 ft bgs	170	48
20 ft bgs	10	9.9
23 ft bgs	77	26
26 ft bgs	130	50
29 ft bgs	4.6	5.1
32 ft bgs	3.8	3.5

B21 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	32	38
10 ft bgs	67	50
15 ft bgs	230	80
20 ft bgs	6.1	8.1
25 ft bgs	4.0	2.4

B20 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	86	36
15 ft bgs	260	170
20 ft bgs	68	44
25 ft bgs	6.3	10

EXPLANATION

- SITE BOUNDARY
- AST — ABOVEGROUND STORAGE TANK
- B25/TMW1 — TETRA TECH TEMPORARY DUE DILLIGENCE GROUNDWATER MONITORING WELL LOCATION (MAY 2015)
- B3 — TETRA TECH SOIL BORING LOCATION (MAY 2015)
- B18 — TETRA TECH ANGLE (22° FROM VERTICAL) SOIL BORING LOCATION (MAY 2015)
- B2/SG2 — TETRA TECH SOIL BORING / SOIL GAS LOCATION (MAY 2015)
- B7(BC) — BRYCON SOIL BORING LOCATION
- B2(AEMC) — AEMC SOIL BORING LOCATION
- HA1 — HA SOIL BORING LOCATION
- FORMER CONCRETE-WALLED SKIMMING BASIN
- ESTIMATED EXTENT OF LEAD/ARSENIC IN SOIL ABOVE RECOMMENDED RESIDENTIAL CLEAN-UP GOAL WITHIN THE REMEDIAL EARTH INTERVAL (REI)
- AREA OF PROPOSED SURFACE CAP
- B27 — ALBUS-KEEFE GEOTECHNICAL BORINGS WITH As, Pb, & TPH SAMPLING BY CE (MARCH 2018)

N W E S

Scale: 0 66 132 ft. — 1 inch = 132 feet

References: Tetra Tech (2015)

FIGURE 6 - LEAD AND ARSENIC IN SOIL

CALIFORNIA ENVIRONMENTAL

Client: INTEGRAL PARTNERS	Job #: EP610-3029
Location: 712 W. BAKER ST., LONG BEACH, CA	By: GHB
Date: August 2019	Checked By: CIB

South
A

North
A´

F-F´ E-E´ D-D´ C-C´ B-B´

Basin 4 | Basin 3 | Basin 2 | Basin 1 | Area 3

Baker Street

Proposed Cap

B8(BC) TB22 TB30 TB23 TB20 B2(AMEC) B4(BC) TB19 TB6 B2(BC) TB2 TB1

Proposed Grade

60 50 40 30 20 10 0 -10

Elevation (Feet Above Mean Sea Level)

CL/ ML

SM/ SP

CL

SM/ SP

SM/ SP

CL

Undifferentiated Terrace, Older Alluvium, and Fill

6.2/20/24
440/22/14
<10/4.1/5.3
<10/2.0/2.5
4,700/1.6/2.5
14.9/5.5/14
<10/1.6/1.3
<10/1.5/<1
4,600/18/3
9,600/820/120
<10/3.6/1.5
<10/1.5/<1
66/5.8/5.2
19,287/25/26
11.7/4.2/26
<10/1.7/<1
11,320/3/<1
<10/6.8/6.1
<10/1.7/3.5
<10/1.1/<1
<10/9.4/1.7
<10/14/6.0
<10/<5/1.5
<10/<5/2.4
5,403/26/7.4
1,294/9.5/10
<10/1.4/2.2
<10/6.5/1.5
<10/4.6/2.5
<10/6.5/3.4
<10/1.7/1.7
5,035/170/6.7
12,443/19/1.2
15.5/4.5/5.8
15/5.6/8.2
<10/1.7/<1
11,700/330/13
584/3.6/4.4
3,600/27/11
44/12/2.1
8,806/140/11
2,164/64/5
24,560/290/30
12,360/9.1/9.1
1,214/11/7.3
6,133/200/6.6
<10/5.5/1.9
<10/5.2/5.4
<10/3.4/3

EXPLANATION

TB30
10/1.7/1.5
Boring showing **total TPH** (C4-C40), **lead**, & **arsenic** concentrations in mg/kg.

Recommended 10-foot remedial earth interval (REI) below future residential development.

Soil that exceeds recommended clean-up goals within the remedial earth interval (REI).

Bio-remediated soil (in progress or completed) to be removed and recompacted.

Bio-remediated soil (in progress or proposed) to be removed and recompacted.

Vertical Scale
0 5 10 ft.
1 inch = 10 feet

13.2x Vertical Exaggeration

Horizontal Scale
0 66 132 ft.
1 inch = 132 feet

References: Preliminary Grading Plan, KHR Associates (June 14, 2019)

FIGURE 7 - CROSS SECTION A-A´

CALIFORNIA ENVIRONMENTAL

Client	INTEGRAL PARTNERS	Job #	EP610-3029
Location	712 W. BAKER ST., LONG BEACH, CA	By	GHB
Date:	August 2019	Checked By	CIB

West
B

East
B´

Proposed Engineered Cap

TB27 (MW2) | TB28 | B1(BC) | B-1(AMEC) | TB2 | TSO-8 | B2(BC) | HA-1(AEMC) | TB4 | B3(BC) | TB26

60 | 50 | 40 | 30 | 20 | 10 | 0 | -10

11,000/65/1.9
6,590/16/1.9
140/7.5/3.2
<2/8.5/16
<2/6.7/11
<2/1.4/<1
5,715/28/6.0
18/6.2/22
3/6.3/18
<2/1.8/<1
6,860/100/10
<25/7.1/28
4.9/1.6/1.0
24,000/250/6.6
24,000/12/2.6
16,000/19/1.1
44/12/2.1
45,550/550/-
27,257/340/-
18,770/120/-
8,806/140/11
2,164/64/5
32,310/16/-
24,560/290/30
4,040/13/-
21,930/9.3/-
4,350/18/-
3,053/4.8/-
12,360/9.1/9.1
11,700/330/13
583/3.6/4.4
3,600/27/11
19,000/390/98
39,000/450/9.3
3,800/110/18
10,219/520/11
3,542/86/12
4,238/460/23
2,625/82/12
4,865/3.8/<1
200/13/7.4
<20/2.9/7.3
<20/3.0/3.9
<20/26/7.4
1,950/21/9.8
9.0/6.2/4.2
<2/2.4/2.1
<2/1.7/1.5

SM / SP
CL/ ML
SM / SP
CL/ ML
SM / SP
SM / SP

Undifferentiated Terrace, Older Alluvium, and Fill

Elevation (Feet Above Mean Sea Level)

EXPLANATION

TB30
10/1.7/1.5

Boring showing **total TPH** (C4-C40), **lead**, & **arsenic** concentrations in mg/kg.

6x Vertical Exaggeration

Horizontal Scale
0 30 60 ft.
1 inch = 60 feet

Vertical Scale
0 5 10 ft.
1 inch = 10 feet

References: Preliminary Grading Plan, KHR Associates (June 14, 2019)

FIGURE 8 - CROSS SECTION B-B´

CALIFORNIA ENVIRONMENTAL

Client	INTEGRAL PARTNERS	Job #	EP610-3029
Location	712 W. BAKER ST., LONG BEACH, CA	By	GHB
Date:	August 2019	Checked By	CIB

West
C

East
C′

Elevation (Feet Above Mean Sea Level)

60
50
40
30
20
10
0
-10

MW1 (92)
TB18
TB17
TB19
B4(BC)
Proposed Grade
TB7
B13(BC)
TB8 (MW5)
Golden Ave.

28,300/610/2.8
11,213/4.4/2.1
2,090/3.9/4.4
<10/3.1/1.8
<10/4.6/2.5
<10/6.5/1.5
5,400/26/7.4
3,092/12/3.7
<10/7.5/5.2
3.9/5.2/6.9
<10/2.3/1.7
<10/5.2/2.8
16,500/11/2.4
517/2.1/1.9
960/2.2/1.8
2,800/4/9.7
840/1.8/5.7

<10/7.5/9
<10/2.4/1.6
<10/9.2/27
<10/1.8/<1.0
<10/6.5/3.4
<10/1.7/1.7
1,294/9.5/10
<10/1.4/2.2
<10/4.6/4.6
<10/2.5/5.5
3.7/1.7/2.8

SM/ SP
CL/ ML
CL/ ML
VOC Plume
SM/ SP
SM/ SP
Undifferentiated Terrace, Older Alluvium, and Fill

TD=76.5'

6x Vertical Exaggeration

EXPLANATION

TB30
10/1.7/1.5
Boring showing **total TPH** (C4-C40), **lead**, & **arsenic** concentrations in mg/kg.

Recommended 10-foot remedial earth interval (REI) below future residential development.

Soil that exceeds site specific clean-up goals per HHRA within the remedial earth interval.

Horizontal Scale
0 30 60 ft.
1 inch = 60 feet

Vertical Scale
0 5 10 ft.
1 inch = 10 feet

References: Preliminary Grading Plan, KHR Associates (June 14, 2019)

FIGURE 9 - CROSS SECTION C-C′

CALIFORNIA ENVIRONMENTAL			
Client	INTEGRAL PARTNERS	Job #	EP610-3029
Location	712 W. BAKER ST., LONG BEACH, CA	By	GHB
Date:	August 2019	Checked By	CIB

West D

East D´

Golden Ave.

℄

ESE(MW1)

TSO-15

TB16

TB25/TMW3

B6(BC)

B11(QST)

TB20/TMW6

Proposed Grade

B6(AEMC)

B5(BC)

TSO-12

Area 3

Elevation (Feet Above Mean Sea Level)

60
50
40
30
20
10
0
-10

<10/5.3/1.8
<10/2.8/1.3
<10/18/<1
<10/3.4/<1
17/6.7/4.4
<10/5.4/23
<10/6/4.5
<10/5.9/7.4
<10/6.9/14
<10/8.7/15
<10/2.2/1.1
<10/1.7/1.1
1,200/-/-
11,320/3/<1
<10/6.8/6.1
12,000/18/5.9
<10/<1/2.4
<10/3.8/7.7
<10/1.2/1.3
15/5.5/6.9
81/8.1/-
<10/7.2/-
<10/8/-
<10/6.3/-
<10/6.6/-
<10/7.4/-
<10/2.4/-
10.5/1.7/-
<10/1.7/3.5
<10/1.1/<1
<10/-/-
<10/-/-
<10/-/-
<10/0.9/4.5
<10/7.6/15
34,000/15.2/14.1
2,000/5.6/17.6
62/2.0/4.7
470/-/-
<10/-/-
<10/5.1/6.8
<10/8.7/8.2

CL/ ML

SM/ SP

CL/ ML

SM/ SP

VOC plume associated with BP/Arco pipelines

Undifferentiated Terrace, Older Alluvium, and Fill

EXPLANATION

TB30
10/1.7/1.5

Boring showing **total TPH** (C4-C40), **lead**, & **arsenic** concentrations in mg/kg.

Recommended remedial earth interval (REI) below future residential development.

Bio-remediated soil (in progress or completed) to be removed and recompacted.

6x Vertical Exaggeration

Horizontal Scale
0 30 60 ft.
1 inch = 60 feet

Vertical Scale
0 5 10 ft.
1 inch = 10 feet

References: Preliminary Grading Plan, KHR Associates (June 14, 2019)

FIGURE 10 - CROSS SECTION D-D´

CALIFORNIA ENVIRONMENTAL			
Client	INTEGRAL PARTNERS	Job #	EP610-3029
Location	712 W. BAKER ST., LONG BEACH, CA	By	GHB
Date:	August 2019	Checked By	CIB

West
E

East
E'

60
50
40
30
20
10
0
-10

Proposed Grade

Bio-Treatment Area - Basin 2

TB24(MW4)
TB30
TB22
MW5(BC)
B3(QST)
TSO16
B10(BC)
Golden Ave.

<96/4.1/13
7,510/2.6/<1
<10/3.7/<1
<10/3.8/7.9
<10/1.4/<1
<10/8.4/2.4

4,600/18/3
9,600/820/120
<10/3.6/1.5
<10/1.5/<1

4,700/1.6/2.5
14.9/5.5/14
<10/1.6/1.3
<10/1.5/<1

<10/-/-
<10/-/-
<10/-/-
<10/-/-

528/13/-
<10/5.6/-
<10/5.1/-
<10/3.1/-
<10/11/-
8384/8/-

10/5/5.1
10/3.3/5.5
180/7.2/41

SM/ SP
SM/ SP
SM/ SP
CL/ ML
CL/ ML

Undifferentiated Terrace, Older Alluvium, and Fill

VOC plume associated with BP/Arco pipelines

Elevation (Feet Above Mean Sea Level)

EXPLANATION

TB30
10/1.7/1.5
Boring showing **total TPH** (C4-C40), **lead**, & **arsenic** concentrations in mg/kg.

Recommended 10-foot remedial earth interval (REI) below future residential development.

Soil that exceeds site recommended clean-up goals within the remedial earth interval.

Bio-remediated soil (in progress or completed) to be removed and recompacted.

Bio-remediated soil (in progress or proposed) to be removed and recompacted.

6x Vertical Exaggeration

Horizontal Scale
0 30 60 ft.
1 inch = 60 feet

Vertical Scale
0 5 10 ft.
1 inch = 10 feet

References: Preliminary Grading Plan, KHR Associates (June 14, 2019)

FIGURE 11 - CROSS SECTION E-E´

CALIFORNIA ENVIRONMENTAL

Client	INTEGRAL PARTNERS	Job #	EP610-3029
Location	712 W. BAKER ST., LONG BEACH, CA	By	GHB
Date:	August 2019	Checked By	CIB

West
F

East
F′

Former Basin 4

Proposed Grade

ESE MW2 | TB21 | B24 | B8(BC) | B23 | TB14 | B20 | TB13 | Dog Park

60
50
40
30
20
10
0
-10

Elevation (Feet Above Mean Sea Level)

<10/46/4.4
4,300/68/19
2,440/69/16
<10/6.9/6.8
2,400/86/36
63.4/54/<1
34.5/30/6
490/77/14
6.2/20/24
<10/20/22
490/32/20
220/19/15
3,680/57/38
153/28/11
4,900/120/58
8,600/170/48
10,000/260/170
<10/-/-
<10/4.7/4
440/22/14
1,400/10/9.9
660/16/7.7
1,900/68/44
<10/2.7/11
2,900/77/26
660/15/22
<10/6.1/3.5
5,000/130/50
<10/6.3/10
<10/-/-
<10/4.6/5.1
<10/4+1/5.3
<10/3.8/3.5
<10/2/<1
<10/1.7/<1
<10/5.5/22
<10/2.0/2.5
<10/-/-
<10/-/-

SM/ SP
CL/ ML
CL/ ML
SM/ SP
SM/ SP
Undifferentiated Terrace, Older Alluvium, and Fill

EXPLANATION

TB30
10/1.7/1.5
Boring showing **total TPH** (C4-C40), **lead**, & **arsenic** concentrations in mg/kg.

Recommended remedial earth interval (REI) below future residential development.

Bio-remediated soil (in progress or completed) to be removed and recompacted.

6x Vertical Exaggeration

Horizontal Scale
0 30 60 ft.
1 inch = 60 feet

Vertical Scale
0 5 10 ft.
1 inch = 10 feet

References: Preliminary Grading Plan, KHR Associates (June 14, 2019)

FIGURE 12 - CROSS SECTION F-F′

CALIFORNIA ENVIRONMENTAL

Client	INTEGRAL PARTNERS	Job #	EP610-3029
Location	712 W. BAKER ST., LONG BEACH, CA	By	GHB
Date:	August 2019	Checked By	CIB

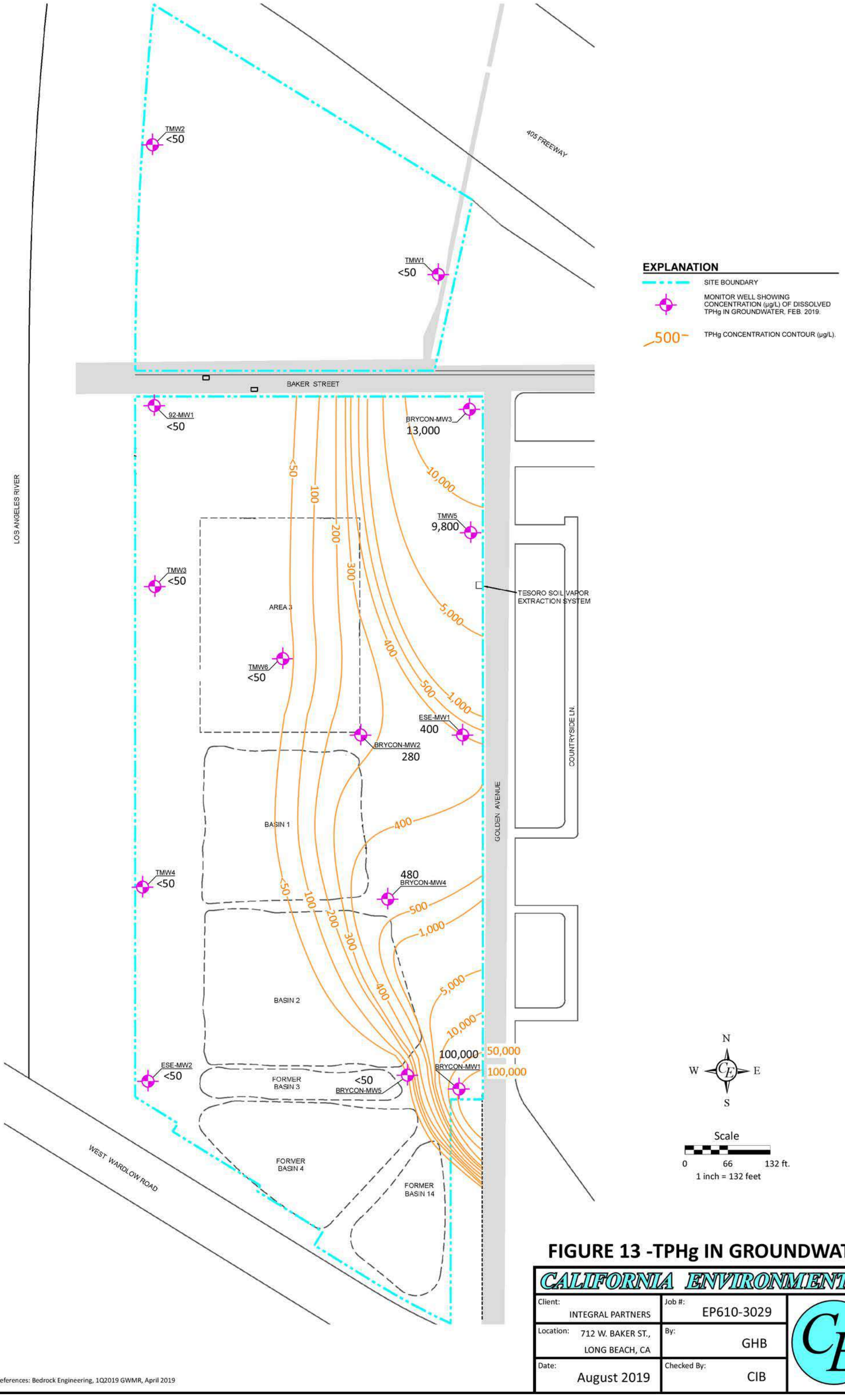
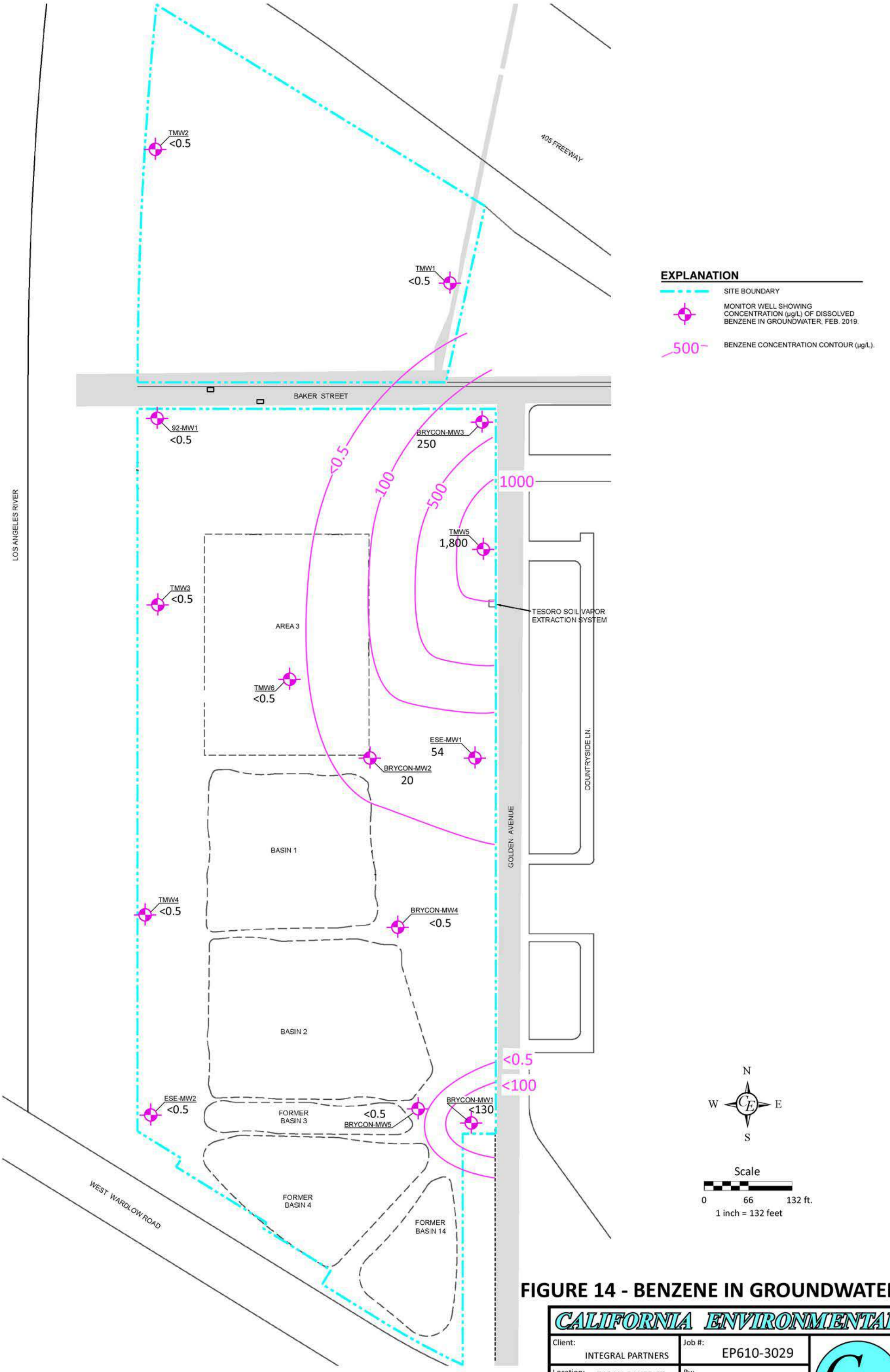


FIGURE 13 -TPHg IN GROUNDWATER

References: Bedrock Engineering, 1Q2019 GWMR, April 2019

CALIFORNIA ENVIRONMENTAL

Client: INTEGRAL PARTNERS	Job #: EP610-3029
Location: 712 W. BAKER ST., LONG BEACH, CA	By: GHB
Date: August 2019	Checked By: CIB

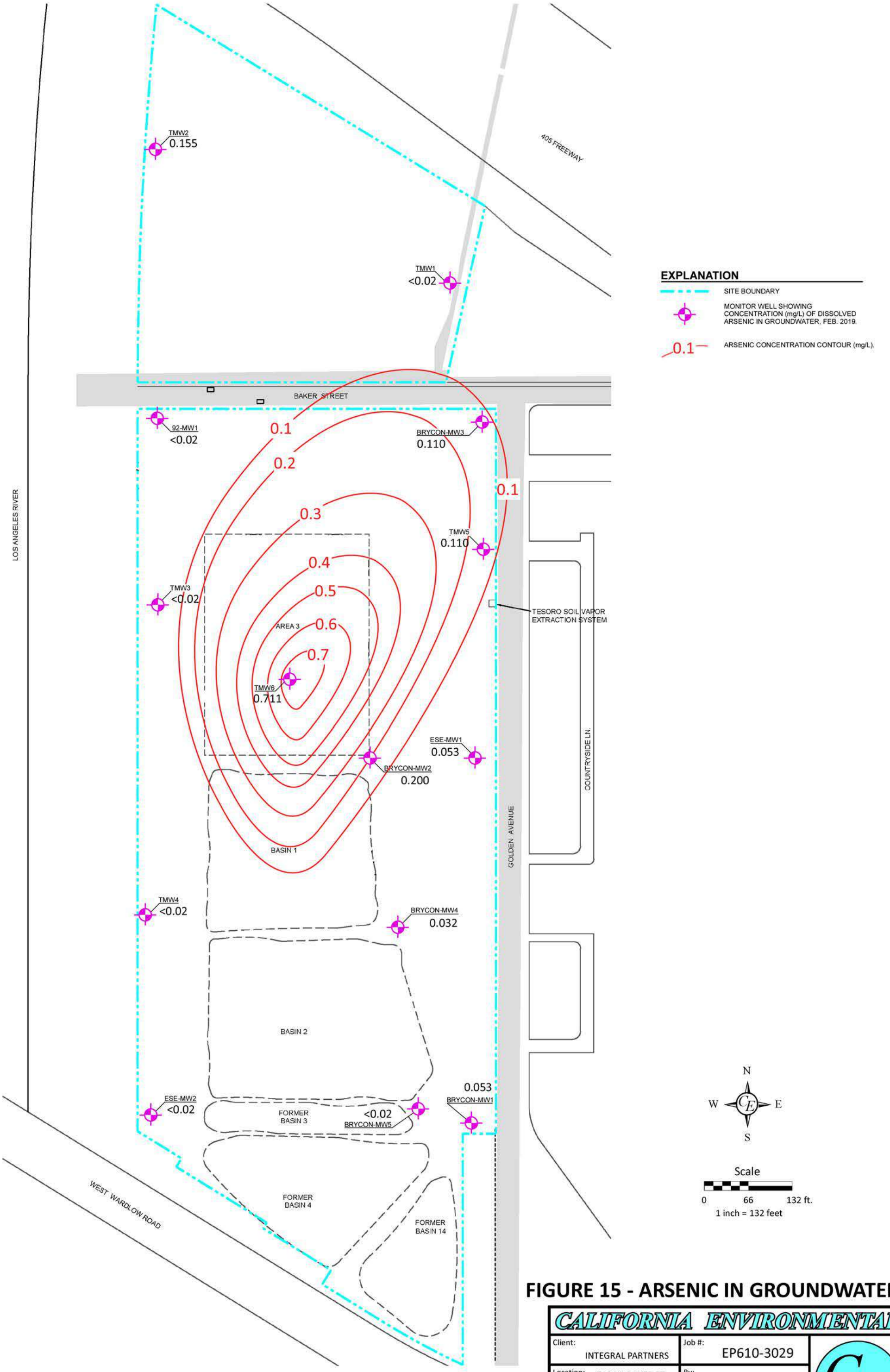


References: Bedrock Engineering, 1Q2019 GWMR, April 2019

FIGURE 14 - BENZENE IN GROUNDWATER

CALIFORNIA ENVIRONMENTAL

Client: INTEGRAL PARTNERS	Job #: EP610-3029
Location: 712 W. BAKER ST., LONG BEACH, CA	By: GHB
Date: August 2019	Checked By: CIB

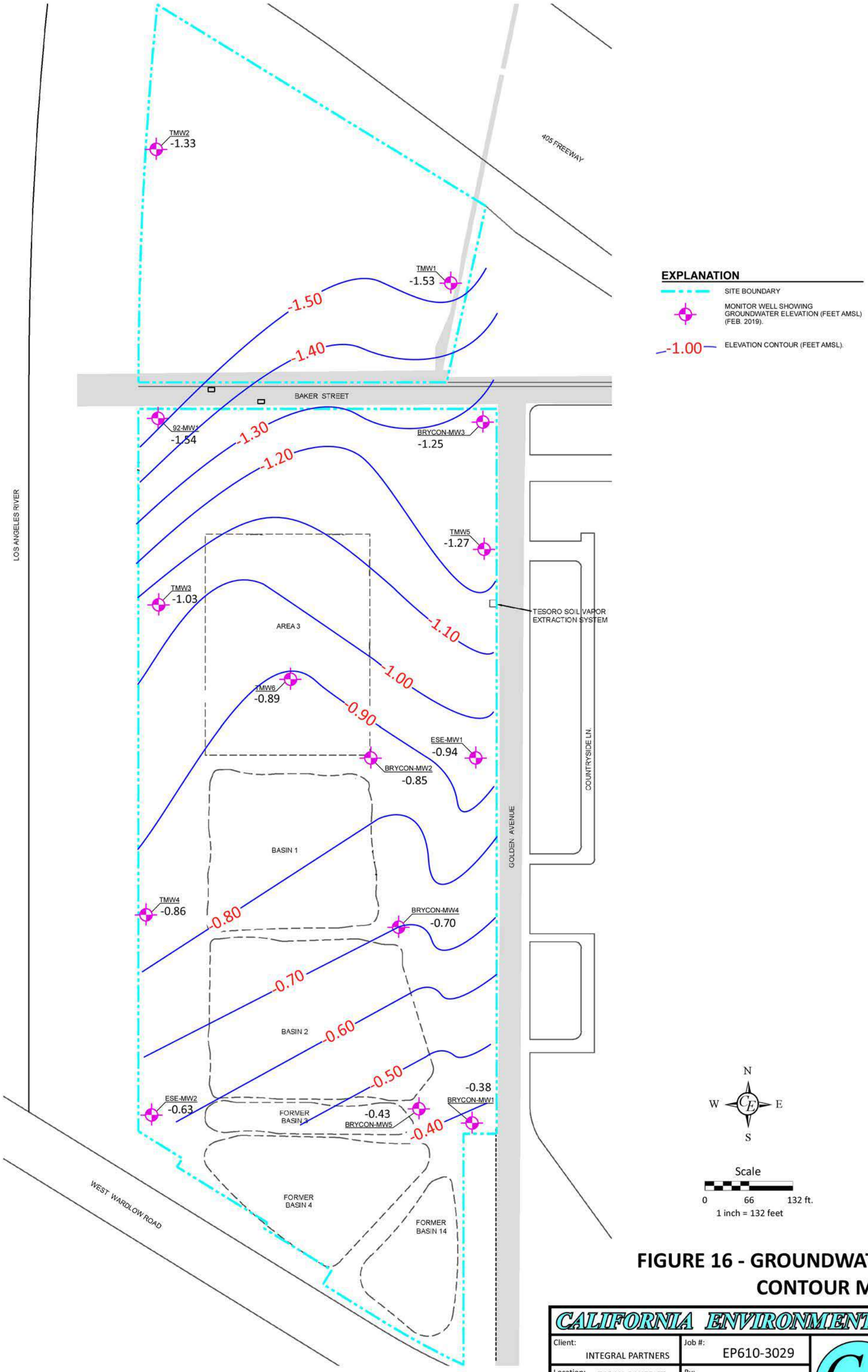


References: Bedrock Engineering, 1Q2019 GWMR, April 2019

FIGURE 15 - ARSENIC IN GROUNDWATER

CALIFORNIA ENVIRONMENTAL

Client: INTEGRAL PARTNERS	Job #: EP610-3029
Location: 712 W. BAKER ST., LONG BEACH, CA	By: GHB
Date: August 2019	Checked By: CIB

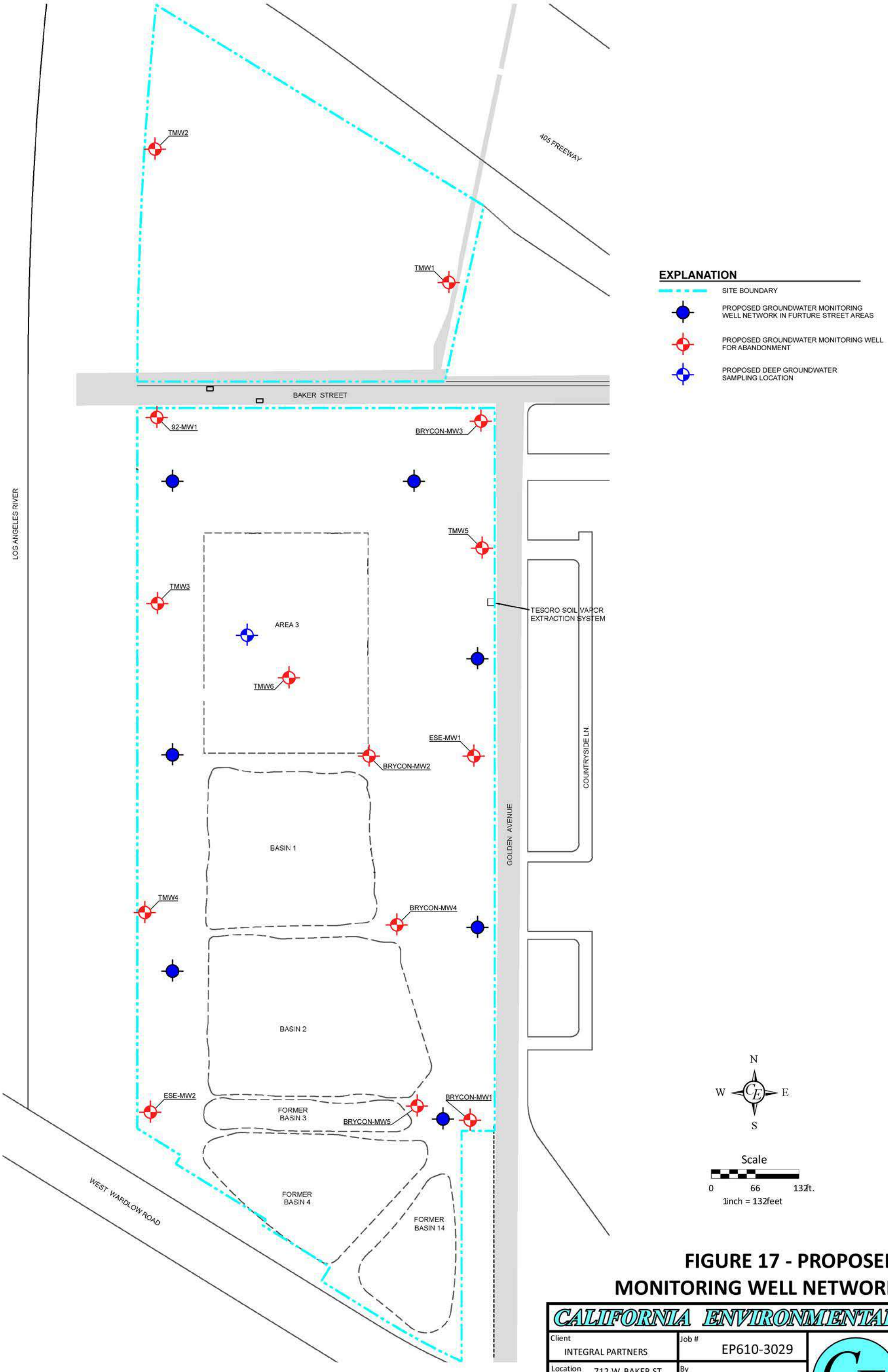


References: Bedrock Engineering, 1Q2019 GWMR, April 2019

FIGURE 16 - GROUNDWATER CONTOUR MAP

CALIFORNIA ENVIRONMENTAL

Client: INTEGRAL PARTNERS	Job #: EP610-3029
Location: 712 W. BAKER ST., LONG BEACH, CA	By: GHB
Date: August 2019	Checked By: CIB



References: Bedrock Engineering, 1Q2019 GWMR, April 2019

FIGURE 17 - PROPOSED MONITORING WELL NETWORK

CALIFORNIA ENVIRONMENTAL	
Client: INTEGRAL PARTNERS	Job #: EP610-3029
Location: 712 W. BAKER ST., LONG BEACH, CA	By: GHB
Date: August 2019	Checked By: CIB

IV.H.3

Hazards Document Review

Converse Consultants
Geotechnical Engineering, Environmental & Groundwater Science, Inspection & Testing Services

August 5, 2020

Mr. Tony Locacciato, AICP
Partner
Meridian Consultants
920 Hampshire Road
Suite A-5
Westlake Village, California 91361

Subject: **Document Review**
Proposed River Park Residential Development
712 W Baker Street
Long Beach, California
Converse Project No. 19-41-290-01

Mr. Locacciato:

Converse Consultants (Converse) appreciates the opportunity to present our Document Review and Summary to Meridian Consultants for the Proposed River Park Residential Development of the former Oil Operators Inc., (OOI) property at 712 W. Baker Street in the City of Long Beach, California. A separate report will address the latest Remedial Action Plan which the California Regional Water Quality Control Board (CRWQCB) commented on in May 2020. This work was conducted in accordance with our proposal dated May 26, 2020 and authorized by Mr. Tony Locacciato of Meridian Consultants on May 28, 2020.

Introduction/Background

The referenced property is owned by Oil Operators Inc (OOI). The property has been used as an oil well-production waste treatment plant since the 1920s. The OOI property was the subject of extensive environmental testing and investigations from the early 1980s-2018.

The subject property is located south of the San Diego Freeway (Interstate 405), north of Wardlow Road, east of the Los Angeles River Channel and Long Beach Freeway (Interstate 710) and west of Golden Avenue in the City of Long Beach, California. The subject property consists of a total of 20.12 acres **(Figure 1).**

The referenced site is proposed for 226 townhome style residences which include driveways, parking and recreational improvements. The residential development is planned on the 13.3-acre southern parcel at 712 West Baker Street (APN 7203-002-005,

-007, -008, -009 and -010. The 4.8-acre northern parcel at 701 West Baker Street (APN 7203-002-001) is planned to remain as an open-space or be developed as a park.

The referenced property is associated with the following Assessor's Parcel Numbers (APNs) in Los Angeles County:

- 7203-002-001 (4.78 acres)
- 7203-002-005 (13.28 acres)
- 7203-002-007 (0.58 acres)
- 7203-002-008 (0.87 aces)
- 7203-002-009 (0.46 acres)
- 7203-002-010 (0.15 acres)

See **Figures 2 and 3** attached for the proposed Site Plan and Existing Site Plan.

History

From 1926 to the mid-1950s, oil production brines were piped into various clay lined basins, where the water underwent separation and skimming processes to remove oil and sediment prior to disposal of the water. In the mid-1950s, a water treatment plant was constructed onsite consisting of five circular concrete skimming basins and associated pumps, tanks, pipelines and other facilities. The treatment plant is located north of the two large rectangular basins referred to as Basins 1 and 2 **(Figure 4).** Additional smaller basins were historically present south of Basins 1 and 2. These smaller basins were closed in 1986 and 1987.

In 1998, the facility ceased formal operation and the OOI members began to utilize two new water treatment facilities located in Signal Hill. Immediately prior to ceasing operation in 1998, the OOI facility consisted of the five circular concrete skimming basins, Basins 1 and 2, various aboveground storage tanks and surface buildings. Vacant areas of the property were formerly leased to a plant nursery.

The property has been undergoing decommissioning in phases since 1998. The nursery vacated the site in 1999. In 2000, the City of Long Beach ordered all buildings, sheds and similar structures to be demolished with the debris hauled offsite. Special provisions were made for properly handling asbestos-containing materials.

In the summer of 2001, the City further ordered the aboveground storage tanks to be emptied of all contents and demolished. Additional demolition activities occurred in September 2002. Currently, Basins 1 and 2 remain at the site and have been configured for bioremediation of TPH-impacted soil.

A Consent Decree was issued in 2002. Ongoing soil remediation (bioremediation) activities were undertaken in response to the Consent Decree under the oversight of the City of Long Beach Department of Health and Human Services, Division of Hazardous Materials (LBDHHS). The groundwater monitoring (GWM) activities are performed under the oversight of the California Regional Water Quality Control Board - Los Angeles Region (CRWQCB).

In 2011, the concrete walled skimming basins were removed and that area, designated Area 3, is also used for soil treatment and placement of the bioremediated TPH-impacted soil.

Bioremediation has been underway since the first quarter 2004. Bioremediation activities include periodic disking of the upper approximately nine-inches of TPH-impacted soil to enhance oxygenation of the TPH-impacted soil and monitoring of moisture levels for conditions conducive to bioremediation. The bioremediated TPH impacted soil was then placed in the southern and western parts of the Site.

Scope of Work

The objective of our review is to provide a review and summary of past environmental documents to provide materials to support the environmental review effort.

To accomplish the objective, Converse: performed the following scope of work:

- Review of publicly available document through Envirostor and Geotracker web sites related to the ongoing investigations and remedial activities related to the Oil Operators, Inc (OOI) property.

- Review of publicly available documents related to the Cleanup and Abatement Order (CAO) issued to BP Pipelines (now Tesoro) related to pipeline leaks along Golden Avenue.

- Preparation of this report.

Summary of Findings

A spreadsheet summarizing all the documents and findings is attached as an Appendix to this review. The following are the highlights of the findings from that spreadsheet:

Work has been conducted on the OOI property as early as August 1985.

By February 1987, groundwater monitoring wells were installed, and groundwater and soil monitoring has been conducted on the OOI property since.

Land farming of the impacted soil began in 1987 and has been conducted periodically to the present day.

In August 1992, an Investigation of Origination of Groundwater/Soil Contamination at the Oil Operators South Site report stated that contamination of groundwater and soil appear to be due to contaminant infiltration via the settling ponds. This report recommended to verify the settling pond leakage, to eliminate question of off-site contamination and to eliminate the use of the settling basins except in the case of an emergency.

A Site Assessment Summary and Remedial Action Plan, in December 1998, suggested treating soil using on-site bioremediation to meet cleanup criteria, incorporating soil as engineering subbase, or transporting soil offsite for disposal.

In April 2000, a groundwater monitoring report by Environmental Science & Engineering Inc stated that an off-site source may be affecting chemicals in the groundwater beneath the OOI property.

In November 2002, a Basin 1 Characterization Report (soil) showed that Basin 1 contained residual oily solids that settled out of oil production brine water. Basin 1 sample analysis indicated that its contents are crude oil. No impacts for Basin 2. The report recommended proceeding with the stabilization of Basin 1. No remediation was recommended for Basin 2.

In August 2010, a Proposed Amended Workplan Additional Site Characterization by Brycon LLC consisted of excavating damaged/destroyed wells, creating a boring and sampling program, creating an analytical program for soil and groundwater samples, developing a site conceptual model and preparing a comprehensive report. Amended workplan was approved by CRWQCB. Additional Site Characterization report, dated November 2010, indicated elevated concentrations of gasoline range organics, diesel range organics and VOCs were reported in shallow soils. Report recommended additional subsurface assessment.

A proposed workplan for additional site characterization was submitted (March 2011) and approved by CRWQCB which included conducting a soil gas survey. The soil gas assessment reported, dated September 2011, revealed two predominant plumes – methane and benzene. This suggested the potential release of refined petroleum near Golden Avenue.

In May 2012, CRWQCB requested a technical report on soil and soil vapor investigations from BP Lines (later Tesoro). A pilot soil vapor extraction test (June 2012) revealed high

vacuum extraction works well for the removal of the residual volatile hydrocarbons in the subsurface near the OOI property. Quarterly monitoring for soil vapor extraction began in April 2013.

A proposed workplan for installation of additional groundwater monitoring was prepared by Brycon LLC in June 2013. Workplan was approved by CRWQCB. The report on additional groundwater monitoring wall installation stated benzene was present in the deeper soil.

In September 2014, Cleanup and Abatement Order (CAO) R4-2013-0064 was issued by the CRWQCB to Tesoro's predecessors-in-interest: BP Pipelines (North America), Inc., Atlantic Richfield Company, and ARCO Terminal Services Corporation ("ATSC") alleging they owned Lines 32, 34, and 252. Line 252 is not located at the Site, as discussed in Tesoro's Site Conceptual Model (SCM) Report for the Golden Avenue Site. ARCO Pipeline Company, a separate and distinct entity from those named in the CAO, previously owned Line 52, another line on Golden Avenue, which is now owned by Plains All American Pipeline, L.P ("Plains").

The CAO required the following:

- Complete Interim Remedial Action Plan:
- Develop and Update a Site Conceptual Model:
- Complete Site Assessment and Delineation of Extent of Wastes
- Prepare a Human Health Risk Assessment
- Conduct Remedial Action
- Conduct Groundwater Monitoring

Tesoro submitted an Interim Remedial Action Plan (IRAP), in September 2014, which was later approved by CRWQCB. The Soil Vapor Extraction IRAP consisted of permitting, installation of an SVE system, performance testing, monitoring and reporting.

AECOM prepared a site assessment and human health risk assessment report (HHRA) for Tesoro in November 2015. The State of California Office of Environmental Health Hazard Assessment (OEHHA) review of the HHRA stated that the Tesoro Human Health Risk Assessment (HHRA) results were underestimated due to the outdated model used to calculate the risks.

On October 31, 2018, a revised interim remedial action plan **(IRAP**) was prepared by AECOM Technical Services on behalf of Tesoro SoCal Pipeline Company LLC and Tesoro Refining & Marketing Company LLC (Tesoro) to mitigate the impact from former BP/ARCO Pipelines along Golden Avenue near the northeast portion of the site.

The IRAP was prepared to present an updated remedial system design in accordance with the directive ("IRAP Directive") from the Los Angeles Regional Water Quality Control Board (LARWQCB) dated April 8, 2016. The IRAP Directive was issued as an amendment to the existing Cleanup and Abatement Order No. R4-2013-0064 ("the Order") by the LARWQCB to Tesoro's predecessors on September 18, 2014.

Tesoro stated that they disagree that they are the party responsible for impacts at the Site, and further stated that the submission of the IRAP Addendum is not intended to waive Tesoro's rights to seek review of the Order. Tesoro state that they have considerable data and site operations information showing OOI's operations and/or other pipelines may be or are sources of benzene, unrefined product, and refined product along the eastern boundary of the OOI property.

Construction activities for the revised expanded SVE treatment system began in August 2019 (after permitting was completed) and was completed in January 2020. The SVE system was installed as specified in the Revised Expanded IRAP.

SVE system startup and shakedown activities were completed during the week of February 10, 2020.

The SVE system was placed into continuous operation on Tuesday, February 18, 2020.

In their report dated March 31, 2020, AECOM concluded that approximately 11,720 pounds of VOCs and 22 pounds of benzene were removed from the ten extraction wells during the period of operation between February 18, 2020 and March 3, 2020. Approximately 20,062 pounds VOCs and 141 pounds of benzene were removed from VES-A prior to system expansion. Therefore, approximately 31,782 pounds of total VOCs and 163 pounds of benzene have been removed as of March 3, 2020.

Vacuum influence was measured in surrounding vapor probes up to 100 feet from the SVE wells. The effective ROIs were calculated as approximately 30 feet in Zones 1 and 2 and up to 100 feet in Zone 4. The ROI for Zone 3 is likely about 10 feet based on typical properties for clay. Using these numbers, AECOM concluded that the system captures the full extent of benzene and GRO impacts in the SVE Area identified in soil during previous assessment activities (AECOM, 2018).

In July 2015, a Supplemental Site Investigation report for OOI recommended the preparation of a remedial action plan which included a human health risk assessment and additional groundwater monitoring.

An HHRA was conducted on the OOI site by Mearns Consulting in January 2016. Results of the report show that lead and VOC concentrations pose an unacceptable health hazard to adults and children. The Report was updated in February 2016 in response to OEHHA

review. OEHHA review of the revised HHRA by Mearns Consulting (February 2016) stated that the residential risks and hazards from soil are negligible.

Recently, a draft remedial action plan (RAP) was submitted by California Environmental Geologists & Engineers, Inc to CRWQCB on OOI (August 2019). The RAP proposed continued bioremediation and operation of VES units.

In March 2020, an Expanded Interim Remedial Action Plan Installation and Startup Report was prepared by AECOM for Tesoro. Report recommended monitoring soil vapor from each extraction well to evaluate and optimize system performance in accordance with the Revised Expanded IRAP. In addition, the report recommended that SVE Monitoring Reports will be submitted to the LARWQCB on a quarterly basis in accordance with directive requirements for submittal on July 31, October 31, January 31, and April 30.

In May 2020, CRWQCB commented on the draft RAP and recommended changes for the final RAP. The RAP will be reviewed and summarized in a separate report.

Conclusions

Two responsible parties have been identified regarding impacts to the Site.

Groundwater and soil on the OOI property have been impacted due to the use of the property as an oil well-production waste treatment plant since the 1920s. Methane and benzene were identified in the soil vapor beneath the property. Remedial efforts consisting of soil bioremediation has been conducted from 2007 to present day. A human health risk assessment was conducted by OOI that indicated that the risks were negligible based on a residential land use scenario. It should be noted that the HHRA was prepared in 2016. Recent regulatory changes may impact the results of the HHRA. A Remedial Action Plan (RAP) addressing TPH, lead and arsenic impacts in the soil and continued groundwater monitoring has been prepared and was reviewed by the CRWQCB and OEHHA. A separate letter report will address the RAP and response.

Several pipelines have been identified beneath Golden Avenue along the eastern side of the Site. Leaks from the pipelines located beneath Golden Avenue, adjacent to the east side of the site, have impacted soil vapor beneath the Property. A soil vapor extraction system has been installed and is operating in accordance with 2018 Revised Expanded IRAP. The revised IRAP was approved in December 2019 and mitigation measures were installed in February 2020 to address the vapor plume beneath the northeast portion of the site as well as beneath the adjacent neighborhood.

The contaminants and impacts to the Property from the OOI operations appear to have been adequately defined and delineated. Mitigation measures as outlined in the Draft

RAP should be sufficient to allow to the use of the site for residential development pending review by the Water Board and the City of Long Beach.

The previously identified impacts from offsite sources have been identified and are being mitigated. If additional impacts from offsite sources are identified mitigation measure will be amended to address them.

There is some disagreement between the responsible parties as to the source of some impacts. Further investigation may be required to correctly clarify and /or identify the source(s) of the impact.

Regardless, the measures under regulatory oversight should be sufficient to allow redevelopment of the site for residential purposes.

Closure

We appreciate the opportunity to be of service. Should you have any questions or comments regarding this report, please contact Norman Eke at (626) 930-1260.

CONVERSE CONSULTANTS

John Ziegler
Senior Professional

Norman S. Eke
Senior Vice President

Appendix A – Document summary

Figure 1 – Site Location
Figure 2 - Existing Site Conditions
Figure 3 - Proposed development
Figure 4 – Historic Site Plan'
Figure 5 – Historical Assessment Plans

Appendix A

Document Summary

Summary of Findings Spreadsheet

Converse Project No. 19-41-290-01

Document Summary
Environmental Documents
Proposed River Park Development
Long Beach, California

Date	RP	Author	Report	
2/1/1981	OOI	EMCON	Hydrogeologic Investigation Industrial Waste Transfer Station	Laboratory Analysis showed highly elevated concentrations of all parameters tested.
5/18/1981	Four Corners Line Company (OOI)	Marmac Systems Engineering	Physical Survey Four Corners Line Company	Survey recommends installing relief valves or pressure switches for pumps used for line.
8/1/1985	OOI	STV	Site Characterization Study, Oil Operators Inc.	Eliminating Basins 3 & 4 is recommended and excavating oily sludge from them.
12/16/1985	OOI	STV	Investigation and Characterization of PCB and Other Constituents	Sludge material in Basins 3 & 4 are non hazardous concerning PCB (analyses show no PCB detected). Influent/effluents do not appear to be hazardous. Lead concentrations should be reduced.
10/1/1986	OOI	Jaykim Engineers Inc.	Hydrogeologic and Soil Report for the Closure of Basins 4, 5 and 14	Report recommends to reconstruct the west bank of Basins 1 and 2 to withstand seismic loading and lining all liquid holding basins with 3-foot thick layer of impervious clay or equivalent hydraulic barrier.
2/9/1987	OOI	Jaykim Engineers Inc.	Monitoring Report	Report states monitoring wells were installed in January 1987. Soil sampling grid was established and approved. Sump soil monitoring was conducted and based on the analysis report recommended closure of sumps and no further testing of the basins.
7/21/1987	OOI	Jaykim Engineers Inc.	Sump Attenuation Program Basin 14	Proposal for the removal and closure of basin 14.
7/28/1987	OOI	Jaykim Engineers Inc.	Sump Sludge Analyses	The sludge is classified as hazardous due to the presence of benzene and toluene.
9/1/1987	OOI	Jaykim Engineers Inc.	Closure Plan For Basin 14	Report stated all soil has been excavated, stockpiled or spread on-site. Removal of debris. Intermittent removal of the basin material. Three representative samples were tested showing the excavated and reclaimed soil is clean.
10/15/1987	OOI	Jaykim Engineers Inc.	Quarterly Monitoring Report - Land Treatment Operation	Results of groundwater and soil monitoring from July to September 1987. Three groundwater wells. Soil samples are significantly contaminated.
1/15/1988	OOI	Jaykim Engineers Inc.	Quarterly Monitoring Report - Land Treatment Operation	Results of groundwater and soil monitoring from October to December 1987. Soil samples are contaminated.
5/3/1988	OOI	Jaykim Engineers Inc.	Quarterly Monitoring Report	Results of groundwater and soil monitoring from January to March 1988. Limited work at site due to depleted funds.
7/11/1988	OOI	Jaykim Engineers Inc.	Quarterly Monitoring Report	Results of groundwater and soil monitoring from April to June 1988. Limited work at site due to depleted funds. Basins 5, 6 and 14 were approved for closure and have been backfilled.
6/29/1989	BP Lines (Tesoro)	Not Specified	Line 52 West Hyne Valve Vault Status Report	Line failed to hold pressure according to this report.
2/7/1990	OOI	Jack Bryant and Associates	Groundwater Monitoring Report	No comment.
2/6/1991	OOI	Jack Bryant and Associates	Groundwater Monitoring Report	No comment.
8/21/1991	OOI	Petroleum Industry Consultants	Waste Water Treatment Study South Site	No comment.
9/9/1991	OOI	AEMC	Soil and Groundwater study	No comment.

Document Summary
Environmental Documents
Proposed River Park Development
Long Beach, California

Date	RP	Author	Report	
12/12/1991	OOI	American Environmental Management Corporation (Sokut Construction)	Subsurface Characterization Report of the Southern Portion of OOI	Report recommends clean-up standard for soil on-site should be raised to 16,000 ppm TRPH, bio-remediate the top 2 feet of soil on the north property, excavating the upper 10 feet of soil at the site, and perform a site assessment for the north property.
4/13/1992	OOI	Jack Bryant and Associates	Groundwater Monitoring Report	No comment.
8/11/1992	OOI	Jack Bryant and Associates	Investigation of Origination of Groundwater/Soil Contamination at the Oil Operators South Site	Contamination of groundwater and soil appear to be due to contaminant inflow via the brine pipeline and contaminant infiltration via the settling ponds. Report recommends to verify settling pond leakage and eliminate question of off-site contamination, discover sources of contamination in the influent by systematic sampling at specific junctions upstream, and eliminate the use of the settling basins except in an emergency.
12/12/1992	OOI	AEMC	Subsurface Characterization Report of the Southern Portion of OOI	No comment.
3/29/1993	BP Lines (Tesoro)	Green Book 1993	Line 52 Operated by ATSC	Leak history documented for this line.
12/2/1998	OOI	QST Environmental for Greenpark Ventures	Site Assessment Summary and Remedial Action Plan	20 trenches were excavated on the property. Five soil borings were drilled, and soil samples were collected and analyzed for chemicals of concern. A remedial action plan was included in the report which suggested treating soil using onsite bioremediation to meet cleanup criteria, incorporating soil as engineering subbase, or transporting soil offsite for disposal.
10/26/1999	OOI	Environmental Science & Engineering Inc	Groundwater Monitoring Report	Report concluded if next sampling event reveals similar results, it recommends to discontinue analysis of SVOCs in the future.
2/21/2000	OOI	Environmental Science & Engineering Inc	Groundwater Monitoring Report	Report states an off-site source may be affecting chemicals in groundwater beneath the property.
4/14/2000	OOI	Environmental Science & Engineering Inc	Groundwater Monitoring Report	Concentrations in some of the wells have decreased and are below detectable levels.
10/13/2000	OOI	Environmental Science & Engineering Inc	Groundwater Monitoring Report	Concentrations in some of the wells appear to be consistent. Concentrations of VOCs increased in two of the wells.
5/1/2001	OOI	Miller Brooks Environmental, INC / For Green Park Ventures LLC	Groundwater Monitoring Report	No SVOCs were detected.
10/2/2001	OOI	Brycon LLC	Groundwater Monitoring Report	VOCs detected in two of the four wells - wells were located closest to Golden Avenue. Source of groundwater contaminant hasn't been detected.
4/26/2002	OOI	Brycon LLC	Semi-Annual Groundwater Monitoring Report	TPH was detected in only one of the wells. VOCs detected in the same two wells closest to Golden Avenue.
9/6/2002	OOI	Brycon LLC	Initial Site Assessment Plan for the OOI Baker Street Basin One	Application for waste stream characterization permit / initial site assessment report
10/15/2002	OOI	Brycon LLC	Semi-Annual Groundwater Monitoring Report	Brycon recommends to discontinue testing for SVOCs in future analysis. Results of the chemicals present are similar to those in April 2002.
11/21/2002	OOI	Brycon (City of Long Beaxch)	Basin 1 Characterization Report (soil)	Basin 1 contains residuals oily solids that settled out of oil production brine water. Basin 1 sample analysis indicates that its contents are crude oil. Basin 2 sample analysis showed little or no impact from petroleum hydrocarbons. Report concluded to stabilize Basin 1 contents and no remediation to Basin 2.
4/22/2003	OOI	Brycon LLC	Semi-Annual Groundwater Monitoring Report	Results of the monitoring are similar to the results in October 2002.
4/15/2004	OOI	Brycon LLC	Semi-Annual Groundwater Monitoring Report	Low levels of TPH in all wells on-site. Results are consistent with October 2003 report.
10/15/2004	OOI	Brycon LLC	Semi-Annual Groundwater Monitoring Report	Most of the results of the report are consistent with the results from April 2004 except for benzene and DCA1,2.
4/29/2005	OOI	Brycon LLC	Semi-Annual Groundwater Monitoring Report	TPH was detected in all four wells. A significant increase in VOCs concentrations in one of the wells (likely due to excessive rainfall).

Document Summary
Environmental Documents
Proposed River Park Development
Long Beach, California

Date	RP	Author	Report	
1/15/2007	OOI	Brycon LLC	Quarterly Monitoring Report for Basin 1 (soil)	Minimal operations on-site. Analytical results show that soil is at or near the remediation goal for the site.
4/15/2008	OOI	Brycon LLC	Quarterly Monitoring Report for Basin 1 (soil)	Analytical results revealed that the soils contained within the first 12'' are at or near the remediation goal for the site.
7/20/2008	OOI	Brycon LLC	Quarterly Monitoring Report for Basin 1 (soil)	Moisture and nutrient conditions were monitored and appropriately adjusted to facilitate remediation. Removal of one lift from the site.
10/15/2008	OOI	Brycon LLC	Quarterly Monitoring Report for Basin 1 (soil)	Removal of two treatment lifts from the site.
1/6/2009	OOI	Brycon LLC	Quarterly Monitoring Report for Basin 1 (soil)	Site was prepared for rainy season - slow down of activities on-site.
7/15/2009	OOI	Brycon LLC	Quarterly Monitoring Report for Basin 1 (soil)	Three additional treatments lifts will be completed during the summer season.
2/15/2009	OOI	Brycon LLC	Quarterly Monitoring Report for Basin 1 (soil)	Active remediation activities were minimal.
9/15/2009	OOI	Brycon LLC	Quarterly Monitoring Report for Basin 1 (soil)	Two treatment lifts were removed and placed elsewhere on-site.
2/11/2010	OOI	CRWQCB	Requirement for a Technical Report, Pursuant to California Water Code Section 13267 Order, Oil Operators, INC, 712 Baker Street, Long Beach, California (SCP Case No. 0093; SCP ID No. 2044MOO)	Letter from California RWQCB requesting a technical report from OOI.
4/15/2010	OOI	Brycon LLC	Quarterly Groundwater Monitoring	TPH, benzene and DCA 1.2 appear to be decreasing over time.
5/13/2010	OOI	CRWQCB	Requirement for a Technical Report, Pursuant to California Water Code Section 13267 Order, Oil Operators, INC., 712 Baker Street, Long Beach, California (SCP Case No. 0093; SCP ID No. 2044MOO)	Letter from California RWQCB requesting a technical report from OOI.
6/24/2010	OOI	CRWQCB	Approval of Time Extension Request to Submit an Amended Workplan	Extension of deadline for workplan to August 1, 2020.
7/15/2010	OOI	Brycon LLC	Quarterly Groundwater Monitoring	TPH, benzene and DCA 1.2 increased during this reporting period.
7/15/2010	OOI	Brycon LLC	Quarterly Monitoring Report for Basin 1 (soil)	Soil from the portion of the current treatment lift was removed and placed in the northern portion of the Baker Street Property.
8/1/2010	OOI	Brycon LLC	Proposed Amended Workplan Additional Site Characterization	Workplan includes excavating damaged/destroyed wells, boring and sampling program, analytical program for soil and groundwater samples, development of a site conceptual model, and preparation of a comprehensive report.
8/24/2010	OOI	CRWQCB	Approval of Proposed Amended Workplan for Additional Site Characterization	Workplan approved by RWQCB.
10/15/2010	OOI	Brycon LLC	Quarterly Monitoring Report for Basin 1 (soil)	Site underwent active bioremediation. Sampling events revealed site met cleanup goals.
10/15/2010	OOI	Brycon LLC	Quarterly Groundwater Monitoring	TPH, benzene and DCA 1,2 decreased during this time.
11/15/2010	OOI	Brycon LLC	Report on Additional Site Characterization	Two groundwater monitoring wells were located and abandoned. Elevated concentrations of gasoline range organics and diesel range organics as well as VOCs reported in shallow soils. VOCs mainly in eastern portion of the property. Report recommends continuation of groundwater monitoring and developing a workplan for additional subsurface assessment.
1/15/2011	OOI	Brycon LLC	Quarterly Monitoring Report for Basin 1 (soil)	Site underwent periodic bioremedial activities during this quarter.
1/15/2011	OOI	Brycon LLC	Quarterly Groundwater Monitoring	TPH, benzene and DCA 1,2 are in the same range as recent historic monitoring reports during this reporting period.

Document Summary
Environmental Documents
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Date	RP	Author	Report	
3/14/2011	OOI	Brycon LLC	Proposed Workplan for Additional Site Characterization	Workplan proposed includes conducting a soil gas survey, installing groundwater wells, assessing and characterizing LNAPL Pool, assessing groundwater (eastern portion of site) and preparation of a comprehensive report.
4/15/2011	OOI	Brycon LLC	Quarterly Groundwater Monitoring	TPH, benzene and DCA 1,2 are in the same range as recent historic monitoring reports during this reporting period.
6/23/2011	OOI	CRWQCB	Approval of Proposed Workplan for Additional Site Characterization	Workplan from March 14, 2011 approved.
7/15/2011	OOI	Brycon LLC	Quarterly Monitoring Report for Basin 1 (soil)	Active bio-remediation activities. Current treatment lift meets site clean up goals and will be removed during early 2011.
7/15/2011	OOI	Brycon LLC	Quarterly Groundwater Monitoring	TPH, benzene and DCA 1,2 are in the same range as recent historic monitoring reports during this reporting period.
8/15/2011	OOI	OOI (to CRWQCB)	Time Extension Request for Delivery of Technical Report	No comment.
9/1/2011	OOI	California Environmental Geologists & Engineers, Inc	Soil Gas Assessment Report	Soil gas assessment data revealed two predominant plumes - methane and benzene - which suggests the potential release of refined petroleum near Golden Avenue.
9/6/2011	OOI	CRWQCB	Approval of Time Extension Request to Submit a Technical Report	No comment.
9/30/2011	OOI	Brycon LLC	Report on Additional Site Characterization	Report recommends continuation of quarterly groundwater monitoring due to the presence of benzene and DCA 1,2 in concentrations above MCL and presence of VOCs in soil gas.
10/15/2011	OOI	Brycon LLC	Quarterly Monitoring Report for Basin 1 (soil)	One treatment lift was completed and removed from the treatment area. Next lift has met the clean up criteria and is ready to be removed.
10/15/2011	OOI	Brycon LLC	Quarterly Groundwater Monitoring	TPH, benzene and DCA 1,2 are in the same range as recent historic monitoring reports during this reporting period. Site assessment revealed groundwater is impacted from petroleum pipeline located on Golden Avenue.
1/13/2012	BP Lines (Tesoro)	CRWQCB	Requirement for a Technical Report on Pipeline Inventory - Pursuant to California Water Code Section 13267 Order No. R4-2012-0009	California RWQCB requests an inventory of pipelines and layout location along Golden Avenue.
1/13/2012	BP Lines (Tesoro)	CRWQCB	Requirement for Technical Report on Pipeline Inventory Pursuant to California Water Code Section 13267 Order No. R4-2012-0010	California RWQCB requests an inventory of pipelines and layout location along Golden Avenue.
1/15/2012	OOI	Brycon LLC	Quarterly Monitoring Report for Basin 1 (soil)	One treatment lift was removed.
1/15/2012	OOI	Brycon LLC	Quarterly Groundwater Monitoring	TPH, benzene and DCA 1,2 are in the same range as recent historic monitoring reports during this reporting period.
2/1/2012	OOI	Cal EPA	Fact Sheet - Update on soil, soil vapor and groundwater investigations	Fact sheet on the property includes that major contaminants of soil are petroleum hydrocarbons, BTEX, and heavy metals at Basin 1. Cleanup on site includes soil vapor extraction system, decommissioning and demolishing of Basin 1.
2/1/2012	OOI	California Environmental Geologists & Engineers, Inc	Workplan Soil Vapor Extraction - Area of Elevated VOCs in Soil Gas	Operation of a SVE system is proposed to remove the accumulated soil gases beneath the area of concern and to reduce vapor intrusion hazard associated with the VOC/methane plumes present beneath Golden Avenue.
3/2/2012	BP Lines (Tesoro)	Plains West Coast Terminals LLC	Technical Report on Pipeline Inventory	Report states that the closest pipeline to the property has been purged and out of service for 12 year (no evidence of leak or failure of this pipeline). All pipelines contained crude oil - not gasoline.

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3/8/2012	BP Lines (Tesoro)	CRWQCB	Transmittal of Technical Report on Pipeline Inventory Requirement for Technical Report - Pursuant to California Water Code Section 13267 Order No R4-2012-0009	Report states that for the two pipelines that could potentially lead to contamination, they have not identified a release from them.
4/16/2012	OOI	Brycon LLC	Quarterly Groundwater Monitoring	TPH, benzene and DCA 1,2 are in the same range as recent historic monitoring reports during this reporting period.
5/11/2012	BP Lines (Tesoro)	CRWQCB	Requirement for Technical Report on Soil and Soil Vapor Investigations - Pursuant to California Water Code Section 13267 Order	Evidence of discharge of waste from a pipeline beneath the western portion of Golden Avenue. Thus, request of a workplan is required for soil and soil vapor investigations.
6/1/2012	OOI	California Environmental Geologists & Engineers, Inc	Soil Vapor Extraction - Pilot Test Report	Pilot SVE test showed that high vacuum extraction works well for removal of the residual volatile hydrocarbons present in the subsurface near the OOI property.
6/12/2012	Tesoro	CRWQCB	Approval of Time Extension Request to Submit a Technical Report, Pursuant to California Water Code Section 13267	Letter approving time extension from LARWQCB to Tesoro.
7/11/2012	Tesoro	CRWQCB	Requirement for Technical Report, Pursuant to California Water Code Section 13267 Order - Transmittal of Technical Report	Investigative work plan to determine if there are any problems with the pipelines located close to the property.
7/15/2012	OOI	Brycon LLC	Quarterly Monitoring Report for Basin 1 (soil)	Material was moved from Basin 1 and 2 into Area 3. Active remediation was initiated for all 3 areas in July.
7/15/2012	OOI	Brycon LLC	Quarterly Groundwater Monitoring	TPH, benzene and DCA 1,2 are in the same range as recent historic monitoring reports during this reporting period.
8/29/2012	BP Lines (Tesoro)	BP Lines (Tesoro) (to CRWQCB)	Information Discussed in Technical Meeting on August 9, 2012	Summary of points discussed at meeting.
9/12/2012	BP Lines (Tesoro)	BP Lines (Tesoro) (to CRWQCB)	Requirement for Technical Report, Pursuant to California Water Code Section 13267 Order - Transmittal of Revised Workplan	Revised workplan to meet LARWQCB requirements.
9/12/2012	BP Lines (Tesoro)	BP Lines (Tesoro) (to CRWQCB)	Addendum to Records Submittal (March 8, 2012) - Requirement for Technical Report	Leaks found in lines 32 & 34. Line 32 did not release hydrocarbons, but it did release crude oil. Line 34 released unknown material in 1990.
10/15/2012	OOI	Brycon LLC	Quarterly Groundwater Monitoring	TPH, benzene are in the same range as recent historic monitoring reports during this reporting period.
9/27/2012	OOI	Zymax (Brycon)	Oil operator GW Project	Forensic analysis of groundwater.
11/7/2012	BP Lines (Tesoro)	CRWQCB	Rationale for BP Pipelines Being a Discharger and Responsible Party and for why BP Pipelines Should Perform Remedial Actions	Letter from LARWQCB requiring BP Pipelines to operate an interim remedial solution such as soil vapor extraction due to pipeline 34 being the source of soil and groundwater contamination.
11/20/2012	BP Lines (Tesoro)	CRWQCB	Response to Work Plans, Pursuant to California Water Code Section 13267 Order Number RB4-2012-0085	Letter stating work plans submitted are deficient.
11/20/2012	BP Lines (Tesoro)	BP Lines (Tesoro) (to CRWQCB)	Requirement for Technical Report - Pursuant to California Water Code Section 13267 Order No. R4-2012-0009	Letter requesting a meeting with LARWQCB to discuss changes necessary for work plan to meet LARWQCB requirements.
12/4/2012	BP Lines (Tesoro)	BP Lines (Tesoro) (to CRWQCB)	Response to Regional Water Quality Control Board Letter dated November 6, 2012	Response from BP Pipelines to LARWQCB detailing the reasons for them not being the source of contamination (hydrocarbons in soil/groundwater).
12/7/2012	BP Lines (Tesoro)	Tropio & Morlan Law Corporation (for Tesoro)	Regional Water Quality Control Board May 11, 2012 Order Pursuant to Water Code Section 13267 and Relating to Property Near 712 Baker Street, Long Beach, California	Letter summarizing that the meeting held was to have the Board rescind their order.
1/15/2013	OOI	Brycon LLC	Quarterly Monitoring Report for Basin 1 (soil)	No active remediation completed. Sampling results reveal current lift is below the site clean up criteria.
4/15/2013	OOI	Brycon LLC	Quarterly Monitoring Report - Soil Vapor Extraction	Further analysis recommended due to increase of benzene inlet concentration. Current VES system not efficient enough to remediate the identified source.
4/15/2013	OOI	Brycon LLC	Quarterly Groundwater Monitoring	Six groundwater monitoring wells. TPH, benzene are in the same range as recent historic monitoring reports during this reporting period.
4/24/2013	BP Lines (Tesoro)	CRWQCB	Response to Letter Dated December 4, 2012	Recission order rejected.

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4/26/2013	BP Lines (Tesoro)	CRWQCB	Tentative Cleanup and Abatement Order No. R4-2013-0064 Pursuant to California Water Code Section 13304	Cleanup and Abatement Order No. R4-2013-0064 (Order) is issued to BP Pipelines (North America), Inc., Atlantic Richfield Company, and ARCO Terminal Services Corporation
5/13/2013	BP Lines (Tesoro)	BP Lines (Tesoro) (to CRWQCB)	Notification of Ownership Transfer	BP Pipelines is transferring ownership to Tesoro Refining and Marketing Company.
5/24/2013	BP Lines (Tesoro)	BP Lines (Tesoro) (to CRWQCB)	OOI April 15, 2013 Quarterly Monitoring Report, Soil Vapor Extraction	BP Pipelines points out errors on April 15, 2013 Quarterly Monitoring Report.
5/28/2013	BP Lines (Tesoro)	BP Lines (Tesoro) (to CRWQCB)	Tentative Cleanup and Abatement Order No. R4-2013-0064	Letter asking the Board to reconsider cleanup order until BP Pipelines is proven to be the source of contamination.
6/10/2013	OOI	Brycon LLC	Proposed Workplan Installation of Additional Groundwater Monitoring Wells	Workplan consists of installing 2 new groundwater monitoring wells, soil sampling program, soil analytical program, abandoning well emcon-mw3, and preparing a comprehensive report.
7/15/2013	OOI	Brycon LLC	Quarterly Monitoring Report for Basin 1 (soil)	Active remediation initiated for all 3 areas. Treatment lift met clean up criteria.
7/15/2013	OOI	Brycon LLC	Quarterly Monitoring Report - Soil Vapor Extraction	Further investigation recommended to figure out the location of the contaminant source.
7/15/2013	OOI	Brycon LLC	Quarterly Groundwater Monitoring	TPH, benzene appear to be in the same range as recent historic monitoring events during this reporting period.
7/19/2013	OOI / Signal Hill Petroleum, Inc.	CRWQCB	Approval of Proposed Workplan for Installation of Additional Groundwater Monitoring Wells	Workplan approved with a few requirements.
7/24/2013	Tesoro	Tesoro (to CRWQCB)	Tesoro Notification to RWQCB, Los Angeles Region, of Transfer of Oversight for Former BP Pipelines/Arco at Golden Avenue, Long Beach, California	ARCO Terminal Services Corporation transferred to Tesoro.
10/15/2013	OOI	Brycon LLC	Quarterly Monitoring Report for Basin 1 (soil)	Samples were not collected in September due to broken equipment.
10/15/2013	OOI	Brycon LLC	Quarterly Monitoring Report - Soil Vapor Extraction	Inlet concentration of benzene has stabilized.
10/15/2013	OOI	Brycon LLC	Quarterly Groundwater Monitoring	The current data tends to indicate that two distinct impacted areas may exist within the groundwater along the eastern side of the property.
10/18/2013	OOI	Brycon	Report on Additional Groundwater Monitoring well Installation	Benzene present in the deeper soil, VOCs not found in the shallow soils.
11/26/2013	Tesoro	Tesoro (AECOM)	OOI Site Tesoro Split Sampling Results	Results of site sampling conducted by AECOM.
1/15/2014	OOI	Brycon LLC	Quarterly Groundwater Monitoring	Monitoring well 92-MW1 was found to have a very low concentration of TPH(g). Additional investigation recommended along the eastern border.
1/29/2014	OOI	Zymax (Brycon)	Results of LNAPL Forensic Analysis	Letter from OOI to LARWQCB recommends further analysis of the pipeline along Golden Avenue due to results of forensic analysis.
1/31/2014	OOI	Brycon LLC	Quarterly Monitoring Report - Soil Vapor Extraction	Inlet concentration of benzene increased significantly during this period.
7/15/2014	OOI	Brycon LLC	Quarterly Monitoring Report for Basin 1 (soil)	No active remediation completed.
7/15/2014	OOI	Brycon LLC	Quarterly Monitoring Report - Soil Vapor Extraction	Inlet concentration of benzene increased due to an open valve.
7/15/2014	OOI	Brycon LLC	Quarterly Groundwater Monitoring	Additional investigation should be conducted to determine the exact groundwater conditions along the eastern border.
9/18/2014	Tesoro	CRWQCB	Cleanup and Abatement Order R4-2013-0064	Cleanup and Abatement Order to BP Pipelines, Atlantic Richfield Company and ARCO Terminal Services Corporation.
9/30/2014	Tesoro	Tesoro (to CRWQCB)	Tesoro IRAP	SVE IRAP consists of permitting, proposed SVE system, access agreements, performance testing, maintenance, monitoring and reporting, health & safety.
10/14/2014	Tesoro	CRWQCB	Approval of Interim Remedial Action Plan Under Cleanup and Order No R4-2013-0064 Pursuant to California Water Code Section 13304	LARWQCB approved IRAP.

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10/15/2014	OOI	Brycon LLC	Quarterly Monitoring Report for Basin 1 (soil)	September sampling results indicates that the current treatment lift has met the site clean up goals.
10/15/2014	OOI	Brycon LLC	Quarterly Monitoring Report - Soil Vapor Extraction	Additional investigation of the soil gas within the area should be completed to verify the reduction of benzene observed in this report.
10/15/2014	OOI	Brycon LLC	Quarterly Groundwater Monitoring	TPH, benzene appear to be in the same range as recent historic monitoring events during this reporting period.
11/12/2014	Tesoro	CRWQCB	Approval of Extension Request Under Cleanup and Abatement Order No. R4-2013-0064 Pursuant to California Water Code Section 13304	Extension of deadline.
12/3/2014	Tesoro	Tesoro (to CRWQCB)	SVE Report Extension Request	Request to extent the deadline of the submission of SVE report.
12/17/2014	Tesoro	CRWQCB	Approval of Soil Vapor Extraction Installation and Startup Report Extension Request	Approval of extension request.
12/19/2014	OOI	Brycon LLC	Quarterly Groundwater Monitoring	TPH and benzene appear to be in the same range as recent historic monitoring events during this reporting period. Additional investigation recommended.
12/22/2014	Tesoro	AECOM (Tesoro)	Master Work Plan and Human Health Risk Assessment Plan	Details of Master Work Plan and HHRA plan.
1/23/2015	Tesoro	Tesoro (to CRWQCB)	SVE Report Additional Extension Request	No comment.
1/30/2015	Tesoro	CRWQCB	Approval of Master Work Plan and Human Health Risk Assessment Work Plan Under Cleanup and Abatement Order No. R4-2013-0064 Pursuant to California Water Code Section 13304	Approval of both plans with comments.
2/1/2015	Tesoro	CRWQCB	Notification of Work	Notification of installation of SVE system
2/17/2015	Tesoro	CRWQCB	Approval of SVE Installation and Startup Report Under Cleanup and Abatement Order No. R4-2013-0064 Pursuant to California Water Code Section 13304	Approval of extension request.
2/25/2015	Tesoro	Tesoro (to CRWQCB)	Response to LARWQCB Comments to Tesoro's Workplan Dated December 22, 2014	Tesoro modifying work plan to meet LARWQCB requests.
3/2/2015	Tesoro	Tropio & Morlan Law Corporation (for Tesoro)	In the Matter of Los Angeles Regional Water Quality Control Board 13304 Work Plan Approval Denying Certain Portions of Petitioners' Work Plan Re: Former BP/ARCO Pipelines, Golden Avenue Between Baker Street and West Wardlow Road, Long Beach, California; The Petition of Tesoro Refining & Marketing Company LLC and Tesoro SoCal Pipeline Company LLC (Order No. 2013-0064, SCP No. 0093A and Site ID No. 2040420); Request for Stay	A petition submitted to the Office of Chief Counsel for review of referenced workplan.
3/16/2015	Tesoro	CRWQCB	Approval of Response to LARWQCB Comments to Tesoro's Work Plan Under Cleanup and Abatement Order No. R4-2013-0064 Pursuant to California Water Code Section 13304	Approval to Plan with several comments.
4/1/2015	BP Lines (Tesoro)	CRWQCB	Fact Sheet - Soil Vapor Extraction Activities BP Pipelines/ARCO Site Long Beach, California	Update on the investigation conducted on the site.
4/3/2015	OOI	Tetra Tech (Integral Partners)	Supplemental Site Investigation (SSI) Work Plan	Work plan to evaluate the lateral and vertical extent of site-related COPCs in soil, soil gas, and the shallow perched groundwater zone.
4/15/2015	OOI	Brycon LLC	Quarterly Groundwater Monitoring	TPH and benzene appear to be in the same range as recent historic monitoring events during this reporting period. Additional investigation recommended.

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4/25/2015	OOI	Tetra Tech (Integral Partners)	Supplemental Site Investigation Work Plan Amendment No. 1	Amendment to the work plan based on the revisions recommended by LARWQCB.
4/30/2015	OOI	CRWQCB	Approval of Supplemental Site Investigation Work Plan	Letter approving work plan by Tetra Tech
4/30/2015	Tesoro	AECOM	Tesoro Logistics Operations LLC Soil Vapor Extraction System Installation and Startup Report Former BP/ARCO Pipelines, Golden Avenue, between Baker Street and Wardlow Road Long Beach, California	The SVE system removed approximately 851 lbs. of TPH-g and 5 lbs. of benzene vapors. The catalytic oxidizer was effective at treating the VOC and TPH vapors. Methane concentrations were found to be decreasing over time.
5/26/2015	BP Lines (Tesoro)	CRWQCB	Notification of Work	Drilling work notification.
6/25/2015	BP Lines (Tesoro)	CRWQCB	BP Pipeline/ARCO Site Environmental Investigation & Cleanup	Presentation on the site, health risks associated with it, and investigation and cleanup activities
7/13/2015	Tesoro	CRWQCB	Approval of Extension Request for Submittal of Site Investigation Report, Site Conceptual Model, and Human Health Risk Assessment Under Cleanup and Abatement Order No. R4-2013-0064 Pursuant to California Water Code Section 13304	Approval of extension request for report.
7/16/2015	Tesoro	AECOM	Tesoro Logistics Operations LLC Supplemental Investigation Plan for Golden Avenue Site, between Baker Street and West Wardlow Road, Long Beach, California	SIP includes Permits and Access, Utility Locating & Geophysical Survey, Proposed Soil Borings, Analyses and Coordinate Survey.
7/17/2015	OOI	Tetra Tech (integral Partners)	Supplemental Site Investigation Report	Report recommends a remedial action plan (with cleanup goals), a comprehensive human health risk assessment, additional groundwater monitoring for a year, a site management plan, excavation of soils with concentrations above site cleanup goals, a no further action letter following remedial action plan, continue to operate ATSI-operated VES system, and a vapor intrusion mitigation system.
7/31/2015	Tesoro	AECOM (Tesoro)	Tesoro Logistics Operations LLC Soil Vapor Extraction System Quarterly Monitoring Report: Second Quarter of 2015	301 pounds (lbs.) of TPH-g and 2.0 lbs. of benzene were removed. Methane concentrations decreased while oxygen concentrations increased, indicating methane depletion and oxygen infiltration in the formation, facilitating the removal of volatile organic compounds (VOCs) and TPH-g. On July 14, 2015, the SCAQMD issued the modified Permit No. G36197 with a 1,2-DCA influent limit of 2.0 ppmv and an effluent limit of 0.020 ppmv. The SVE system will operate under the modified permit in Third Quarter 2015.
8/15/2015	Tesoro	CRWQCB	Approval of Supplemental Investigation Plan Under Cleanup and Abatement Order No. R4-2013-0064 Pursuant to California Water Code Section 13304	Approval of plan with few comments and additions to it.
10/15/2015	Tesoro	CRWQCB	Approval of Additional Extension Request for Submittal of Site Investigation Report and Site Conceptual Model Under Cleanup and Abatement Order No. R4-2013-0064 Pursuant to California Water Code Section 13304	Approval for extension of deadline to submit report.
10/15/2015	OOI	Brycon LLC	Quarterly Groundwater Monitoring	Benzene reading of 3,000 ug/l at the new well TMW5, along the western edge of Golden Ave.
10/30/2015	Tesoro	AECOM	Tesoro Logistics Operations LLC Soil Vapor Extraction System Quarterly Monitoring Report: Third Quarter 2015	Approximately, 1,300 pounds (lbs.) of TPH-g and 14 lbs. of benzene were removed. Methane concentrations decreased while oxygen concentrations increased, indicating methane depletion and oxygen infiltration in the formation, facilitating the removal of volatile organic compounds (VOCs) and TPH-g.

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11/13/2015	Tesoro	AECOM	Tesoro Logistics Operations LLC Site Assessment and Human Health Risk Assessment Report for Golden Avenue Site, between Baker Street and West Wardlow Road, Long Beach, California	Shallow soil sample analytical results demonstrate no significant impact to near-surface soil, except in the area of the SVE system on the OOI property and near Golden Avenue. Groundwater is also impacted by chlorinated solvent compounds and other compounds typically associated with industrial processes. Recommendations for additional investigation or related activities, if any, will be identified during the development of the SCM and presented in the SCM report.
11/17/2015	Tesoro	CRWQCB	Denial of Extension Request for Submittal of Site Investigation Report and Human Health Risk Assessment and Approval of Additional Extension Request for Submittal of Site Conceptual Model Under Cleanup and Abatement Order No. R4-2013-0064 Pursuant to California Water Code Section 13304	Denial for the extension of submittal of SIR.
12/8/2015	CRWQCB (Tesoro)	Office of Environmental Health Hazard Assessment	Tesoro Logistics Operations LLC Human Health Risk Assessment, Golden Avenue Site, Long Beach, California SWRCB# R4-15-033, OEHHA #880397-00	OEHHA is concerned that AECOM's assessment of risks or hazards from soil or soil vapors may underestimate risk because samples that did not exceed screening levels are excluded. OEHHA cannot verify the vapor intrusion risk estimates because we do not have the model nor is there DTSC guidance for using the model.
12/31/2015	Tesoro	AECOM	Tesoro Logistics Operations LLC Site Conceptual Model Report for the Golden Avenue Site, between Baker Street and Wardlow Road, Long Beach, California	A former pipeline – known as ARCO Line 36 – was incorporated into Line 34 and that former Line 36 was used to transport gasoline at times from about 1946 until a later time when the line was designated as transporting a "combination" of products. The field records document leak surveys of Line 36 that took place on Golden Avenue (near the SVE system) and Baker Street (near the intersection of Golden Avenue and Baker Street) between 1954 and 1960.
1/11/2016	AECOM (Tesoro)	CRWQCB	Responses to OEHHA Comments Regarding the Tesoro Logistics Operations LLC Human Health Risk Assessment, Golden Avenue Site, Long Beach, California (SWRCB# R4-15-033, OEHHA# 880397-00)	Response explaining AECOM's methods in calculating risks. AECOM will revise risk calculations in response to OEHHA comments.
1/14/2016	OOI	Mearns Consultng	Human Health Risk Assessment, Oil Operators Inc, 712 Baker Street, Long Beach, CA	Lead concentration results indicate that it poses an unacceptable hazard to adults or children. VOCs detected in groundwater and soil vapor pose an unacceptable risk and hazard to adults and children in a residential setting. Methane concentrations indicate that there should be a methane mitigation system. Noncarcinogenic constituents exceed the target hazard threshold for residential child. Risk of carcinogenic constituents exceed the target threshold for residential child and adult. Based on these results, report recommends soil removal to a depth of 10-feet bgs as well as subslab methane mitigation required.
1/15/2016	OOI	Brycon LLC	Quarterly Monitoring Report for Basin 1 (soil)	Remediation activity on the Site included active remediation of the 3 Basins.
1/15/2016	OOI	Brycon LLC	Quarterly Groundwater Monitoring	14 groundwater monitoring wells at the property. TPH and benzene appear to be in the same range as recent historic monitoring events during this reporting period, with the exception of the Benzene reading of 3,000 ug/l at the new well TMW5.

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1/29/2016	Tesoro	AECOM (Tesoro)	Tesoro Soil Vapor Extraction System Quarterly Monitoring Report: Fourth Quarter 2015	Approximately 678 pounds (lbs.) of TPH-g and 6.8 lbs. of benzene were removed. Methane depletion and oxygen infiltration into the formation remained stable at current soil vapor extraction parameters.
2/1/2016	Tesoro	CRWQCB	BP Pipeline/ARCO Site Update Wrigley Association Monthly Meeting	Presentation providing an update on the BP Pipeline/ARCO site.
2/1/2016	Tesoro	AECOM	Tesoro Updated Human Health Risk Assessment, Golden Avenue Site, between Baker Street and West Wardlow Road, Long Beach, California	Updated HHRA following OEHHA comments.
2/11/2016	AECOM (Tesoro)	OEHHA	Tesoro Logistics Operations LLC Updated Human Health Risk Assessment, Golden Avenue Site, Between Baker Street and West Wardlow Road, Long Beach, California SWRCB# R4-15-033, OEHHA #880397-00	Review of HHRA shows residential risks and hazards from soil contaminants were negligible. The updated risk assessment accurately reflects the agreements made in the December 17, 2015 teleconference.
2/18/2016	OOI	OEHHA	Review of Human Health Risk Assessment, Oil Operators, Inc.	Review of HHRA shows that a properly installed methane mitigation system should reduce vapor intrusion. However, review does not support Mearns Consulting risk and hazard estimates for soil contaminants.
2/19/2016	Tesoro	AECOM & H&P Mobile Geochemistry (Tesoro)	2016 Tesoro Soil Vapor Results Letter	Benzene was detected below the residential soil vapor screening level in one of the probes. No other petroleum-related compounds were detected in soil vapor in the upper 10 feet bgs. No methane was detected.
2/23/2016	BP Lines (Tesoro)	CRWQCB	Golden Ranch Homeowners' Association & Countryside Lane Homeowners' Association #2 Meeting: BP Pipeline/ARCO Site Environmental Investigation and Cleanup.	Presentation showing recent environmental activities on site and current status and next steps. Upcoming steps include direct expansion of the interim remedial actions to clean up soil and soil vapors in the spill/leak area.
2/26/2016	OOI	Mearns Consultng	Response to Memorandum dated February 18, 2016	A response to the review by OEHHA detailing Mearns Consulting methods and reasoning behind it.
4/8/2016	Tesoro	CRWQCB	Requirement for an Expanded Interim Remedial Action Plan Under Cleanup and Abatement Order No. R4-2013-0064 Pursuant to California Water Code Section 13304	Regional Board is requiring a workplan to expand the scope of the interim remediation. The expanded interim remedial action plan (Workplan) may address the full extent of wastes resulting from the release in the SVE Area and is not limited to the contaminant plumes present in shallow soil and soil vapors.
4/8/2016	Tesoro	CRWQCB	Requirement for an Expanded Interim Remedial Action Plan Under Cleanup and Abatement Order No. R4-2013-0064 Pursuant to California Water Code Section 13304	This letter states that gasoline compounds, including benzene, are present at elevated concentrations in the adsorbed phase in the release area. Regional Board a workplan to expand the scope of the interim remediation. The expanded interim remedial action plan (Workplan) may address the full extent of wastes resulting from the release in the SVE Area and is not limited to the contaminant plumes present in shallow soil and soil vapors. Site-specific clean-up goals for soil, soil vapor, and groundwater may be proposed in the Workplan. The Workplan shall include a proposed soil vapor monitoring plan for the residential areas.
4/15/2016	OOI	Brycon LLC	Quarterly Monitoring Report for Basin 1 (soil)	No active remediation during this quarter.
4/15/2016	OOI	Brycon LLC	Quarterly Groundwater Monitoring	TPH and benzene appear to be in the same range as recent historic monitoring events during this reporting period, with the exception of the Benzene reading of 4,700 ug/l at the new well TMW5
4/29/2016	Tesoro	AECOM (Tesoro)	Tesoro Soil Vapor Extraction System Quarterly Monitoring Report: First Quarter 2016 Former BP/ARCO Pipelines, Golden Avenue, between Baker Street and Wardlow Road Long Beach, California	Methane depletion and oxygen infiltration into the formation continues to occur from operation of the soil vapor extraction system.
5/6/2016	OOI	CRWQCB	Clarification of Regional Board Correspondences	Letter clarifying that the regional board does not and cannot approve development plans.

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6/3/2016	Tesoro	AECOM (Tesoro)	Second Quarterly 2016 Soil Vapor Sampling Results	The vapor sampling results show that benzene was only detected at locations TSO-22 and TSO-24. Sampling results suggest that there is no health concern from soil vapor intrusion related to chloroform
6/8/2016	Tesoro	AECOM	Tesoro Interim Remedial Action Plan Addendum for SVE Area, Former BP/ARCO Pipelines Golden Avenue Site, Long Beach, California	Workplan includes installation of soil vapor monitoring probes, sampling and analysis of monitoring probes, conceptual SVE system design, design approval, permitting and access, system installation, testing, and operation, and SVE quarterly monitoring & reporting.
6/29/2016	Tesoro	CRWQCB	Conditional Approval of Interim Remedial Action Plan Under Cleanup and Abatement Order No. R4-2013-0064 Pursuant to California Water Code Section 13304	Approval of IRAP with several conditions.
7/15/2016	OOI	Brycon LLC	Quarterly Groundwater Monitoring	TPH and benzene appear to be in the same range as recent historic monitoring events during this reporting period, with the exception of the Benzene reading of 3,600 ug/l at the new well TMW5.
7/27/2016	Tesoro	AECOM (Tesoro)	IRAP Approval Response Letter	Tesoro requests written approval to continue to use DTSC screening levels rather than the CHHSLs in evaluation of potential risk associated with soil vapor results obtained during the implementation of the IRAP Addendum and to complete HHRA calculations if screening levels are exceeded.
7/29/2016	Tesoro	AECOM (Tesoro)	Tesoro Soil Vapor Extraction System Quarterly Monitoring Report: Second Quarter 2016 Former BP/ARCO Pipelines, Golden Avenue, between Baker Street and Wardlow Road Long Beach, California	The SVE system extracted vapor from vapor extraction well VES-A screened between 5 and 30 feet below ground surface (bgs) and removed approximately 1,672 pounds (lbs.) of TPH-g and 13 lbs. of benzene.
8/16/2016	Tesoro	AECOM (Tesoro)	Third Quarter 2016 Soil Vapor Sampling Results for the Golden Avenue Site in Long Beach, CA (SCP Case No. 0093A, Site ID No. 2040420)	Results of samples collected from July 6 through July 8, 2016.
8/22/2016	Tesoro	Tesoro	Request for Extension of Deadline for Submittal of IRAP Report and System Design Golden Avenue Site in Long Beach, CA (SCP Case No. 0093A, Site ID No. 2040420)	Request for deadline extension.
9/28/2016	Tesoro	CRWQCB	Approval of Extension Request for Submittal of IRAP Report and System Design Under Cleanup and Abatement Order No. R4-2013-0064 Pursuant to California Water Code Section 13304	Due date extended to November 18, 2016.
10/15/2016	OOI	Brycon LLC	Quarterly Groundwater Monitoring	TPH and benzene appear to be in the same range as recent historic monitoring events during this reporting period, with the exception of the Benzene reading of 3,300 ug/l at the new well TMW5
10/28/2016	Tesoro	AECOM (Tesoro)	Tesoro Soil Vapor Extraction System Quarterly Monitoring Report: Third Quarter 2016	The SVE system extracted vapor from vapor extraction well VES-A screened between 5 and 30 feet below ground surface (bgs) and removed approximately 1,715 pounds (lbs.) of TPH-g and 11 lbs. of benzene.
10/28/2016	Tesoro	AECOM (Tesoro)	Fourth Quarter 2016 Soil Vapor Sampling Results for Selected Vapor Probes, Golden Avenue Site in Long Beach, CA (SCP Case No. 0093A, Site ID No. 2040420)	Analytical results from samples collected between October 4 and 6, 2016.
11/10/2016	Tesoro	AECOM	Expanded Interim Remedial Action Plan and Conceptual Design Report for the SVE Area Former BP/ARCO Pipelines Golden Avenue Site, Long Beach, California	Expansion of SVE system to meet LARWQCB requirements. Cone Parameter Test (CPT) will be conducted. Vapor from each extraction will be monitored and reported.
1/15/2017	OOI	Bedrock Engineering	Quarterly Monitoring Report for Basin 1 (soil)	No active remediation during this quarter.
1/15/2017	OOI	Bedrock Engineering	Quarterly Groundwater Monitoring	TPH and benzene appear to be in the same range as recent historic monitoring events during this reporting period.
1/19/2017	Tesoro	AECOM	Tesoro 2016 Site Conceptual Model Report Update, Former BP/ARCO Pipelines Golden Avenue Site, Long Beach, California	New information regarding OOI using benzene containing wastes which was not disclosed before. Plains Line 52 was documented as transporting gasoline and wastewater. It leaked in 1972 and failed a hydrotest in 1989.

Document Summary
Environmental Documents
Proposed River Park Development
Long Beach, California

Date	RP	Author	Report	
1/31/2017	Tesoro	AECOM (Tesoro)	Tesoro Soil Vapor Extraction System Quarterly Monitoring Report: Fourth Quarter 2016 Former BP/ARCO Pipelines, Golden Avenue, between Baker Street and Wardlow Road Long Beach, California	The SVE system extracted vapor from vapor extraction well VES-A, screened between 5 and 30 feet below ground surface (bgs), and removed approximately 1,835 pounds (lbs.) of TPH-g and 11 lbs. of benzene.
2/8/2017	Tesoro	CRWQCB	Approval of Expanded Remedial Action Plan Under Modification to Reporting Requirements Under Cleaup and Abatement Order No. R4-2013-0064 Pursuant to California Water Code Section 13304	Approval of RAP with a few comments and conditions.
4/15/2017	OOI	Bedrock Engineering	Quarterly Monitoring Report for Basin 1 (soil)	No active remediation during this period. Soil monitoring completed.
4/15/2017	OOI	Bedrock Engineering	Quarterly Groundwater Monitoring	TPH and benzene appear to be in the same range as recent historic monitoring events during this reporting period.
4/28/2017	Tesoro	AECOM (Tesoro)	Tesoro Soil Vapor Extraction System Quarterly Monitoring Report: First Quarter 2017 Former BP/ARCO Pipelines, Golden Avenue, between Baker Street and Wardlow Road Long Beach, California	The SVE system extracted vapor from vapor extraction well VES-A, screened between 5 and 30 feet below ground surface (bgs), and removed approximately 1,009 pounds (lbs.) of TPH-g and 5.9 lbs. of benzene during operation.
5/19/2017	OOI	SCS Engineers (OOI)	Response to Tesoro 2016 Site Conceptual Model (SCM) Report Update Former BP/ARCO Pipelines, Golden Avenue Site, Long Beach, California	A letter from OOI responding to Tesoro listing the reasoning as to why OOI is not the source of the contamination.
7/15/2017	OOI	Bedrock Engineering	Quarterly Monitoring Report for Basin 1	Active remediation. Soil monitoring completed.
7/15/2017	OOI	Bedrock Engineering	Quarterly Groundwater Monitoring	TPH and benzene appear to be in the same range as recent historic monitoring events during this reporting period.
7/31/2017	Tesoro	AECOM (Tesoro)	Tesoro Soil Vapor Extraction System Quarterly Monitoring Report: Second Quarter 2017 Former BP/ARCO Pipelines, Golden Avenue, between Baker Street and Wardlow Road Long Beach, California	The SVE system was shut down on February 10, 2017 due to the detection of non-petroleum compounds. and will be restarted during the third quarter of 2017.
10/15/2017	OOI	Bedrock Engineering	Quarterly Monitoring Report for Basin 1 (soil)	Active remediation took place during this quarter.
10/15/2017	OOI	Bedrock Engineering	September 2017 - Quarterly Groundwater Monitoring at the Oil Operators Property, 712 West Baker Street, Long Beach, California	TPH and benzene appear to be in the same range as recent historic monitoring events during this reporting period.
10/31/2017	Tesoro	AECOM (Tesoro)	Tesoro Soil Vapor Extraction System Quarterly Monitoring Report: Third Quarter 2017 Former BP/ARCO Pipelines, Golden Avenue, between Baker Street and Wardlow Road Long Beach, California	The SVE system extracted vapor from vapor extraction well VES-A, screened between 5 and 30 feet below ground surface (bgs), and removed approximately 759 pounds (lbs.) of TPH-g and 6.3 lbs. of benzene during operation.
12/19/2017	Tesoro	CRWQCB	Request for Extension to submit Expanded Interim Remedial Action Plan Report and System Design for Golden Avenue Site in Long Beach	Request for extension due to complications.
1/15/2018	OOI	Bedrock Engineering	Quarterly Monitoring for Basin 1 (soil)	A 6 inch lift of soil was removed from Basin-1 and placed along the west side between the Basins and boundary fence. Additionally, a 10 inch lift was removed from Basin-2 and placed into Area-3, then Basin-1, Basin-2 and Area-3 was wheel rolled for the coming rainy season.
1/15/2018	OOI	Bedrock Engineering	December 2017 - Quarterly Groundwater Monitoring at the Oil Operators Property, 712 West Baker Street, Long Beach, California	TPH and benzene appear to be in the same range as recent historic monitoring events during this reporting period.

Document Summary
Environmental Documents
Proposed River Park Development
Long Beach, California

Date	RP	Author	Report	
1/31/2018	Tesoro	AECOM (Tesoro)	Tesoro Soil Vapor Extraction System Quarterly Monitoring Report: Fourth Quarter 2017 Former BP/ARCO Pipelines, Golden Avenue, between Baker Street and Wardlow Road Long Beach, California	Semiannual soil vapor monitoring was also conducted primarily to delineate the plume at soil vapor probes.
2/27/2018	Tesoro	CRWQCB	Modification to Reporting Requirements Under Cleanup and Abatement Order No. R4-2013-0064 Pursuant to California Water Code Section 13304	Extension of deadline and request to submit a Revised Expanded Remedial Action Plan.
4/15/2018	OOI	Bedrock Engineering	Quarterly Monitoring Report for Basin 1 (soil)	Monitoring of the soils conditions was completed. No active remediation took place during this quarter due to rainy season.
4/15/2018	OOI	Bedrock Engineering	March 2018 - Quarterly Groundwater Monitoring at the Oil Operators Property, 712 West Baker Street, Long Beach, California	TPH and benzene appear to be in the same range as recent historic monitoring events during this reporting period.
4/24/2018	Tesoro	AECOM (Tesoro)	Tesoro Soil Vapor Extraction System Quarterly Monitoring Report: First Quarter 2018 Former BP/ARCO Pipelines, Golden Avenue, between Baker Street and Wardlow Road Long Beach, California	The SVE system was operated to remove the maximum amount of mass from well VES-A, screened between 5 and 30 feet below ground surface (bgs), and removed approximately 1,548 pounds (lbs.) of TPH-g and 10.5 lbs. of benzene during operation.
5/2/2018	Tesoro	Tesoro (to CRWQCB)	Request for Extension on the Due Date for Revised Expanded IRAP	Request for an extension to provide revised IRAP report.
7/15/2018	OOI	Bedrock Engineering	Quarterly Monitoring Report for Basin 1 (soil)	Monitoring of the soil conditions was completed. Active remediation took place during this quarter.
7/15/2018	OOI	Bedrock Engineering	June 2018 - Quarterly Groundwater Monitoring at the Oil Operators Property, 712 West Baker Street, Long Beach, California	TPH and benzene appear to be in the same range as recent historic monitoring events during this reporting period.
7/31/2018	Tesoro	AECOM (Tesoro)	Tesoro Soil Vapor Extraction System Quarterly Monitoring Report: Second Quarter 2018 Former BP/ARCO Pipelines, Golden Avenue, between Baker Street and Wardlow Road Long Beach, California	SVE system was operated to remove the maximum amount of mass from well VES-A.
10/12/2018	Tesoro	CRWQCB	Approval of Extension Request for Submittal of Revised Expanded IRAP Under Cleanup and Abatement Order No. R4-2013-0064 Pursuant to California Water Code Section 13304	Approval for extension.
10/15/2018	OOI	Bedrock Engineering	Quarterly Monitoring Report for Basin 1 (soil)	Monitoring of the soil conditions was completed. Active remediation took place during this quarter
10/15/2018	OOI	Bedrock Engineering	September 2018 - Quarterly Groundwater Monitoring at the Oil Operators Property, 712 West Baker Street, Long Beach, California	TPH and benzene appear to be in the same range as recent historic monitoring events during this reporting period.
10/31/2018	Tesoro	AECOM (Tesoro)	Revised Expanded Interim Remedial Action Plan Former BP/ARCO Pipelines Golden Avenue Site, Long Beach, California	Expanded IRAP includes SVE Area Soil Lithology, SVE Area Detected Compounds and Concentrations, and Conceptual Design for SVE System Expansion.
10/31/2018	Tesoro	AECOM (Tesoro)	Tesoro Soil Vapor Extraction System Quarterly Monitoring Report: Third Quarter 2018 Former BP/ARCO Pipelines, Golden Avenue, between Baker Street and Wardlow Road Long Beach, California	The SVE system was operated to remove the maximum amount of mass from well VES-A.
12/27/2018	Tesoro	CRWQCB	Approval of Extension Request for Submittal of Revised Expanded IRAP Under Cleanup and Abatement Order No. R4-2013-0064 Pursuant to California Water Code Section 13304	Approval of revised IRAP with a few comments and conditions.

Document Summary
Environmental Documents
Proposed River Park Development
Long Beach, California

Date	RP	Author	Report	
1/15/2019	OOI	Bedrock Engineering	Quarterly Monitoring Report for Basin 1 (soil)	Monitoring of the soil conditions was completed. Active remediation took place during this quarter.
1/15/2019	OOI	Bedrock Engineering	November 2018 - Quarterly Groundwater Monitoring at the Oil Operators Property, 712 West Baker Street, Long Beach, California	TPH and benzene appear to be in the same range as recent historic monitoring events during this reporting period.
1/25/2019	Tesoro	Tesoro	Pipeline Updates Pursuant to California Water Code Sections 13267 and 13304 Golden Avenue between Baker Street and Wardlow Road, in Long Beach, California ("the Site"), SCP Case No. 0093A, Site ID No. 2040420 Orders No. R4-2012-0009, R4-2012-0085 and R4-2013-0064	Plains (company owns line adjacent to one owned by Tesoro) excavated Line 52 on June 14, 2018 and found that L52 was visibly corroded with multiple holes along a portion of the pipe. The soil inside the excavation emitted a strong hydrocarbon odor. Line 34 used to transport gasoline.
1/31/2019	Tesoro	AECOM (Tesoro)	Tesoro Soil Vapor Extraction System Quarterly Monitoring Report: Fourth Quarter 2018 Former BP/ARCO Pipelines, Golden Avenue, between Baker Street and Wardlow Road Long Beach, California	The SVE system was operated to remove the maximum amount of mass from well VES-A.
2/1/2019	OOI	California Environmental Geologists & Engineers, Inc	Workplan Supplemental Assessment for Origin of LNAPL Impacts Near Brycon MW1	Workplan consists of geophysical survey, CPT/UVOST screening, soil borings, analytical methods + QA/QC protocols, drilling and laboratory subcontractors and decontamination.
2/1/2019	OOI	Brownfield Redevelopment Group	Executive Summary Naturally Occurring Arsenic and the Cozzarelli Arsenic Mobilization Model	Mass in aquifer sediments are the cause of arsenic concentrations that have been measured in the site's groundwater.
2/1/2019	OOI	Brownfield Redevelopment Group	Part I - Exhibits and Figures Naturally Occurring As	No comment.
2/1/2019	OOI	Brownfield Redevelopment Group	Part II - Exhibits and Figures Naturally Occurring As	No comment.
3/12/2019	Tesoro	Tesoro (to CRWQCB)	Follow-Up to February 27, 2019 Discussion Regarding Pipelines at Golden Avenue between West Wardlow Road and Baker Street in Long Beach, California	Letter requesting Plains to be included in cleanup and abatement order due to their pipeline (line 52) leaking.
3/27/2019	OOI	CRWQCB	Approval of Workplan for Supplemental Assessment for Origin of LNAPL Impact Near Brycon MW1	Workplan approved with a few comments and conditions.
4/5/2019	Tesoro	Mitchel Chadwick (atty for Tesoro) to LARWQCB	Plains Response to Letter by Tesoro	Plains rejects Tesoro's accusation of Plains being responsible for the contamination on the site due to false claims by Tesoro. Plains also accuses Tesoro of not listing vital information such as the two leaks associated with Line 34.
4/11/2019	Tesoro	AECOM	Addendum to January 25, 2019 Pipeline Update Pursuant to California Water Code Sections 13267 and 13304 Golden Avenue between Baker Street and Wardlow Road, in Long Beach, California ("the Site"), SCP Case No. 0093A, Site ID No. 2040420 Orders No. R4-2012-0009, R4-2012-0085 and R4-2013-0064	Pipeline Update show that L52 experienced leaks (16 incidents) as well as other incidents involving times when the line required replacement or repair or was reported to have corrosion, failed hydrotests, a leak history, or other conditions that raise concern.
4/15/2019	OOI	Bedrock Engineering	February 2019 - Quarterly Groundwater Monitoring at the Oil Operators Property, 712 West Baker Street, Long Beach, California	TPH and benzene appear to be in the same range as recent historic monitoring events during this reporting period.
4/15/2019	OOI	Bedrock Engineering	Quarterly Monitoring for Basin 1 (soil)	Monitoring of the soil conditions was completed. No active remediation took place during this quarter due to upcoming rainy season.
4/30/2019	Tesoro	AECOM	Tesoro Soil Vapor Extraction System Quarterly Monitoring Report: First Quarter 2019 Former BP/ARCO Pipelines, Golden Avenue, between Baker Street and Wardlow Road Long Beach, California	The SVE system was operated to remove the maximum amount of mass from well VES-A.

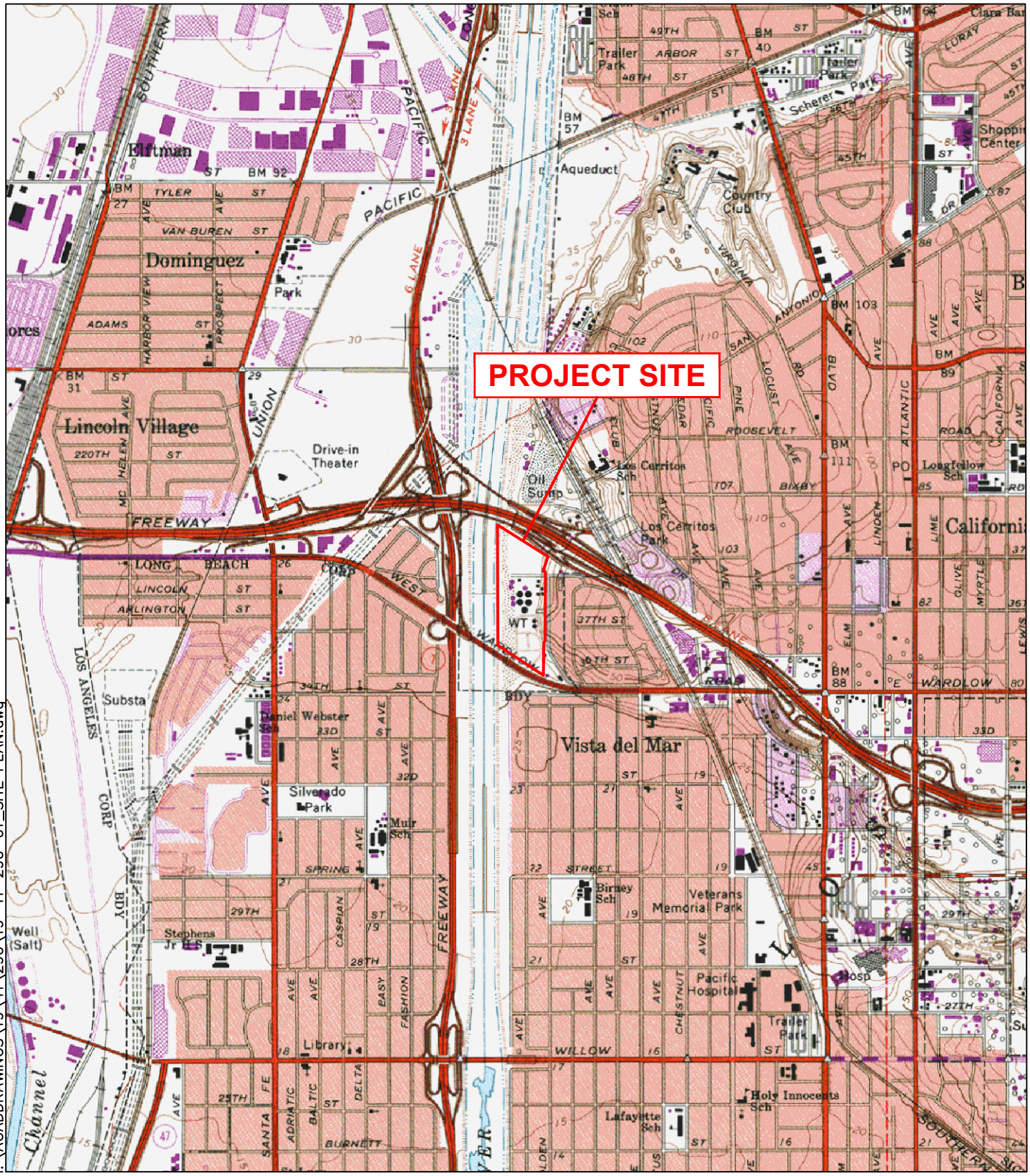
Document Summary
Environmental Documents
Proposed River Park Development
Long Beach, California

Date	RP	Author	Report	
5/31/2019	Tesoro	AECOM	Response to Oil Operators, Inc. Comments on Tesoro Site Conceptual Model Report Update Golden Avenue Site in Long Beach, CA (SCP Case No. 0093A, Site ID No. 2040420)	Letter stating that historical OOI operations that were not included in OOI reports presented to the LARWQCB—details that Tesoro believes provide adequate basis for the addition of OOI as a Discharger to the CAO.
7/1/2019	OOI	California Environmental	Supplemental Assessment for Origin of LNAPL Impacts Near Brycon MW1	Pipeline had 9 areas of historical leaks along Golden Avenue. Report recommends future groundwater monitoring wells be installed to isolate the upper and lower sand units. These units will be isolated and assessed individually to determine if pipeline leaks have impacted the aquifer. Existing monitoring wells will require abandonment during future grading activities.
7/3/2019	Tesoro	AECOM	Request for Extension on Due Date of Technical Report for Installation and Startup of the Expanded SVE System	Tesoro is requesting an extension to December 31, 2019 to complete the Technical Report associated with installation and startup of the expanded SVE system.
7/15/2019	OOI	Bedrock Engineering	Quarterly Monitoring for Basin 1 (soil)	Monitoring of soil conditions was completed.
7/15/2019	OOI	Bedrock Engineering	June 2019 - Quarterly Groundwater Monitoring at the Oil Operators Property, 712 West Baker Street, Long Beach, California	TPH and benzene appear to be in the same range as recent historic monitoring events during this reporting period.
7/31/2019	Tesoro	AECOM	Tesoro Soil Vapor Extraction System Quarterly Monitoring Report: Second Quarter 2019 Former BP/ARCO Pipelines, Golden Avenue, between Baker Street and Wardlow Road Long Beach, California	The SVE system was operated to remove the maximum amount of mass from well VES-A. SVE is being expanded in accordance with the Revised Expanded IRAP.
8/1/2019	OOI	California Environmental Geologists & Engineers, Inc	Draft Remedial Action Plan (Proposed Residential Redevelopment Project)	The proposed RAP includes placement of an Engineered Cap over the impacted soil north of Baker Street for future use as open space or a park and clean-up of the south parcel to the proposed RBCs to allow for construction of the proposed residential community. Continued bioremediation and operation of a VES units are among tasks of remedial action plan.
8/2/2019	Tesoro	CRWQCB	Approval of Request for a Due Date Extension for the Technical Report on the Installation and Startup of the Expanded SVE System Under Cleanup and Abatement Order No. R4-2013-0064 Pursuant to California Water Code Section 13304	Approval of extension request letter.
8/16/2019	Tesoro	AECOM	Comments on Oil Operators, Inc. Presentation regarding Arsenic in OOI Groundwater Golden Avenue Site in Long Beach, CA (SCP Case No. 0093A, Site ID No. 2040420)	Report states that the arsenic found in groundwater on OOI property is likely sourced from in-situ conditions associated with OOI operations rather than migrating from another location, as suggested by OOI.
10/15/2019	OOI	Bedrock Engineering	Quarterly Monitoring Report for Basin 1 (soil)	Monitoring of the soil conditions was completed.
10/15/2019	OOI	Bedrock Engineering	September 2019 - Quarterly Groundwater Monitoring at the Oil Operators Property, 712 West Baker Street, Long Beach, California	TPH and benzene appear to be in the same range as recent historic monitoring events during this reporting period.
11/27/2019	Tesoro	AECOM	Request for Extension on Due Date of Technical Report for Installation and Startup of the Expanded SVE System	Request for extension of technical report.
1/15/2020	OOI	Bedrock Engineering	Quarterly Monitoring Report of Basin 1 (soil)	Monitoring of the soil conditions was completed.
1/15/2020	OOI	Bedrock Engineering	December 2019 - Quarterly Groundwater Monitoring at the Oil Operators Property, 712 West Baker Street, Long Beach, California	TPH and benzene appear to be in the same range as recent historic monitoring events during this reporting period.
1/16/2020	Tesoro	CRWQCB	Approval of Additional Request for a Due Date Extension for Expanded SVE System Installation and Startup Report Under Cleanup and Abatement Order No. R4-2013-0064 Pursuant to California Water Code Section 13304	Approval for extension.

Document Summary
Environmental Documents
Proposed River Park Development
Long Beach, California

Date	RP	Author	Report	
1/28/2020	Tesoro	AECOM	Summary of Split Sample Results and Comments on California Environmental LNAPL Investigation Results in Bend Area of Oil Operators, Inc. Property at 712 Baker Street, Long Beach, CA (SCP Case No. 0093A, Site ID No. 2040420)	Report states OOI wastewater was discharged to the LACSD trunk sewer line through a sump and subsurface infrastructure at 20 to 25 ft bgs. LNAPL has been detected adjacent to the piping connecting the sump to the sewer with limited soil impacts in the vadose zone above 25 feet bgs. The presence of the storm drain piping directly between the LNAPL source area on the OOI property and the high dissolved phase concentrations near to TSO-01 that is located downgradient of the storm drain on Golden Avenue warrants investigation by OOI.
3/31/2020	Tesoro	AECOM	Expanded Interim Remedial Action – Installation and Startup Report Golden Avenue Site in Long Beach, CA (SCP Case No. 0093A, Site ID No. 2040420)	Approximately, 31,782 pounds of total VOCs and 163 pounds of benzene have been removed as of March 3, 2020. Recommendations included soil vapor from each extraction well will be monitored to evaluate and optimize system performance in accordance with the Revised Expanded IRAP. SVE Monitoring Report will be submitted to the LARWQCB on a quarterly basis.
4/15/2020	OOI	Bedrock Engineering	Quarterly Monitoring Report for Basin 1 (soil)	Monitoring of the soil conditions was completed.
5/21/2020	OOI	CRWQCB	Comments on the Draft Conceptual Remedial Action Plan	Letter from LARWQCB commenting on the draft RAP and recommending changes for the final RAP.

Figures



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SITE LOCATION MAP

0 1,000' 2,000'

SCALE: 1"=2,000'
SCALE IN FEET

Converse Consultants

PROPOSED 20-ACRE RESIDENTIAL DEVELOPMENT
712 BAKER STREET
LONG BEACH, CALIFORNIA

Figure No.
19-41-290-01

Figure No.
1

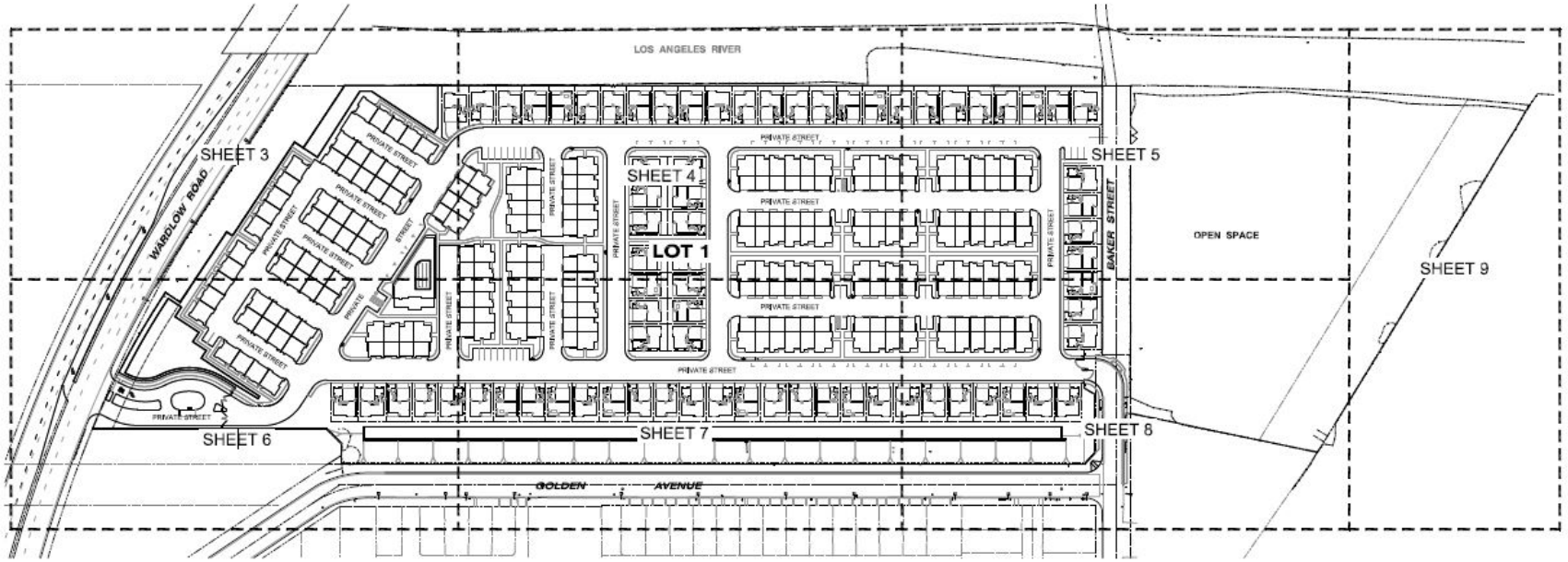
PROJECT SITE AERIAL PHOTO

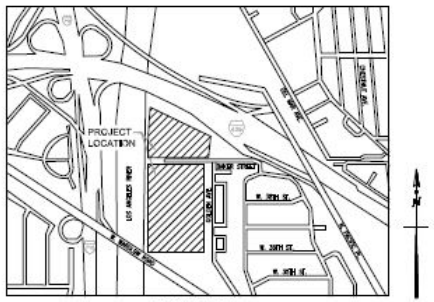
Converse Consultants

PROPOSED 20-ACRE RESIDENTIAL DEVELOPMENT
712 BAKER STREET
LONG BEACH, CALIFORNIA

Project No.
19-41-290-01

Figure No.
2





VICINITY MAP
NOT TO SCALE

LEGEND:

SYMBOL	DESCRIPTION
	BOUNDARY LINE
	STREET CENTERLINE
	RIGHT OF WAY
	EASEMENT
	EXISTING CHAIN LINK FENCE
	PROPOSED TUBULAR FENCE
	EXISTING CONTOUR AND ELEVATION
	EXISTING RETAINING WALL
	PROPOSED RETAINING WALL
	UNDERGROUND GAS
	UNDERGROUND WATER
	UNDERGROUND SEWER
	STORM DRAIN
	BUILDING PERIMETER
XX	UNIT NUMBER
SWR	SEWER MANHOLE
	POWER POLE
	STREET LIGHT

ABBREVIATIONS:

AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
BOT.	BOTTOM
C/L	CENTER LINE
CONC.	CONCRETE
DWY.	DRIVEWAY
EX.	EXISTING
EXIST.	EXISTING
FH	FIRE HYDRANT
MAX.	MAXIMUM
SWR	SEWER
SMH	SEWER MANHOLE
SCO	SEWER CLEAN-OUT
SD	STORM DRAIN
SL	STREET LIGHT
PROP.	PROPOSED
PP	POWER POLE
P/L	PROPERTY LINE
R/W	RIGHT OF WAY
WTR	WATER

CIVIL ENGINEER:

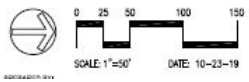
RHR ASSOCIATES
17530 VON KARMAN AVENUE, SUITE 200
IRVINE CA 92614
ATTN: JAMES H. KANNARR, R.C.E. NO 30560
PHONE NO. (949) 756-0440

SUBDIVIDER:

INTERNAL COMMUNITIES
888 SAN CLEMENTE, SUITE 100
NEWPORT BEACH CALIFORNIA 92660
ATTN: PETER HANDY
PHONE NO. (949) 720-3612

GENERAL NOTES:

EXISTING PARCELS:	6
EXISTING AREA:	888,213 S.F. (20.34 ACRES)
EXISTING ZONE DISTRICT:	CS (COMMERCIAL STORAGE) & R-1-N (SINGLE-FAMILY RESIDENTIAL, STANDARD LOT)
ASSESSORS PARCEL NUMBERS:	7203-002-001, 005, 007, 008, 009, & 010
PROPOSED LOTS:	1 LOT CONDOMINIUM TRACT (INCLUDING PRIVATE STREET EASEMENT)
PROPOSED LOT AREA:	899,888 S.F. (20.89 ACRES) INCLUDING STREET VACATION PER SEPARATE INSTRUMENT
PROPOSED LAND USE:	RESIDENTIAL (226 UNITS)
OFF-SITE IMPROVEMENTS:	PROPOSED IMPROVEMENTS ALONG WARDLOW ROAD, GOLDEN AVENUE, AND BAKER STREET
DEDICATION:	PROPOSED DEDICATION ALONG BAKER STREET
UTILITIES:	EXISTING AND PROPOSED PUBLIC UTILITIES INCLUDING EASEMENTS SHALL BE DEDICATED. UTILITY SIZES AND LOCATIONS SHOWN HEREON ARE PRELIMINARY AND SUBJECT TO CHANGE AT THE TIME OF FINAL ENGINEERING DESIGN.
FLOOD ZONE:	ZONE "X" (UNSHADED) AS AREAS DETERMINED TO BE OUTSIDE THE AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT PER FEMA MAP 06037C1855F WITH EFFECTIVE DATE SEPTEMBER 26, 2008



Proposed Site Plan

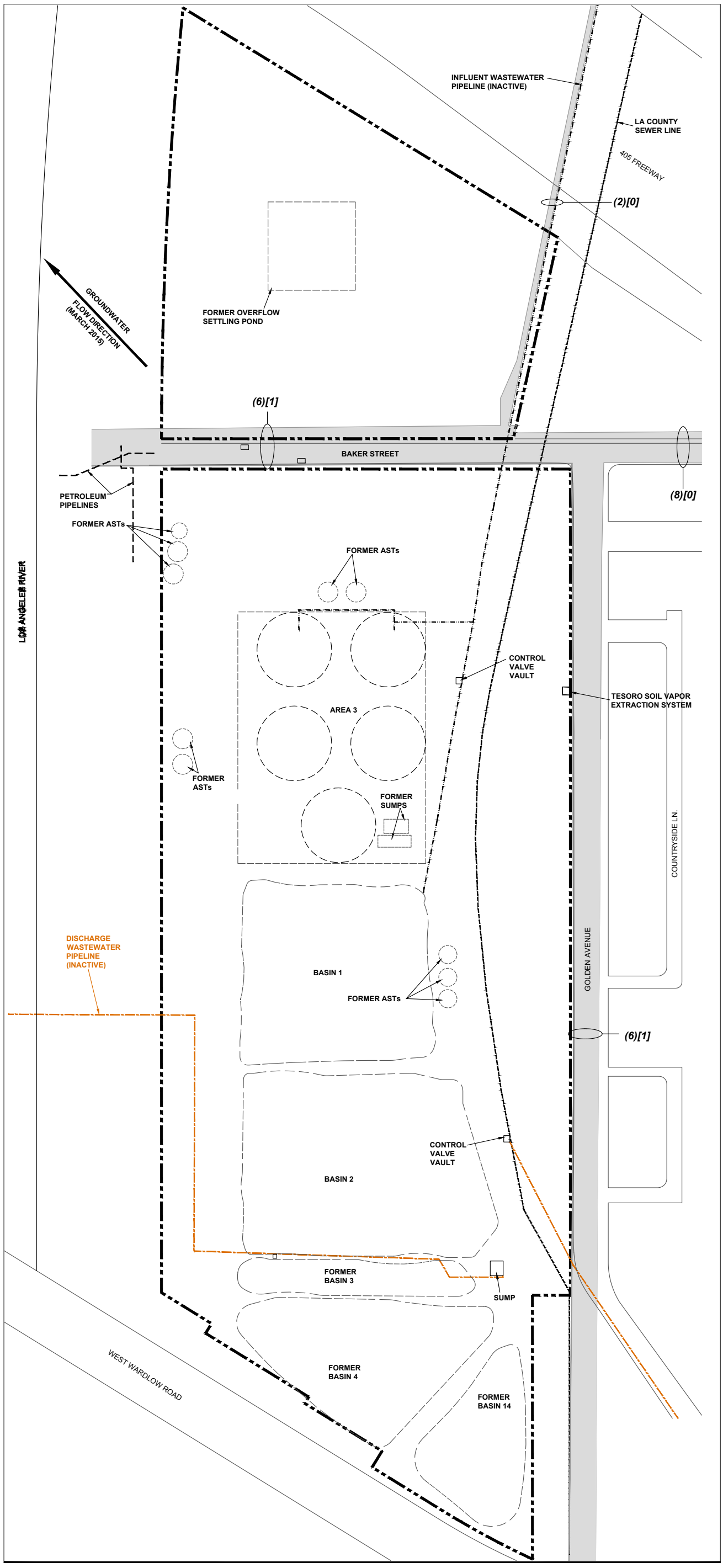
Proposed 20-Acre Residential Development
712 Baker Street
Long Beach, California

Project No:

19-41-290-01

Converse Consultants

FIGURE **3**



HISTORIC SITE PLAN

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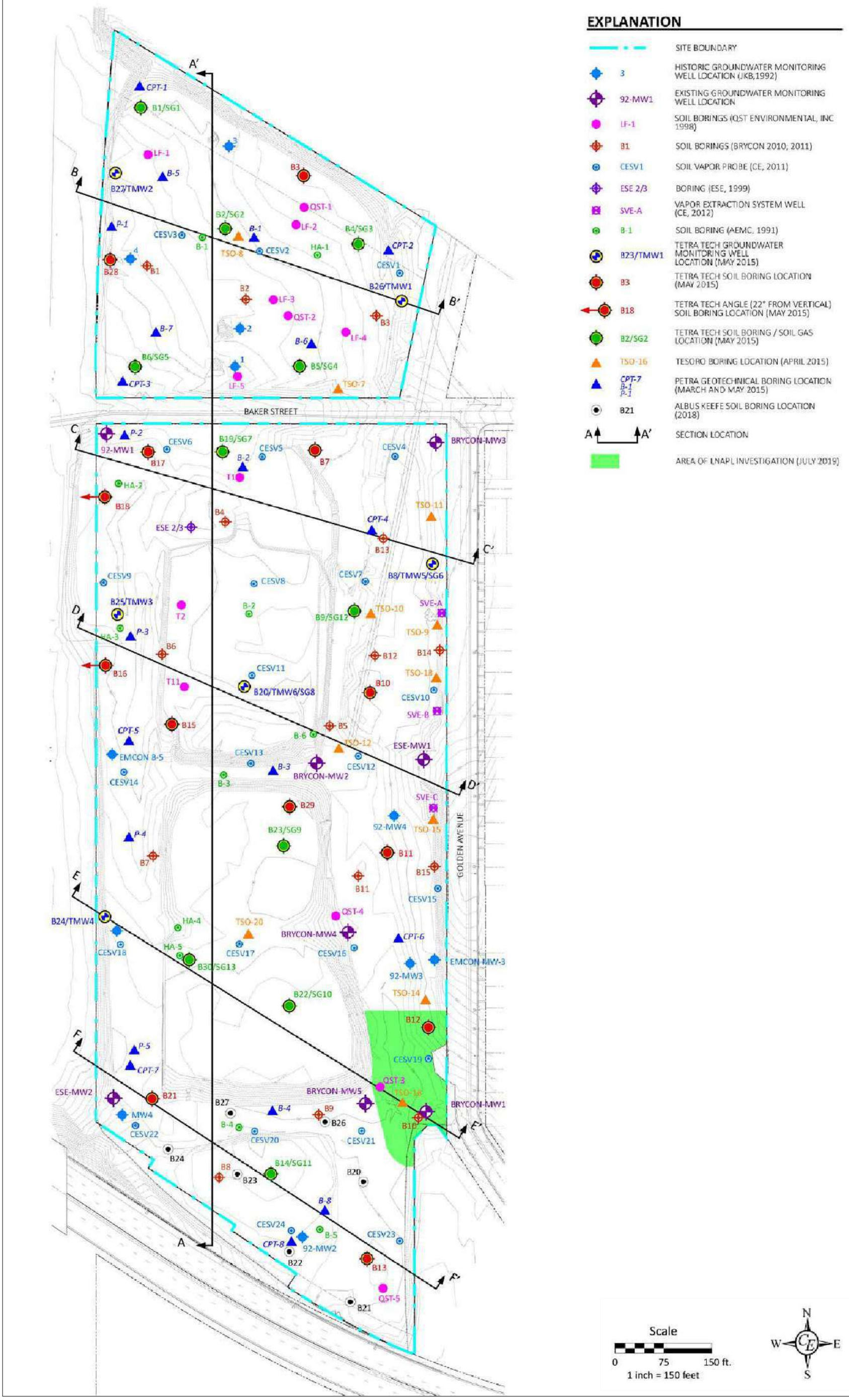
Converse Consultants

Proposed 20-Acre Residential Development
712 Baker Street
Long Beach, California

Project No. 19-41-290-01

Figure No. 4



HISTORIC SITE PLAN

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Converse Consultants

Proposed 20-Acre Residential Development
712 Baker Street
Long Beach, California

Project No. 19-41-290-01

Figure No. 5

IV.H.4

Draft Remedial Action Plan

California Environmental

geologists & engineers

REVISED REMEDIAL ACTION PLAN

Proposed Residential Redevelopment Project
Oil Operators, Inc. (OOI) Property
712 Baker Street
Approximately 20 Acres
Long Beach, California 90806

FOR

INTEGRAL PARTNERS FUNDING, LLC
888 San Clemente, Suite 100
Newport Beach, California 92660
Attention: Mr. Eric Weeks

SUBMITTED TO

REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION (LARWQCB)
320 W. Fourth Street, Suite 200
Los Angeles, California 90013
Attention: Ms. Rebecca Orr
SCP Case No. 0093; SCP ID No. 2044M00

CE Job No. EP610-3029
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EXECUTIVE SUMMARY

This report presents a site-specific Revised Remedial Action Plan (RAP) developed using the data collected from the extensive soil gas, soil, and groundwater assessment investigations implemented at the Oil Operators, Inc. (OOI) site (subject property) from 1984 through 2019. The property is adequately characterized and the extent of the chemicals of concern (COCs) and impacted media are well defined. The purpose of the RAP is to outline a pathway for completion of remediation activities that leads to the issuance of a No Further Action (NFA) determination by the lead enforcement agencies (the City of Long Beach and the State of California – Los Angeles Regional Water Quality Control Board, [LARWQCB]). Integral Partners Funding, LLC is currently under contract to purchase the property from OOI. Residential development of the property is contemplated. It is proposed to coordinate the future geotechnical grading work (soil removal and recompaction) during implementation of the RAP (site remediation) to achieve residential building pads. This revised RAP incorporates additional analysis and responses to comments provided by the LARWQCB in the letter, *Comments on the Draft Conceptual Remedial Action Plan, Oil Operators, Inc., 712 Baker Street Long Beach, CA (SCP NO. 0093, Site ID NO. 2044M00),* June 28, 2020.

A new single-family residential development is proposed with building pad elevations approximately 32.4 feet to 41.20 feet above mean sea level (msl). The proposed development includes townhome-type residences with associated recreational facilities on the southern parcel (APN 7203-002-005). The northern parcel at 701 Baker Street (APN 7203-002-001) will remain undeveloped as open space. A future homeowner's association (HOA) will retain the services of a qualified environmental/civil engineering consulting firm to oversee the maintenance of common areas, the recreation centers, maintaining drainage facilities, and for management of future operations and maintenance plan associated with the proposed environmental engineering controls.

The primary COCs associated with the onsite releases are TPH-impacted soil, primarily total petroleum hydrocarbons (TPH) in the oil range (TPH-o), and concentrations of lead. Chlorinated pesticides, chlorinated herbicides, semi-volatile organic compounds (SVOCs), or polychlorinated biphenyls (PCBs) were not detected in soil at concentrations requiring additional characterization or remediation. Crude oil related TPH is present in the onsite fill and native earth materials. TPH carbon range C_{13}-C_{40} is the predominant type of hydrocarbon in soil. TPH in the gasoline range (TPH-g) and VOCs (benzene toluene, ethylbenzene and xylenes [BTEX]) in the vapor phase, and adsorbed onto soil, are present in the vadose zone along the east property boundary associated with the historical releases from the offsite petroleum Tesoro product pipelines located beneath the east side of Golden Avenue. The site-related vapor phase COCs are primarily methane (from anaerobic decomposition of TPH) and BTEX associated with the offsite pipeline releases.

Groundwater beneath the eastern portion of the site is impacted with TPH-g and VOCs that migrated onsite from the offsite pipeline releases. Accumulations of gasoline product (LNAPL) were periodically found in monitor well Brycon MW1 from 2013-2019. Tesoro, as the responsible party (RP), was required by the LARWQCB though their Clean-up and Abatement Order (CAO) R4-2013-0064, to remediate soil and groundwater affected by Tesoro's pipeline releases. Tesoro operates an expanded vapor extraction system (VES) for removal of the vapor phase pipeline-related VOCs present beneath the OOI property. Quarterly groundwater monitoring shows the OOI site COCs (TPH-o and lead) have not significantly impacted the groundwater quality beneath the site. Therefore, a remedial response for these COCs in groundwater is not required. The concentration of arsenic in groundwater fluctuates in response to changing geochemical conditions within the shallow saturated zone. The concentrations of arsenic in groundwater are correlated with the TPHg plume in groundwater. Arsenic is present in onsite native soil (Brycon12 @ 30 feet, 41 mg/Kg) and in fill associated with bio-remediated TPH (Albus-Keefe B20@15 feet, 170 mg/Kg). The sporadic elevated concentrations of arsenic in soil and the low concentrations of

arsenic detected in the wastewater treated onsite were shown not to be contributory to the arsenic dissolved in groundwater beneath the site.

The source of the arsenic in groundwater is likely from native sediment within the saturated zone. The trend of arsenic concentrations in groundwater across the OOI property are attributed to an arsenic solution/dissolution process promulgated by the presence of TPHg in groundwater. An arsenic mobilization model proposed by Cozzarelli, et al (2016) shows that arsenic in sediment can dissolve into groundwater under low dissolved oxygen (anoxic) conditions associated with hydrocarbon (TPH) plumes. TPH biodegradation processes in the saturated zone create low oxygen (reducing) conditions near and within petroleum product plumes. The low concentrations of dissolved oxygen condition in combination with other geochemical processes promote the solubility of arsenic raising the concentration of arsenic dissolved in groundwater. This reaction is reversible (arsenic resorbs onto the aquifer soil matrix) as the oxygen content of the groundwater increases along with decreasing TPHg content. This release/reabsorption process of arsenic within natural sediment is occurring at the subject site where elevated concentrations of arsenic in groundwater on the east portion of the site transition to low to non-detect concentrations are of arsenic in groundwater on the west side of the property in response to changing geochemical conditions.

A supplemental investigation to assess the extent and origin of the LNAPL (gasoline product) near Brycon MW1 was completed at the site between April and June 2019. The assessment work was requested by the LARWQCB and included a geophysical survey to clear utilities and to assess for unknown buried sub-structures, as well as drilling of eight CPT/UVOST borings to evaluate the site stratigraphy. The work-included placement of seven (7) continuously cored and sampled hydraulic push borings to assess the location and distribution of the suspect LNAPL zone. Seven (7) temporary casings were placed in the boreholes and groundwater samples were obtained. The supplemental soil and groundwater sampling identified a discontinuous layer of mobile LNAPL confined to a narrow zone near Brycon MW1 and extending to the east property line, within the lower portion of a saturated sand layer. The LNAPL impacted zone is separated from the uppermost groundwater aquifer by a clayey aquitard. The source for the LNAPL found near Brycon MW1 are the historical Tesoro gasoline pipeline leaks located offsite and adjacent to the east property line of the site.

A conceptual site model (CSM) was developed for the purpose of developing site-specific risk-based concentrations (RBCs) for the COCs identified in soil at the subject property in connection with the proposed at-grade single-family residential redevelopment project. The COCs were identified along with exposure pathways for future residential/worker receptors. Mearns Consulting, LLC, prepared a site-specific Human Health Risk Assessment (HHRA-2020) for the proposed residential development project. The toxicologist utilized the CSM to evaluate the COCs in developing the site-specific COC RBCs proposed during implementation of the RAP. The following site-specific risk-based remediation goals (RBGs) for soil were developed and approved by CalEPA Office of Environmental Health Hazard Assessment(OEHHA) in a memo dated August 25, 2020. OEHHA concurred with the following clean-up goals for the site COCs in soil: Lead in soil ≤ 80 mg/Kg; Arsenic in soil ≤ 10 mg/Kg (upper 5 ft) and ≤12 mg/Kg below 5 feet; TPH in soil based upon carbon range (upper 0-10 ft), C_4-C_{12} < 370 mg/Kg, C_{13}-C_{22} < 1,000 mg/Kg, C_{23}-C_{32} < 5,000 mg/Kg and C_{32}-C_{40} < 6,500 mg/Kg. A table of possible RBGs for COCs in soil for clean-up goals showing a range of values is included in the RAP. Using the range of values table and in conjunction with the HHRA depth specific clean-up goals are proposed for parcel 7203-002-005 (south of Baker parcel[SOB]).

The RAP proposes removal and treatment of TPH impacted soil that exceeds the site-specific clean-up goals for the 13.3-acre SOB (south of Baker) parcel (7203-002-005) to be developed as a new residential community. Containment through placement of an Engineered Cap in conjunction with excavation of shallow (<10 feet) metals (Pb and As) and TPH-affected soil are recommended for the 4.8-acre north of Baker (NOB) parcel (APN

7203-002-001) that will remain as open space or developed as a park. Civil engineering drawings that include provisions for grading, drainage control, and design drawings for the Engineered Cap will be prepared and submitted once the major components of the RAP are approved by the LARWQCB. Preliminary plans for construction of the active vented Vapor Intrusion Mitigation System (VIMS) are included herein. Final VIMS plans will be prepared and submitted for agency review once the architectural drawings are finalized.

The request is to approve the proposed RAP that includes the following components, subject to submittal and future approval by the LARWQCB of a Soils Management Plan (SMP), Civil engineering drawings for the proposed CAP for NOB, detailed VIMS Plans with recommendations for operations and maintenance (OMP) including soil gas/air monitoring with contingency plans and financial assurance calculations. The future SMP will include protocols for sampling the base and sidewalls of the remedial soil excavations and include procedures for extending the remedial soil excavations to meet applicable clean up goals as required.

1) Continued bioremediation under the oversight from the applicable agency of the TPH impacted soil to meet the proposed RBCs associated with the identified COCs.
2) Verification sampling of all treated and imported soil prior to placement as engineered-compacted fill to ensure conformance with the approved RBCs.
3) Placement of the soil that meets the proposed RBGs as engineered compacted fill below the proposed finish grade.
4) The RAP defines the Remedial Earth Interval (REI) at the site as the area from the future ground surface to a depth of 10 feet below grade. The residential risk-based clean-up goals (RBCs) are applicable within the REI. However, remedial area specific clean-up goals are applicable to all soil within the project area as outlined in Section 6.0.
5) Segregation and selective grading for the onsite soil that contains low or non-detect concentrations of the COCs for use as engineered fill within the upper portion of the REI.
6) Removal of TPH/Pb/As impacted soil above RBCs goals within the upper 10 feet of the NOB parcel. Placement of Bio-Vent wells beneath the NOB parcel to facilitate in-situ bio-degradation of TPH impacts that extend below 10 feet. Engineering design and placement of an Engineered Cap on the north parcel that will remain as open/park space. Civil engineering drawings that include provisions for grading, drainage control, design of the Engineered Cap, a site-specific SMP, and final plans for VOC/methane vapor control system will be completed for agency review upon approval of the RAP. As part of the cap engineering design, a treatability study will be performed on soil located beneath the North Parcel. The purpose of the treatability study is to ensure that the onsite soil can be mixed with cement and cement kiln dust, to develop a suitable soil/cement mixture (to construct the Engineered Cap) that when cured develops a $1x10^{-7}$ cm/sec vertical hydraulic conductivity. Thus, protecting (long-term) human health and groundwater quality.
7) Continuous environmental monitoring and implementation of a SMPfor all remediation earthwork until final rough grades are achieved.
8) Installation of a passive sub-slab vapor intrusion mitigation system (membrane and venting) for all future onsite residential and associated structures. Future HOA Environmental Consultant to enforce operations and maintenance implementation plan (OMIP) for the vapor intrusion mitigation system.
9) Continued operation by Tesoro of the VES unit(s) associated with remediation of the TPHg/VOC release from the offsite petroleum pipelines. Tesoro to initiate TPHg groundwater remediation as directed by the LARWQCB.
10) Abandonment of the existing monitor wells and establishment of the final monitor well network for use in post-remediation groundwater monitoring. Sampling of the deeper groundwater zone beneath Area 3 to assess for impacts below the upper saturated zone.
11) Development of a land use covenant (LUC) including restrictions on development for the NOB parcel, protection and maintenance of engineering controls, including the Engineered Cap (NOB parcel, a

prohibition of pumping and use of groundwater; provide for future access requirements associated with operation of the VES unit(s) and for groundwater monitoring activities, to limit exposure to soils below the recommended REI, and the requirement for installation of a vapor intrusion mitigation system for all onsite structures.

12) A future HOA (assisted by a retained environmental engineering firm) will have overall responsibility for maintenance of common areas, the recreation centers, maintaining drainage facilities, and for management of future operations and maintenance plan for the anticipated engineering controls. Financial assurance instruments for the maintenance operations may need to be implemented. An access agreement will be required for the RP to sample and ultimately decommission the groundwater monitor well network.

1.0 INTRODUCTION

This report presents a site-specific Revised Remedial Action Plan (RAP) developed using the data collected from the numerous soil gas, soil and groundwater assessment investigations implemented at the Oil Operators, Inc. (OOI) site (subject property) from 1984-2019. The Revised RAP incorporates responses to comments and additional requirements as outlined in the LARWQCB letter "*Comments on the Remedial Action Plan, Oil Operators, Inc., 712 Baker Street, Long Beach, CA,"* dated June 28, 2021. The purpose of the RAP is to outline a pathway for completion of remediation activities that leads to the issuance of a No Further Action determination by the lead enforcement agencies (City of Long Beach and State of California - Los Angeles Regional Water Quality Control Board[LARWQCB]). Integral Partners Funding, LLC is currently under contract to purchase the property from OOI. Residential development of the site is contemplated. It is proposed to coordinate the future geotechnical grading work (soil removals and recompaction) during implementation of the RAP (site remediation) to achieve residential building pads. This RAP incorporates additional analysis and responses to comments provided by the LARWQCB in the letter, *Comments on the Draft Conceptual Remedial Action Plan, Oil Operators, Inc., 712 Baker Street Long Beach, CA (SCP NO. 0093, Site ID NO. 2044M00),* dated May 21, 2020.

OOI is a non-profit cooperative organization consisting of numerous oil companies, operators, and individuals who operate oil wells in the Long Beach/Signal Hill area. OOI operated an onsite wastewater collection facility from 1926 to 1998 that treated produced water (oil field brines) recovered during oil production. Onsite bioremediation of TPH impacted soil has occurred since the 1980s under permits issued by the City of Long Beach. Tetra Tech (TT), under contract with Integral Partners Funding, LLC, prepared a Supplemental Site Assessment report for the OOI facility that included analysis of remedial alternatives. The TT assessment work expanded upon earlier testing consisting of soil gas, soil, and groundwater sampling and analysis. California Environmental (CE) prepared a Soil Gas Assessment Report for the property in September 2011 and conducted supplemental testing for the origin of LNAPL during 2019. AECOM, working as the consultant for the Tesoro pipeline releases, prepared a site investigation report dated November 2015, and obtained split soil samples during the CE LNAPL fieldwork in 2019. The Site has been investigated extensively by a number of environmental consultants including Emcon Associates (1981), Jaykim Engineers, Inc. (JEI, 1986 to 1988c), Jack K. Bryant and Associates (JKB, 1992), Environmental Science & Engineering, Inc., (ESE), and Brycon, LLC (Brycon, 2001a to 2015c). The Brycon *Report on Additional Site Characterization* presents a summary of the historical investigations at the Site (Brycon, 2011e). Brycon was the environmental consultant from 2001-2016 assisting OOI with characterization and remediation activities at the Site. Bedrock Engineering is now conducting the groundwater monitoring and bioremediation sampling at the site. Tesoro is currently operating a vapor extrcation system (VES)

system (as required by the LARWQCB Clean-up and Abatement Order No. R4-2013-0064) on the east side of the site to mitigate gasoline in soil associated with pipeline releases beneath Golden Avenue.

Ongoing soil remediation (bioremediation) activities were undertaken in response to the Consent Decree issued in 2002, under the oversight of the City of Long Beach Department of Health and Human Services, Division of Hazardous Materials (LBDHHS). The groundwater monitoring (GWM) activities are performed under the oversight of the LARWQCB. Brycon operated a VES in the eastern part of the Site from 2012 to 2014 to reduce vapor phase benzene concentrations adjacent to Golden Avenue. AECOM Technical Services, Inc. (ATSI), on behalf of Tesoro Logistic Operations LLC (TLO) operates a VES unit in the northeastern part of the Site since April 2015. On February 8, 2017 the LARWQCB approved implementation of the TLO (TLO now referred to herein as "Tesoro") Expanded Remedial Action Plan consisting of installation of twelve horizontal VES wells and four angled VES wells to extend beneath Golden Avenue from the east side of the OOI property. That plan was amended in 2018 to include five new vertical extraction wells as part of the proposed Interim Remedial Action Plan (IRAP) in response to a Cleanup and Abatement Order No. R4-2013-0064 dated 18 September 2014 (CAO) that was issued by the LARWQCB (2014a) to BP Pipelines (North America), Inc. Atlantic Richfield Company, and ARCO Terminal Services Corporation (ATSC). Tesoro in a letter dated 24 July 2013 assumed responsibility for responding to the CAO. The LARWQCB approved the amended IRAP proposal by Tesoro in a letter dated December 27, 2018. The IRAP SVE system became operational during the first quarter of 2020.

Wastewater treatment activities have occurred at the site since the 1920s. OOI operated an oilfield wastewater treatment facility, for its member oil companies, that treated oil field brines ("produced water"), which were a direct by-product of crude oil drilling and oil production. This produced water was a high salinity wastewater that contained high dissolved solids and included drilling mud and other oil drilling and oil production waste materials. The produced wastewater could, at times, have contained crude oil, which was separated from the wastewater and transported to the local oil refineries. OOI's oilfield wastewater treatment facility did not receive or treat refined petroleum products such as gasoline and diesel. The wastewater treatment plant was constructed onsite in 1959 and consisted of five circular concrete-walled skimming basins and associated pumps, aboveground storage tanks (ASTs), pipelines, and related small buildings and facilities. The treatment plant was located north of the two rectangular-shaped, clay-lined settling basins in the southern part of the Site, south of Baker Street. These settling basins were referred to as Basins 1 and 2. The OOI wastewater treatment (primarily oil separation) took place within the former onsite settling basins. The basins were designed to remove oil and sediment from the produced water prior to discharge of the treated water. The treated water was discharged to the Los Angeles County Sanitation District (LACSD) sewer system under a permit issued by the LACSD. The crude oil residue was recovered for recycling.

Basin 1 received TPH-impacted sediment that settled out of the produced water. Basin 2 received relatively clean water, after the produced water had undergone retention, skimming, flocculation, and aeration. Treated water was held in Basin 2, until it was discharged off-site. Additional smaller basins were historically present south of Basins 1 and 2. These smaller basins were closed in 1986 and 1987. In 1998, the wastewater treatment facility ceased operations. In 2000, a Remediation Permit issued by the City of Long Beach and coordinated with the Long Beach Fire Department (LBFD) and the Long Beach Department of Health and Human Services (LBDHHS) required that "contaminated" soil and groundwater be remediated and coordinated with the LBDHHS and LARWQCB. Buildings, ASTs, and related aboveground structures (except for the concrete-walled skimming basins and small, concrete-lined vaults with control valves) were cleaned, demolished, and disposed of off-site in 2000 and 2001. The Consent Decree with OOI dated 28 August 2002 directed that remediation of Basin 1 occur in accordance with the standards specified by LBDHHS consistent with the Brycon-prepared *Pilot Test Work Plan for the Removal, Handling, Treatment and Disposal of Oily Materials from North Pond (Basin I)* dated October 1, 2001 (Brycon, 2001). The Pilot Test Work Plan was approved by LBDHHS in a letter dated 1 November 2001. Pilot Test Work Plan-related activities were completed in 2003. Full-scale bioremediation then commenced in the first quarter of 2004 (Brycon, 2008b), consistent with the Corrective *Action Plan for Basin I at the Oil Operators Incorporated Property, Long Beach, California* (CAP) prepared by Brycon (2003b; 2003c). The CAP was reviewed and approved by LBDHHS. LBDHHS then issued OOI Permit to Operate No.10-03-01, dated October 7, 2003.

Former settling basins (Basins 1 and 2) were reconfigured for bioremediation of TPH-impacted soil. These areas are referred to collectively here as the Bio-Treatment Area. Bioremediation has been underway since the first quarter 2004. Bioremediation activities include periodic disking of the upper approximately nine-inches of TPH-impacted soil to enhance oxygenation of the TPH-impacted soil, and monitoring of moisture levels for conditions conducive to bioremediation. The bioremediated TPH-impacted soil was then placed in the southern and western parts of the Site. In 2011, the concrete-walled skimming basins were removed and that area, designated Area 3, is also used for soil treatment and placement of the bioremediated TPH-impacted soil. The approximate thickness of the bioremediated TPH-impacted soil in these areas is approximately 5 to 10 feet in Area 3, up to 12 feet along the west side of the Site, and up to 26 feet near the south property line. The approximate areas of placement and thickness of treated TPH-impacted soil that has been placed in these areas, based on information provided by Brycon and through the logging of borings, are shown on **Figures 7-12**. Quarterly soil monitoring reports documenting the bioremediation activities were submitted by Brycon/Bedrock Engineering to the LBDHHS and the LARWQCB since the first quarter 2004.

Bedrock Engineering (previously Brycon) has conducted quarterly groundwater monitoring using fourteen (14) onsite wells since 2010. The wells are tested for TPH, VOCs, CAM metals, pH, total

organic carbon, TDS, TSS and chloride. Bedrock Engineering sampled fourteen (13) onsite monitoring wells during June 2021, as part of the required groundwater monitoring work. The groundwater monitoring data from June 2021 (presented in the report, *July 2021 - Quarterly Groundwater Monitoring at the Oil Operators Property, 712 West Baker Street, Long Beach, California*, show that TPHg (C_4-C_{12}) was detected in six (6) of the fourteen (13) wells. The six (6) wells with TPHg are located within the eastern half of the property and contain the following TPHg concentrations range from <50 in the wells located along the west property line to 5,200 ug/L in TMW5 located on the east property line in the area of the historical gasoline pipeline leak beneath Golden Ave. The reported concentration of 89,000 ug/L TPHg in well Brycon MW1 was likely contaminated with a product accumulation reported in that well. The June 2021 water quality data indicate the TPHg plume is stable when compared to the historical data sets. It is expected this stable TPHg trend in groundwater will continue as Tesoro continues to implement the approved IRAP related to remediation of the gasoline impacts in soil. It is noted the approved IRAP currently in progress (VES) does not specifically address gasoline constituents dissolved in groundwater, only the installation and operation of an expanded vapor extraction system. Tesoro's groundwater remediation plan (for Tesoro's numerous gasoline fuel pipeline releases) has not been defined or approved by the LARWQCB. At this time, the scope, magnitude and timing of Tesoro's groundwater remediation program is not known.

The arsenic concentrations in groundwater continue to fluctuate in response to the variable geochemical conditions though the wells located along the west property line of the 712 Baker continue to have less the 0.02 mg/l of arsenic dissolved in groundwater. A reduction of dissolved arsenic within well TMW6 (from 0.711 to 0.078 mg/L) was noted during 2019 but has since rebounded to 0.453 mg/L during June 2021. The overall trend is decreasing concentrations of dissolved arsenic in groundwater with periodic fluctuations in concentration attributed to variable geochemical conditions within the saturated zone associated with the "Cozzarelli Effect".

1.1 Site Description

The subject property consists of a 20.12-acre industrial parcel located west of Golden Avenue, south of the San Diego Freeway, north of Wardlow Road, and east of the Los Angeles River, in the City of Long Beach, California, see **Figure 1 – Vicinity Map**. OOI owns the property. The property was utilized since the 1920s for treatment of oil field production brines and other fluid by-products of oil production. OOI is processing low concentration petroleum hydrocarbon impacted soil on the property (bioremediation) under the auspices of the Long Beach Environmental Health Department. The County of Los Angeles Tax Assessor's Parcel Numbers (APN) for the subject property addresses is as follows:

APNs	Address	Acres
7203-002-001	701 W. Baker Street	4.78
7203-002-005	712 W. Baker Street	13.28
7203-002-007	3801 Golden Avenue	0.58
7203-002-008	3701 Golden Avenue	0.87
7203-002-009	3539 Golden Avenue	0.46
7203-002-010	3501 Golden Avenue	0.15

1.2 Proposed Development

A new single-family residential development (River Park) with building pad elevations approximately 34.2 feet to 41.1 feet above mean sea level (msl) is proposed for parcel 7203-002-005 (712 Baker Street). The north parcel, 7203-002-001 (701 Baker Street), will remain as an open-space/park area. The conceptual **Site Development Plan – Figure 2** depicts the general areas of the proposed development. Recreation areas are planned north of Baker Street and in the southern half of the project north of Wardlow Road. A future homeowner's association with assistance from a qualified engineering firm will have overall responsibility for maintenance of common areas, the recreation centers, maintaining drainage facilities, and for management of future operations and maintenance plan for the anticipated engineering controls.

The preliminary design depicts excavated areas on the east portion of the property with an overall east to west project slope. The proposed grading is generally a balanced cut/fill operation except for the possible export of impacted soil that does not meet the recommended RB. Imported fill is required to make up for impacted soil that needs to be disposed of offsite during implementation of the approved RAP.

2.0 HISTORICAL SITE CHARACTERIZATION

The OOI property was the subject of extensive environmental testing and investigations from the early 1980s-2019. The test data from these investigations are incorporated into this RAP (enclosed maps and sections) that outlines our recommendations for remediation of the identified chemicals of concern, primarily crude oil production related compounds. The previous investigators include Emcon Associates (1981), Jaykim Engineers, Inc. (JEI, 1986 to 1988c), Jack K. Bryant and Associates (JKB; 1992), Environmental Science & Engineering, Inc., (ESE), California Environmental (2011, 2019), AECOM (2015/2016), Tetra Tech (2015), Brycon, LLC (Brycon, 2001a to 2015c) and Bedrock Engineering (2016-2019). The Tetra Tech and AECOM reports include comprehensive assessment of the impacts at the OOI property and present summaries of the historical environmental investigations conducted at the OOI property. These investigations were previously submitted to the LARWQCB and have defined the

extent of TPH/Lead/LNAPL/VOC impacts in soil gas, soil, and groundwater at the site. VOCs (including benzene) impacts were caused by leaks from offsite gasoline fuel pipeline releases, and not OOI's operations. Arsenic impacts in groundwater were not caused by OOI's operations and appear to be a direct consequence of natural and anthropogenic sources of arsenic in sediment being mobilized by geochemical conditions in groundwater associated with the gasoline pipeline releases.

Geotechnical investigations occurred at the site from 1998 through March 2018. The geotechnical exploration included test pits/trenches, borings, and CPT analysis. The locations and extent of the geotechnical analysis is shown on **Figure 3 – Grading/Geotechnical Plan**. The location and identification of the environmental assessment borings are shown on **Figure 4 – Historical Assessment Plan**. The areal distribution of TPH and arsenic/lead in soil is depicted on **Figures 5 & 6**, respectively. **Cross Sections A-F**, **Figures 7-12** show the distribution of COCs in the subsurface along with the proposed future grading for the proposed development. The previous reports related to the subject site are listed in the **References** section of this report.

Bioremediation of TPH impacted soil was implemented onsite since the 1980s under permits issued by the City of Long Beach. The descriptor "TPH-impacted soil" is a generic term used herein and a term used by the City of Long Beach to describe sediments generated from gravity separation within onsite wastewater process tanks and within the clay-lined evaporation basins (Basins 1 and 2). TPH-impacted soil was not transported onto the OOI facility for bioremediation or for any other treatment. Tetra Tech, under contract with Integral Partners Funding, LLC, prepared a Supplemental Site Assessment (2015) and an analysis of remedial alternatives. Tesoro contracted with AECOM to complete soil gas, soil, and groundwater assessment associated with petroleum pipeline releases beneath Golden Avenue. The assessment work expanded upon earlier testing consisting of soil gas, soil, and groundwater sampling and analysis.

Brycon (and Bedrock Engineering beginning in December 2016) has been the environmental consultant since 2001 assisting OOI with characterization and remediation activities at the Site. Ongoing soil remediation activities were undertaken in response to the Consent Decree issued in 2002, under the oversight of the City of Long Beach Department of Health and Human Services, Division of Hazardous Materials (LBDHHS). The groundwater monitoring (GWM) activities are being performed under the oversight of the California Regional Water Quality Control Board-Los Angeles Region (LARWQCB).

Brycon operated a VES in the eastern part of the Site from 2012 to 2014 to remove vapor phase VOCs associated with the offsite petroleum pipeline releases adjacent to Golden Avenue. ATSI, on behalf of Tesoro has operated a VES unit in the northeastern part of the Site since April 2015. The ATSI-operated VES unit is expected to continue to remediate the TESORO pipeline beneath Golden Avenue. The

Tesoro-related activities are in response to a Cleanup and Abatement Order No. R4-2013-0064 dated 18 September 2014 (CAO) that was issued by the LARWQCB (2014a) to BP Pipelines (North America), Inc., Atlantic Richfield Company, and ARCO Terminal Services Corporation (ATSC). Tesoro in a letter dated 24 July 2013 assumed responsibility for responding to the CAO. On December 27, 2018 the LARWQCB approved a proposal by Tesoro for installation and operation of an expanded vapor extraction system (IRAP). The IRAP VES system was installed and became operational during 2020.

The water treatment (primarily oil separation) took place in onsite settling basins. The basins were designed to remove oil and sediment from the produced water and then discharge the treated water. The treated water was discharged to the Los Angeles County Sanitation District (LACSD) sewer system under a permit issued by the LACSD. The crude oil residue was recovered for recycling. In 1959, a wastewater treatment plant was constructed that consisted of five circular concrete-walled skimming basins and associated pumps, aboveground storage tanks (ASTs), pipelines and related small buildings and facilities. The treatment plant was located north of the two rectangular-shaped, clay-lined settling basins in the southern part of the Site, south of Baker Street. These settling basins were referred to as Basins 1 and 2.

Basin 1 received oily residual solids (TPH-impacted soil) that settled out of the produced water. Basin 2 received relatively clean water, after the produced water had undergone retention, skimming, flocculation, and aeration. Treated water was held in Basin 2, until it was discharged off-site. Additional smaller basins were historically present south of Basins 1 and 2. These smaller basins were closed in 1986 and 1987. The LARWQCB issued a WDR for land treatment operation-related Order No. 86-93. This WDR Order was for land treatment by bioremediation of the TPH-impacted soil in Basins 1 and 2. WDR Order No. 86-93 included monitoring requirements.

In 1998, the water treatment facility ceased operations. In October 2000, the City of Long Beach Fire Department (LBFD, 2000) directed that liquid hydrocarbon products, wastewater, and sludge be removed from the Site under a Site Remediation Permit issued by the City of Long Beach and coordinated with the LBFD and LBDHHS. It was required and that TPH-impacted soil and groundwater be remediated and coordinated with the LBDHHS and LARWQCB. Buildings, ASTs, and related aboveground structures (except for the concrete-walled skimming basins and small, concrete-lined vaults with control valves) were cleaned, demolished, and disposed of off-site in 2000 and 2001.

The Consent Decree with OOI dated 28 August 2002 directed that remediation of Basin 1 occur in accordance with the standards specified by LBDHHS consistent with the Brycon-prepared *Pilot Test Work Plan for the Removal, Handling, Treatment and Disposal of Oily Materials from North Pond (Basin I)* dated October 1, 2001 (Brycon, 2001). The Pilot Test Work Plan was approved by LBDHHS in a letter

dated 1 November 2001. Pilot Test Work Plan-related activities were completed in 2003. Full scale bioremediation then commenced in the first quarter 2004 (Brycon, 2008b) consistent with the *Corrective Action Plan for Basin I at the Oil Operators Incorporated Property, Long Beach, California* (CAP) prepared by Brycon (2003b; 2003c). The CAP was reviewed and approved by LBDHHS. LBDHHS then issued OOI Permit to Operate No.10-03-01, dated October 7, 2003.

Settling basins (Basins 1 and 2) were reconfigured for bioremediation of TPH-impacted soil. These two basins are referred to collectively here as the Bioremediation Basins. Bioremediation of TPH-impacted soil has occurred since the first quarter 2004. Bioremediation activities include periodic disking of the TPH-impacted soil to enhance oxygenation of the TPH-impacted soil and maintaining the moisture levels conducive to bioremediation. The remaining thickness of TPH-impacted soil in the Bioremediation Basins is approximately 6-10 feet (Paspalof, 2015a). The competed bioremediated soil was placed within storage areas located to the north, south, and west of the treatment cells. In 2011, the concrete-walled skimming basins were removed and that area, designated Area 3, was used for placement of the bioremediated TPH-impacted soil. The approximate thickness of the bioremediated TPH-impacted soil in these areas is approximately 5 to 10 feet in Area 3, up to 12 feet along the western side of the Site, and up to 26 feet near the south property line. The approximate areas of placement and thickness of treated TPH-impacted soil are shown on **Figures 5 & 7-12**. Quarterly soil monitoring reports documenting bioremediation activities have been submitted by Brycon and Bedrock Engineering to the LBDHHS/LARWQCB since the first quarter 2004.

Monitoring of the groundwater quality beneath the site is ongoing and has occurred from 2001 through the present. Bedrock Engineering has been conducting quarterly groundwater monitoring prior to 2020. Bedrock Engineering has not conducting any groundwater monitoring for year 2020 owing to the COVID-19 restrictions. Thus, the first three (3) quarters of year 2020 groundwater monitoring have not been conducted by OOI. However, Bedrock Engineering will be conducting the 4th Quarter Groundwater Monitoring at the end of this month – November 2020. There are 14 monitor wells at the Site. The wells are identified as ESE-MW1, ESE-MW2, 92-MW1, Brycon MW1 to MW5, and Tetra Tech-installed wells TMW1 to TMW6. The monitor well locations are shown on **Figure 13**. Groundwater samples are currently tested for total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), dissolved Title-22 metals, total dissolved solids (TDS), total suspended solids (TSS), total organic carbon (TOC), chlorides and pH. The depth to groundwater across the Site ranges from about 30.55 to 50.24 (February 2019) feet below the ground surface. Groundwater level data indicate the gradient is very shallow with a variable flow direction, predominately towards the northwest beneath the area south of Baker Street. Gasoline hydrocarbons (primarily C_5-C_{12}) and VOC (primarily BTEX compounds) impacts dissolved in groundwater are present beneath the central-eastern third of the property and are the result of multiple historical releases from the Tesoro petroleum pipelines

located adjacent to the eastern property line. GWM reports are currently prepared by Bedrock Engineering and submitted to the LARWQCB.

CE conducted soil sampling from seven of eight geotechnical borings excavated on the south portion of the property by Albus-Keefe during March 2018. The borings were drilled to evaluate the extent and compaction of a fill deposit present beneath the south portion of the site. CE obtained soil samples at depth intervals of 3-5 feet to a total depth of 32 feet bgs. The 37 individual soil samples were tested for Total Petroleum Hydrocarbons (TPH) gasoline though oil ranges, for total arsenic and total lead. The soil data is summarized on **Table IA**, in **Appendix II**. The testing found fill extending to a maximum depth of 26 feet, with total TPH concentrations ranging from <10-10,000 mg/Kg. Arsenic concentrations ranged from 2.7-170 mg/Kg. The native sediment (alluvium in Albus-Keefe B22 at 25 feet) contained up to 28 mg/Kg of arsenic. Lead was detected at concentrations that ranged from <3 to 260 mg/Kg.

A supplemental investigation to assess the extent and origin of the LNAPL (gasoline product) near Brycon MW1 was completed at the site by CE during April-June 2019. The assessment work was requested by the LARWQCB and included a geophysical survey to clear utilities and to assess for unknown buried sub-structures, drilling of eight CPT/UVOST borings to evaluate the site stratigraphy and to tentatively identify LNAPL zones and placement of seven (7) continuously cored hydraulic push borings to assess the location and distribution of the suspect LNAPL zone. Seven (7) temporary casings were placed in the boreholes and groundwater samples were obtained. The supplemental soil and groundwater sampling identified a discontinuous layer of mobile LNAPL (gasoline) confined to a narrow zone (a few inches to several feet) near Brycon MW1 and extending to the east property line, within the lower portion of the upper saturated sand layer. The identified LNAPL impacted zone is separated from the uppermost groundwater aquifer by a clayey-aquitard. It was concluded the LNAPL found near Brycon MW1 originated from gasoline pipeline leaks located offsite and adjacent to the east property line of the site. Tabulated soil and groundwater test data from the LNAPL study are attached in **Appendices I and II.** Laboratory test data for the historical assessment work including soil gas, soil and groundwater are contained in **Appendices I, II & III**.

3.0 GEOLOGY AND HYDROGEOLOGY

The subject property is located within the southeast portion of the Los Angeles Basin near the western terminus of Signal Hill adjacent to the eastern bank of the Los Angeles River. The property is within the south portion of the Los Angeles Coastal Plain and is underlain by made-made fill (up to 26 ft) and undifferentiated alluvial deposits including Pleistocene-age terrace (Palos Verdes Sand) and alluvium

associated with deposition from the Los Angeles River. These deposits range from clayey-silts to poorly-graded sands with granule gravels.

The Site is located within the eastern portion of the West Coast Groundwater Basin within the Newport-Inglewood Structural (Fault) Zone. The groundwater regime within this portion of the West Coast Basin is generally characterized as containing an upper and lower aquifer system. The upper system includes Holocene sediments that typically contain unconfined and semi-perched groundwater of poor quality. The lower portion of the upper aquifer system includes upper Pleistocene deposits of the Gage aquifer, also known as the “200 foot sand”. Beneath the upper aquifer is the lower aquifer system consisting of the Jefferson, Lynwood and Silverado aquifers. The lower aquifer system is under pressure or confined conditions that extend to depths of 1000 feet beneath the site

Historical topographic maps indicate that the western portion of the subject property was at the elevation of the adjacent Los Angeles River bank or about 25 feet above mean sea level. The eastern portion of the property is a concealed (obscured by grading/artificial fill) erosional escarpment associated with the Los Angeles River. Subsequent grading at the property has raised the elevation of most of the site to an elevation of approximately 40 feet above mean sea level. Groundwater level data indicate the groundwater elevation beneath the property is about at or several feet below mean sea level. The depth to groundwater across the Site ranges from about 27.78 to 48.37 (June 2021) feet below the ground surface. Historical groundwater level data indicate a variable but predominately northwesterly groundwater flow direction.

The detailed hydrogeology developed during the supplemental LNAPL investigation in 2019 identified two (2) distinct saturated zones beneath the LNAPL study area (southeast portion of the site). These zones include an upper and lower saturated sand separated by a middle clayey aquitard. Gasoline impacts were primarily restricted to sediment within the upper sand and the upper portion of the aquitard. Gasoline-related VOCs in sediment were not detected in the lower sand. These sedimentary layers extend from approximately 30 to 50+ feet below the ground surface. Monitor wells (Brycon-MW1 & Brycon-MW5) previously installed at the site have continuous screens that extend across all three (3) lithologic units, from the upper fuel-impacted sand through the middle aquitard and into the lower sand. This makes the zonal determination of impacted groundwater versus non-impacted groundwater impractical due to the potential cross-contamination effect from the upper impacted saturated zone into the lower saturated zone. Soundings made during June 2019 within the upper sand from temporary small diameter casings screened in the upper zone and placed within the hydraulic push borings typically contained groundwater levels three to five feet higher than the water level in nearby well Brycon MW1. This indicates that the upper sand and lower sand are hydraulically distinct water bearing zones and need to be assessed as such. The installation of future groundwater

monitoring wells must isolate the upper sand and lower sand zones, when present, so these zones can be sampled and assessed separately. The narrow zone of saturation in the basal portion of the upper sand does not meet the definition of a useable aquifer (will not provide sufficient volume of water for a sustained yield). The identified lower sand satisfies the definition of a useful aquifer. The existing monitor wells will require abandonment during future grading activities. Replacement wells should be sited and installed in light of the hydrogeologic conditions (isolated screens in the upper and lower saturated zones) present beneath the area.

3.1 COCs in Groundwater

The primary COCs in soil at the site associated with the onsite historical activities of OOI include TPH-o and lead. The TPH-o in soil is associated with the operation of the wastewater treatment facility at the site. The lead and arsenic may be associated with the OOI activities, though onsite elevated background concentrations (up to 41 mg/kg, Brycon B12@30 feet, see **Figure 6 Arsenic and Lead in Soil**) of arsenic where identified (March 2018, June 2019) in onsite native sediment (alluvium). Mobilization of the arsenic present in native soil would result in arsenic concentrations much greater than the drinking water MCL of 10 ug/L. The groundwater arsenic mobilization model is discussed below. A comparison of the soil COCs with the detected COCs in groundwater was made using the groundwater monitoring data from 2012-2019 (**Table IIB, Appendix III**). The data analysis shown on **Table IIB** indicate that TPH-d and TPH-o are typically non-detect (<0.4-0.8 mg/L) in the monitor well network; that lead has not been detected in groundwater over that time period and that concentrations of arsenic in nine (9) of fourteen (14) wells are present in groundwater. TPH-g (up to 20 mg/Kg, Brycon MW1) and VOCs (benzene up to 1,800 ug/L, TMW5) are present in six (6) of the fourteen (14) monitor wells are associated with the Tesoro gasoline plume in groundwater at the site; see **Figure 13- TPH-g in Groundwater** and **Figure 14 – Benzene in Groundwater**. The gasoline plume originated from a BP/Arco pipeline leak beneath Golden Avenue impacting the groundwater beneath the site. The RP for the gasoline pipeline release is required to prepare a RAP for remediation of the TPH-g/VOCs in groundwater at the OOI site.

3.2 Arsenic in Groundwater

The source of the arsenic in groundwater was determined to be from native sediment and possibly other anthropomorphic sources. A technical PowerPoint presentation, along with supporting technical papers by Cozzarelli et al. and a technical paper (Naturally Occurring Arsenic and the Cozzarelli Mobilization Model, The Brownfield Redevelopment Group, TBRG-2019) were provided to the

LARWQCB. The presentation outlined the geochemical model, which explains the occurrence and distribution of arsenic in groundwater beneath the site. Arsenic concentrations up to 41 mg/kg (Brycon B12 at 30 feet) are documented in native sediment beneath the site. Aquifer sediment was found to contain up to 24.2 mg/kg (CEB15 at 40 feet) of arsenic. A recent case study (Cozzarelli, et al, 2016) documents that arsenic in sediment becomes mobilized into groundwater under low dissolved oxygen (anoxic) conditions associated with hydrocarbon plumes. Biodegradation processes prevalent within hydrocarbon plumes in the saturated zone create low oxygen (reducing) conditions near and within the plume. The low concentration of dissolved oxygen condition in combination with other geochemical processes promotes the stable low solubility form of arsenic to reduce and dissolve, raising the concentration of arsenic dissolved groundwater. Technical data documenting the geochemical processes that promote arsenic dissolving into the groundwater at the site was provided to the LARWQCB by TBRG in March 2019. Additional data and discussion of arsenic in soil and groundwater is included in **Appendix VIII**; with a discussion of the supporting data below.

Arsenic (As) and iron (Fe) occur naturally in the aquifer sediments and As is often adsorbed to Fe and Mn-hydroxides. Secondary mobilization of this naturally occurring As into the groundwater is due to the reduction of the Fe-hydroxides (reductive dissolution of Fe-hydroxides.) The presence of the TPHg plume dissolved in groundwater promotes the reducing environment necessary for the arsenic transformation to occur. A vertical profile of varying groundwater geochemistry conditions provides for variable vertical As concentrations in the groundwater. Similarly, a horizontal profile of varying groundwater geochemistry conditions provides for varying horizontal (upgradient and down gradient) As concentrations in the groundwater. These geochemical conditions were documented beneath the OOI property.

The fuel hydrocarbon plume associated with the BP/Arco pipeline releases is present beneath the east and central portion of the site. The concentrations and distribution of arsenic found dissolved in groundwater beneath the OOI site (see **Figure 15 – Arsenic in Groundwater**) are generally correlated with the dissolved TPHg hydrocarbon plume (**Figure 13 – TPH-g in Groundwater)**, though not always coincident. Cozzarelli et al (2016) also found that the dissolved arsenic becomes resorbed onto the aquifer sediment downgradient of the plume where oxic conditions are re-established. This condition (resorbing of arsenic) is apparent at the OOI site where non-detect concentrations of arsenic where found in wells 92-MW1, TMW1, TMW3, TMW4 and ESE-MW2 at the western site perimeter downgradient and cross gradient of the TPH-g plume. The recent groundwater monitor data shows the arsenic plume in groundwater is contained within the site boundary. The arsenic concentrations in groundwater appear unrelated to the historical activities on the OOI site, as illustrated in the technical discussion contained in **Appendix VIII**.

3.3 Arsenic Groundwater/Soil Interaction

The referenced LARWQCB RAP comments letter of May 21, 2020 requests a discussion of the historical onsite activities (wastewater treatment in settling basins) and the potential effects on groundwater quality. Specifically it was noted by the Board that the highest concentration of arsenic in groundwater has historically been from the area of TMW6 (up to 0.711 mg/L in 2018; was 0.078 in December of 2019 and currently 0.453 mg/L in June of 2021), located in the central portion of the property. An elevated concentration of As (190 mg/Kg) in soil was identified in the 2020 LARWQCB RAP comments letter as indicative of elevated As in soil above the maximum concentration (approximately 41 mg/Kg) found in native sediment onsite. A comment provided to the LARWQCB by Tesoro suggests that the former onsite settling basins acted as potential deep percolation ponds for the wastewater, potentially impacting groundwater. Please refer to **Appendix VIII** where a thorough discussion of the As presence in soil/groundwater and potential to impact groundwater is presented. The primary factors outlined in **Appendix VIII**, that eliminate As found in groundwater beneath the site as originating from percolation of wastewater are discussed below.

The primary factors that eliminates the As in groundwater as being from near surface sources include the following:

1. The Basins (Basins 1 and 2) were for a period of time clay-lined settling/evaporation ponds. The clay liner was designed to prevent percolation of wastewater. Before the Basins were lined earthen bermed ponds covered much of the property yet the bottoms of those facilities would have contained a settled solids layer and a precipitate layer significantly reducing the potential for deep percolation to groundwater.
2. The soil test data obtained from beneath the Basins (B22 & B30 in basin 2; B23 & B29 in basin 1) do not support the contention that high concentrations of arsenic percolated through the soil column and into the underlying groundwater. For example, the concentration of As in soil from B22 located near the central portion of basin 2, was 2.5 mg/Kg at 5 feet, 14 mg/Kg at 10 feet, 1.3 mg/Kg at 20 feet and <1 mg/Kg at 35 feet; all below the maximum background concentration found onsite. One would expect consistently high concentrations of As bound to soil if contaminated wastewater percolated through the sediment into groundwater. Cross Section A-A' illustrates the low As concentration in soil beneath the former settling Basins.
3. The high concentration of As (190 mg/Kg at a depth of 1 foot, AMEC HA3) mentioned in the LARWQCB letter was from soil within an AST enclosure located near the west property line unrelated to the wastewater treatment ponds. The deeper samples from that same location (HA3) contained 5.8 and 2.2 mg/Kg of As, at 5 and 10 feet, respectively. This shows that the As found at that location is not mobile in soil. The solubility referred to in the 1991 AMEC report is

relative to the STLC/TCLP test procedures and not necessarily indicative of the ability to mobilize thorough onsite soil. Note that AMEC also concludes, "based on the STLC/TCLP results, the detected metals (As and Pb) in soil should pose no threat to groundwater". The sample HA3-1 foot contained very little TPH, so the source of the As in that location is not petroleum and not from wastewater treatment.

4. It is known that isolated occurrences of elevated As occur in onsite soil, such as in B30 at 10 feet (120 mg/Kg) and Albus Keefe B20 at 15 feet (170 mg/Kg). These sporadic high concentrations of As are usually found associated with elevated Pb, 820 mg/Kg and 260 mg/Kg in B30 and B20, respectively. In all cases the concentrations of As reduce at depth and show no evidence of leaching to groundwater. It is planned to remove these hotspot (above background maximum concentration) areas during implementation of the RAP.
5. The lab test of untreated wastewater from the OOI facility by Cash & Associates Engineers in 1981 did not contain detectable levels of arsenic, <0.05 mg/L. A composite sample from 1982 found 0.37 mg/L of arsenic in the untreated wastewater sample. The subsurface data from beneath the basins and in areas where elevated arsenic is found in soil demonstrate that even with low concentrations of As in wastewater the As did not partition from the wastewater, sludge or soil and thus did not migrate vertically into the underlying groundwater.

The LARWQCB RAP Comments letter of June 28, 2021 states that there are apparent inconsistencies relative to the arsenic mobilization model presented above and in **Appendix VIII**, specifically "….., *while information presented shows that the Cozzarelli model likely maybe occurring, especially along the eastern side of the Site, the Regional Board cannot rule out the possibility that the Site historical operations may have contributed to the arsenic currently detected in Site groundwater monitoring wells .It is possible that both historical site operations and the Cozzarelli Effect have contributed to the arsenic in groundwater conditions currently observed. Thus, while the Regional Board has agreed to the approach of monitoring the arsenic in groundwater to observe whether concentrations reduce, it is necessary to plan for the possibility that they do not. A contingency should be prepared and included in the RAP to address the scenario where prolonged groundwater monitoring demonstrates that arsenic concentrations are not returning to background concentrations under "normal" conditions*." To address this Board concern a contingency for in-situ arsenic treatment is presented in Section 6.0 of the RAP

The Board letter also states "*Additionally, review of the proposed post-redevelopment groundwater monitoring well network does not include a well located centrally in the area of well TMW6. Since this well has historically contained higher concentrations of arsenic, a replacement well should be added in this area to adequately monitor the arsenic concentrations."* A future groundwater monitor well was relocated nearby well TMW6 as requested, see **Figure 17 – Proposed Monitoring Well Network**.

4.0 CONCEPTUAL SITE MODEL - CSM

The toxicologist in connection with the proposed at-grade single-family residential redevelopment project developed a conceptual site model for the subject property. The chemicals of concern are identified along with exposure pathways for future receptors. The toxicologist then utilizes the CSM to evaluate the chemicals of concern in developing the site-specific risk-based concentrations proposed for use during implementation of the proposed RAP.

The subject property occupies the western portion of a mesa that is the western termination of Signal Hill against the east bank of the Los Angeles River. The property is underlain by terrace and alluvial sediment that underlies artificial fill. The OOI property has an industrial use history since the 1920's primarily for the treatment of oil field production waste fluids. Ongoing bioremediation of petroleum-impacted soil (crude oil) currently occurs on the property under permits issued by the City of Long Beach and the LARWQCB. The primary chemicals of concern (COCs) identified during previous assessment at the property include crude oil related petroleum hydrocarbons and refined petroleum hydrocarbons, principally gasoline and diesel. The refined product COCs, gasoline and diesel, are related to the nine documented historical releases (1945-2018) from the Tesoro pipelines beneath Golden Ave adjacent to the OOI property. The COCs are present in soil and groundwater. A petroleum pipeline corridor (four buried pipelines - two gasoline, one crude oil, and one abandoned) border the OOI property to the east and are located five (5) feet beneath the west side of Golden Avenue. The pipeline releases that are unrelated to OOI's activities have impacted soil and groundwater beneath the site with vapor phase and soil-absorbed phase TPH-g/TPH-d and related VOCs.

Potential exposure pathways include leaching of petroleum hydrocarbon constituents into the underlying groundwater, vapor phase migration and the associated vapor intrusion hazard, and exposure to contaminated soil and sediment (dermal contact and dust inhalation). The following chemicals of concern were identified at the property: Methane and VOCs (benzene) are present in soil gas; elevated concentrations of petroleum hydrocarbons, lead and arsenic are found in soil and TPH-g/VOCs and arsenic are present in groundwater. The TPH-g and associated VOCs are unrelated to the onsite historical activities and result from buried pipeline leaks located beneath Golden Avenue. Elevated concentrations of arsenic (up to 41 mg/kg) were identified in native sediment beneath the site. The distributions of these COCs at the subject site are discussed below. This data is incorporated into the Human Health Risk Analysis (HHRA) prepared by Mearns (2020) that is summarized in Section 5.0 and provided on the GeoTracker website, Mearns HHRA 2020 .

4.1 Soil Gas

CE (2011) and TT (2015) implemented site-wide soil gas assessment at the site. AECOM (2015) also obtained soil gas samples that were analyzed for VOCs, methane, carbon dioxide, oxygen and nitrogen. Isotope testing of the methane (CE 2011) determined a microbial origin for the methane gas. The microbial origin of the methane is consistent with the presence of active TPH bioremediation cells on the property along with the biologic breakdown of the TPH in the lower vadose zone. Further, the methane gas was not under pressure, as might be expected if the methane was associated with a near surface oil/gas reservoir or a leaky oil well casing. Vapor phase benzene, TPH-g, and methane concentrations were evaluated in the shallow soil gas samples collected at 5 feet bgs during the Tetra Tech SSI, 2015. The onsite VOCs in soil gas are related to the Tesoro pipeline leaks.

The maximum vapor phase TPH-g concentration was 78,000 ug/l in TSO15-35 feet, located adjacent to the historical pipeline leaks. Elevated concentrations of methane were found in the eastern, central, and southern portions of the property. Beneath Basins 1 and 2 at the Site, south of Baker Street, the highest methane concentration detected at 5 feet bgs was 374,000 ppmv. This location is within the active bioremediation zone where ephemeral pockets of elevated methane are expected due to the active bioremediation being conducted. Methane gas concentrations were typically lower (~5,000 ppmv) in the 5-foot depth samples outside of the bioremediation cells as compared to the deeper 15-foot samples.

4.2 Soil

The primary chemicals of concern in soil are TPH, arsenic, lead and to a much lesser extent isolated concentrations of VOCs (benzene, ethylbenzene, naphthalene and xylene). Chlorinated pesticides, chlorinated herbicides, SVOC, or PCBs were not present in soil at concentrations requiring additional characterization or remediation. Crude oil related TPH is present in the onsite fill and native earth materials. TPH-d-o carbon range C_{13}-C_{40} is the predominant type of hydrocarbon in soil at the OOI property. The TPH-d-o occurs in shallow sediments in the central portion of the Site associated with the bioremediation activities. Up to 11,320 mg/kg of TPH-d-o was found at 5 feet in the bioremediation cell area. Gasoline range TPH-g, C_4-C_{12}, is typically restricted to the east-central portion of the Site, associated with numerous historical releases from the offsite Tesoro petroleum pipelines beneath Golden Avenue. Tetra Tech borings B8 and B12, were located adjacent to Golden Avenue where up to 16,500 mg/kg of TPH-g-d was detected at 10 feet in B8. The TPH-g concentrations in soil beneath the east portion of the Site appear consistent with a separate offsite pipeline release located to the east of the subject property. The pipeline release is being remediated using a vapor extraction system (located on the subject site- adjacent to east property line) operated by Tesoro's consultant (AECOM) per the

requirements of the LARWQCB Cleanup and Abatement Order No R4-2013-0064. The distribution of TPH impacted soil at the property is depicted on **Figures 5 & 7-12**.

Elevated concentrations of lead were detected in soil at the site. Lead up to 520 mg/kg occurs in shallow soil north of Baker Street. Lead is not a significant COC in soil south of Baker Street. The lead impacts are prevalent in the upper 10 feet of soil though elevated lead concentrations extend to depths of 20 feet (290 mg/Kg) near TB2. Arsenic in soil above the recommended RBC occurs sporadically beneath the southern portion of the property. The maximum concentration of arsenic detected was 170 mg/kg, though the maximum background concentration of arsenic in native alluvium ranges from 28-41 mg/kg in soil borings B-22 (25 feet bgs) and B-12 (BC at 30 feet bgs) as illustrated on **Figure 6**.

4.3 Groundwater

The monitor well network is sampled on a quarterly basis since 2011. The wells are tested for TPH, VOCs, CAM metals, pH, Total Organic Carbon, TDS, TSS and Chloride. Bedrock Engineering (previously Brycon) sampled 13 of the 14 onsite monitoring wells (well TMW4 was not sampled due to casing damage) were sampled during June 2021, as part of the required groundwater monitoring work. The groundwater monitoring data (presented in the report, *June 2021 - Quarterly Groundwater Monitoring at the Oil Operators Property, 712 West Baker Street, Long Beach, California*, dated July 15, 2020 and prepared by Bedrock Engineering) found TPHg (C_4-C_{12}) in six (6) of the thirteen (13) wells sampled. The six (6) wells with TPHg are located within the eastern half of the property and contain the following TPHg concentrations range from <50 in the wells located along the west property line to 5,200 ug/L in TMW5 located on the east property line in the area of the historical gasoline pipeline leak beneath Golden Ave. The reported concentration of 89,000 ug/L TPHg in well Brycon MW1 was likely contaminated with a product accumulation reported in that well. TPH oil was not found in groundwater. TPH-diesel was detected (0.38-37 mg/L) in four monitor wells located on the east side of the site and the TPH-diesel is correlated with the presence of elevated concentrations of gasoline associated with the Tesoro pipeline leaks. Lead has not been detected in groundwater from 2012-2021. Concentrations of arsenic (0.030 to 0.453 mg/L) in six (6) of fourteen (13) wells were also detected in groundwater during the June 2021 sampling event. The elevated concentrations of arsenic in groundwater are attributed to the Cozzarelli effect , as outlined in Section 3.3.

5.0 HUMAN HEALTH RISK ASSESSMENT (HHRA)

The LARWQCB Draft RAP Comments letter requested that the risks for future residential indoor air be re-evaluated according to the updated USEPA guidance recommendations. The Board also indicated that the Johnson-Ettinger VI algorithm is no longer accepted and should be removed from the Mearns (2016) HHRA. Mearns Consulting, LLC, prepared an updated site-specific Human Health Risk Assessment (HHRA) dated 14 October 16, 2020 for the proposed residential development project. The complete HHRA is available on the GeoTracker website using the following link, HHRA Mearns Oct 2020. The Mearns proposed soil remediation goals proposed in 2016 are essentially the same as contained in the updated HHRA (2020). The proposed soil remediation goals were forwarded to CalEPA Office of Environmental Human Health Hazard Assessment (OEHHA) for review and comment. The following site-specific risk-based residential remediation goals (RBGs) were approved by OEHHA in a memo dated August 25, 2020. These OEHHA approved RBGs in conjunction with the additional site-specific soil goals as required by the LARWQCB are outlined in Section 6.1.1. These RBCs were approved by the LARWQCB subject to additional restrictions as outlined in the report, *Characterization and Reuse of Petroleum Hydrocarbon Impacted Soil*, prepared by the San Francisco Regional Water Quality Control Board, 2006 (see **Appendix IX**).

Lead in Soil ≤ 80 mg/Kg (upper 10 ft)

Arsenic in Soil ≤ 10 mg/Kg (upper 5 ft)
Arsenic in Soil ≤ 12 mg/Kg (upper 5-10 ft)

TPH in Soil Based upon Carbon Range (upper 0-10 ft)
C_4-C_{12} < 370 mg/Kg
C_{13}-C_{22} < 1,000 mg/Kg; (<5,500 mg/Kg >10 ft bgs)
C_{23}-C_{32} < 5,000 mg/Kg
C_{32}-C_{40} < 6,500 mg/Kg

The following text was excerpted from the Mearns 2020 HHRA:

> *The objectives of the Human Health Risk Assessment (HHRA) are: (1) to evaluate potential health risks to human receptors posed by concentrations of constituents detected at least one time in the soil matrix, soil vapor and shallow groundwater underlying the 15.53-acre portion of the 20-acre property to be redeveloped for residential housing located at 712 Baker Street in Long Beach California 90806 (the site), and (2) to determine risk-based clean-up goals and/or mitigation measures protective of human health. This human health risk assessment followed the guidance in the Department of Toxic Substances Control (DTSC) Preliminary Endangerment Assessment (PEA) guidance manual (DTSC 2015), U.S. Environmental Protection Agency Risk Assessment Guidance for Superfund volume I, Human Health Evaluation Manual (RAGs) (USEPA 2004), the U.S.*

Environmental Protection Agency Risk Assessment Guidance for Superfund Volume I, Human Health Evaluation Manual (Part F, Supplemental Guidance for Inhalation Risk Assessment) (US EPA 2009), the DTSC Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (DTSC, October 20 II), the DTSC Lead Spread 8.0 Model, the San Francisco Bay Regional Water Quality Control Board (SFRWQCB) Environmental Screening Levels (ESL) model and the Virginia Department of Environmental Quality Virginia Unified Risk assessment model (VURAM).

Redevelopment of this 20-acre property is planned as: (1) 15.53-acres as residential with 226 dwelling units comprised of 53 carriage townhouses, 99 row townhouses, and 74 condominium units, and (2) 4.81-acres of open space. The residential development is located south of Baker Street, the open space is located north of Baker Street. Data used in this human health risk assessment was collected from the soil matrix, soil vapor and shallow groundwater underlying th~ 15.53-acres south of Baker Street by Tetra Tech (20 15) and California Environmental (20 11, 2018 and 20 19).

The maximum detected concentration or the 95 percent upper confidence level of the mean (95UCL), whichever was lower pursuant to the ProUCL guidance (USEPA 2004), of the constituent detected in the top 1 0-feet was used as the exposure point concentration for the soil matrix and in the top 15-feet for soil vapor for the residential and construction worker scenarios. Those chemicals of concern that had both reference doses or reference concentrations and slope factors or unit risk factors available, were assessed as both noncarcinogenic and carcinogenic compounds.

DTSC's LeadSpread 8.0 Model estimates the hazard due to exposure to lead in air and onsite soils/dust for adults and children within a residential scenario. Typically lead concentrations in air are not measured onsite. Therefore the model extrapolates these concentrations from the measured concentrations of lead in onsite soils. The percentile blood lead concentration is estimated by the model to provide an estimate of the percentage of a population of children and adults that would be expected to have blood lead levels that exceed the threshold value for a residential exposure scenario.

The maximum detected concentration of lead in the soils matrix was 820 milligrams per kilogram (mg/kg), the 95UCL was 88.28 mg/kg. DTSC's LeadSpread 8.0 Model results indicates that lead does pose an unacceptable hazard to children or adults in a residential exposure scenario.

The maximum detected concentration of arsenic in the soil matrix was 120 mg/kg, the 95UCL was 17 mg/kg and Southern California Regional background concentration is 12 mg/kg. Arsenic was previously assessed in a human health risk assessment in 2016 and the conclusion reached that

targeted soil removal was required to mitigate the potential risk from exposure to arsenic in the soil matrix.

The SFRWQCB Environmental Screening Levels vapor intrusion model (2019, Rev. 2) was used to estimate potential risk and hazard to residents due to exposure to volatiles in soil vapor and shallow groundwater underlying the site included in the model's database.

The estimated risks and hazards to residents due to volatiles in soil vapor and groundwater via the inhalation exposure pathway exceeded their respective thresholds. Total petroleum hydrocarbons in the gasoline range (C4-C12), i.e., TPHg, in the vapor phase is the "driver" for the elevated estimation of hazard. Additionally, total petroleum hydrocarbons in the diesel range (C13-C22), TPHd, in the soil matrix is the "driver" for the estimated hazards to residents via ingestion and dermal contact.

Due to the historic use of the site as a water treatment facility that treated produced water and wastewater recovered during oil well production in settling basins from 1926 to 1998 and the ongoing bioremediation (since 2004) methane is generated at concentrations that requires mitigation. The methane mitigation system subslab of all buildings (and paved parking greater than 5000 square feet) will consist of an impermeable barrier beneath which will be either a 4-inch or 6-inch gravel blanket within which will be slotted horizontal piping runs connected to vertical vent pipe risers. Although designed to capture and vent methane to the atmosphere, other volatile organic compounds, including TPHg and TPHd in the subsurface also will be captured and vented by this system.

Moreover the vapor extraction system operated by AECOM Technical Services, Inc. on behalf of Tesoro Logistic Operations, LLC remediating the volatile organic compounds released by Tesoro's pipelines adjacent contiguous to the site along the eastern site boundary with Golden A venue will continue to operate. These mitigation measures should prevent methane in addition to TPHg in the vapor phase and TPHd off-gassing from the soil matrix from causing potential adverse health impacts to residents via the inhalation exposure pathway.

As the 15.53-acre site will be built out with paved roads and landscaping the potential for residents to ingest or come into contact with the soil matrix is virtually non-existent, therefore this exposure pathway once the project is completed will be incomplete. The estimated hazard to the construction worker exceeds the threshold of I and is due to exposure to TPHg in the vapor phase and to exposure to TPHd in the soil matrix. Regardless of the development these exposure pathways remain complete. As volatile organic compounds have been detected in the soil matrix and soil vapor underling the site an Air Quality Management District (AQMD) Rule 1166 (R1166) permit and

compliance plan will be required during soil disturbance activities. The R1166 Compliance Plan is the de facto screening level for volatiles in soil as they will volatilize during soil disturbance.

Compliance with R1166 during all soil disturbance activities should mitigate the potential health impacts to construction workers due to exposure to TPHg and TPHd in the soil matrix and soil vapor underlying the site. The planned future use of the site is residential. The residential development consists of 226 dwelling units, paved roads and driveways and landscaped areas. The result of the built out development is the exposure pathway by which residents could possibly come into contact with constituents in the soil matrix is incomplete. Institutional controls, i.e., the required methane/VOC mitigation system to be installed subslab of the proposed buildings (and paved areas greater than 5,000 SF and landscaping) also mitigates the potential for vapor intrusion of volatiles in the vapor phase. Mitigation measures during grading activities such as monitoring under the AQMD R1166 permit/compliance plan and the application of Simple Green mixed with water applied as a dust suppressant mitigates exposure to the construction worker. Targeted soil matrix removal to a depth of 10-feet bgs is warranted to mitigate the potential risk and hazard due to exposure to TPH, arsenic and lead in the soil matrix.

Verification soil sampling will be used to document the cleanup goals are achieved within the new building pads and within stockpiled soil for reuse onsite. The 95% UCL evaluation (large data sets [n > 30] comprised of individual soil samples) of COCs in the remaining in-situ soil and soil stockpiles to be reused on-site will be used to assess whether the site-specific risk-based residential remedial goals were met. Note that every single soil sample may not meet the site-specific risk-based residential remedial goals; however, with a statistical analysis the data set will. The site-specific soil verification sampling protocols for the completed graded pads will be provided in the Soils Management Plan (SMP) and submitted to the LARWQCB and OEHHA for review and approval prior to commencement of remedial grading activities.

5.1 Alternatives Analysis in Compliance with SWRCB Resolution 92-49

The May 21, 2020 LARWQCB review letter of the OOI Draft Conceptual Remedial Action Plan requested a discussion of the consistency of the proposed site clean-up goals with Resolution 92-49 ("the resolution") as adopted by the State Water Resources Control Board (SWRCB) in 1992 and as amended in 1994 and 1996. Additionally the LARWQCB RAP Comments letter of June 28, 2021 indicates that the Resolution 92-49 analysis must address protection " *human health and groundwater quality and clean up to as close to background quality as is technically and economically feasible. The cost estimate provided in the RAP for the NOB parcel evaluates on the cost of excavating all impacted soils. Other available remedial approaches should also be evaluated*".

The 92-49 resolution outlines the general procedures and policies for the investigation and clean-up of releases (discharges) to soil and groundwater within the State of California. Specifically compliance with the resolution is to "*Ensure that dischargers are required to clean up and abate the effects of discharges in a manner that promotes attainment of either background water, or the best water quality that is reasonable if background levels of water quality cannot be restored.* These procedures apply at all the Regional Boards ("boards") charged with implementation of the resolution.

Section I of the resolution outlines the procedures to be followed by the Boards in assembling the facts surrounding a release including it's nature, extent, site characteristics, physical evidence, identification of responsible parties (RPs) and coordination with other agencies. The overall policies to be implemented during the assessment and selection of the remedy are enumerated within Section II of the resolution. These include the issuance of directives and orders to RPs for completing detailed assessment work including sampling of soil gas, soil and groundwater. Typically, the Board accomplishes this through RP submission of detailed workplans and approval of such plans. Resolution 92-49 directs that investigation proceed in a progressive sequence. To the extent practical, it directs the Regional Water Board to require and review for adequacy written workplans for each element and phase, and the written reports that describe the results of each phase, of the investigation and cleanup. OOI has voluntarily implemented and complied with Sections II of Resolution 92-49. The resolution provides for an alternative cleanup level to background that must (a) be consistent with the maximum benefit to the people of the state; (b) not unreasonably affect present and anticipated beneficial use of such water; and (c) not result in water quality less than that prescribed in the Basin Plan and applicable Water Quality Control Plans and Policies of the State Water Board.

The following includes a discussion of the remedial alternatives available for the OOI property and includes an analysis of the feasibility of the approaches from both a technical and economic standpoint. This discussion is divided into three parts associated with the remedial objectives targeted for the three main remedial areas that includes; 1) the approximately 15-acre parcel south of Baker Street (SOB) for which a new residential community is planned, 2) the approximately 5-acre parcel north of Baker (NOB) that will remain as open space, and 3) the shallow groundwater resource beneath both parcels.

5.1.1 SOB Remediation Discussion

The identified discharges to land at the SOB parcel are primarily TPH-oil, lead and isolated hotspots of arsenic, typically less than 10-20 feet deep. TPH-gasoline is also found in soil beneath the east side of the property and is present not from onsite activities but from migration of offsite pipeline releases. The gasoline pipeline releases are the responsibility of Tesoro and are undergoing Interim remedial action (pursuant to an LARWQCB directive) measures in the form of active vapor extraction. It is expected that Tesoro will be required by the LARWQCB to restore the soil to background conditions or provide justification why pre-release background soil conditions cannot be met. In the interim and out of an abundance of caution all new residential structures on the SOB parcel will be provided (as

recommended in this RAP) with a vapor intrusion mitigation system (VIMS) to prevent future vapor intrusion of residual gasoline related constituents.

TPH impacted soil is the primary COC on the SOB parcel and is mostly contained in the areas identified as Basins 1 & 2 that are currently being used for bio-remediation of the TPH impacted soil. The TPH soil is a by-product of the oil-field wastewater treatment activities that previously occurred on the SOB parcel. Concentrations of lead and arsenic above background concentrations are also found sporadically within the TPH soil, but mostly to the south of Basin 2. One alternative to onsite treatment and reuse would be excavation and transportation offsite all TPH impacted soil. There is no economically suitable in-situ treatment methodology to remediate the TPH, lead and arsenic soil to background concentrations or alternatively to the recommended RBCs within the construction time-frame (several years) of the proposed development. Therefore the only viable alternative to evaluate would be remediation through excavation and offsite disposal. The Soil Removal Cost Analysis Table below provides the approximate soil volumes and costs for complete removal of the impacted soil beneath the SOB parcel. Additionally the volume of soil removed offsite would need to be imported to replace the soil lost through offsite disposal. Approximately 16,000 truck trips (end dumps with 16 cy capacity) would be required for removal and replacement of the TPH soil beneath SOB. Such a large excavation process would be very costly and creates an unacceptably large carbon footprint.

Complete removal and replacement would not be required if onsite bio-treatment in conjunction with verification sampling and selective onsite reuse is implemented. The proposed reuse of onsite bioremediated soil is shown to be protective of human health through the site-specific health risk assessment. Elevated lead and arsenic in soil SOB will be removed from the site to below site specific RBCs. Some soil would still be shipped for offsite disposal but with onsite reuse the volume removed from the site could be reduced by over 61% or the equivalent of 9,790 truck trips. The cost for the compete removal, offsite disposal and import of clean soil could result in remediation expenses exceeding $17,000,000.00 just for the SOB parcel. Such high costs would render the project infeasible while creating an unnecessary high impact on the surrounding environment.

5.1.2 NOB Remediation Discussion

TPH-oil and lead are present in soil beneath the north and south of Baker Street parcels at concentrations above background levels. Elevated concentrations of the COCs beneath the NOB parcel extend to depths of 30 feet bgs. Since this parcel was propose for open-space the previous remediation concept was to place an engineered cap above the impacted zones to prevent contact with the impacted materials and also to reduce the threat of leaching the COCs into the shallow groundwater. There is no economically suitable in-situ treatment methodology to remediate the TPH, lead and soil to background concentrations or alternatively to the recommended RBCs within the construction time-frame (several years) of the proposed development. Therefore the primary alternative to evaluate would be remediation through excavation and offsite disposal. Complete removal of the COCs to background concentrations beneath the NOB parcel would result in large excavations to depths of 35

feet below current grade. This work would require approximately 9,600 truck trips, create a large carbon footprint and would be cost prohibitive (>$13,500,000.00). The table below outlines the projected costs to implement the large-scale removal action required to excavate the NOB parcel COCs to background concentrations. Implementation of the removal action to achieve background COC concentrations beneath the NOB site does not generate the maximum benefit for the people of California since the large impact on the environment results in a marginal increase in the threat reduction for the future use of the property as a park. The economic cost of the complete removal option makes the project unviable.

An alternative option considered to only capping the NOB parcel is removal of shallow soil (<10 feet) NOB impacted soil with concentrations of COCs above the site clean-up goals. The impacted soil that remains below the hot-spot remedial excavations will be subject to further remedial treatment (TPH impacted soil) via installation of passive Bio-Vent wells to depths of 30 feet. Bioventing is an in-situ remediation technology that uses stimulation of indigenous microorganisms through addition of oxygen to promote accelerated biodegradation of TPH adsorbed to soils in the unsaturated zone. All aerobically biodegradable constituents can be treated by bioventing. In particular, bioventing has proven to be very effective in remediating releases of petroleum products (USEPA, October 2017). The addition of the bio-vent wells in conjunction with the proposed shallow soil excavation work NOB will combine to provide long-term protection of human health (exposure reduction through shallow excavation and capping) and protection of groundwater quality through mass reduction, contaminant removal and capping.

Shallow soil that exceeds the RBCs beneath the NOB parcel will be removed with the addition of bio-vent wells for further TPH mass reduction in deeper soil. Though areas of lead in deep soil beneath the NOB parcel will remain it appears a clayey zone identified at depths of 20-25 feet impedes movement of soluble lead and prevents movement into the saturated zone. This conclusion is supported by the fact that lead is not found in groundwater at the site. These proposed hot-spot removal measures for the NOB parcel in conjunction with the proposed CAP NOB satisfy the intent of Resolution 92-49, to remediate the site to be protective of human health and the environment within the bounds of processes reasonably available in conjunction with economic viability.

5.1.3 Groundwater Remediation Discussion

Interpretation of the current and historical groundwater quality data demonstrates that discharges to land associated with OOI's activities have not impacted (no TPH oil or lead in groundwater) the beneficial use of the underlying groundwater resource. Though arsenic is found in groundwater beneath the site it likely originates as a by-product of geochemical reactions associated with the gasoline plume on the east side of the property. **Figure 15 – Arsenic in Groundwater** depicts the current distribution of arsenic dissolved in groundwater that establishes the dissolved arsenic association with the TPH-gas plume (**Figure 13**) in groundwater. It is expected that as the TPH-gas plume is remediated and oxic conditions return to the aquifer the dissolved arsenic concentrations will

drop below to background concentrations as arsenic is re-sorbed onto the aquifer sediment. This process is clearly ongoing as demonstrated by comparison of **Figures 13 and 15**. Remediation (by Tesoro) of the TPH-gas plume in groundwater will help restore future beneficial use of the groundwater impacted by TPH-gas and dissolved arsenic This results in restoration of the upper saturated zone to background concentrations and is, therefore, a Resolution 92-49 compliant remediation project.

As stated in the LARWQCB Comments Letter of June 2021, a contingency is required to address the arsenic in groundwater should elevated arsenic remain in groundwater following completion of the TPH-g remediation work by Tesoro. The LARWQCB RAP Comments letter of June 28, 2021, indicates that, *It is possible that both historical site operations and the Cozzarelli Effect have contributed to the arsenic in groundwater conditions currently observed. Thus, while the Regional Board has agreed to the approach of monitoring the arsenic in groundwater to observe whether concentrations reduce, it is necessary to plan for the possibility that they do not. A contingency should be prepared and included in the RAP to address the scenario where prolonged groundwater monitoring demonstrates that arsenic concentrations are not returning to background concentrations under "normal" conditions.* The recommended remedial response for the site as discussed under Section 6.0 below provides the requested contingency for treatment of groundwater containing residual elevated arsenic concentrations above regional background levels following completion of the TPH-gas groundwater remediation by Tesoro. Finally, recent groundwater studies have documented that an upper saturated zone that overlies an apparently continuous aquitard that provides a natural protective barrier for the deeper underlying aquifer. This hydrogeologic condition documented beneath the southeast portion of the site will be evaluated further during the deep groundwater assessment in the area of well TMW6.

SOIL REMOVAL COST ANALYSIS					
Impacted Media	**NOB – 77,000 c.y. (115,500 tons)**		**SOB 128,700 c.y. (193,050 tons)**		**Remediation Totals**
TPH/Lead Soil – Requires Treatment prior to disposal	34,500 tons at $200/ton	$6.9M	-		$6.9M
TPH/Lead Soil disposal no pre-	34,500 tons at $105/ton	$3.62M	96525 tons at $105/ton	$10M	$13.62M
TPH Soil – used for daily landfill cover	46,500 tons at $50/ton	$2.3M	96525 tons at $50/ton	$4.8M	$5.1M
Excavation Costs	77,000 cy $5/cy	$0.39M	128700 cy $5/cy	$0.64M	$1.03M
Soil Import Costs	77,000 cy $15/cy	$1.15M	128700 cy $15/cy	$1.9M	$3.05M
Soil Compaction Costs	77,000 cy $2/cy	$0.15M	128,700 cy $2/cy	$0.26M	$0.41M
Ancillary fees, permits, plans, testing, monitoring, agency and analytical	-	NOB = $13.51M	-	SOB = $25.18M	$1.5M
					Total $39.19M

6.0 RECOMMENDED REMEDIAL RESPONSE

The following recommended remedial response is selected following a review of available alternatives considering the proposed redevelopment project. The alternatives considered included 1) No Action 2) Excavation of all Soil Exceeding RBCs and 3) Clean-up to RBCs within the Proposed Remedial Earth Interval (REI SOB parcel) including shallow soil removal NOB, followed bi bio-vent well installation and placement of an engineered cap.

The No Action Alternative 1 is rejected since it yields a site where exposure to the near surface COCs is likely and is therefore incompatible with the proposed residential development.

Alternative 2 - complete excavation of all COCs exceeding the RBCs would require excavation of soil to depths of over 30 feet. Excavation and offsite disposal is a well-proven, readily implementable technology that is a common method for addressing soils similar to those identified onsite. This alternative may also include the onsite processing of hazardous lead impacted soil into a non-hazardous waste using an onsite treatment unit. The treated soil could be disposed of in a local landfill as non-hazardous soil at a lower cost. This option would require excavation, treatment and disposal of more than 77,000 cubic yards of impacted soil, just from the north of Baker parcel alone. Over 10,000 end-dump truck trips would be required to transport the impacted soil and import clean fill. The truck traffic, noise and associated deep excavation work would pose risks and nuisances that would be unacceptable for the adjacent residential community. This option has a very large carbon footprint that cannot easily be offset.

6.1 Proposed RAP

The recommended alternative (3) includes: 1) removal of shallow (<10 feet) soil above clean up goals (same as RBGs) beneath the NOB parcel, 2) Installation of bio-vent wells NOB to facilitate in-situ treatment of residual TPH above the treatment goals and 3) placement of an Engineered Cap over the entire NOB parcel to allow for future use as open space or a park; 4) Removal of all soil that exceeds the RBGs and background concentrations from the south of Baker parcel (SOB), 5) reuse of onsite bioremediated soil that meet the site specific RBCs and soil reuse criteria, 6) installation of an engineering control (VIMS) beneath all future structures SOB with requirements for monitoring of soil gas and air with appropriate response actions, 7) provisions for continued groundwater monitoring, primarily for arsenic to document long-term trends associated with the comingled TPH-gas plume, 7) provide for a contingency to treat arsenic impacted groundwater in the event arsenic concentrations persist above regional background levels following completion of the TPH-gas remediation, 8) provide for the required verification soil sampling to document the remedial response achieved the required clean up goals.

The Engineered Cap in conjunction with the removal of shallow impacted soil will eliminate the exposure pathways for the COCs that remain beneath the NOB parcel. The historical groundwater sampling data indicate minimal to no impact for the residual onsite COCs to affect groundwater quality beneath the north of Baker parcel and this appears related to a clayey sediment layer that impedes movement of soluble lead into the saturate zone. The proposed remediation work on the south of Baker parcel, primarily the continuation of the onsite bioremediation in conjunction with the future

geotechnical grading work, may include some off-site disposal of impacted soil that exceeds the RBCs. Import of soil to account for the off-site disposal may also be required. The following summarizes the proposed mitigation measures for the site COCs within the affected media for the selected remediation option.

Table of Proposed COC Mitigation Measures

COC		Location	Proposed Mitigation Measure
Vapor Phase	Methane	NOB	Engineered Cap - vented
		SOB	Engineering control – vapor intrusion membrane – residential/ VES implemented by Tesoro
	TPH-g/VOCs	NOB	None (no structures)
		SOB	Engineering control – active vented membrane for residences /VES implemented by Tesoro
Soil over RBCs	TPH	NOB	Removal to 10 feet then place Engineered Cap/Install Biovent wells for deeper TPH impacts
	Lead		Removal to 10 feet then place Engineered Cap
	Arsenic		Removal to 10 feet then place Engineered Cap
	TPH	SOB	Bioremediated to RBCs or dispose offsite
	Lead		Removal to RBCs
	Arsenic		Removal to background concentrations or RBCs
Groundwater	TPH-g/VOCs	NOB & SOB	RP for pipeline release to implement clean-up as required by LARWQCB
	Arsenic		Monitor and include treatment contingency

NOB = North of Baker Street, SOB = South of Baker Street, RBC = Risk-Based Concentrations

6.1.1 Proposed Risk-Based Soil Goals (RBGs)

The following table lists the various RBCs and the sources from which the RBCs were derived. The recommended soil interval with the associated RBC is also proposed. Note that civil engineering drawings that include provisions for vapor intrusion control, grading, drainage control, and formal design of the Engineered Cap, including the site-specific Soils management Plan with monitoring and

sampling requirements will be prepared once the major components of the RAP are approved by the LARWQCB.

The LARWQCB letter "*Comments on the Remedial Action Plan, Oil Operators, Inc., 712 Baker Street, Long Beach, CA,"* dated June 28, 2021 modified the soil reuse criteria for the proposed remediation project. The modification to the RBCs proposed in the Mearns HHRA that were adopted by the OEHHA focus primarily on the concentration of TPH-gas, TPH-diesel and related VOCs. Specifically the Board stated, "*Treated soils may be reused onsite as proposed, with the top 5 feet of clean soils, in accordance with the Characterization and Reuse of Petroleum Hydrocarbon Impacted Soil as Inert Waste draft guidance dated October 20, 2006 prepared by the San Francisco Bay Regional Water Quality Control Board. The treated soils considered for reuse must meet the site-specific clean-up goals and the concentration limits detailed in the guidance, whichever is more conservative, and the soils must be sampled in accordance with guidance. A soil stockpile should not be used if a soil sample collected from the stockpile exceeds a site-specific clean-up goal.* The soil reuse criteria are summarized below. The site –specific goals to be implemented as part of the remedial work are highlighted.

Table of Soil Clean-Up Goals (RBCs)
712 Baker Street
Long Beach, California 90806

COC	Clean-Up Goals in mg/Kg								
	LARWQCB SSL①	OEHHA 2020②	SFRWQCB③ TPH REUSE GUIDANCE	SFRWQCB ESLs④	HERO NOTE 3⑤	USEPA REGION 9 RSLs⑥	Within REI 0-5 ft	Within REI 5-10 ft	Below REI >10 ft SOB & above 10 ft NOB
TPH - C^4-C^{12}	≤500	370	≤100	≤100	--	≤520	≤100	≤100	≤370
TPH - C^{13}-C^{22}	≤1,000	1,000 to 5,500	≤260	≤260	--	≤96	≤260	≤1000	≤5,500
TPH - C^{23}-C^{32}	≤10,000	5,000	--	≤260	--	--	≤5,000	≤5,000	≤5,000
TPH - C^{32}-C^{40}	--	6,500	--	≤12,000	--	≤230,000	≤6,500	≤6,500	≤6,500
VOCs	--	--	Note 1	Note 1	--	--	Note 1	Note 1	--
LEAD	--	80	--	80	80	400	≤80	≤80	≤80
ARSENIC⑦	--	10	--	0.067	0.11	0.68	≤10	≤12	≤41

REI = Remedial Earth Interval is the zone 10 feet below future grade

① = LARWQCB SSL from Table 4-1 (depth to GW 20-150 feet), Site Assessment and Cleanup Guidebook, May 1996. ② = Recommended Site Specific OEHHA approved Residential Soil Goals based on HHRA by Mearns, 2C
③ = SFRWQCB Petroleum Reuse Guidance Document (APPENDIX IX). ④ = SFRWQCB ESLs Residential Shallow Soil, Jan. 2019. ⑤ = CalEPA-DTSC, HERO HHRA Note 3, modified residential soil screening levels, June 202
⑥ = USEPA Region 9 REGIONAL SCREENING LEVELS - Residential RSLs, May 2020. ⑦ = Arsenic Cleanup Goals Adjusted for DTSC SoCal regional soil background concentration = 12 mg/Kg.
Note1 – VOCs = Benzene (0.025 mg/kg), Toluene (3.2 mg/kg), Ethylbenzene (0.43 mg/kg), xylenes (2.1 mg/kg), Naphthalene (0.042 mg/kg)

The geotechnical engineer indicates that up to 13 feet of fill located in the vicinity of former Basins 4 and 14 (south portion of site near Wardlow Road) will require removal and recompaction for support of future site improvements. CE is recommending a minimum of 15 feet of removals in this area to provide for excavation of COCs that exceed the RBCs outlined in the **Table of Clean Up Goals** –as shown on page 28. A minimum of five (5) feet of compacted fill will be placed across the site to provide for a uniform foundation condition beneath cut and cut/fill transition lots. The distribution of the impacted soil beneath the site is depicted on the attached **Figures 5-12**. The areas for the recommended removals are shown on **Figures 18 & 19**. Also identified on these figures is the Remedial Earth Interval (REI). The REI is the upper 10 feet of soil immediately beneath the proposed future residential grade in which the recommended more restrictive RBCs are applicable. Selective grading and stockpiling of onsite generated non-impacted soil should be placed in the upper 5 feet of the REI where feasible. Non-impacted soil can be generated from onsite or import that has been tested for all constituents outlined below. The proposed RAP includes the following components:

1) Continued bioremediation of the TPH impacted soil to meet the proposed RBCs associated with the identified COCs.
2) Verification sampling as required by the Board of all treated and imported soil prior to placement as engineered-compacted fill to ensure conformance with the approved RBCs.
3) Placement of the soil that meets the proposed RBGs as engineered compacted fill below the proposed finish grade.
4) The RAP defines the Remedial Earth Interval (REI) at the site as the area from the future ground surface to a depth of 10 feet below grade. The residential risk-based clean-up goals (RBCs) are applicable within the REI.
5) Segregation and selective grading for the onsite soil that contains low or non-detect concentrations of the COCs for use as engineered fill within the upper portion (5 feet) of the REI.
6) Removal and disposal of shallow soil (<10 feet) that exceeds the site clean up goals of the NOB parcel. Installation of biovent wells (see Figures 7, 8, 18 & 20) will be installed after the soil excavation/verification sampling is completed. Design drawings for the NOB cap will be prepared and submitted to the Board for review and approval. The future SMP and civil engineering drawings that include provisions for grading, drainage control, and plans for VOC/methane vapor control will be submitted to the Board for review.
7) Continuous environmental monitoring and implementation of a Soil Management Plan (SMP) are required for all remediation earthwork until final rough grades are achieved. Preparation of a future Groundwater Monitoring Plan (GMP) to be submitted to the Board that contains the final monitor well network, groundwater testing requirements. The GMP will include a contingency plan for treatment of residual arsenic in groundwater that remains above background concentrations following cessation of the Tesoro TPH-gas remediation program.
8) Design and future installation of a sub-slab vapor intrusion mitigation system (membrane and provision for active venting) for all future onsite residential and associated inhabitable structures. A conceptual design for the proposed Vapor Intrusion mitigation system (VIMS) is presented in Appendix V. The future HOA with assistance from a qualified environmental engineering firm will manage the operations and maintenance

implementation plan (OMIP) for the vapor intrusion mitigation system. The VIMS plans will be submitted to the Board and city of Long Beach for approval.

9) Continued operation by Tesoro's consultant of the VES unit(s) associated with the TPHg/VOC release from the adjacent petroleum pipelines.
10) Abandonment of the existing monitor wells and establishment of the final monitor well network for use in post remediation groundwater. Sampling of the deeper groundwater zone beneath Area 3 to assess for impacts below the upper saturated zone.
11) Development of a land use covenant (LUC) including and restriction on development for the north parcel, a prohibition of pumping and use of groundwater; for future access requirements associated with operation of the VES unit(s) and for groundwater monitoring activities, to limit exposure to soils below the NOB parcel, the requirement for installation of a vapor intrusion mitigation system for all onsite structures and provisions for the protection and maintenance of engineering controls, including the Engineered Cap, on the north parcel.
12) It is anticipated that a future homeowner's association, with assistance from a qualified environmental engineering firm, will have overall responsibility for maintenance of common areas, the recreation centers, maintaining drainage facilities, and for management of future operations and maintenance plan for the anticipated engineering controls. Financial assurance instruments for the maintenance operations may need to be implemented. An access agreement will be required for the RP to sample and ultimately decommission the groundwater monitor well network.

The onsite bioremediation activities will continue pursuant to the requirements of the City of Long Beach and the LARWQCB.. These activities may include, the addition of nutrients and/or composting material to enhance microbial degradation. The maximum removal depths for the TPH impacted soil will be dictated by the requirements of the geotechnical engineer, minimum removal depths for soil that exceed the RBGs as indicated on the **Table of Soil Clean-Up Goals (RBCs)**. Following completion of bioremediation activities, the remediated TPH-impacted soil that is verified to meet the treatment criteria (RBCs) can be reused as engineered fill at the Site.

The remediation of vapor/adsorbed phase VOCs associated with the historical Tesoro pipeline leaks beneath the eastern portion of the property will continue to be implemented via vapor extraction methods by ATSI on behalf of TESORO, in accordance with the Tesoro proposed Interim Remedial Action Plan that was approved (including any future modifications) by the LARWQCB. The vapor intrusion potential for methane and VOCs beneath subject site will be further mitigated through the installation of a sub-slab vapor intrusion mitigation system (VIMS) beneath all future inhabitable structures. The proposed vapor mitigation plans will be submitted to the local agency and the LARWQCB for review and approval. An Operations and Implementation Plan (OMIP) for the engineering controls will require the future HOA and Environmental Engineering firm to manage the LUCs adopted for the project. The LUCs are expected to include restriction of pumping and use of groundwater, future access requirements associated with operation of the VES unit(s) and for

groundwater monitoring activities, to limit future excavation activities and the subsequent exposure to soils below 10 feet NOB, and the requirement for installation of a vapor intrusion mitigation system for all onsite inhabitable structures.

Verification soil sampling is an important component of the RAP to ensure the treated soil and any imported soil meets the site-specific RBCs. The soil sampling requirements include testing the bioremediated soil, testing of the soil imported to the site and post-grading REI sampling to ensure conformance to the proposed RBCs. The general sampling requirements are outlined below in **Section 6.3**. Field screening of soil during grading operations using XRF instruments for As/Pb and field test kits for TPH will assist in the bulk soil segregation with follow-up verification sampling at a state certified lab.

6.2 Groundwater Monitoring

Groundwater monitoring (GWM) has shown non-detect to low concentrations in groundwater for the onsite derived COCs, lead and TPH-o. The offsite derived TPH-g and VOCs in groundwater are present mostly beneath the eastern portion of the site. The distribution of dissolved arsenic in groundwater was determined to result from arsenic in native soil in conjunction with geochemical reactions associated with the TPH-g plume in groundwater. All the existing wells will require abandonment during the execution of the remedial grading at the site. The wells will be abandoned by completely removing the well casings and associated filter pack and then pressure grouting the well with a neat cement grout. CE is proposing the new monitor well network (see **Figure 17 – Proposed Monitoring Well Network**) to consist of seven locations to be installed following completion of the rough grading. Two individual wells, one well screened in the upper saturated zone and the second well screened in the lower saturated zone may be required to properly assess impacts within the Upper Sand and Lower Sand units as described in the CE LNAPL Assessment Report, see **Appendix VI**. The existing wells and future wells should be monitored on a semi-annual basis until the new well network is installed. The LARWQCB indicates after the Tesoro groundwater remediation is completed (as determined by RWQCB), the groundwater monitoring wells should be evaluated (each individual well on a well to well basis) to determine if the arsenic concentrations are above a “background range.” It is recommended the analytical tests for the existing and future wells will include the following constituents.

- Total petroleum hydrocarbons (TPH-C_{12}-C_{40}) by EPA Method 8015B
- Volatile organic Compounds (VOCs) and TPH-gas by EPA Method 8260B
- Dissolved metals (As/Pb) by EPA Methods 6010B and 7470A
- pH, chloride, TOC, TSS & TDS per EPA Methods 9040, 300, 5310D, 160.2 and 160.1 , respectively.

All future monitoring well abandonment and installation work will be conducted under permits issued by the City of Long Beach Department of Health and Human Services pursuant to the California Well Standards, DWR Bulletins 74-81 and 74-90.

6.2.1 Deep Groundwater Sampling/Groundwater Closure

The LARWQCB has requested sampling of the deep groundwater zone beneath Area 3 as shown on **Figure 17**. In lieu of a dedicated well the RWQCB has agreed to consider the use of grab groundwater sampling techniques that minimizes the potential for cross-contamination between the upper and lower saturated zones. A workplan for the deep groundwater sampling will be prepared and submitted to the LARWQCB for approval. If the "grab" groundwater analytical results indicate significant concentrations of chemicals of concern, then the RWQCB may require further investigation with the use of traditional groundwater monitoring wells into the deeper aquifer.

Closure of the groundwater monitoring activities and issuance of the groundwater NFA will occur once the LARWQCB approved groundwater remediation plan associated with the TPHg plume is implemented and completed by Tesoro and post-remediation COC concentrations in groundwater are below levels of concern.

6.3 Pre-field Activities

Upon LARWQCB approval of the RAP components contained herein, civil engineering drawings will be prepared that include provisions for grading, drainage control, design of the Engineered Cap, and a site-specific Soil Management Plan (SMP). The SMP will include the final soil verification sampling schedule for both reuse of the stockpiled treated soil and verification samples that the remedial excavation areas meet the clean up goals. The selected remediation contractor will implement the Remedial Action Plan as outlined on the civil drawings. The timing of the remediation work is dependent upon the construction schedule for the proposed development project. It is planned to begin the enhanced bioremediation work upon approval of the RAP.

Permits will be obtained as required from the City of Long Beach, LARWQCB and the South Coast Air Quality Management District. The LARWQCB will be notified at least 15 days prior to commencement of the fieldwork. Prior to remedial excavation work, construction flagging will be placed to identify soils subject to excavation. The site is currently fenced and secure. Appropriate signage will be placed on the fencing. A project schedule will be provided upon approval of the RAP.

6.3.1 Mobilization

A California licensed remediation contractor (Class A-HAZ) will conduct the excavation, treatment, loading, transport and offsite disposal of the impacted soil as directed by the owner. All fieldwork and monitoring will be conducted under the general guidelines set forth in the attached Site-Specific Health and Safety Plan. Site infrastructure will be established prior to the start-up of excavation activities. Infrastructure will include portable office/restrooms, wash sinks and a separate eyewash station. Storm water pollution controls (SWPPP) and erosion controls as outlined on the future civil drawings will be installed prior to the start of the remediation work.

Equipment proposed for the remedial excavation of the site may include: a high gallon capacity water truck or water pull, loaders, a track excavator, small scrapers and maintenance vehicles. A stabilized construction entrance with shaker plates will be installed to remove soil from vehicles exiting the site. Every vehicle exiting the site will have to cross the shaker plates and the gravel stabilized entrance. Site perimeter fencing will be maintained to prevent public access to the site.

Storm water mitigation measures (site specific SWPPP per civil drawings) will be constructed at the site. Mitigation measures will consist of a series of catchment dams that catch and trap fine-grained soil particles entrained in the water stream prior to entering area drains or exiting offsite.

Mechanized equipment, with the exception of vehicles used for site access (automobiles and pickup trucks) will operate between the hours of 8 a.m. and 5 p.m. Monday through Friday. If excavation activities are conducted on Saturday, the hours of operation will be between 8 a.m. and 4 p.m. The future grade and excavation depth survey points will be marked prior to excavation activities at the site.

6.3.2 Air Monitoring and Dust Control

The air monitoring and dust control measures are required to insure compliance with SCAQMD Rules 403, 1466, and 1166. Adherence to these requirements will prevent adverse impacts to the community during implementation of this plan. The goal is no off-site emission of particulate matter, noxious odors, or VOCs entrained in the ambient air as a result of the earth moving activities during the remediation work. Monitoring of fugitive dust and VOC emissions will be conducted during the remedial excavation work. Best available control measures consistent with SCAQMD Rules 403, 1466 and 1166 will be employed prior to, during, and after remedial earth moving and placement operations at the Site. The following fugitive dust emissions control measures will be employed at the site during clearing and grubbing, earth moving, bio-remediation, soil piling, and loading activities at the site. VOC

and PM_{10} and metals sampling at the property line, upwind and downwind, will be implemented as required by SCAQMD Rules 403, 1166 and 1466, as applicable. The following procedures will be implemented:

Clear & Grub: Maintain stability of soil through pre-watering of site prior to clearing and grubbing and apply water in sufficient quantities to prevent generation of fugitive dust plumes. Soil binder shall be applied to a freshly excavated area at the end of each working day.

Earth-moving: Pre-apply water to the depth of proposed cuts; and re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction. Stabilize soils once earth-moving activities are completed.

Soil Piles: Apply water (w/Simple Green) to stabilize soil stockpiles. Maintain soil piles to avoid steep sides or faces. Add and remove soil from the downwind portion of the soil piles. Soil piles within 100 yards of off-site occupied buildings must not be greater than eight (8) feet in height; or must have a road bladed to the top to allow water truck access; or must have an operational water irrigation system that is capable of complete stockpile coverage.

Loading: Pre-water material prior to loading. The free fall of soil from the loader into the truck bed will be minimized to prevent excess dust emissions. Empty loader bucket such that no visible dust plumes are created and ensure that the loader bucket is close to the truck to minimize drop height while loading. The loaded trucks will have freeboard space above the top of the load that exceeds six (6) inches. The onsite truck speed limit will be 10 miles per hour. Limit the size of staging area and limit the number and size of staging area entrances and exits. Apply water to stabilize the staging area during use and at project completion.

Crushing: Apply water to stabilize surface soils prior to operation of crushing equipment; and, after the completion of crushing operation and removal of equipment. Follow permit conditions for crushing equipment. Pre-water material prior to loading into the crusher. Monitor the opacity of the crusher emissions. Apply water to crushed material to prevent dust plumes.

General: A water truck will be on site for the duration of the project. Restrict vehicular access to established paved parking lots. Barriers can be used to ensure vehicles are only on established haul routes and parking areas. Use tarps on haul trucks. Dust emission will

be further suppressed by placing crushed rock on the ingress and egress routes from the site.

6.4 EXCAVATION OF SOIL

Excavation, treatment, stockpiling, sampling and placement of the onsite bioremediated soil will be subject to the requirements outlined in the future **Soil Management Plan – SMP** and the attached project specific **Health and Safety Plan (HASP), see Appendix VII**. Certain soil may also be chemically treated onsite (stabilization/fixation) onsite prior to offsite disposal.

6.5 VERIFICATION SOIL SAMPLING

Confirmation soil samples will be obtained from the stockpiles of treated soil, from any soil imported (at the import location) to the project and within the REI upon reaching the sampling grade. The sampling frequency, analytical test methods and criteria (RBCs) for sampling and reuse of onsite stockpiled soil are summarized below on the Soil Sampling Verification Matrix and additionally must meet the criteria as outlined in the SFRWQCB Draft Technical Reference Document, *Characterization and Reuse of Petroleum Hydrocarbon Impacted Soil as Inert Waste*, attached in APPENDIX IX. Samples for VOC analysis samples will be collected by pushing a Terra-Core (or equivalent 5035 preservation method) sampling device into the freshly exposed soil surface (stockpile, soil core etc.) and preserving the aliquot using EPA Method 5035. Soil samples for EPA methods 8015/Metals/8270/8080/8081 shall be stored in appropriately preserved containers, such as lab supplied sterile 4-ounce jars or drive tubes. The preserved soil 5035 cores will be placed directly into laboratory provided 40 ml VOAs (3), containing sodium bisulfate (2) and methanol (1) preservatives. The preserved samples will then be placed in a cooler chilled with ice. The consultant or a courier will transport the soil samples following chain of custody procedures to the laboratory at the end of each workday. The soil samples will be analyzed for VOCs per EPA method 8260B within the appropriate USEPA holding times. A mobile laboratory may also be used for the TPH/VOC testing.

Field soil sampling operations will be documented in written logs of daily activities. Field documents will consist of field activity logs, sample identification labels, and chain-of-custody records. Documentation will be completed in indelible ink and will include sufficient detail to reconstruct Site activities. All measurements and details of sample collection will be recorded, including sample locations, sample depths, and if applicable, any field measurement data.

Photographs will be taken at every soil sample location, and other areas of interest on-Site. They will serve to verify information entered in the field logbook. When a photograph is taken, the following information will be written in the daily log:

- Time, date, location, and if appropriate, weather conditions

- Description of the subject photographed
- Name of person taking the photograph

Field personnel will create a field sketch map of the soil sampling areas and adjacent features to record field sampling locations, including GPS coordinates. Daily logs of activities will also be maintained. Items listed in the daily log will include:

- Date, project number, location, and Site
- Weather conditions
- Sampling personnel
- Field activities
- General work performed
- Changes to the plans and/or specifications
- Communication with others
- Site name and address
- Recorder's name
- Team members and responsibilities
- Time of Site arrival/entry on Site and time of Site departure
- Other personnel on-Site
- A summary of any on-Site meetings and activities.
- Changes in personnel and responsibilities as well as reasons for the changes.
- Levels of safety protection.
- Calibration readings for any equipment used and equipment models and serial number.

Tentative Soil Verification Sampling Matrix-Subject to Revision in Future SMP

Location / Type		Analytical Method					
		TPH (C4-C40) 8015B TPHd/TPHo	**VOCs 8260/5035/BTEX/TPHg**	**Pb / As** 6010 series	**Title 22 Metals**	**SVOCs 8270**	**Pesticides & PCBs 8080/8081**
Onsite Bioremediated Soil Treated Stockpile Prior to Onsite Reuse		Table 1 in Append IX	Per Table 1 in Appendix IX	Per Table 1 in Appendix IX	--	Per Table 1 in Appendix IX	--
Post-grading REI	Ground Surface/Sample Depth 6-inches	1 sample/ 20,000 s.f.	1 sample / 40,000 s.f.	1 sample / 20,000 s.f.	--	--	--
	6 feet bgs	1 sample/ 40,000 s.f.	1 sample / 40,000 s.f.	1 sample / 40,000 s.f.	--	--	--
Soil Imported to site – Provide ESA ASTM E 1527-2013 report for import site property**		1 sample/ 250 c.y.	1 sample / 250 c.y.	--	1 sample / 250 c.y.	1 sample / 250 c.y.	1 sample / 250 c.y.
	Acceptance criteria for soil import	<100 mg/kg	<5 ug/kg (all)	<RBCs	<RBCs + all other metals background	Non-detect	Non-detect

**Sampling requirements may be adjusted based upon the site history presented in the site specific Phase I - ESA

The sample analysis turn-around time will be dependent upon the urgency of the sample result at the time of collection. All sampling equipment will be properly decontaminated between sample locations. Disposable latex gloves and Ziploc bags will be used to prevent cross contamination of the samples. Sample handling, transport, and delivery to the laboratory will be documented using Chain-of-Custody procedures, including the use of Chain-of-Custody forms. A State of California ELAP certified laboratory will be used to perform the required lab tests on soil. All lab data will be subject to a minimum of Tier 2 QA/QC requirements. The future SMP will provide detailed descriptions of the means and methods for appropriate data verification and data validation associated with the soil sampling activities. Verification soil sampling will be used to document the cleanup goals are achieved within the new building pads and within stockpiled soil for reuse onsite. The 95% UCL evaluation (large data sets [n > 30] comprised of individual soil samples) of COCs in the remaining in-situ soil and soil stockpiles to be reused on-site will be used to assess whether the site-specific risk-based residential remedial goals were met. Note that every single soil sample may not meet the site-specific risk-based residential remedial goals; however, with a statistical analysis the data set will. It is understood that CalEPA DTSC OEHHA will have review authority for the verification sampling plan.

6.6 PROFILING AND DISPOSAL OF SOIL (HAUL ROUTE)

Soil impacted with TPH and metals may be hauled off-site for disposal to a licensed landfill upon completion of a waste profile and acceptance by the receiving facility. Waste classification will be conducted in accordance with 22 CCR Division 4.5, Chapter 11, Article 3 and 40 CFR 261 Subpart C. TPH and metals-affected soil may be profiled as either non-hazardous or CA hazardous waste – dependent on waste profiling analytical results (soil stockpile sampling). If determined to be a CA hazardous waste, then the landowner of record will be designated as the generator. Simi Valley Landfill may be used for disposal of non-hazardous soil with Waste Management's Kettleman Hill facility for CA hazardous waste/soil.

The onsite TPH impacted soil may meet the criteria for use as daily cover. Onsite treatment of metals (lead) impacted soil may be implemented prior to transfer offsite for disposal. Trucks loaded with soil for disposal will enter the shaker plates to remove excess soil from the tires and under-carriage of the truck. Each truck leaving the Site will carry a completed waste manifest. Trucks will follow the designated hauling route as required by the City of Long Beach.

6.7 PROJECT COMPLETION REPORT

A Project Completion Report will be submitted within 90 days of project completion including the following: results of the completed soil treatment, soil removal/disposal areas, backfilling operations and will contain the results of all the soil verification samples, the manifests for removed soil, and laboratory reports for the verification soil samples. The LARWQCB will issue a NFA letter determination to the property owner upon review and acceptance of the project Completion Report.

Should you have any questions or desire any additional information, please contact the undersigned.

Respectfully submitted,

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7.0 REFERENCES

1. American Environmental Management Corporation (AEMC)*, 1991b, Subsurface Characterization Report of the Southern Portion of Oil Operators, Inc. – 712 West Baker Street – Long Beach, California: Unpublished professional report prepared for Sukut Construction, dated December 12, 1991.*

2. *ATSI, 2015a, Tesoro Logistics Operations LLC Soil Vapor Extraction System Installation and Startup Report – Former BP/ARCO Pipelines, Golden Avenue, between Baker Street and Wardlow Road, Long Beach, California: submitted to the California LARWQCB, dated 30 April 2015.*

3. *Bradford, G.R., Chang, A.C., Page, A.L., Bakhtar, D., Frampton, J.A., Wright, H., 1996, Background concentrations of trace and major elements in California soils: Kearney Foundation of Soil Science Special Report, University of California at Riverside, Riverside, CA, dated March 1996.*

4. *Brost, Edward J., et al Soil Non-Aqueous Phase Liquid (NAPL) Mobility Limits in Soil, in Soil and Groundwater Research Bulletin, API, No. 9 June 2000.*

5. *Brycon, LLC (Brycon), 2001a, Pilot Test Work Plan for Removal, Handling, Treatment and Disposal of Oily Materials from North Pond (Basin 1) at the Oil Operators Incorporated Property, Long Beach, California: prepared for Oil Operators Incorporated, dated September 28, 2001.*

6. *Brycon, 2003b, Basin 1 Corrective Action Plan: Unpublished professional document prepared in response to a letter from the Long Beach/Signal Hill Join Powers Agency, dated September 3, 2003.*

7. *Brycon, 2003c, Revised Corrective Action Plan for Basin 1 at the Oil Operators Incorporated Property, Long Beach California: prepared Oil Operators Incorporated, dated September 23, 2003.*

8. *Brycon, 2008b, 1st Quarter 2008 Quarterly Monitoring Report for Basin 1 – Land Treatment of Petroleum Hydrocarbon - Impacted Soil – Oil Operators Incorporated Property – 712 West Baker Street – Long Beach, California: prepared for Oil Operators Incorporated, dated 15 April 2008.*

9. *Brycon, 2010g, Report On Additional Site Characterization – Oil Operators, Inc. – 712 West Baker Street – Long Beach, California – SCP Case No. 0093; SCPID No. 2044M00: prepared for Oil Operators, Inc. for submittal to California Regional Water Quality Control Board, Los Angeles Region (LARWQCB), dated November 15, 2010.*

10. *Brycon, 2011e, Report On Additional Site Characterization – Oil Operators, Inc. – 712 West Baker Street – Long Beach, California – SCP Case No. 0093; SCPID No. 2044M00: prepared for Oil Operators, Inc. for submittal to California Regional Water Quality Control Board, Los Angeles Region (LARWQCB), dated September 30, 2011.*

11. *Brycon, 2013a – Quarterly Groundwater Monitoring – Oil Operators Property – 712 West Baker Street – Long Beach, California: prepared for Oil Operators, Inc., dated 15 January 2013.*

12. *Brycon, 2015c, December 2015 - Quarterly Groundwater Monitoring – Oil Operators Property – 712 West Baker Street – Long Beach, California, for Oil Operators, Inc., dated January 15, 2016.*

13. *The Brownfield Redevelopment Group Co., (TBRG), Oil Operators Inc. Arsenic Presentation. PowerPoint Presentation, Regional Water Quality Control Board, Los Angeles, CA, March 5, 2019.*

14. *Bedrock Engineering, Quarterly Groundwater Monitoring Reports – Oil Operators Property – 712 West Baker Street – Long Beach, California, for Oil Operators, Inc., dated January 15, 2017 and April 15, 2019.*

15. *California Department of Toxic Substances Control (DTSC), 2011, Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance): Guidance document prepared by DTSC, dated October 2011.*

16. *California Department of Toxic Substances Control (DTSC), Human Health Risk Assessment (HHRA) Note, HERO HHRA Note Number: 3, DTSC-modified Screening Levels (DTSC-SLs), dated January 2018.*

17. *Cozzarelli, Isabelle M., Schreiber, Madeline E., Erickson, Melinda L., & Ziegler, Brady A., "Arsenic Cycling in Hydrocarbon Plumes: Secondary Effects of Natural Attenuation." National Groundwater Association, 54.1, 35-45, dated Jan.-Feb. 2016.*

18. *DTSC, 2012, Advisory – Active Soil Gas Investigations: Guidance document prepared by the DTSC and the California Regional Water Quality Control Board – Los Angeles Region and the California Regional Water Quality Control Board – San Francisco Region, dated April 2012.*

19. *DTSC, 2013, Preliminary Endangerment Assessment Guidance Manual - Interim Final: Guidance Document prepared by the DTSC, revised October 2013.*

20. *DTSC, 2015a, Human Health Risk Assessment (HHRA) Note - HERO HHRA Note Number: 3, DTSC-modified Screening Levels (DTSC-SLs): Document prepared by DTSC, Release Date: May, 2015.*

21. *California Department of Water Resources (DWR), 1961, Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles County: Appendix A - Ground Water Geology: CADWR Bulletin No. 104, dated June, 1961.*

22. *California Environmental Geologist & Engineers, Inc. (CE), 2011, Soil Gas Assessment Report – Oil Operators, Inc. (OOI) Property – 712 Baker Street, Long Beach, California 90806 (SCP Case No. 0093); SCP ID No. 2044M00): submitted to California Regional Water Quality Control Board, Los Angeles Region (LARWQCB) for Oil Operators, Inc., dated September 2011.*

23. *California Environmental Geologist & Engineers, Inc. (CE), July 2019, Supplemental Assessment for Origin of LNAPL Impacts Near Brycon MW1 – Oil Operators, Inc. (OOI) Property – 712 Baker Street, Long Beach, California 90806 (SCP Case No. 0093); SCP ID No. 2044M00): submitted to California Regional Water Quality Control Board, Los Angeles Region (LARWQCB) for Oil Operators, Inc.*

24. *California Regional Water Quality Control Board - Los Angeles Region (LARWQCB), 1986, Waste Discharge Requirements for Land Treatment Operation, Long Beach. (File No. 86-93): Waste Discharge Requirements (WDR) document dated 7 November 1986, revised 24 November 1986, transmitted via letter addressed to Oil Operators Inc., dated 1 December 1986.*

25. *California Regional Water Quality Control Board - Los Angeles Region (LARWQCB), Interim Site Assessment & Cleanup Guidebook, dated May 1996*

26. *California LARWQCB, 2014a, Cleanup and Abatement Order (CAO) No. R4-2013-0064, Former BP/ARCO Pipelines – Golden Avenue, Between Baker Street and West Wardlow Road – Long Beach, California: Transmittal letter, Response to Comments – Draft CAO No. R4-2013-0064 Received 28 May 2013, and CAO No. R4-2013-0064, addressed to BP Pipelines (North America) Inc. Atlantic Richfield Company, and ARCO Terminal Services Corporation, La Palma, CA, dated 18 September 2014.*

27. *California LARWQCB, letter, Rational for BP Pipeline being a Discharger and Responsible Party and for Why BP Pipelines should preform remedial action; BP Pipelines 32 and 34 near 712 Baker Street Long Beach, CA SCP No. 0093A, Site ID No. 2040420, dated November 6, 2012.*

28. *California LARWQCB, letter, Comments on the Draft Conceptual Remedial Action Plan, Oil Operators, Inc., 712 Baker Street Long Beach, CA SCP No. 0093, Site ID No. 2044M00, dated May 21, 2020.*

29. *California LARWQCB, letter, Approval of Workplan for Supplemental Assessment for Origin of LNAPL Impact Near Brycon MW1, Oil Operators, Inc., 712 Baker Street Long Beach, CA SCP No. 0093, Site ID No. 2044M00, dated March 27, 2019.*

30. *California LARWQCB, letter, Comments on the Remedial Action Plan, Oil Operators, Inc., 712 Baker Street Long Beach, CA, SCP No. 0093, Site ID No. 2044M00, dated June 28, 2021.*

31. *California Regional Water Quality Control Board – San Francisco Bay Region (SFBRWQCB), Environmental Screening Levels (ESLs), January 2019.*

32. *County of Los Angeles (LAC), 2002, Consent Decree – People of the State of California vs. Oil Operators, Inc., A California Corporation: Document filed in the Municipal Court for the Long Beach Judicial District – County of Los Angeles, State of California, Case # 01LM01702, filed 28 August 2002.*

33. *EMCON Associates, 1981, Hydrogeologic Investigation – Industrial Waste Transfer Station – Long Beach, California: prepared for Chemical Waste Management, Inc., dated February 1981.*

34. *Environmental Science & Engineering, Inc. (ESE), 1999, Groundwater Monitoring Report – Oil Operators Inc. Property – 712 West Baker Street – Long Beach, California – SLIC No. 093 prepared for GreenPark Holdings, LLC submitted to California Regional Water Quality Control Board, Los Angeles Region (LARWQCB), dated October 26, 1999.*

35. *ESE, 2000, Groundwater Monitoring Report for the Fourth Quarter 1999 at the Oil Operators Inc. Property, 712 West Baker Street, Long Beach, California: prepared for GreenPark Holdings, LLC, submitted to LARWQCB, dated 21 February 2000.*

36. *Jack K. Bryant and Associates, Inc. (JKB), 1992, Investigation of Origination of Groundwater/Soil Contamination – Oil Operators South Site – 712 West Baker Street – Long Beach, California: prepared for Oil Operators, dated July, 1992.*

37. *Jaykim Engineers, Inc. (JEI), 1986, Ambient Air Survey for Oil Operators Land Farming Operation: provided by Oil Operators, Inc., dated September 9, 1986.*

38. *JEI, 1987a, Well Logs for Ground Water Monitoring Wells for Oil Operators: Letter transmitting boring logs and a laboratory report, addressed to California Regional Water Quality Control Board-Los Angeles Region, dated January 6, 1987.*

39. *JEI, 1987b, Quarterly Monitoring Report – Land Treatment Operation – Oil Operators, Inc. – Long Beach, California: prepared for Oil Operators, Inc., dated October 15, 1987.*

40. *JEI, 1988a, Quarterly Monitoring Report – Land Treatment Operation – Oil Operators, Inc. – Long Beach, California: prepared for Oil Operators, Inc., dated January 15, 1988.*

41. *JEI, 1988b, Quarterly Monitoring Report for Oil Operators, Inc. – Long Beach, California: prepared for Oil Operators, Inc., dated May 3, 1988.*

42. *JEI, 1988c, Quarterly Monitoring Report for Oil Operators, Inc. – Long Beach, California: prepared for Oil Operators, Inc., dated July 11, 1988.*

43. *Mearns Consulting, LLC., Human Health Risk Assessment, 712 Baker Street, Long Beach, California 90806, dated January 14, 2016.*

44. *Miller Brooks Environmental, Inc., (Miller Brooks) 2001, Quarterly Report for First Quarter 2001 - Oil Operators, Inc. – 712 West Baker Street – Long Beach, California 90806: prepared for Greenpark Ventures, LLC, dated 1 May 2001.*

45. *Petra Geotechnical (PGI), 2015a, Boring Logs for Borings B-1 to B-4 and P-1 to P-5 and Cone Penetrometer Test (CPTP Logs for PGI's 2015 Geotechnical Investigation at 712 Baker Street – Long Beach, California: Unpublished documents transmitted from PGI to Tetra Tech via e-mail in March, May, and June 2015; these documents are included in Tetra Tech's SSI report – Appendix A, dated 17 July 2015.*

46. *Poland, Joseph Fairfield, Hydrology of the Long Beach-Santa Ana Area, California, with Special Reference to the Water tightness of the Newport-Inglewood Structural Zone. With a Section on Withdrawal of Ground Water, 1932-41, by Allen Sinnot and J. F. Poland. Washington, U.S. Govt. Print. Off. Dated 1959.*

47. *QST Environmental, Inc. (QST), 1998b, Site Assessment Summary and Remedial Action Plan for the Oil Operators, Inc. Property – Long Beach, California: prepared for GreenPark Ventures, LLC, dated December 2, 1998.*

48. *State of California Department of Water Resources, Southern District, Bulletin No. 104, Planned Utilization of the Groundwater Basins of the Coastal Plain of Los Angeles County, Appendix A, Ground Water Geology, Reprinted April 1988.*

49. *Tesoro Refining & Marketing Company LLC (compiler) (TLO), 2013b, Tesoro Split Sampling Results, Oil Operators, Inc. Property – 712 Baker Street – Long Beach, California conducted by AECOM Technical Services (AECOM) with their consultant Brycon during monitoring well installation activities in August 2013 and groundwater sampling in September 2013: prepared for the LARWQCB, dated November 26, 2013.*

50. *Tesoro Refining & Marketing Company LLC (compiler) (TLO), Site Assessment and Human Health Risk Assessment Report, for Golden Ave Site, between Baker St and West Wardlow Road, Long Beach, California conducted by AECOM Technical Services (AECOM) prepared for the LARWQCB, dated November 13, 2015.*

51. *Tesoro, Addendum to January 25, 2019 Pipeline Update, Golden Ave between bake Street and Wardlow Road, Long Beach, CA., April 11, 2019.*

52. *Tetra Tech, Inc. (Tetra Tech), 2015a, Supplemental Site Investigation (SSI) Work Plan for Oil Operators, Inc. Property – 712 Baker Street, Long Beach, California 90806: Unpublished professional report prepared for the California Regional Water Quality Control Board – Los Angeles Region, dated 3 April 2015.*

53. *Tetra Tech, 2015b, Supplemental Site Investigation Work Plan Amendment No. 1 - Oil Operators, Inc. Property at 712 Baker Street, Long Beach, California 90806, addressed to the California Regional Water Quality Control Board – Los Angeles Region, dated 24 April 2015.*

54. *Tetra Tech, Inc. (Tetra Tech), 2015c, Supplemental Site Investigation (SSI) Report for Oil Operators, Inc. Property – 712 Baker Street, Long Beach, California 90806: prepared for the California Regional Water Quality Control Board – Los Angeles Region, dated 17 July 2015*

55. *United States Environmental Protection Agency, Regional Screening Levels (RSLs) – Generic Tables, dated May 2018.*

56. *United States Environmental Protection Agency, How to Evaluate Alternative Cleanup technologies for Underground Storage Tank Sites, Chapter III – Bioventing, October 2017.*

57. *Zymax Forensics, Oil Operators G.W. Project, Dated September 27, 2012.*

8.0 LIST OF ACRYNOMS

1,1-DCA	1,1-dichloroethane
1,1,1-TCA	1,1,1-trichloroethane
1,1-DCE	1,1-dichloroethene
AEMC	American Environmental Management Corporation
APN	Assessor Parcel Number
AST	aboveground storage tank
ATSDR	Agency for Toxic Substances and Disease Registry
ATSC	ARCO Terminal Services Corp.
ATSI	AECOM Technical Services, Inc.
bgs	below ground surface
B(a)P	benzo(a)pyrene
C	Celsius
CAP	corrective action plan
CCR	California Code of Regulations
CE	California Environmental Geologists & Engineers, Inc.
CHHSL	California Human Health Screening Level; see also CHHSL
cis-1,2 DCE	cis-1,2-dichloroethene
cm^2	square centimeter
COPC	constituent of potential concern
Cr	chromium
CSM	conceptual site model
cu. yds.	cubic yards
DHS	California Department of Health Services
DO	dissolved oxygen
DOT	California Department of Transportation
DQOs	data quality objectives
Draft RAP	Draft remedial action plan
DTSC	California Department of Toxic Substances Control
ELAP	State of California Environmental Laboratory Accreditation Program
EM	electromagnetometer
ESA	Environmental Site Assessment
ESE	Environmental Science & Engineering, Inc.
ESS	Environmental Sampling Supply
F	Fahrenheit
GC/MS	gas chromatogram/mass spectrometer
GPR	ground penetrating radar
GSI	Global Solutions, Inc.
GWM	groundwater monitoring
HASP	health and safety plan
HCL	hydrochloric acid
HEAST	Health Effects Assessment Summary Tables
HERO	DTSC Human and Environmental Risk Office
Hex Cr	hexavalent chromium (also referred to as Cr^6)
HHRA	human health risk assessment
HIST UST	Historical Underground Storage Tank database
HSC	California Health and Safety Code.
HW	hazardous waste
HI	hazard Index
HQ	hazard quotient
IDW	investigation-derived waste
IPF	Integral Partners Funding, LLC
IRIS	Integrated Risk Information System
JEI	Jaykim Engineers, Inc.
JKB	Jack K. Bryant and Associates
LACSD	Sanitation Districts of Los Angeles County
LARWQCB	California Regional Water Quality Control Board – Los Angeles Region
LBDHHS	City of Long Beach Department of Health and Human Services, Division of Hazardous Materials
LUC	land use covenant
MCL	California maximum contaminant level
MDL	method detection limit
mg/cm^2	milligrams per square centimeter
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MNA	monitored natural attenuations
mph	miles per hour
MRL	method reporting limit
MRL	minimal risk level
msl	mean sea level

NC	non-carcinogen
ND	not detected
NFA	no further action
OOI	Oil Operators, Inc.
OVM	organic vapor meter
PAH	polycyclic aromatic hydrocarbon
PAOC	potential area of concern
PCB	polychlorinated biphenyl
PCE	tetrachloroethene
PID	photoionization detector
PNFA	pathway to no further action
ppm	parts per million
ppmv	parts per million by volume
PPRTV	provisional peer reviewed toxicity value
PQL	practical quantification limit
QA/QC	quality assurance/quality control
RAO	remedial action objective
RAP	remedial action plan
RBC	Risk-Based Concentrations
RBG	Risk-Based Goals
REI	Remedial Earth Interval
rCHHSL	California Human Health Screening Level - residential
RCRIS	Resource Conservation and Recovery Information System
Rfc	reference concentration
Rfd	reference dose
RL	reporting limit
RSL	regional screening level
SCAQMD	South Coast Air Quality Management District
SMP	Site management plan
sf	square feet
SSCG	Site-specific cleanup goal
SSI	Supplemental Site Investigation
SVE	soil vapor extraction
SVOC	semi-volatile organic compound
SVOC-SIM	semi-volatile organic compound – selected ion monitoring
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TCE	trichloroethene
TLO	Tesoro Logistic Operations LLC
TOC	total organic carbon
TPH	total petroleum hydrocarbons (as analyzed by USEPA Method No. 8015m)
TPHcc	total petroleum hydrocarbons with carbon chain speciation (includes TPH-g, TPH-d, & TPH-o)
TDS	total dissolved solids
TPH-g	total petroleum hydrocarbons in the gasoline range
TPH-d	total petroleum hydrocarbons in the diesel range
TPH-o	total petroleum hydrocarbons in the oil range
TRPH	total recoverable petroleum hydrocarbons (as analyzed by USEPA Method No. 418.1)
TSS	total suspended solids
µg/L (liquid)	micrograms per liter
µg/L (vapor)	micrograms per liter
µg/kg	micrograms per kilogram
µg/m^3 (vapor)	micrograms per cubic meter
USCS	United Soil Classification System
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VES	vapor extraction system
VIMS	vapor intrusion mitigation system
VOC	volatile organic compound
WDR	waste discharge requirements for land treatment
VIMS	Vapor Intrusion Mitigation System

ILLUSTRATIONS

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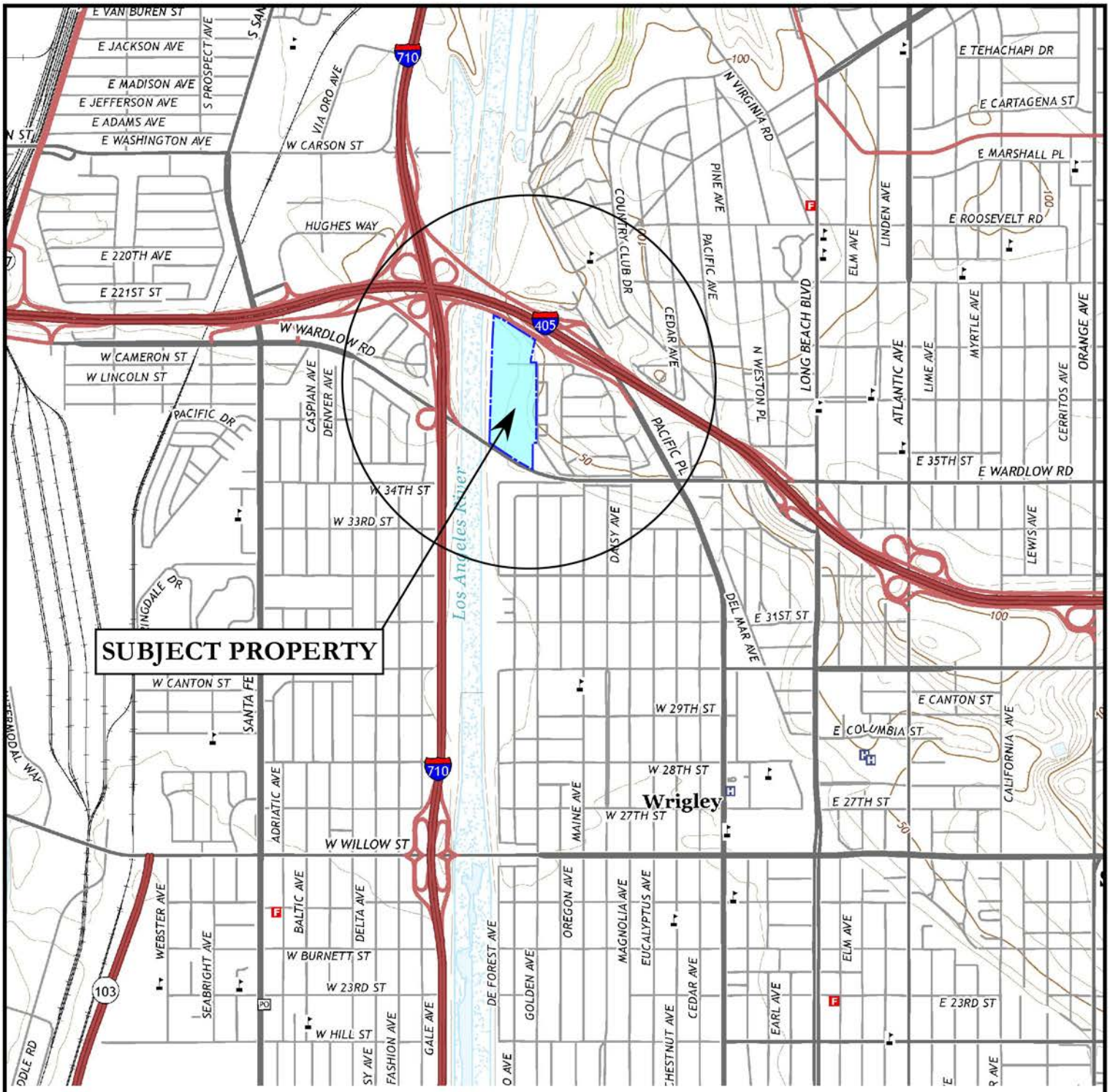


References: USGS 7.5' Long Beach Topographic Quadrangle, 2015.

FIGURE 1 - VICINITY MAP

712 W. Baker Street

Long Beach, California

Drawn By: GHB	Job # EV610-3029
Checked By: CIB	Date: August 2021

California Environmental

3029 Vicinity Map

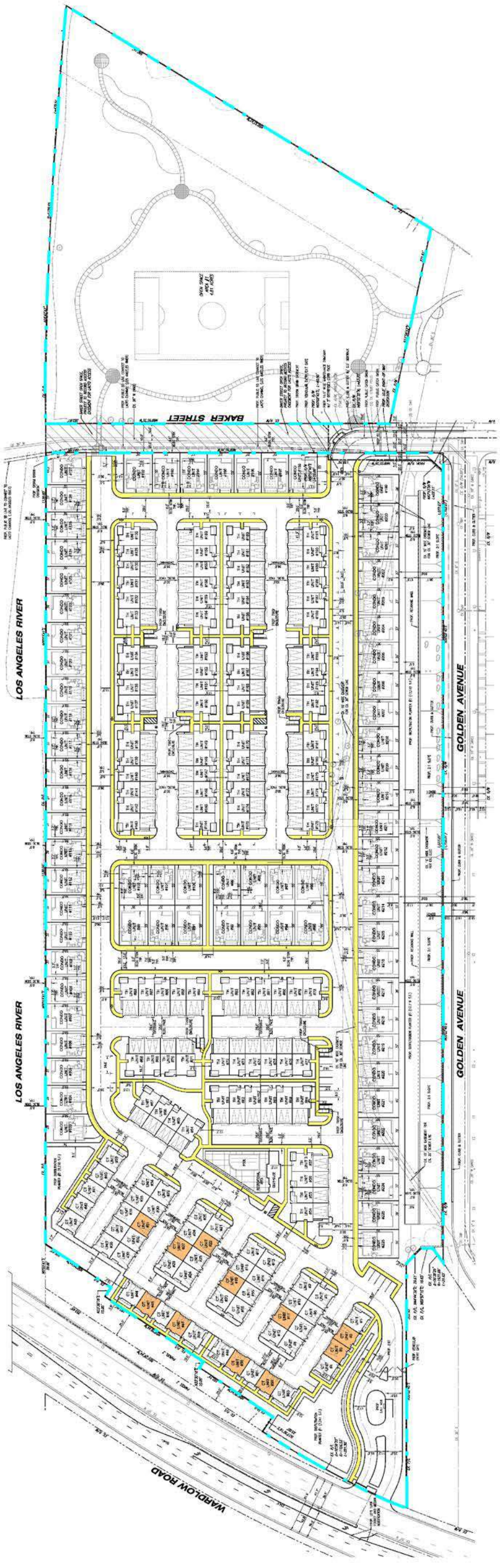


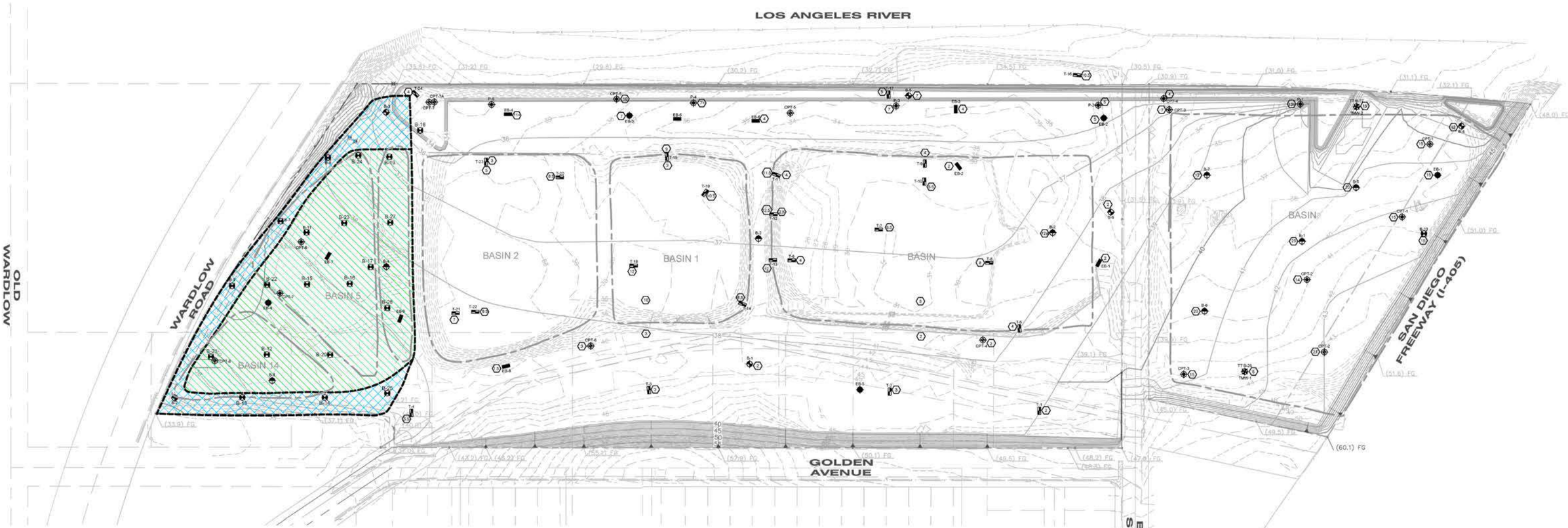
FIGURE 2- DEVELOPMENT PLAN

Scale
0 75 150 ft.
1 inch = 150 feet

N
W E
S

References: KHR Associates, Preliminary Site Plan, March 9, 2020.

California Environmental			
Client	Integral Partners	Job #	EO610-3029
Location	712 W. Baker Street, Long Beach, CA	By	GHB
Date:	August 2021	Checked By	CIB



Scale

0 75 150 ft.

1 inch = 150 feet

LEGEND:

PROPERTY LINE

CENTERLINE

EXPLANATION

(LOCATIONS APPROXIMATE)

- B-11 - Exploratory Boring (Albus-Keefe, this investigation)
- B-8 - Exploratory Boring (Petra, May 2015)
- P-5 - Percolation Test Boring (Petra, May 2015)
- CPT-8 - Exploratory CPT Boring (Petra, May 2015)
- TT B-27 / TMW-2 - Monitoring Well Exploratory Boring (Petra & TetraTech, May 2015)
- Removal Area: Anticipating Removals 5' to 7' Below Present Grades.
- Removal Area: Anticipating Removals 10' to 13' Below Present Grades.
- B-6 - Exploratory Boring (Albus-Keefe, 1/19/14)
- CPT-7 - Exploratory CPT (Albus-Keefe, 1/19/14)
- T-24 - Exploratory Trench (Albus-Keefe, 1/19/14)
- EB-7 - Exploratory Trench (Eberhart & Stone, 10/7/98)
- EB-5 - Exploratory Boring (Eberhart & Stone, 10/7/98)
- 32 - Estimated Depth of Unsuitable Materials (in feet)
- Limit of Existing or Former Basin

FIGURE 3 - GRADING/GEOTECHNICAL PLAN

CALIFORNIA ENVIRONMENTAL			
Client:	INTEGRAL PARTNERS	Job #:	EP610-3029
Location:	712 W. BAKER ST., LONG BEACH, CA	By:	GHB
Date:	August 2021	Checked By:	CIB

References: Kimley Horn, Albus-Keefe & Associates - Preliminary Rough Grading Plan (Feb 2016)

EXPLANATION

- SITE BOUNDARY
- 3 — HISTORIC GROUNDWATER MONITORING WELL LOCATION (JKB,1992)
- 92-MW1 — EXISTING GROUNDWATER MONITORING WELL LOCATION
- LF-1 — SOIL BORINGS (QST ENVIRONMENTAL, INC 1998)
- B1 — SOIL BORINGS (BRYCON 2010; 2011)
- CESV1 — SOIL VAPOR PROBE (CE, 2011)
- ESE 2/3 — BORING (ESE, 1999)
- SVE-A — VAPOR EXTRACTION SYSTEM WELL (CE, 2012)
- B-1 — SOIL BORING (AEMC, 1991)
- B23/TMW1 — TETRA TECH GROUNDWATER MONITORING WELL LOCATION (MAY 2015)
- B3 — TETRA TECH SOIL BORING LOCATION (MAY 2015)
- B18 — TETRA TECH ANGLE (22° FROM VERTICAL) SOIL BORING LOCATION (MAY 2015)
- B2/SG2 — TETRA TECH SOIL BORING / SOIL GAS LOCATION (MAY 2015)
- TSO-16 — TESORO BORING LOCATION (APRIL 2015)
- CPT-7 / B-1 / P-1 — PETRA GEOTECHNICAL BORING LOCATION (MARCH AND MAY 2015)
- B21 — ALBUS KEEFE SOIL BORING LOCATION (2018)
- A A′ — SECTION LOCATION
- AREA OF LNAPL INVESTIGATION (JULY 2019)

BAKER STREET

GOLDEN AVENUE

Scale
0 75 150 ft.
1 inch = 150 feet

References: KHR Associates, Topographic Map of River Park Residential, 6.24.19

FIGURE 4 - HISTORICAL ASSESSMENT PLAN

California Environmental

Client: Integral Partners	Job #: EO610-3029
Location: 712 W. Baker Street, Long Beach, CA	By: GHB
Date: November 2020	Checked By: CIB

B1 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	84	1,130	1,214
10 ft bgs	33	2,300	3,800	6,133
15 ft bgs	ND (<1)	5.4	4.5	10
20 ft bgs	ND (<1)	2	2.9	5
30 ft bgs	ND (<1)	2.3	ND (<1)	2

B2 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	12	32	44
10 ft bgs	6.1	3,200	5,600	8,806
15 ft bgs	34	870	1,260	2,164
20 ft bgs	160	11,000	13,400	24,560
35 ft bgs	150	5,400	6,800	12,350

B28 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	490	6,100	6,590
10 ft bgs	25	51	64	140
15 ft bgs	ND (<1)	1.3	ND(<2)	ND(<2)
20 ft bgs	ND (<1)	1.1	ND(<2)	ND(<2)
30 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)

B6 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	35	2,100	2,900	5,035
10 ft bgs	3.4	940	11,500	12,443
15 ft bgs	ND (<1)	3.1	12.4	16
20 ft bgs	ND (<1)	5.5	9.5	15
30 ft bgs	ND (<1)	4.5	3.8	8

B17 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	360	1,730	2,090
10 ft bgs	ND (<1)	ND (<1)	1.3	1
20 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
30 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)

B18 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
3 ft bgs	ND (<1)	6,400	21,900	28,300
10 ft bgs	13	5,500	5,700	11,213
20 ft bgs	ND (<1)	ND (<1)	1.1	1
30 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)

B25 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	3	10.6	14
10 ft bgs	ND (<1)	ND (<1)	2.9	3
15 ft bgs	ND (<1)	ND (<1)	2.8	3
20 ft bgs	ND (<1)	ND (<1)	2.4	2
30 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
40 ft bgs	ND (<1)	1	4.2	5

B16 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
3 ft bgs	ND (<1)	ND (<10)	271	271
10 ft bgs	ND (<1)	ND (<1)	2.9	3
20 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
30 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)

B15 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	ND (<1)	3.8	4
10 ft bgs	ND (<1)	ND (<1)	1.5	2
20 ft bgs	ND (<1)	1.6	3.1	5
30 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)

B20 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	20	4,900	6,400	11,320
10 ft bgs	ND (<1)	1	2.3	3
20 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
35 ft bgs	ND (<1)	2	8.5	11

B24 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	17	79	96
10 ft bgs	ND (<1)	710	6,800	7,510
15 ft bgs	ND (<1)	1.6	3.8	5
20 ft bgs	ND (<1)	1.8	9.7	12
30 ft bgs	ND (<1)	ND (<1)	1.2	1
40 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)

B30 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	1,400	3,200	4,600
10 ft bgs	1.3	3,200	6,400	9,601
20 ft bgs	ND (<1)	2.3	1.8	4
30 ft bgs	ND (<1)	ND (<1)	1.3	1

B22 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	1,700	3,000	4,700
10 ft bgs	ND (<1)	5.8	9.4	15
20 ft bgs	ND (<1)	1.2	1.6	3
30 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)

B21 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	1.5	33	35
10 ft bgs	ND (<1)	48	105	153
15 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
20 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
30 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)

B14 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	490	1,950	2,440
10 ft bgs	ND (<1)	60	430	490
20 ft bgs	ND (<1)	170	490	660
35 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)

B13 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	4.4	59	63
10 ft bgs	ND (<1)	180	3,500	3,680
20 ft bgs	ND (<1)	190	470	660
35 ft bgs	ND (<1)	1.5	ND(<2)	2

B24 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	ND (<1)	1.1	ND (<10)
10 ft bgs	1.3	102.4	381	490
15 ft bgs	66	1,720	2,866	4,900
20 ft bgs	ND (<1)	ND (<1)	ND (<2)	ND (<10)

B27 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	3,000	8,100	11,100
10 ft bgs	15	2,400	3,300	5,715
15 ft bgs	ND (<1)	9.3	8.4	18
20 ft bgs	ND (<1)	2.5	ND(<2)	3
30 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
40 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)

B3 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	2,800	5,700	8,500
10 ft bgs	ND (<1)	8.4	14.6	23
15 ft bgs	ND (<1)	5.4	18.1	24
20 ft bgs	ND (<1)	17	27	44
35 ft bgs	110	3,100	3,400	6,610

B4 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	19	3,600	6,600	10,219
10 ft bgs	42	1,500	2,000	3,542
15 ft bgs	38	1,700	2,500	4,238
20 ft bgs	25	1,100	1,500	2,625
35 ft bgs	65	2,200	2,600	4,865

B26 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	190	1,760	1,950
10 ft bgs	ND (<1)	2.2	6.4	9
15 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
20 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
30 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
40 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
50 ft bgs	ND (<1)	1	ND(<2)	1

B5 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	37	5,700	8,900	14,637
10 ft bgs	18	1,500	2,250	3,768
15 ft bgs	ND (<1)	7.8	11.5	19
20 ft bgs	ND (<1)	1.6	1.4	3
30 ft bgs	ND (<1)	1	ND(<2)	ND(<2)

B19 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	1.4	4.2	6
10 ft bgs	ND (<1)	1.4	1.2	3
20 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
30 ft bgs	ND (<1)	1.6	1.1	3

B7 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	2.4	1,200	1,890	3,092
10 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
20 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
30 ft bgs	ND (<1)	3.3	4.1	7

B8 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
10 ft bgs	1,500	15,000	ND(<800)	16,500
15 ft bgs	87	430	ND(<100)	517
20 ft bgs	280	680	ND(<50)	960
30 ft bgs	800	2,000	ND(<100)	2,800
40 ft bgs	320	520	ND(<40)	840
50 ft bgs	570	150	ND(<20)	720

B9 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	ND (<1)	1.4	1
10 ft bgs	ND (<1)	1.2	1.1	2
20 ft bgs	ND (<1)	1.4	1.2	3

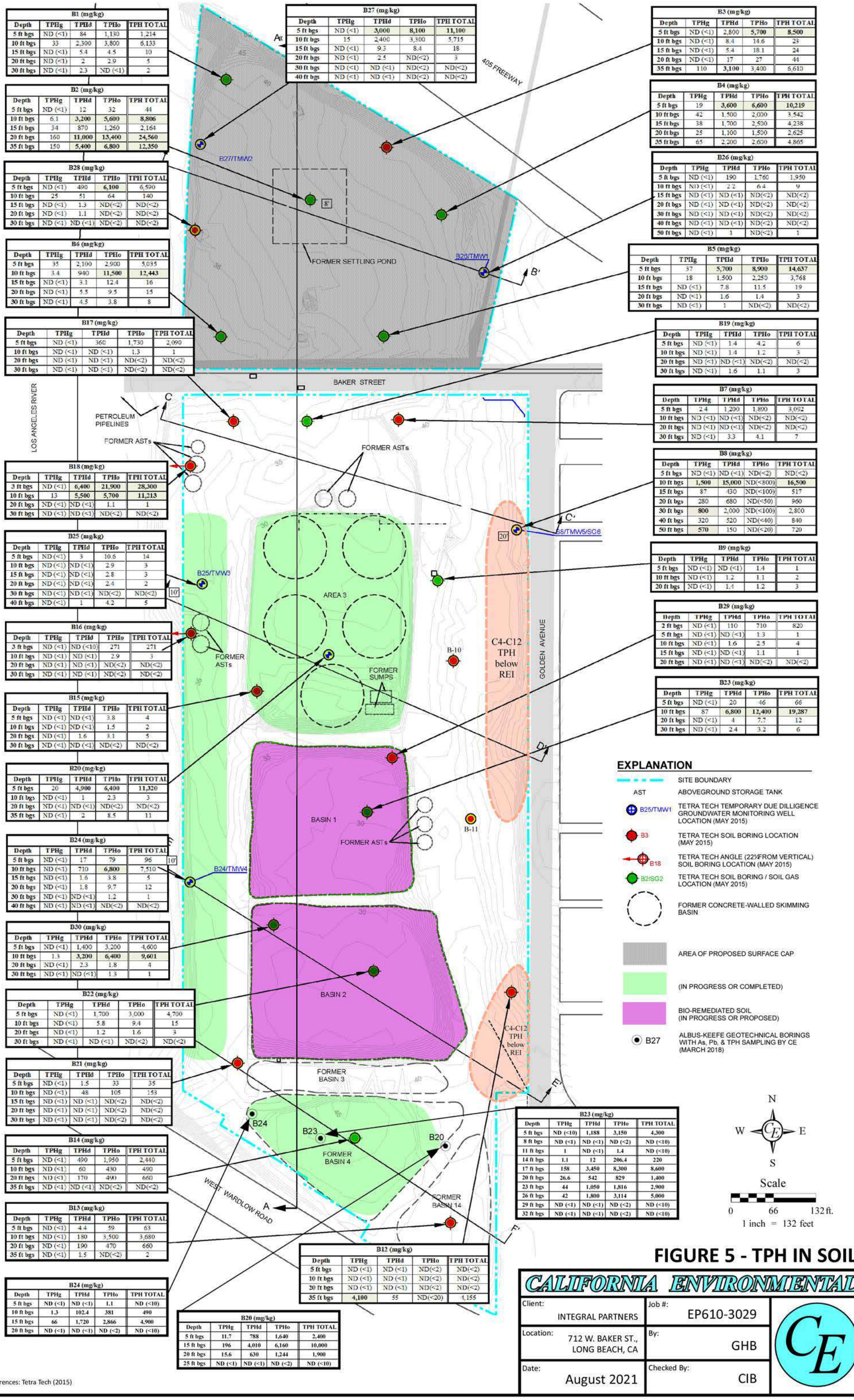
B29 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
2 ft bgs	ND (<1)	110	710	820
5 ft bgs	ND (<1)	ND (<1)	1.3	1
10 ft bgs	ND (<1)	1.6	2.5	4
15 ft bgs	ND (<1)	ND (<1)	1.1	1
20 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)

B23 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	20	46	66
10 ft bgs	87	6,800	12,400	19,287
20 ft bgs	ND (<1)	4	7.7	12
30 ft bgs	ND (<1)	2.4	3.2	6

B23 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<10)	1,188	3,150	4,300
8 ft bgs	ND (<1)	ND (<1)	ND (<2)	ND (<10)
11 ft bgs	1	ND (<1)	1.4	ND (<10)
14 ft bgs	1.1	12	206.4	220
17 ft bgs	158	3,450	8,300	8,600
20 ft bgs	26.6	542	829	1,400
23 ft bgs	44	1,050	1,816	2,900
26 ft bgs	42	1,800	3,114	5,000
29 ft bgs	ND (<1)	ND (<1)	ND (<2)	ND (<10)
32 ft bgs	ND (<1)	ND (<1)	ND (<2)	ND (<10)

B12 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
10 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
20 ft bgs	ND (<1)	ND (<1)	ND(<2)	ND(<2)
35 ft bgs	4,100	55	ND(<20)	4,155

B20 (mg/kg)				
Depth	TPHg	TPHd	TPHo	TPH TOTAL
5 ft bgs	11.7	788	1,640	2,400
15 ft bgs	196	4,010	6,160	10,000
20 ft bgs	15.6	630	1,244	1,900
25 ft bgs	ND (<1)	ND (<1)	ND (<2)	ND (<10)



EXPLANATION

- SITE BOUNDARY
- AST — ABOVEGROUND STORAGE TANK
- B25/TMW1 — TETRA TECH TEMPORARY DUE DILLIGENCE GROUNDWATER MONITORING WELL LOCATION (MAY 2015)
- B3 — TETRA TECH SOIL BORING LOCATION (MAY 2015)
- B18 — TETRA TECH ANGLE (22½ FROM VERTICAL) SOIL BORING LOCATION (MAY 2015)
- B2/SG2 — TETRA TECH SOIL BORING / SOIL GAS LOCATION (MAY 2015)
- FORMER CONCRETE-WALLED SKIMMING BASIN
- AREA OF PROPOSED SURFACE CAP
- (IN PROGRESS OR COMPLETED)
- BIO-REMEDIATED SOIL (IN PROGRESS OR PROPOSED)
- B27 — ALBUS-KEEFE GEOTECHNICAL BORINGS WITH As, Pb, & TPH SAMPLING BY CE (MARCH 2018)

N / W / E / S

Scale: 0 — 66 — 132 ft.

1 inch = 132 feet

FIGURE 5 - TPH IN SOIL

CALIFORNIA ENVIRONMENTAL

Client: INTEGRAL PARTNERS	Job #: EP610-3029
Location: 712 W. BAKER ST., LONG BEACH, CA	By: GHB
Date: August 2021	Checked By: CIB

References: Tetra Tech (2015)

B1		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	11	7.3
10 ft bgs	200	6.6
15 ft bgs	5.5	1.9
20 ft bgs	5.2	5.4
30 ft bgs	3.4	3

B27		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	65	4.7
10 ft bgs	28	6.0
15 ft bgs	6.2	22
20 ft bgs	6.3	18
30 ft bgs	1.8	<1
40 ft bgs	1.4	<1

B28		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	16	1.9
10 ft bgs	7.5	3.2
15 ft bgs	8.5	16
20 ft bgs	6.7	11
30 ft bgs	1.4	<1

B6		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	170	6.7
10 ft bgs	19	1.2
15 ft bgs	4.5	5.8
20 ft bgs	5.6	8.2
30 ft bgs	1.7	<1

B17		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	3.9	4.5
10 ft bgs	3.1	1.8
20 ft bgs	9.2	27
30 ft bgs	1.8	<1

B18		
Depth	Pb (mg/kg)	As (mg/kg)
3 ft bgs	610	2.8
10 ft bgs	4.4	2.1
20 ft bgs	7.5	9
30 ft bgs	2.4	1.6

B19		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	6.5	1.5
10 ft bgs	4.6	2.5
20 ft bgs	6.5	3.4
30 ft bgs	1.7	1.7

B25		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	2.8	1.3
10 ft bgs	3.4	<1
15 ft bgs	5.4	23
20 ft bgs	5.9	7.4
30 ft bgs	2.2	1.1
40 ft bgs	1.7	1.1

B16		
Depth	Pb (mg/kg)	As (mg/kg)
3 ft bgs	5.3	1.8
10 ft bgs	18	<1
20 ft bgs	6	4.5
30 ft bgs	8.7	15

B15		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	2.5	<1
10 ft bgs	5	1.1
20 ft bgs	4.7	2.1
30 ft bgs	2.8	3.0

B23		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	5.8	5.2
10 ft bgs	29	26
20 ft bgs	4.2	26
30 ft bgs	1.7	<1

B24		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	9.1	13
10 ft bgs	2.6	<1
15 ft bgs	3.7	<1
20 ft bgs	3.8	7.9
30 ft bgs	1.4	<1
40 ft bgs	8.4	2.4

B30		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	18	3
10 ft bgs	820	120
20 ft bgs	3.6	1.5
30 ft bgs	1.4	<1

B21		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	30	6
10 ft bgs	28	11
15 ft bgs	2.7	<1
20 ft bgs	6.1	3.5
30 ft bgs	1.7	<1

B13		
Depth	Pb (mg/kg)	As (mg/kg)
2 ft bgs	46	12
5 ft bgs	54	<1
10 ft bgs	57	38
20 ft bgs	15	22
35 ft bgs	5.5	22

B3		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	480	8.2
10 ft bgs	5.2	4.0
15 ft bgs	5.1	6.8
20 ft bgs	5.1	5.1
35 ft bgs	5	4.9

B2		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	12	2.1
10 ft bgs	140	11
15 ft bgs	64	5
20 ft bgs	290	30
35 ft bgs	9.1	9.1

HA1		
Depth	Pb (mg/kg)	As (mg/kg)
1 ft bgs	390	9.8
5 ft bgs	450	9.3
10 ft bgs	110	18

B4		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	520	11
10 ft bgs	86	3.2
15 ft bgs	460	23
20 ft bgs	82	12
35 ft bgs	3.8	<1

B26		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	21	9.8
10 ft bgs	6.2	4.2
15 ft bgs	2.4	2.1
20 ft bgs	1.7	1.5
30 ft bgs	2.7	11
40 ft bgs	1.1	1.9
50 ft bgs	5.7	16

B5		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	280	5.9
10 ft bgs	160	14
15 ft bgs	5.1	6.6
20 ft bgs	2.4	1.9
30 ft bgs	2.9	1

B7		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	12	3.7
10 ft bgs	7.5	5.2
20 ft bgs	4.6	4.8
30 ft bgs	2.5	5.5

B8		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	5.2	2.8
10 ft bgs	11	24
15 ft bgs	2.1	1.9
20 ft bgs	2.2	1.8
30 ft bgs	4	4.7
40 ft bgs	1.8	5.7
50 ft bgs	4.7	35

B9		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	5.6	1.9
10 ft bgs	4.7	14
20 ft bgs	7.4	25

B10		
Depth	Pb (mg/kg)	As (mg/kg)
2 ft bgs	8.9	1.4

B20		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	3	<1
10 ft bgs	6.8	6.1
20 ft bgs	1.7	3.5
30 ft bgs	1.1	<1

B29		
Depth	Pb (mg/kg)	As (mg/kg)
2 ft bgs	11	2.2
5 ft bgs	6.5	2
10 ft bgs	6	2.2
15 ft bgs	2	2.1
20 ft bgs	1.7	1.2

B11		
Depth	Pb (mg/kg)	As (mg/kg)
2 ft bgs	21	1.7

B12		
Depth	Pb (mg/kg)	As (mg/kg)
2 ft bgs	10	2.1
5 ft bgs	2.8	1.9
10 ft bgs	2	2.4
20 ft bgs	2.1	1.5
35 ft bgs	6.1	14

B22		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	16	2.5
10 ft bgs	5.5	14
20 ft bgs	1.6	1.3
30 ft bgs	1.5	<1

B14		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	69	16
10 ft bgs	32	20
20 ft bgs	16	7.7
35 ft bgs	2	<1

B2(AEMC)		
Depth	Pb (mg/kg)	As (mg/kg)
10 ft bgs	<1	10
20 ft bgs	<1	1.1
30 ft bgs	<1	1.8
40 ft bgs	21	3.7

B12(BC)		
Depth	Pb (mg/kg)	As (mg/kg)
10 ft bgs	5.0	5.1
20 ft bgs	3.3	5.5
30 ft bgs	7.2	41

B6(BC)		
Depth	Pb (mg/kg)	As (mg/kg)
10 ft bgs	6.7	4.4
20 ft bgs	6.9	14
30 ft bgs	1.2	6.3

B7(BC)		
Depth	Pb (mg/kg)	As (mg/kg)
10 ft bgs	4.6	6.3
20 ft bgs	3.9	5.8
30 ft bgs	3.5	8.2

B26 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	36	30
10 ft bgs	70	24
15 ft bgs	13	12
20 ft bgs	4.7	5.9

B27 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	47	3.3
10 ft bgs	160	61
15 ft bgs	26	18
20 ft bgs	38	35
25 ft bgs	<3.0	2.7

B22 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	6.8	5.4
10 ft bgs	120	50
15 ft bgs	130	49
20 ft bgs	<3.0	3.5
25 ft bgs	5.6	28

B24 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	46	4.4
10 ft bgs	77	14
15 ft bgs	120	58
20 ft bgs	4.7	4

B23 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	68	19
8 ft bgs	6.9	6.8
11 ft bgs	20	22
14 ft bgs	19	15
17 ft bgs	170	48
20 ft bgs	10	9.9
23 ft bgs	77	26
26 ft bgs	130	50
29 ft bgs	4.6	5.1
32 ft bgs	3.8	3.5

B21 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	32	38
10 ft bgs	67	50
15 ft bgs	230	80
20 ft bgs	6.1	8.1
25 ft bgs	4.0	2.4

B20 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	86	36
15 ft bgs	260	170
20 ft bgs	68	44
25 ft bgs	6.3	10

EXPLANATION

- SITE BOUNDARY
- AST — ABOVEGROUND STORAGE TANK
- B25/TMW1 — TETRA TECH TEMPORARY DUE DILLIGENCE GROUNDWATER MONITORING WELL LOCATION (MAY 2015)
- B3 — TETRA TECH SOIL BORING LOCATION (MAY 2015)
- B18 — TETRA TECH ANGLE (22° FROM VERTICAL) SOIL BORING LOCATION (MAY 2015)
- B2/SG2 — TETRA TECH SOIL BORING / SOIL GAS LOCATION (MAY 2015)
- B7(BC) — BRYCON SOIL BORING LOCATION
- B2(AEMC) — AEMC SOIL BORING LOCATION
- HA1 — HA SOIL BORING LOCATION
- FORMER CONCRETE-WALLED SKIMMING BASIN
- AREA OF PROPOSED SURFACE CAP
- B27 — ALBUS-KEEFE GEOTECHNICAL BORINGS WITH As, Pb, & TPH SAMPLING BY CE (MARCH 2018)

N W E S

Scale: 0 66 132 ft. — 1 inch = 132 feet

FIGURE 6 - LEAD AND ARSENIC IN SOIL

CALIFORNIA ENVIRONMENTAL

Client: INTEGRAL PARTNERS	Job #: EP610-3029
Location: 712 W. BAKER ST., LONG BEACH, CA	By: GHB
Date: August 2021	Checked By: CIB

References: Tetra Tech (2015)

South
A

North
A´

F-F´ E-E´ D-D´ C-C´ B-B´

℄

Basin 4 | Basin 3 | Basin 2 | Basin 1 | Area 3

Baker Street

Proposed Cap

B8(BC) TB22 TB30 TB23 TB20 B2(AMEC) B4(BC) TB19 TB6 B2(BC) TB2 TB1

Proposed Grade

Future Bio-Vent Well

60 50 40 30 20 10 0 -10

Elevation (Feet Above Mean Sea Level)

CL/ ML

SM / SP

CL

SM / SP

SM / SP

CL

Undifferentiated Terrace, Older Alluvium, and Fill

6.2/20/24
440/22/14
<10/4.1/5.3
<10/2.0/2.5
4,700/1.6/2.5
14.9/5.5/14
<10/1.6/1.3
<10/1.5/<1
4,600/18/3
9,600/820/120
<10/3.6/1.5
<10/1.5/<1
66/5.8/5.2
19,287/25/26
11.7/4.2/26
<10/1.7/<1
11,320/3/<1
<10/6.8/6.1
<10/1.7/3.5
<10/1.1/<1
<10/9.4/1.7
5,403/26/7.4
1,294/9.5/10
<10/1.4/2.2
<10/14/6.0
<10/<5/1.5
<10/<5/2.4
<10/6.5/1.5
<10/4.6/2.5
<10/6.5/3.4
<10/1.7/1.7
5,035/170/6.7
12,443/19/1.2
15.5/4.5/5.8
15/5.6/8.2
<10/1.7/<1
11,700/330/13
584/3.6/4.4
3,600/27/11
44/12/2.1
8,806/140/11
2,164/64/5
24,560/290/30
12,360/9.1/9.1
1,214/11/7.3
6,133/200/6.6
<10/5.5/1.9
<10/5.2/5.4
<10/3.4/3

EXPLANATION

TB30
10/1.7/1.5 — Boring showing **total TPH** (C4-C40), **lead**, & **arsenic** concentrations in mg/kg.

Recommended 10-foot remedial earth interval (REI) below future residential development.

Soil that exceeds recommended clean-up goals within the remedial earth interval (REI).

Area proposed for soil removal north of Baker to 10 feet bgs.

Bio-remediated soil (in progress or completed) to be removed and recompacted.

Bio-remediated soil (in progress or proposed) to be removed and recompacted.

Vertical Scale
0 5 10 ft.
1 inch = 10 feet

13.2x Vertical Exaggeration

Horizontal Scale
0 66 132 ft.
1 inch = 132 feet

References: Preliminary Grading Plan, KHR Associates (June 14, 2019)

FIGURE 7 - CROSS SECTION A-A´

CALIFORNIA ENVIRONMENTAL

Client	INTEGRAL PARTNERS	Job #	EP610-3029
Location	712 W. BAKER ST., LONG BEACH, CA	By	GHB
Date:	August 2021	Checked By	CIB

West
B

East
B´

Proposed Engineered Cap

Future Bio-Vent Well

TB27 (MW2) TB28 B1(BC) B-1(AMEC) TB2 TSO-8 B2(BC) HA-1(AEMC) TB4 B3(BC) TB26

11,000/65/1.9
6,590/16/1.9
140/7.5/3.2
<2/8.5/16
<2/6.7/11
<2/1.8/<1
<2/1.4/<1
5,715/28/6.0
18/6.2/22
3/6.3/18
6,860/100/10
<25/7.1/28
4.9/1.6/1.0
24,000/250/6.6
24,000/12/2.6
16,000/19/1.1
44/12/2.1
45,550/550/-
27,257/340/-
18,770/120/-
8,806/140/11
2,164/64/5
32,310/16/-
24,560/290/30
4,040/13/-
21,930/9.3/-
4,350/18/-
3,053/4.8/-
12,360/9.1/9.1
11,700/330/13
583/3.6/4.4
3,600/27/11
19,000/390/98
39,000/450/9.3
3,800/110/18
10,219/520/11
3,542/86/12
4,238/460/23
2,625/82/12
4,865/3.8/<1
1,950/21/9.8
200/13/7.4
9.0/6.2/4.2
<20/2.9/7.3
<2/2.4/2.1
<20/3.0/3.9
<2/1.7/1.5
<20/26/7.4

SM / SP
CL/ ML
SM / SP
SM / SP
CL/ ML
SM / SP
SM / SP

Undifferentiated Terrace, Older Alluvium, and Fill

60
50
40
30
20
10
0
-10

Elevation (Feet Above Mean Sea Level)

EXPLANATION

TB30
10/1.7/1.5
Boring showing **total TPH** (C4-C40), **lead**, & **arsenic** concentrations in mg/kg.

Soil removal to cleanup goals.

6x Vertical Exaggeration

Horizontal Scale
0 30 60 ft.
1 inch = 60 feet

Vertical Scale
0 5 10 ft.
1 inch = 10 feet

References: Preliminary Grading Plan, KHR Associates (June 14, 2019)

FIGURE 8 - CROSS SECTION B-B´

CALIFORNIA ENVIRONMENTAL

Client	INTEGRAL PARTNERS	Job #	EP610-3029
Location	712 W. BAKER ST., LONG BEACH, CA	By	GHB
Date:	August 2021	Checked By	CIB

West
C

East
C′

Elevation (Feet Above Mean Sea Level)

60
50
40
30
20
10
0
-10

Proposed Grade

MW1 (92)
TB18
TB17
TB19
B4(BC)
TB7
B13(BC)
TB8 (MW5)
Golden Ave.

28,300/610/2.8
11,213/4.4/2.1
2,090/3.9/4.4
<10/3.1/1.8
<10/6.5/1.5
<10/4.6/2.5
5,400/26/7.4
3,092/12/3.7
<10/7.5/5.2
3.9/5.2/6.9
<10/2.3/1.7
<10/5.2/2.8
16,500/11/2.4
517/2.1/1.9
960/2.2/1.8
2,800/4/9.7
840/1.8/5.7
3.7/1.7/2.8
<10/7.5/9
<10/9.2/27
<10/1.8/<1.0
<10/6.5/3.4
<10/1.7/1.7
1,294/9.5/10
<10/1.4/2.2
<10/4.6/4.6
<10/2.5/5.5
<10/2.4/1.6

SM / SP
CL/ ML
VOC Plume
CL/ ML
SM / SP
SM / SP
Undifferentiated Terrace, Older Alluvium, and Fill

TD=76.5'

EXPLANATION

TB30
10/1.7/1.5
Boring showing **total TPH** (C4-C40), **lead**, & **arsenic** concentrations in mg/kg.

Recommended 10-foot remedial earth interval (REI) below future residential development.

Soil that exceeds site specific clean-up goals per HHRA within the remedial earth interval.

6x Vertical Exaggeration

Horizontal Scale
0 30 60 ft.
1 inch = 60 feet

Vertical Scale
0 5 10 ft.
1 inch = 10 feet

References: Preliminary Grading Plan, KHR Associates (June 14, 2019)

FIGURE 9 - CROSS SECTION C-C′

CALIFORNIA ENVIRONMENTAL			
Client	INTEGRAL PARTNERS	Job #	EP610-3029
Location	712 W. BAKER ST., LONG BEACH, CA	By	GHB
Date:	August 2021	Checked By	CIB

West
D

Golden Ave.

℄

East
D´

TB16 | TB25/TMW3 | B6(BC) | B11(QST) | TB20/TMW6 | B6(AEMC) | B5(BC) | TSO-12 | ESE(MW1) | TSO-15

Proposed Grade

Area 3

Elevation (Feet Above Mean Sea Level)

60 50 40 30 20 10 0 -10

<10/5.3/1.8
<10/2.8/1.3
<10/18/<1
<10/3.4/<1
17/6.7/4.4
<10/5.4/23
<10/6/4.5
<10/5.9/7.4
<10/6.9/14
<10/8.7/15
<10/2.2/1.1
<10/1.7/1.1
1,200/-/-
11,320/3/<1
<10/6.8/6.1
<10/1.7/3.5
<10/1.1/<1
12,000/18/5.9
<10/<1/2.4
<10/3.8/7.7
<10/1.2/1.3
15/5.5/6.9
81/8.1/-
<10/7.2/-
<10/8/-
<10/6.3/-
<10/6.6/-
<10/7.4/-
<10/2.4/-
10.5/1.7/-
<10/-/-
<10/-/-
<10/-/-
<10/0.9/4.5
<10/7.6/15
34,000/15.2/14.1
2,000/5.6/17.6
62/2.0/4.7
470/-/-
<10/-/-
<10/5.1/6.8
<10/8.7/8.2

CL/ ML
SM/ SP
CL/ ML
SM/ SP

VOC plume associated with BP/Arco pipelines

Undifferentiated Terrace, Older Alluvium, and Fill

EXPLANATION

TB30
10/1.7/1.5
Boring showing **total TPH** (C4-C40), **lead**, & **arsenic** concentrations in mg/kg.

Recommended remedial earth interval (REI) below future residential development.

Bio-remediated soil (in progress or completed) to be removed and recompacted.

6x Vertical Exaggeration

Horizontal Scale
0 30 60 ft.
1 inch = 60 feet

Vertical Scale
0 5 10 ft.
1 inch = 10 feet

References: Preliminary Grading Plan, KHR Associates (June 14, 2019)

FIGURE 10 - CROSS SECTION D-D´

CALIFORNIA ENVIRONMENTAL			
Client	INTEGRAL PARTNERS	Job #	EP610-3029
Location	712 W. BAKER ST., LONG BEACH, CA	By	GHB
Date:	August 2021	Checked By	CIB

West
E

East
E'

60
50
40
30
20
10
0
-10

Elevation (Feet Above Mean Sea Level)

Proposed Grade

Bio-Treatment Area - Basin 2

TB24(MW4)
TB30
TB22
MW5(BC)
B3(QST)
TSO16
B10(BC)
Golden Ave.

<96/4.1/13
7,510/2.6/<1
<10/3.7/<1
<10/3.8/7.9
<10/8.4/2.4
4,600/18/3
9,600/820/120
<10/3.6/1.5
<10/1.5/<1
4,700/1.6/2.5
14.9/5.5/14
<10/1.6/1.3
<10/1.5/<1
<10/-/-
<10/-/-
<10/-/-
<10/-/-
528/13/-
<10/5.6/-
<10/5.1/-
<10/3.1/-
<10/11/-
8384/8/-
10/5/5.1
10/3.3/5.5
180/7.2/41

SM / SP
SM / SP
SM / SP
CL/ ML
CL/ ML

Undifferentiated Terrace, Older Alluvium, and Fill

VOC plume associated with BP/Arco pipelines

EXPLANATION

TB30
10/1.7/1.5
Boring showing **total TPH** (C4-C40), **lead**, & **arsenic** concentrations in mg/kg.

Recommended 10-foot remedial earth interval (REI) below future residential development.

Soil that exceeds site recommended clean-up goals within the remedial earth interval.

Bio-remediated soil (in progress or completed) to be removed and recompacted.

Bio-remediated soil (in progress or proposed) to be removed and recompacted.

6x Vertical Exaggeration

FIGURE 11 - CROSS SECTION E-E´

Horizontal Scale
0 30 60 ft.
1 inch = 60 feet

Vertical Scale
0 5 10 ft.
1 inch = 10 feet

References: Preliminary Grading Plan, KHR Associates (June 14, 2019)

CALIFORNIA ENVIRONMENTAL

Client	INTEGRAL PARTNERS	Job #	EP610-3029
Location	712 W. BAKER ST., LONG BEACH, CA	By	GHB
Date:	August 2021	Checked By	CIB

West
F

East
F′

Former Basin 4

Proposed Grade

ESE MW2 | TB21 | B24 | B8(BC) | B23 | TB14 | B20 | TB13

℄ | ℄ Dog Park

60
50
40
30
20
10
0
-10

Elevation (Feet Above Mean Sea Level)

<10/-/-
34.5/30/6
153/28/11
<10/2.7/11
<10/6.1/3.5
<10/-/-
<10/1.7/<1
<10/-/-
<10/46/4.4
490/77/14
4,900/120/58
<10/4.7/4
6.2/20/24
440/22/14
<10/4.1/5.3
<10/2.0/2.5
4,300/68/19
<10/6.9/6.8
<10/20/22
220/19/15
8,600/170/48
1,400/10/9.9
2,900/77/26
5,000/130/50
<10/4.6/5.1
<10/3.8/3.5
2,440/69/16
490/32/20
660/16/7.7
<10/2/<1
2,400/86/36
10,000/260/170
1,900/68/44
<10/6.3/10
63.4/54/<1
3,680/57/38
660/15/22
<10/5.5/22

SM / SP
CL/ ML
CL/ ML
SM / SP
SM / SP
SM / SP

Undifferentiated Terrace, Older Alluvium, and Fill

EXPLANATION

TB30
10/1.7/1.5
Boring showing **total TPH** (C4-C40), **lead**, & **arsenic** concentrations in mg/kg.

Recommended remedial earth interval (REI) below future residential development.

Bio-remediated soil (in progress or completed) to be removed and recompacted.

Area of soil removal to 15 feet / cleanup goals.

6x Vertical Exaggeration

Horizontal Scale
0 30 60 ft.
1 inch = 60 feet

Vertical Scale
0 5 10 ft.
1 inch = 10 feet

References: Preliminary Grading Plan, KHR Associates (June 14, 2019)

FIGURE 12 - CROSS SECTION F-F′

CALIFORNIA ENVIRONMENTAL

Client	INTEGRAL PARTNERS	Job #	EP610-3029
Location	712 W. BAKER ST., LONG BEACH, CA	By	GHB
Date:	August 2021	Checked By	CIB

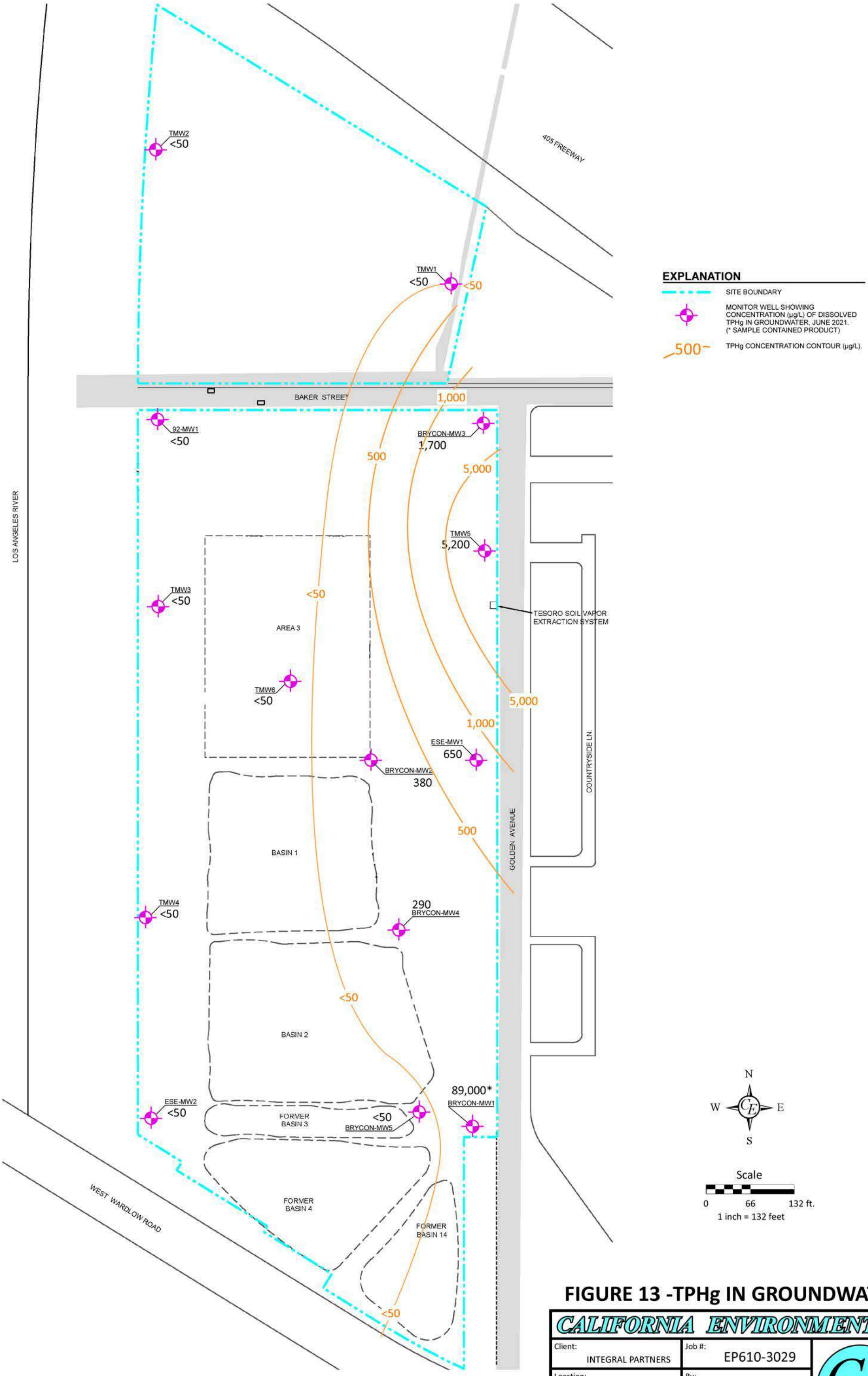


FIGURE 13 -TPHg IN GROUNDWATER

CALIFORNIA ENVIRONMENTAL

Client: INTEGRAL PARTNERS	Job #: EP610-3029
Location: 712 W. BAKER ST., LONG BEACH, CA	By: GHB
Date: August 2021	Checked By: CIB

405 FREEWAY

BAKER STREET

LOS ANGELES RIVER

WEST WARDLOW ROAD

GOLDEN AVENUE

COUNTRYSIDE LN.

TMW2 <0.5

TMW1 <0.5

92-MW1 <0.5

BRYCON-MW3 47

TMW5 1,830

TMW3 0.56

TMW6 <0.5

ESE-MW1 180

BRYCON-MW2 <0.5

TMW4

BRYCON-MW4 <0.5

ESE-MW2 <0.5

BRYCON-MW5 <0.5

BRYCON-MW1 140

AREA 3

BASIN 1

BASIN 2

FORMER BASIN 3

FORMER BASIN 4

FORMER BASIN 14

TESORO SOIL VAPOR EXTRACTION SYSTEM

50

200

500

1,000

<0.5

50

200

EXPLANATION

SITE BOUNDARY

MONITOR WELL SHOWING CONCENTRATION (µg/L) OF DISSOLVED BENZENE IN GROUNDWATER, DEC 2019.

500 BENZENE CONCENTRATION CONTOUR (µg/L).

N

W E

S

Scale

0 66 132 ft.

1 inch = 132 feet

FIGURE 14 - BENZENE IN GROUNDWATER

CALIFORNIA ENVIRONMENTAL

Client: INTEGRAL PARTNERS	Job #: EP610-3029
Location: 712 W. BAKER ST., LONG BEACH, CA	By: GHB
Date: August 2021	Checked By: CIB

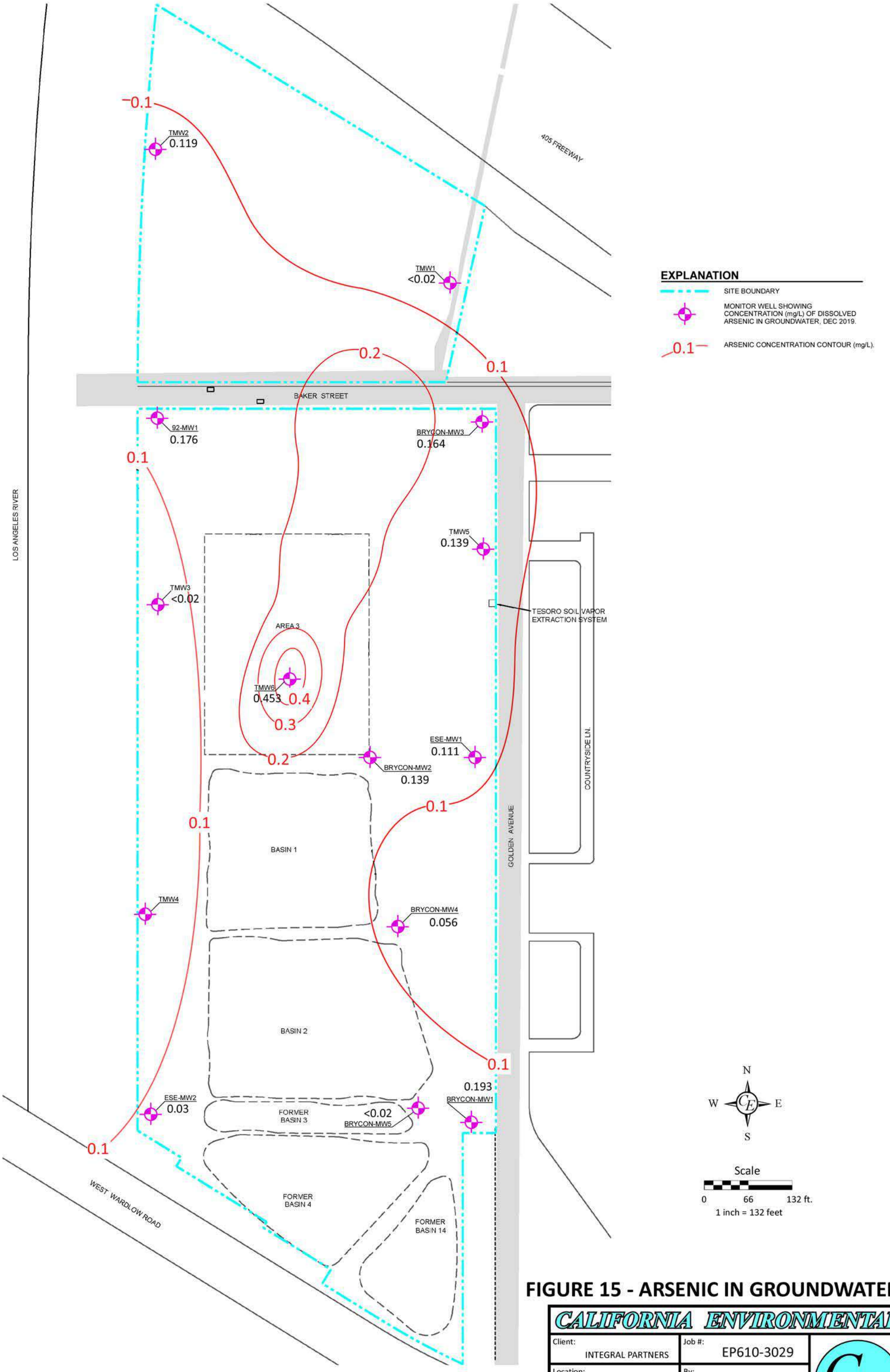


FIGURE 15 - ARSENIC IN GROUNDWATER

CALIFORNIA ENVIRONMENTAL

Client: INTEGRAL PARTNERS	Job #: EP610-3029
Location: 712 W. BAKER ST., LONG BEACH, CA	By: GHB
Date: August 2021	Checked By: CIB

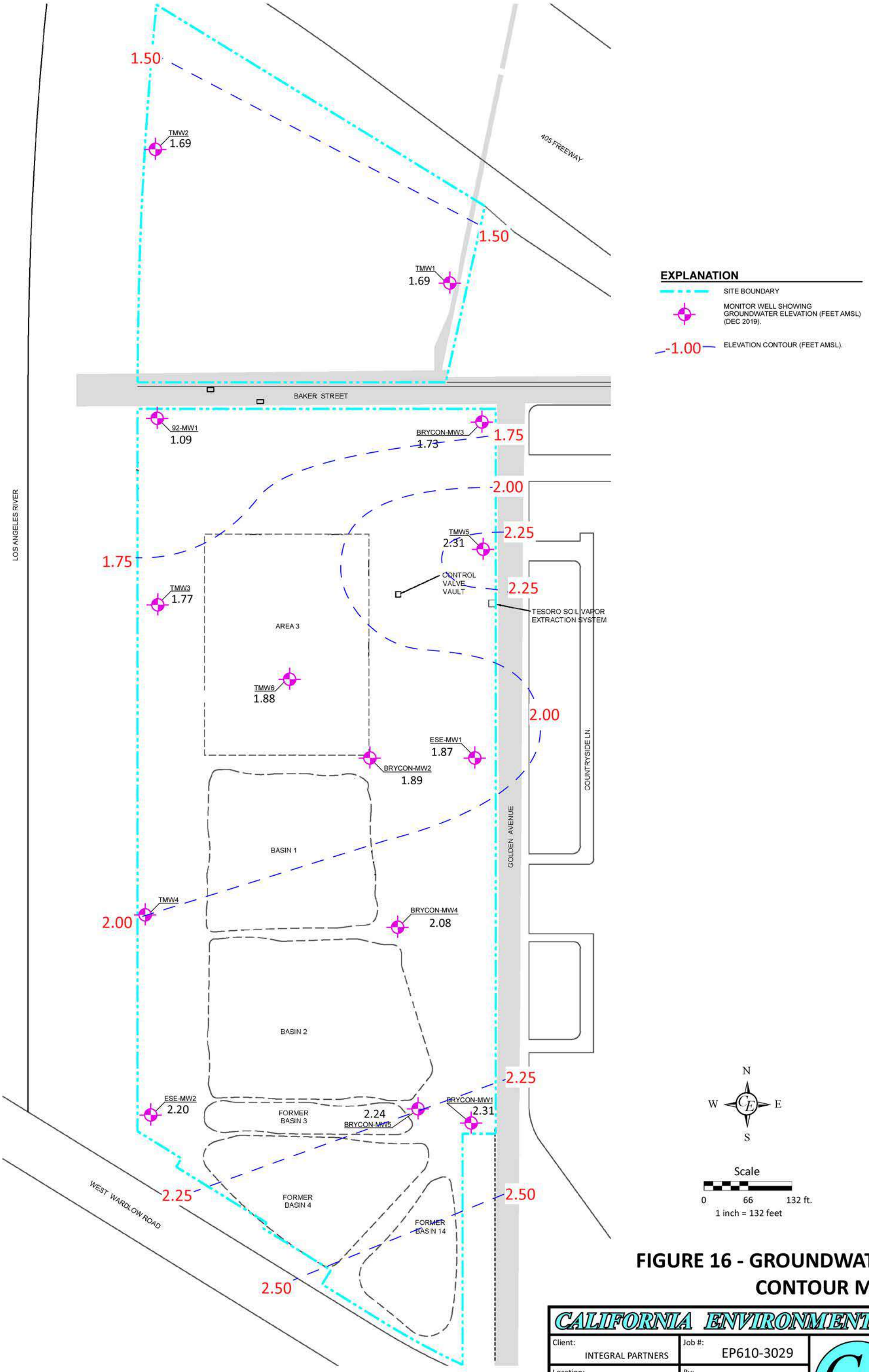


FIGURE 16 - GROUNDWATER CONTOUR MAP

CALIFORNIA ENVIRONMENTAL	
Client: INTEGRAL PARTNERS	Job #: EP610-3029
Location: 712 W. BAKER ST., LONG BEACH, CA	By: GHB
Date: August 2021	Checked By: CIB

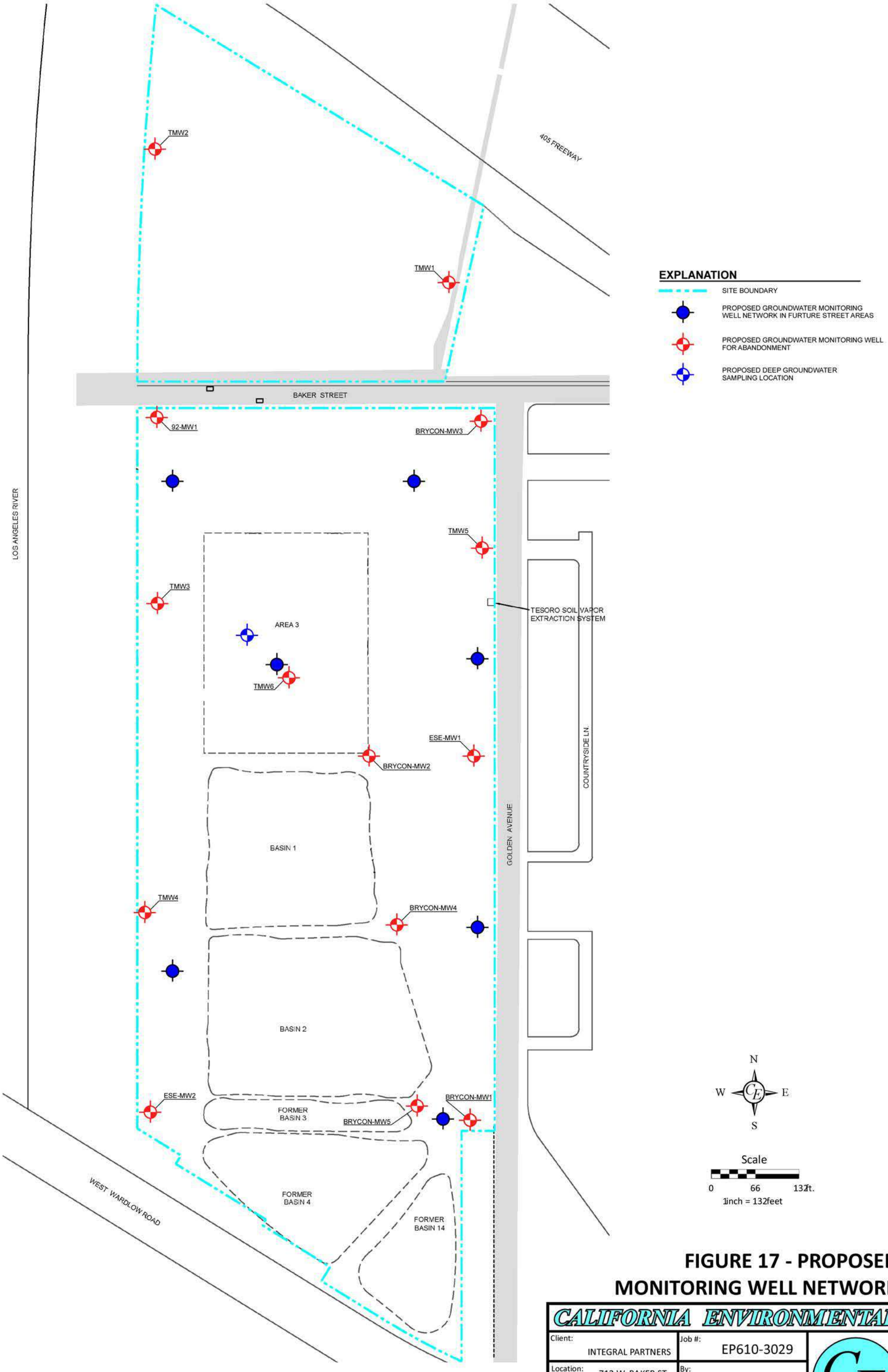


FIGURE 17 - PROPOSED MONITORING WELL NETWORK

CALIFORNIA ENVIRONMENTAL	
Client: INTEGRAL PARTNERS	Job #: EP610-3029
Location: 712 W. BAKER ST., LONG BEACH, CA	By: GHB
Date: August 2021	Checked By: CIB

B1		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	11	7.3
10 ft bgs	200	6.6
15 ft bgs	5.5	1.9
20 ft bgs	5.2	5.4
30 ft bgs	3.4	3

B27		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	65	4.7
10 ft bgs	28	6.0
15 ft bgs	6.2	22
20 ft bgs	6.3	18
30 ft bgs	1.8	<1
40 ft bgs	1.4	<1

B28		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	16	1.9
10 ft bgs	7.5	3.2
15 ft bgs	8.5	16
20 ft bgs	6.7	11
30 ft bgs	1.4	<1

B6		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	170	6.7
10 ft bgs	19	1.2
15 ft bgs	4.5	5.8
20 ft bgs	5.6	8.2
30 ft bgs	1.7	<1

B17		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	3.9	4.5
10 ft bgs	3.1	1.8
20 ft bgs	9.2	27
30 ft bgs	1.8	<1

B18		
Depth	Pb (mg/kg)	As (mg/kg)
3 ft bgs	610	2.8
10 ft bgs	4.4	2.1
20 ft bgs	7.5	9
30 ft bgs	2.4	1.6

B19		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	6.5	1.5
10 ft bgs	4.6	2.5
20 ft bgs	6.5	3.4
30 ft bgs	1.7	1.7

B25		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	2.8	1.3
10 ft bgs	3.4	<1
15 ft bgs	5.4	23
20 ft bgs	5.9	7.4
30 ft bgs	2.2	1.1
40 ft bgs	1.7	1.1

B16		
Depth	Pb (mg/kg)	As (mg/kg)
3 ft bgs	5.3	1.8
10 ft bgs	18	<1
20 ft bgs	6	4.5
30 ft bgs	8.7	15

B15		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	2.5	<1
10 ft bgs	5	1.1
20 ft bgs	4.7	2.1
30 ft bgs	2.8	3.0

B23		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	5.8	5.2
10 ft bgs	29	26
20 ft bgs	4.2	26
30 ft bgs	1.7	<1

B24		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	9.1	13
10 ft bgs	2.6	<1
15 ft bgs	3.7	<1
20 ft bgs	3.8	7.9
30 ft bgs	1.4	<1
40 ft bgs	8.4	2.4

B30		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	18	3
10 ft bgs	820	120
20 ft bgs	3.6	1.5
30 ft bgs	1.4	<1

B21		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	30	6
10 ft bgs	28	11
15 ft bgs	2.7	<1
20 ft bgs	6.1	3.5
30 ft bgs	1.7	<1

B13		
Depth	Pb (mg/kg)	As (mg/kg)
2 ft bgs	46	12
5 ft bgs	54	<1
10 ft bgs	57	38
20 ft bgs	15	22
35 ft bgs	5.5	22

B3		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	480	8.2
10 ft bgs	5.2	4.0
15 ft bgs	5.1	6.8
20 ft bgs	5.1	5.1
35 ft bgs	5	4.9

B2		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	12	2.1
10 ft bgs	140	11
15 ft bgs	64	5
20 ft bgs	290	30
35 ft bgs	9.1	9.1

HA1		
Depth	Pb (mg/kg)	As (mg/kg)
1 ft bgs	390	9.8
5 ft bgs	450	9.3
10 ft bgs	110	18

B4		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	520	11
10 ft bgs	86	3.2
15 ft bgs	460	23
20 ft bgs	82	12
35 ft bgs	3.8	<1

B26		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	21	9.8
10 ft bgs	6.2	4.2
15 ft bgs	2.4	2.1
20 ft bgs	1.7	1.5
30 ft bgs	2.7	11
40 ft bgs	1.1	1.9
50 ft bgs	5.7	16

B5		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	280	5.9
10 ft bgs	160	14
15 ft bgs	5.1	6.6
20 ft bgs	2.4	1.9
30 ft bgs	2.9	1

B7		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	12	3.7
10 ft bgs	7.5	5.2
20 ft bgs	4.6	4.8
30 ft bgs	2.5	5.5

B8		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	5.2	2.8
10 ft bgs	11	24
15 ft bgs	2.1	1.9
20 ft bgs	2.2	1.8
30 ft bgs	4	4.7
40 ft bgs	1.8	5.7
50 ft bgs	4.7	35

B9		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	5.6	1.9
10 ft bgs	4.7	14
20 ft bgs	7.4	25

B10		
Depth	Pb (mg/kg)	As (mg/kg)
2 ft bgs	8.9	1.4

B20		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	3	<1
10 ft bgs	6.8	6.1
20 ft bgs	1.7	3.5
30 ft bgs	1.1	<1

B29		
Depth	Pb (mg/kg)	As (mg/kg)
2 ft bgs	11	2.2
5 ft bgs	6.5	2
10 ft bgs	6	2.2
15 ft bgs	2	2.1
20 ft bgs	1.7	1.2

B11		
Depth	Pb (mg/kg)	As (mg/kg)
2 ft bgs	21	1.7

B12		
Depth	Pb (mg/kg)	As (mg/kg)
2 ft bgs	10	2.1
5 ft bgs	2.8	1.9
10 ft bgs	2	2.4
20 ft bgs	2.1	1.5
35 ft bgs	6.1	14

B22		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	16	2.5
10 ft bgs	5.5	14
20 ft bgs	1.6	1.3
30 ft bgs	1.5	<1

B14		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	69	16
10 ft bgs	32	20
20 ft bgs	16	7.7
35 ft bgs	2	<1

B2(AEMC)		
Depth	Pb (mg/kg)	As (mg/kg)
10 ft bgs	<1	10
20 ft bgs	<1	1.1
30 ft bgs	<1	1.8
40 ft bgs	21	3.7

B12(BC)		
Depth	Pb (mg/kg)	As (mg/kg)
10 ft bgs	5.0	5.1
20 ft bgs	3.3	5.5
30 ft bgs	7.2	41

B6(BC)		
Depth	Pb (mg/kg)	As (mg/kg)
10 ft bgs	6.7	4.4
20 ft bgs	6.9	14
30 ft bgs	1.2	6.3

B7(BC)		
Depth	Pb (mg/kg)	As (mg/kg)
10 ft bgs	4.6	6.3
20 ft bgs	3.9	5.8
30 ft bgs	3.5	8.2

B26 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	36	30
10 ft bgs	70	24
15 ft bgs	13	12
20 ft bgs	4.7	5.9

B27 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	47	3.3
10 ft bgs	160	61
15 ft bgs	26	18
20 ft bgs	38	35
25 ft bgs	<3.0	2.7

B22 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	6.8	5.4
10 ft bgs	120	50
15 ft bgs	130	49
20 ft bgs	<3.0	3.5
25 ft bgs	5.6	28

B24 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	46	4.4
10 ft bgs	77	14
15 ft bgs	120	58
20 ft bgs	4.7	4

B23 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	68	19
8 ft bgs	6.9	6.8
11 ft bgs	20	22
14 ft bgs	19	15
17 ft bgs	170	48
20 ft bgs	10	9.9
23 ft bgs	77	26
26 ft bgs	130	50
29 ft bgs	4.6	5.1
32 ft bgs	3.8	3.5

B21 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	32	38
10 ft bgs	67	50
15 ft bgs	230	80
20 ft bgs	6.1	8.1
25 ft bgs	4.0	2.4

B20 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	86	36
15 ft bgs	260	170
20 ft bgs	68	44
25 ft bgs	6.3	10

EXPLANATION

- SITE BOUNDARY
- AST — ABOVEGROUND STORAGE TANK
- B25/TMW1 — TETRA TECH TEMPORARY DUE DILLIGENCE GROUNDWATER MONITORING WELL LOCATION (MAY 2015)
- B3 — TETRA TECH SOIL BORING LOCATION (MAY 2015)
- B18 — TETRA TECH ANGLE (22° FROM VERTICAL) SOIL BORING LOCATION (MAY 2015)
- B2/SG2 — TETRA TECH SOIL BORING / SOIL GAS LOCATION (MAY 2015)
- B7(BC) — BRYCON SOIL BORING LOCATION
- B2(AEMC) — AEMC SOIL BORING LOCATION
- HA1 — HA SOIL BORING LOCATION
- FORMER CONCRETE-WALLED SKIMMING BASIN
- ESTIMATED EXTENT OF SHALLOW SOIL REMOVAL ABOVE RECOMMENDED CLEAN-UP GOALS
- AREA OF PROPOSED SURFACE CAP
- B27 — ALBUS-KEEFE GEOTECHNICAL BORINGS WITH As, Pb, & TPH SAMPLING BY CE (MARCH 2018)
- BV1 — PROPOSED BIO-VENT WELL LOCATION

N W E S

Scale
0 66 132 ft.
1 inch = 132 feet

FIGURE 18 - NOB REMOVALS

References: Tetra Tech (2015)

CALIFORNIA ENVIRONMENTAL		
Client: INTEGRAL PARTNERS	Job #: EP610-3029	CE
Location: 712 W. BAKER ST., LONG BEACH, CA	By: GHB	
Date: August 2021	Checked By: CIB	

B1		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	11	7.3
10 ft bgs	200	6.6
15 ft bgs	5.5	1.9
20 ft bgs	5.2	5.4
30 ft bgs	3.4	3

B27		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	65	4.7
10 ft bgs	28	6.0
15 ft bgs	6.2	22
20 ft bgs	6.3	18
30 ft bgs	1.8	<1
40 ft bgs	1.4	<1

B28		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	16	1.9
10 ft bgs	7.5	3.2
15 ft bgs	8.5	16
20 ft bgs	6.7	11
30 ft bgs	1.4	<1

B6		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	170	6.7
10 ft bgs	19	1.2
15 ft bgs	4.5	5.8
20 ft bgs	5.6	8.2
30 ft bgs	1.7	<1

B17		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	3.9	4.5
10 ft bgs	3.1	1.8
20 ft bgs	9.2	27
30 ft bgs	1.8	<1

B18		
Depth	Pb (mg/kg)	As (mg/kg)
3 ft bgs	610	2.8
10 ft bgs	4.4	2.1
20 ft bgs	7.5	9
30 ft bgs	2.4	1.6

B19		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	6.5	1.5
10 ft bgs	4.6	2.5
20 ft bgs	6.5	3.4
30 ft bgs	1.7	1.7

B25		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	2.8	1.3
10 ft bgs	3.4	<1
15 ft bgs	5.4	23
20 ft bgs	5.9	7.4
30 ft bgs	2.2	1.1
40 ft bgs	1.7	1.1

B16		
Depth	Pb (mg/kg)	As (mg/kg)
3 ft bgs	5.3	1.8
10 ft bgs	18	<1
20 ft bgs	6	4.5
30 ft bgs	8.7	15

B15		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	2.5	<1
10 ft bgs	5	1.1
20 ft bgs	4.7	2.1
30 ft bgs	2.8	3.0

B23		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	5.8	5.2
10 ft bgs	29	26
20 ft bgs	4.2	26
30 ft bgs	1.7	<1

B24		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	9.1	13
10 ft bgs	2.6	<1
15 ft bgs	3.7	<1
20 ft bgs	3.8	7.9
30 ft bgs	1.4	<1
40 ft bgs	8.4	2.4

B30		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	18	3
10 ft bgs	820	120
20 ft bgs	3.6	1.5
30 ft bgs	1.4	<1

B21		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	30	6
10 ft bgs	28	11
15 ft bgs	2.7	<1
20 ft bgs	6.1	3.5
30 ft bgs	1.7	<1

B13		
Depth	Pb (mg/kg)	As (mg/kg)
2 ft bgs	46	12
5 ft bgs	54	<1
10 ft bgs	57	38
20 ft bgs	15	22
35 ft bgs	5.5	22

B3		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	480	8.2
10 ft bgs	5.2	4.0
15 ft bgs	5.1	6.8
20 ft bgs	5.1	5.1
35 ft bgs	5	4.9

B2		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	12	2.1
10 ft bgs	140	11
15 ft bgs	64	5
20 ft bgs	290	30
35 ft bgs	9.1	9.1

HA1		
Depth	Pb (mg/kg)	As (mg/kg)
1 ft bgs	390	9.8
5 ft bgs	450	9.3
10 ft bgs	110	18

B4		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	520	11
10 ft bgs	86	3.2
15 ft bgs	460	23
20 ft bgs	82	12
35 ft bgs	3.8	<1

B26		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	21	9.8
10 ft bgs	6.2	4.2
15 ft bgs	2.4	2.1
20 ft bgs	1.7	1.5
30 ft bgs	2.7	11
40 ft bgs	1.1	1.9
50 ft bgs	5.7	16

B5		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	280	5.9
10 ft bgs	160	14
15 ft bgs	5.1	6.6
20 ft bgs	2.4	1.9
30 ft bgs	2.9	1

B7		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	12	3.7
10 ft bgs	7.5	5.2
20 ft bgs	4.6	4.8
30 ft bgs	2.5	5.5

B8		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	5.2	2.8
10 ft bgs	11	24
15 ft bgs	2.1	1.9
20 ft bgs	2.2	1.8
30 ft bgs	4	4.7
40 ft bgs	1.8	5.7
50 ft bgs	4.7	35

B9		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	5.6	1.9
10 ft bgs	4.7	14
20 ft bgs	7.4	25

B10		
Depth	Pb (mg/kg)	As (mg/kg)
2 ft bgs	8.9	1.4

B20		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	3	<1
10 ft bgs	6.8	6.1
20 ft bgs	1.7	3.5
30 ft bgs	1.1	<1

B29		
Depth	Pb (mg/kg)	As (mg/kg)
2 ft bgs	11	2.2
5 ft bgs	6.5	2
10 ft bgs	6	2.2
15 ft bgs	2	2.1
20 ft bgs	1.7	1.2

B11		
Depth	Pb (mg/kg)	As (mg/kg)
2 ft bgs	21	1.7

B12		
Depth	Pb (mg/kg)	As (mg/kg)
2 ft bgs	10	2.1
5 ft bgs	2.8	1.9
10 ft bgs	2	2.4
20 ft bgs	2.1	1.5
35 ft bgs	6.1	14

B22		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	16	2.5
10 ft bgs	5.5	14
20 ft bgs	1.6	1.3
30 ft bgs	1.5	<1

B14		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	69	16
10 ft bgs	32	20
20 ft bgs	16	7.7
35 ft bgs	2	<1

B2(AEMC)		
Depth	Pb (mg/kg)	As (mg/kg)
10 ft bgs	<1	10
20 ft bgs	<1	1.1
30 ft bgs	<1	1.8
40 ft bgs	21	3.7

B12(BC)		
Depth	Pb (mg/kg)	As (mg/kg)
10 ft bgs	5.0	5.1
20 ft bgs	3.3	5.5
30 ft bgs	7.2	41

B6(BC)		
Depth	Pb (mg/kg)	As (mg/kg)
10 ft bgs	6.7	4.4
20 ft bgs	6.9	14
30 ft bgs	1.2	6.3

B7(BC)		
Depth	Pb (mg/kg)	As (mg/kg)
10 ft bgs	4.6	6.3
20 ft bgs	3.9	5.8
30 ft bgs	3.5	8.2

B26 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	36	30
10 ft bgs	70	24
15 ft bgs	13	12
20 ft bgs	4.7	5.9

B27 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	47	3.3
10 ft bgs	160	61
15 ft bgs	26	18
20 ft bgs	38	35
25 ft bgs	<3.0	2.7

B22 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	6.8	5.4
10 ft bgs	120	50
15 ft bgs	130	49
20 ft bgs	<3.0	3.5
25 ft bgs	5.6	28

B24 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	46	4.4
10 ft bgs	77	14
15 ft bgs	120	58
20 ft bgs	4.7	4

B23 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	68	19
8 ft bgs	6.9	6.8
11 ft bgs	20	22
14 ft bgs	19	15
17 ft bgs	170	48
20 ft bgs	10	9.9
23 ft bgs	77	26
26 ft bgs	130	50
29 ft bgs	4.6	5.1
32 ft bgs	3.8	3.5

B21 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	32	38
10 ft bgs	67	50
15 ft bgs	230	80
20 ft bgs	6.1	8.1
25 ft bgs	4.0	2.4

B20 (mg/kg)		
Depth	Pb (mg/kg)	As (mg/kg)
5 ft bgs	86	36
15 ft bgs	260	170
20 ft bgs	68	44
25 ft bgs	6.3	10

EXPLANATION

- SITE BOUNDARY
- AST — ABOVEGROUND STORAGE TANK
- B25/TMW1 — TETRA TECH TEMPORARY DUE DILLIGENCE GROUNDWATER MONITORING WELL LOCATION (MAY 2015)
- B3 — TETRA TECH SOIL BORING LOCATION (MAY 2015)
- B18 — TETRA TECH ANGLE (22° FROM VERTICAL) SOIL BORING LOCATION (MAY 2015)
- B2/SG2 — TETRA TECH SOIL BORING / SOIL GAS LOCATION (MAY 2015)
- B7(BC) — BRYCON SOIL BORING LOCATION
- B2(AEMC) — AEMC SOIL BORING LOCATION
- HA1 — HA SOIL BORING LOCATION
- FORMER CONCRETE-WALLED SKIMMING BASIN
- ESTIMATED EXTENT OF SOIL REMOVAL ABOVE CLEAN-UP GOALS
- B27 — ALBUS-KEEFE GEOTECHNICAL BORINGS WITH As, Pb, & TPH SAMPLING BY CE (MARCH 2018)

N W E S

Scale
0 66 132 ft.
1 inch = 132 feet

References: Tetra Tech (2015)

FIGURE 19 - SOB REMOVALS

CALIFORNIA ENVIRONMENTAL

Client: INTEGRAL PARTNERS	Job #: EP610-3029
Location: 712 W. BAKER ST., LONG BEACH, CA	By: GHB
Date: August 2021	Checked By: CIB

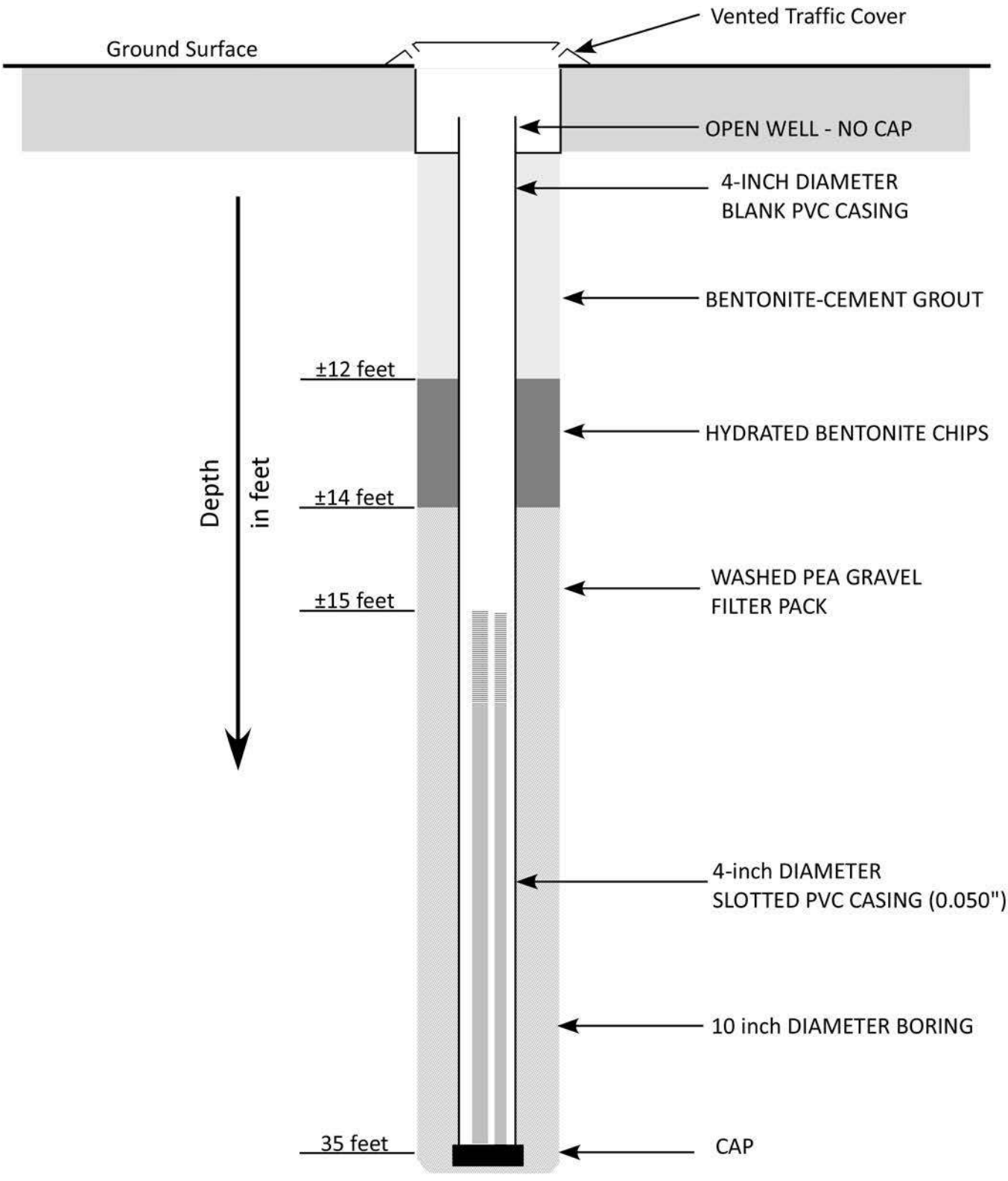


FIGURE 20 - BIO-VENT WELL DIAGRAM

712 W. Baker Street,
Long Beach, California 90806

Drawn By: ESK	Job # EV0610-3029
Checked By: CIB	Date: August 2021

California Environmental

APPENDIX I

Tables of Soil Gas Data

Tetra Tech SSI: Summary of Analytical Results: Soil Gas Samples (TPH)

Sample ID	Date	Depth (ft.)	C5-C8 (aliphatic)	C9+ (aliphatic)	C5-C8 (aromatic)	C9+ (aromatic)	TPHg Total at 5 ft. bgs	TPHg Total at 15 ft. bgs
SG1-5	May-15	5	**4.59**	**7.71**	**0.324**	**0.219**	**12.843**	--
SG1-15	May-15	15	**2,360**	**613**	ND (<0.008)	ND (<0.008)	--	**2,970**
SG2-5	May-15	5	**124**	**61.7**	**3.16**	**1.5**	**190.36**	--
SG2-15 (10P)	May-15	15	**5,190**	**1,140**	**66.1**	ND (<0.008)	--	**6,470**
SG2-15 (1P)	May-15	15	**4,770**	**994**	**43.1**	ND (<0.008)	--	**5,800**
SG2-15 (3P)	May-15	15	**5,560**	**1,330**	**71.2**	ND (<0.008)	--	**6,960**
SG3-5	May-15	5	**1,750**	**385**	**14.5**	**0.41**	**2,150**	--
SG4-5	May-15	5	**1,100**	**541**	ND (<0.008)	ND (<0.008)	**1,640**	--
SG4-15	May-15	15	**117**	**61.4**	**1.41**	**1.11**	--	**181**
SG5-5	May-15	5	**1,270**	**372**	**7.79**	**8.96**	**1,660**	--
SG5-5 dup.	May-15	5	**1,420**	**400**	**8.44**	**9.77**	**1,840**	--
SG5-15	May-15	15	**559**	**124**	ND (<0.008)	ND (<0.008)	--	**683**
SG6-5	May-15	5	**653**	**24.4**	**3.38**	**1.33**	**688**	--
SG6-15	May-15	15	**1,330**	**478**	**267**	ND (<0.008)	--	**2,080**
SG7-5	May-15	5	**1.96**	**5.74**	ND (<0.008)	ND (<0.008)	**7.7**	--
SG7-15	May-15	15	**5.56**	**4.99**	**0.37**	**0.15**	--	**11.2**
SG8-5	May-15	5	**662**	**131**	**1.86**	**0.684**	**795.544**	--
SG8-15	May-15	15	**708**	**101**	ND (<0.008)	ND (<0.008)	--	**809**
SG9-5	May-15	5	**414**	**260**	**0.65**	ND (<0.008)	**674.65**	--
SG9-15	May-15	15	**43,600**	**1,130**	**13**	**5.21**	--	**44,700**
SG10-5	May-15	5	**281**	**34.5**	**2.32**	**1.68**	**319.5**	
SG10-15	May-15	15	**870**	**195**	**2.48**	ND (<0.008)	--	**1,070**
SG11-5	May-15	5	**6.09**	**3.25**	ND (<0.008)	ND (<0.008)	**9.34**	--
SG11-15	May-15	15	**9.81**	**3.51**	ND (<0.008)	ND (<0.008)	--	**13.32**
SG12-5	May-15	5	**7.38**	**3.63**	**0.234**	**0.128**	**11.372**	--
SG12-15	May-15	15	**5.45**	**0.844**	ND (<0.008)	ND (<0.008)	--	**6.294**
SG13-5	May-15	5	**84.7**	**65.2**	ND (<0.008)	ND (<0.008)	**149.9**	--
SG13-5 dup.	May-15	5	**83.6**	**71.5**	ND (<0.008)	ND (<0.008)	**155.1**	--
SG13-15	May-15	15	**373**	**226**	**7.99**	**5.61**	--	**612.6**
SSL[1]			--	--	--	--	594	--

Tetra Tech SSI: Summary of Analytical Results: Soil Gas Samples (TPH)

Definitions:

ft. = feet below ground surface.
µg/L = micrograms per liter.
PQL = practical quantification limits.
ND = Not detected (below PQL shown in parentheses).
TPH = total petroleum hydrocarbons.
USEPA = United States Environmental Protection Agency.
HHRA - Human Health Risk Assessment.
DTSC = California Department of Toxic Substances Control.
PEA = Preliminary Enviromental Assessment.
HERO = Office of Human and Environmental Risk.
RSL = Regional Screening Level.
SSL = Site Screening Level for soil gas for residential land use based on USEPA RSLs and DTSC Vapor Intrusion guidance, HHRA PEA guidance, and HERO Note Number 3 (USEPA, 2015; DTSC, 2011; 2013; 2015). SSLs are only shown for analytes that were detected.

Notes:

TPH analyzed in general accordance with USEPA Method No. 8015B. Results are in µg/L.
< = analyte not detected at or above the laboratory's PQL.
-- = Not analyzed or no SSL has been developed.
Bold = analyte detected at concentration above the laboratory's PQL.
Green color indicates the analyte was detected at a concentration above its SSL.
1. SSL in µg/L.

Tetra Tech SSI: Summary of Analytical Results: Soil Gas Samples (VOCs)

Sample ID	Date	Depth (ft.)	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2- Dichlorobenzene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropan	1,2-Dibromoethane (EDB)
SG1-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	**0.112**	ND (<0.008)	ND (<0.008)
SG1-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG2-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	**0.855**	ND (<0.008)	ND (<0.008)
SG2-15 (10P)	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG2-15 (1P)	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG2-15 (3P)	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG3-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	**5.44**	ND (<0.008)	ND (<0.008)
SG4-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG4-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	**0.539**	ND (<0.008)	ND (<0.008)
SG5-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	**4.97**	ND (<0.008)	ND (<0.008)
SG5-5 dup.	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	**5**	ND (<0.008)	ND (<0.008)
SG5-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG6-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	**0.652**	ND (<0.008)	ND (<0.008)
SG6-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG7-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG7-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	**0.07**	ND (<0.008)	ND (<0.008)
SG8-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	**0.684**	ND (<0.008)	ND (<0.008)
SG8-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG9-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG9-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	**1.68**	ND (<0.008)	ND (<0.008)
SG10-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	**0.546**	ND (<0.008)	ND (<0.008)
SG10-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG11-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG11-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG12-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	**0.06**	ND (<0.008)	ND (<0.008)
SG12-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG13-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG13-5 dup.	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG13-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	**2.58**	ND (<0.008)	ND (<0.008)
SSL[1]			--	--	--	--	--	--	--	--	--	--	--	7.3	--	--

Tetra Tech SSI: Summary of Analytical Results: Soil Gas Samples (VOCs)

Sample ID	Date	Depth (ft.)	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Chlorotoluene	4-Chlorotoluene	4-Isopropyltoluene	Benzene	Bromobenzene	Bromodichloromethane	Bromoform
SG1-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG1-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG2-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	**2.02**	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG2-15 (10P)	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	**12.3**	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG2-15 (1P)	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	**26.4**	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG2-15 (3P)	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	**33.7**	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG3-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG4-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG4-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG5-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG5-5 dup.	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG5-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG6-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG6-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	**167**	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG7-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG7-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG8-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG8-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG9-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG9-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG10-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG10-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	**1.85**	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG11-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG11-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG12-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG12-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG13-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG13-5 dup.	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG13-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SSL[1]			0.00047	--	--	--	--	--	--	--	--	--	0.0968	--	--	--

Tetra Tech SSI: Summary of Analytical Results: Soil Gas Samples (VOCs)

Sample ID	Date	Depth (ft.)	Carbon tetrachloride	Chlorobenzene	Chloroform	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Di-isopropylether	Ethylbenzene	Ethyl-tert-butylether	Freon 113	Hexachlorobutadiene	Isopropylbenzene
SG1-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	**0.117**	ND (<0.04)	ND (<0.04)	ND (<0.008)	ND (<0.008)
SG1-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.04)	ND (<0.04)	ND (<0.008)	ND (<0.008)
SG2-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.04)	ND (<0.04)	ND (<0.008)	**0.149**
SG2-15 (10P)	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	**5.87**	ND (<0.04)	ND (<0.04)	ND (<0.008)	ND (<0.008)
SG2-15 (1P)	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.04)	ND (<0.04)	ND (<0.008)	ND (<0.008)
SG2-15 (3P)	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	**8.67**	ND (<0.04)	ND (<0.04)	ND (<0.008)	ND (<0.008)
SG3-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	**6.56**	ND (<0.04)	ND (<0.04)	ND (<0.008)	ND (<0.008)
SG4-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.04)	ND (<0.04)	ND (<0.008)	ND (<0.008)
SG4-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	**0.674**	ND (<0.04)	ND (<0.04)	ND (<0.008)	**0.17**
SG5-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	**5.04**	ND (<0.04)	ND (<0.04)	ND (<0.008)	**0.85**
SG5-5 dup.	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	**5.4**	ND (<0.04)	ND (<0.04)	ND (<0.008)	**1.13**
SG5-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.04)	ND (<0.04)	ND (<0.008)	ND (<0.008)
SG6-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	**1.41**	ND (<0.04)	ND (<0.04)	ND (<0.008)	ND (<0.008)
SG6-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	**40.2**	ND (<0.04)	ND (<0.04)	ND (<0.008)	ND (<0.008)
SG7-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.04)	ND (<0.04)	ND (<0.008)	ND (<0.008)
SG7-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	**0.114**	ND (<0.04)	ND (<0.04)	ND (<0.008)	ND (<0.008)
SG8-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	**1.3**	ND (<0.04)	ND (<0.04)	ND (<0.008)	ND (<0.008)
SG8-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.04)	ND (<0.04)	ND (<0.008)	ND (<0.008)
SG9-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	**0.65**	ND (<0.04)	ND (<0.04)	ND (<0.008)	ND (<0.008)
SG9-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	**5.78**	ND (<0.04)	ND (<0.04)	ND (<0.008)	**0.298**
SG10-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	**1.18**	ND (<0.04)	ND (<0.04)	ND (<0.008)	ND (<0.008)
SG10-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	**0.632**	ND (<0.04)	ND (<0.04)	ND (<0.008)	ND (<0.008)
SG11-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.04)	ND (<0.04)	ND (<0.008)	ND (<0.008)
SG11-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.04)	ND (<0.04)	ND (<0.008)	ND (<0.008)
SG12-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	**0.095**	ND (<0.04)	ND (<0.04)	ND (<0.008)	ND (<0.008)
SG12-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.04)	ND (<0.04)	ND (<0.008)	ND (<0.008)
SG13-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.04)	ND (<0.04)	ND (<0.008)	ND (<0.008)
SG13-5 dup.	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.04)	ND (<0.04)	ND (<0.008)	ND (<0.008)
SG13-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	**3.84**	ND (<0.04)	ND (<0.04)	ND (<0.008)	**0.02**
SSL[1]			--	--	--	--	--	--	--	--	--	1.12	--	--	--	417

Tetra Tech SSI: Summary of Analytical Results: Soil Gas Samples (VOCs)

Sample ID	Date	Depth (ft.)	Methylene chloride	MTBE	Naphthalene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	Styrene	tert-amylmethylether	tert-Butyl alcohol (TBA)	tert-Butylbenzene	Tetrachloroethylene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene
SG1-5	May-15	5	ND (<0.008)	ND (<0.04)	**0.024**	ND (<0.008)	**0.083**	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG1-15	May-15	15	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG2-5	May-15	5	ND (<0.008)	ND (<0.04)	**0.097**	ND (<0.008)	**0.394**	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	**0.063**	ND (<0.008)	ND (<0.008)
SG2-15 (10P)	May-15	15	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	**9.55**	ND (<0.008)	ND (<0.008)
SG2-15 (1P)	May-15	15	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	**16.7**	ND (<0.008)	ND (<0.008)
SG2-15 (3P)	May-15	15	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	**10.4**	ND (<0.008)	ND (<0.008)
SG3-5	May-15	5	ND (<0.008)	ND (<0.04)	**0.41**	ND (<0.008)	**4.2**	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG4-5	May-15	5	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG4-15	May-15	15	ND (<0.008)	ND (<0.04)	**0.042**	ND (<0.008)	**0.362**	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG5-5	May-15	5	ND (<0.008)	ND (<0.04)	**0.22**	ND (<0.008)	**2.92**	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG5-5 dup.	May-15	5	ND (<0.008)	ND (<0.04)	**0.304**	ND (<0.008)	**3.34**	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG5-15	May-15	15	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG6-5	May-15	5	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.008)	**0.678**	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG6-15	May-15	15	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	**8.47**	ND (<0.008)	ND (<0.008)
SG7-5	May-15	5	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG7-15	May-15	15	ND (<0.008)	ND (<0.04)	**0.01**	**0.042**	**0.07**	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG8-5	May-15	5	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG8-15	May-15	15	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG9-5	May-15	5	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG9-15	May-15	15	ND (<0.008)	ND (<0.04)	**0.162**	**0.638**	**2.43**	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	**1.09**	ND (<0.008)	ND (<0.008)
SG10-5	May-15	5	ND (<0.008)	ND (<0.04)	ND (<0.008)	**0.388**	**0.742**	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG10-15	May-15	15	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG11-5	May-15	5	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG11-15	May-15	15	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG12-5	May-15	5	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.008)	**0.068**	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG12-15	May-15	15	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG13-5	May-15	5	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG13-5 dup.	May-15	5	ND (<0.008)	ND (<0.04)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG13-15	May-15	15	ND (<0.008)	ND (<0.04)	**0.104**	**0.724**	**2.18**	ND (<0.008)	ND (<0.008)	ND (<0.04)	ND (<0.4)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SSL[1]			--	--	0.0826	209	1,040	--	--	--	--	--	0.47	313	--	--

Tetra Tech SSI: Summary of Analytical Results: Soil Gas Samples (VOCs)

Sample ID	Date	Depth (ft.)	Trichloroethylene	Trichlorofluoromethane	Vinyl chloride	Xylenes
SG1-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	**0.207**
SG1-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG2-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	**1.08**
SG2-15 (10P)	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	**38.4**
SG2-15 (1P)	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG2-15 (3P)	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	**18.4**
SG3-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	**7.71**
SG4-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG4-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	**0.739**
SG5-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	**2.75**
SG5-5 dup.	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	**3.04**
SG5-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG6-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	**1.97**
SG6-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	**51.1**
SG7-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG7-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	**0.256**
SG8-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	**0.564**
SG8-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG9-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG9-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	**6.08**
SG10-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	**1.14**
SG10-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG11-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG11-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG12-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	**0.139**
SG12-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG13-5	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG13-5 dup.	May-15	5	ND (<0.008)	ND (<0.008)	ND (<0.008)	ND (<0.008)
SG13-15	May-15	15	ND (<0.008)	ND (<0.008)	ND (<0.008)	**4.15**
SSL[1]			--	--	--	104

Definitions:

ft. = feet below ground surface.
µg/L = micrograms per liter.
PQL = practical quantification limits.
ND = Not detected (below PQL shown in parentheses).
VOCs = volatile organic compounds.
USEPA = United States Environmental Protection Agency.
HHRA - Human Health Risk Assessment.
DTSC = California Department of Toxic Substances Control.
PEA = Preliminary Enviromental Assessment.
HERO = Office of Human and Environmental Risk.
RSL = Regional Screening Level.
SSL = Site Screening Level for soil gas for residential land use based on USEPA RSLs and DTSC Vapor Intrusion guidance, HHRA PEA guidance, and HERO Note Number 3 (USEPA, 2015; DTSC, 2011; 2013; 2015). SSLs are only shown for analytes that were detected.

Notes:

VOCs analyzed in general accordance with USEPA Method No. 8260B. Results are in µg/L.
< = analyte not detected at or above the laboratory's PQL.
-- = No SSL has been developed.
Bold = analyte detected at concentration above the laboratory's PQL.
Green color indicates the analyte was detected at a concentration above its SSL.
1. SSL in µg/L.

Tetra Tech SSI: Summary of Analytical Results: Soil Gas Samples (Methane)

Sample ID	Date	Depth (ft.)	Methane
SG1-5	May-15	5	**18**
SG1-15	May-15	15	**34,500**
SG2-5	May-15	5	**61**
SG2-15 (10P)	May-15	15	**3,230**
SG2-15 (1P)	May-15	15	**201,000**
SG2-15 (3P)	May-15	15	**151,000**
SG3-5	May-15	5	**5,730**
SG4-5	May-15	5	**55,900**
SG4-15	May-15	15	**6,550**
SG5-5	May-15	5	**47**
SG5-15	May-15	15	**5,200**
SG6-5	May-15	5	**1,030**
SG6-15	May-15	15	**8,820**
SG7-5	May-15	5	**18**
SG7-15	May-15	15	ND (<10)
SG8-5	May-15	5	**4,320**
SG8-5 REP.	May-15	5	**3,780**
SG8-15	May-15	15	**4,492**
SG9-5	May-15	5	**47,400**
SG9-15	May-15	15	**68,800**
SG10-5	May-15	5	**374,000**
SG10-15	May-15	15	**56,300**
SG11-5	May-15	5	**104**
SG11-15	May-15	15	**306**
SG12-5	May-15	5	**498**
SG12-15	May-15	15	**4,090**
SG13-5	May-15	5	**264,000**
SG13-15	May-15	15	**44,400**
Methane screening level.[1]			12,500

Definitions:

ft. = feet below ground surface.
ppmv = parts per million by volume.
PQL = practical quantification limits.
ND = Not detected (below PQL shown in parentheses).
USEPA = United States Environmental Protection Agency.

Notes:

Methane analyzed in general accordance with USEPA Method No. 8015M. Results are in ppmv.
< = analyte not detected at or above the laboratory's PQL.
Bold = analyte detected at concentration above the laboratory's PQL.
level.
Green color indicates the analyte was detected at a concentration above its methane screening limits.
1. The methane screening level is approximately 25% of the lower explosive limit (LEL) of methane gas.

APPENDIX II

Tables of Soil Data

TABLE IA

Laboratory Analysis of Soil - TPH, PB & As (March 2018)

712 Baker Street

Long Beach, California

Sample ID	Date	EPA Method 8015M (mg/kg) Total TPH (C6-C44)	C4-C12	C13-C22	C23-C32	C32-C40	Arsenic	Lead	Soil type
			< 370	< 5500	< 5000	< 6500	≤ 10	≤ 80	
B20@5 ft	3/1/2018	**2400**	**11.7**	**788**	**1000**	**640**	**36**	**86**	Fill
B20@15 ft	3/1/2018	**10000**	**196**	**4010**	**3930**	**2230**	**170**	**260**	Fill
B20@20 ft	3/1/2018	**1900**	**15.6**	**630**	**780**	**464**	**44**	**68**	Fill
B20@25 ft	3/1/2018	<10	<1.0	<1.0	<1.0	<1.0	**10**	**6.3**	Alluvium
B21@5 ft	3/1/2018	**200**	<1.0	**7**	**71.5**	**123**	**38**	**32**	Fill
B21@10 ft	3/1/2018	**1100**	**5.9**	**244**	**442**	**361**	**50**	**67**	Fill
B21@15 ft	3/1/2018	**5500**	**69**	**2040**	**2130**	**1220**	**80**	**230**	Fill
B21@20 ft	3/1/2018	<10	<1.0	<1.0	<1.0	<1.0	**8.1**	**6.1**	Alluvium
B21@25 ft	3/1/2018	<10	<1.0	<1.0	<1.0	<1.0	**2.4**	**4.0**	Alluvium
B22@5 ft	3/1/2018	**41**	<1.0	<1.0	**15.1**	**25.8**	**5.4**	**6.8**	Fill
B22@10 ft	3/1/2018	**4000**	**12**	**1194**	**1990**	**780**	**50**	**120**	Fill
B22@15 ft	3/1/2018	**4000**	**54**	**1630**	**1710**	**650**	**49**	**130**	Fill
B22@20 ft	3/1/2018	<10	**1.1**	**4.4**	<1.0	<1.0	**3.5**	<3.0	Aluvium
B22@25 ft	3/1/2018	<10	<1.0	<1.0	<1.0	<1.0	**28**	**5.6**	Alluvium
B23@5 ft	3/1/2018	**4300**	<10	**1188**	**2120**	**1030**	**19**	**68**	Fill
B23@8 ft	3/1/2018	<10	<1.0	<1.0	<1.0	<1.0	**6.8**	**6.9**	Fill
B23@11 ft	3/1/2018	<10	**1**	<1.0	**1.4**	<1.0	**22**	**20**	Fill
B23@14 ft	3/1/2018	**220**	**1.1**	**12**	**108.4**	**98**	**15**	**19**	Fill
B23@17 ft	3/1/2018	**8600**	**158**	**3450**	**3200**	**5100**	**48**	**170**	Fill
B23@20 ft	3/1/2018	**1400**	**26.6**	**542**	**601**	**228**	**9.9**	**10**	Fill
B23@23 ft	3/1/2018	**2900**	**44**	**1050**	**1640**	**176**	**26**	**77**	Fill
B23@26 ft	3/1/2018	**5000**	**42**	**1800**	**2870**	**244**	**50**	**130**	Fill
B23@29 ft	3/1/2018	<10	<1.0	<1.0	<1.0	<1.0	**5.1**	**4.6**	Alluvium
B23@32 ft	3/1/2018	<10	<1.0	<1.0	<1.0	<1.0	**3.5**	**3.8**	Alluvium
B24@5ft	3/1/2018	<10	<1.0	<1.0	**1.1**	<1.0	**4.4**	**46**	Fill
B24@10ft	3/1/2018	**490**	**1.3**	**102.4**	**306**	**75**	**14**	**77**	Fill
B24@15ft	3/1/2018	**4900**	**66**	**1720**	**2480**	**386**	**58**	**120**	Fill
B24@20ft	3/1/2018	<10	<1.0	<1.0	<1.0	<1.0	**4**	**4.7**	Alluvium
B26@5ft	3/1/2018	**300**	<1.0	**33.6**	**193**	**70**	**30**	**36**	Fill
B26@10ft	3/1/2018	**920**	**13.6**	**305**	**526**	**82**	**24**	**70**	Fill
B26@15ft	3/1/2018	**460**	**2.1**	**124.2**	**285**	**50**	**12**	**13**	Fill
B26@20ft	3/1/2018	<10	<1.0	<1.0	<1.0	<1.0	**5.9**	**4.7**	Alluvium
B27@5ft	3/1/2018	**11**	<1.0	<1.0	**7.7**	**3**	**3.3**	**47**	Fill
B27@10ft	3/1/2018	**4200**	**66**	**1490**	**2350**	**326**	**61**	**160**	Fill
B27@15ft	3/1/2018	**640**	**7.2**	**248**	**335**	**44**	**18**	**26**	Fill
B27@20ft	3/1/2018	**1200**	**18.9**	**433**	**615**	**94**	**35**	**38**	Fill
B27@25ft	3/1/2018	<10	<1.0	<1.0	<1.0	<1.0	**2.7**	<3.0	Alluvium

TABLE IB

Laboratory Analysis of Soil - TPH & VOCs (June 2019)

712 West Baker Street

Long Beach California

Sample ID	Date	EPA Method 8015M (mg/kg)			EPA Method 8260B/5035 (µg/kg)														
		TPH (C6-C12)	TPH (C13-C24)	TPH (C25-C44)	TPPH	GRO	B	T	E	X	MTBE	Naphthalene	Butylbenzene	Isopropylbenzene	Isopropyltoluene	Propylbenzene	Dichlorosthane	Trimethylbenzene	All Other Analytes
CESB9-5.5'	6/25/19	<4.8	<4.8	<4.8	<40	<40	<0.81	<0.81	<0.81	<1.6	<1.6	<8.1	<0.81	<0.81	<0.81	<1.6	<0.81	<1.6	ND
CESB9-10.5'	6/25/19	<5.1	<5.1	**38.9**	<40	<40	<0.79	<0.79	<0.79	<1.6	<1.6	<7.9	<0.79	<0.79	<0.79	<1.6	<0.79	<1.6	ND
CESB9-15.5'	6/25/19	<5.2	<5.2	<5.2	<43	<43	<0.86	<0.86	<0.86	<1.7	<1.7	<8.6	<0.86	<0.86	<0.86	<1.7	<0.86	<1.7	ND
CESB9-20.5'	6/25/19	<4.8	<4.8	<4.8	<47	<47	<0.95	<0.95	<0.95	<1.9	<1.9	<9.5	<0.95	<0.95	<0.95	<1.9	<0.95	<1.9	ND
CESB9-25.5'	6/25/19	<5.1	<5.1	<5.1	<51	<51	**1.6**	<1.0	<1.0	<2.0	<2.0	<10	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	ND
CESB9-32'	6/25/19	**704**	**10.1**	<4.8	**1300000**	**1,100,000**	<500	<500	**3,000**	**2,500**	<1000	<5000	**3,020**	**2,000**	**2,600**	**2,600**	<500	**13,000**	ND
CESB9-35.5'	6/25/19	--	--	--	**1,600,000**	**1,400,000**	<410	<410	**5,900**	**3,420**	<820	<4100	**3,700**	**3,500**	**3,400**	**4,100**	<410	**12,000**	ND
CESB9-37'	6/25/19	<5.0	<5.0	<5.0	**1700**	**1,500**	**22**	<0.74	**52**	**43.5**	<1.5	**11**	**3.6**	**13**	**3.5**	**12**	<0.74	**41**	ND
CESB10-3'	6/25/19	<5.2	<5.2	<5.2	<49	<49	<0.98	<0.98	<0.98	<2.0	<2.0	<9.8	<0.98	<0.98	<0.98	<2.0	<0.98	<2.0	ND
CESB10-10.5'	6/25/19	<4.9	<4.9	**152**	<41	<41	<0.82	<0.82	<0.82	<1.6	<1.6	<8.2	<0.82	<0.82	<0.82	<1.6	<0.82	<1.6	**
CESB10-15.5'	6/25/19	<5.0	**14.8**	**264**	<39	<39	<0.78	<0.78	<0.78	<1.6	<1.6	<7.8	<0.78	<0.78	<0.78	<1.6	<0.78	<1.6	*
CESB10-20.5'	6/25/19	<5.0	<5.0	<5.0	<50	<50	<1.0	<1.0	<1.0	<2.0	<2.0	<10	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	ND
CESB10-25.5'	6/25/19	<4.8	<4.8	<4.8	<46	<46	<0.93	<0.93	<0.93	<1.9	<1.9	<9.3	<0.93	<0.93	<0.93	<1.9	<0.93	<1.9	ND
CESB10-30'	6/25/19	--	--	--	**360,000**	**310,000**	<140	<140	**1,400**	**4,500**	<270	<1400	**1,260**	**750**	**860**	**1,000**	<140	**8,600**	ND
CESB10-33'	6/25/19	--	--	--	**19,000,000**	**16,000,000**	<6400	<6400	**54,000**	**198,000**	<13000	<64000	**48,000**	**28,000**	**32,000**	**40,000**	<6400	**339,000**	ND
CESB10-35'	6/25/19	--	--	--	**7,300,000**	**6,000,000**	<1600	<1600	**33,000**	**99,000**	<3200	**16,000**	**15,500**	**13,000**	**12,000**	**18,000**	<1600	**134,000**	ND
CESB10-41'	6/25/19	--	--	--	**500,000**	**420,000**	**260**	<150	**1,100**	<290	<290	<1500	**1,100**	**870**	**890**	**990**	<150	**1,400**	ND
CESB10-43'	6/25/19	--	--	--	**1,600**	**1,300**	<0.75	<0.75	<0.75	<1.5	<1.5	<7.5	**0.77**	**0.76**	<0.75	<1.5	**4.3**	<1.5	ND
CESB10-45'	6/25/19	--	--	--	**930**	**870**	<0.78	<0.78	<0.78	<1.6	<1.6	<7.8	<0.78	<0.78	<0.78	<1.6	<0.78	<1.6	ND
CESB11-6.5'	6/26/19	<4.9	<4.9	<4.9	<46	<46	<0.91	<0.91	<0.91	<1.8	<1.8	<9.1	<0.91	<0.91	<0.91	<1.8	<0.91	<1.8	ND
CESB11-11.5'	6/26/19	<4.9	<4.9	<4.9	<68	<68	<1.4	<1.4	<1.4	<2.7	<2.7	<14	<1.4	<1.4	<1.4	<2.7	<1.4	<2.7	ND
CESB11-15.5'	6/26/19	<5.0	<5.0	<5.0	<42	<42	<0.84	<0.84	<0.84	<1.7	<1.7	<8.4	<0.84	<0.84	<0.84	<1.7	<0.84	<1.7	ND
CESB11-20.5'	6/26/19	<5.1	<5.1	<5.1	<48	<48	<0.97	<0.97	<0.97	<1.9	<1.9	<9.7	<0.97	<0.97	<0.97	<1.9	<0.97	<1.9	ND
CESB11-25.5'	6/26/19	<4.9	<4.9	<4.9	<48	<48	<0.96	<0.96	<0.96	<1.9	<1.9	<9.6	<0.96	<0.96	<0.96	<1.9	<0.96	<1.9	ND
CESB11-30'	6/26/19	**123**	<5.0	<5.0	**3,200**	**2,800**	**1.3**	<0.88	**17**	**19**	<1.8	<8.8	**1.9**	**5.3**	**4.8**	**6**	<0.88	**54**	ND
CESB11-35.5'	6/26/19	**46**	<5.1	<5.1	**270,00**	**220,000**	<87	<87	**950**	**770**	<170	<870	**470**	**450**	**360**	**520**	<87	**2,010**	ND
CESB11-40'	6/26/19	--	--	--	**720**	**690**	**3.9**	<0.81	<0.81	<1.6	<1.6	<8.1	**0.86**	**5.2**	**2.2**	<1.6	<0.81	<1.6	ND
CESB11-53'	6/26/19	--	--	--	**110**	**100**	<0.79	<0.79	<0.79	<1.6	<1.6	<7.9	<0.79	<0.79	<0.79	<1.6	<0.79	<1.6	ND
CESB12-6'	6/26/19	<5.0	<5.0	<5.0	<37	<37	<0.74	<0.74	<0.74	<1.5	<1.5	<7.4	<0.74	<0.74	<0.74	<1.5	<0.74	<1.5	ND
CESB12-10'	6/26/19	<5.1	<5.1	<5.1	<35	<35	<0.70	<0.70	<0.70	<1.4	<1.4	<7.0	<0.70	<0.70	<0.70	<1.4	<0.70	<1.4	ND
CESB12-15'	6/26/19	<5.0	<5.0	<5.0	<35	<35	<0.71	<0.71	<0.71	<1.4	<1.4	<7.1	<0.71	<0.71	<0.71	<1.4	<0.71	<1.4	ND
CESB12-20'	6/26/19	<4.9	<4.9	<4.9	**150**	**110**	<0.86	<0.86	<0.86	<1.7	<1.7	<8.6	<0.86	<0.86	<0.86	<1.7	<0.86	<1.7	ND
CESB12-25'	6/26/19	<5.1	<5.1	<5.1	**1,700**	**1,200**	<1.0	<1.0	<1.0	<2.0	<2.0	<10	**2.5**	<1.0	**1.7**	<2.0	<1.0	<2.0	ND
CESB12-30'	6/26/19	--	--	--	**19,000**	**13,000**	<0.87	<0.87	**1.8**	<1.7	<1.7	<8.7	**12.5**	**2.6**	**9.3**	**2.9**	<0.87	**5.4**	ND
CESB12-38'	6/26/19	--	--	--	**4,400,000**	**4,100,000**	**1,900**	**6,500**	**45,000**	**166,000**	<3400	<17000	**21,600**	**17,000**	**15,000**	**22,000**	<1700	**175,000**	ND
CESB12-39.5'	6/26/19	--	--	--	**880**	**830**	**30**	**1.4**	**0.93**	**2.65**	<1.5	<7.5	**2.28**	**3.4**	**2.8**	<1.5	<0.75	<1.5	ND
CESB12-42.5'	6/26/19	--	--	--	**1,100**	**1,100**	**67**	**0.83**	**9.4**	<1.4	<1.4	<6.9	**1.63**	**6.3**	**1.7**	**3.2**	<0.69	<1.4	ND
CESB12-46'	6/26/19	--	--	--	**340**	**310**	<0.78	<0.78	<0.78	<1.6	<1.6	<7.8	<0.78	<0.78	<0.78	<1.6	**5.4**	<1.6	ND
CESB13-7'	6/27/19	<5.0	<5.0	<5.0	<34	<34	<0.68	<0.68	<0.68	<1.4	<1.4	<6.8	<0.68	<0.68	<0.68	<1.4	<0.68	<1.4	ND
CESB13-11'	6/27/19	<5.0	<5.0	<5.0	**47**	**42**	<0.70	<0.70	<0.70	<1.4	<1.4	<7.0	<0.70	<0.70	<0.70	<1.4	<0.70	<1.4	ND
CESB13-15'	6/27/19	<4.9	<4.9	<4.9	**41**	**56**	<0.67	<0.67	<0.67	<1.3	<1.3	<6.7	<0.67	<0.67	<0.67	<1.3	<0.67	<1.3	ND
CESB13-20'	6/27/19	<4.9	<4.9	<4.9	**150**	**110**	<0.77	<0.77	<0.77	<1.5	<1.5	<7.7	<0.77	<0.77	<0.77	<1.5	<0.77	<1.5	ND
CESB13-25'	6/27/19	<5.0	<5.0	<5.0	**1,500**	**1,000**	<1.2	<1.2	<1.2	<2.3	<2.3	<12	<1.2	<1.2	<1.2	<2.3	<1.2	<2.3	ND
CESB13-30'	6/27/19	<4.9	<4.9	<4.9	**3,000**	**2,000**	<0.94	<0.94	<0.94	<1.9	<1.9	<9.4	**1.8**	<0.94	<0.94	<1.9	<0.94	<1.9	ND
CESB13-32'	6/27/19	<5.0	<5.0	<5.0	**6,400**	<4700	<0.88	<0.88	<0.88	<1.8	<1.8	<8.8	**13.5**	**2.5**	**5.7**	**2**	<0.88	<1.8	ND
CESB13-36'	6/27/19	<5.0	<5.0	<5.0	**5,900**	**4,300**	**2.1**	<1.2	**1.9**	<2.3	<2.3	<12	**17.6**	**5.2**	**8.7**	**2.6**	<1.2	**6.7**	ND
CESB13-40'	6/27/19	<5.0	<5.0	<5.0	**39,000**	**34,000**	**15**	**1.5**	**45**	**16.5**	<1.7	**15**	**13.6**	**15**	**11**	**15**	<0.86	**99**	ND
CESB13-42'	6/27/19	--	--	--	**230**	**220**	**2.6**	<0.74	<0.74	<1.5	<1.5	<7.4	<0.74	<0.74	<0.74	<1.5	**2.1**	<1.5	ND
CESB13-47'	6/27/19	--	--	--	**220**	**210**	<0.80	<0.80	<0.80	<1.6	<1.6	<8.0	<0.80	<0.80	<0.80	<1.6	**6.2**	<1.6	ND
CESB14-11'	6/27/19	<5.0	<5.0	<5.0	<37	<37	<0.74	<0.74	<0.74	<1.5	<1.5	<7.4	<0.74	<0.74	<0.74	<1.5	<0.74	<1.5	ND
CESB14-16'	6/27/19	<4.9	<4.9	<4.9	<38	<38	<0.76	<0.76	<0.76	<1.5	<1.5	<7.6	<0.76	<0.76	<0.76	<1.5	<0.76	<1.5	ND
CESB14-20'	6/27/19	<5.0	<5.0	<5.0	**93**	**93**	<0.73	<0.73	<0.73	<1.5	<1.5	<7.3	<0.73	<0.73	<0.73	<1.5	<0.73	<1.5	ND
CESB14-26'	6/27/19	<5.0	<5.0	<5.0	**240**	**150**	<0.80	<0.80	<0.80	<1.6	<1.6	<8.0	<0.80	<0.80	<0.80	<1.6	<0.80	<1.6	ND
CESB14-31'	6/27/19	<5.0	<5.0	<5.0	**11,000**	**7,300**	<1.2	<1.2	**3.8**	<2.3	<2.3	<12	**26.1**	**8**	**19**	**7.8**	<1.2	<2.3	ND
CESB14-36'	6/27/19	<5.0	<5.0	<5.0	**56,000**	**43,000**	<43	<43	**150**	<85	<85	<430	**172**	**110**	**74**	**140**	<43	<85	ND
CESB14-42'	6/27/19	--	--	--	**1,500**	**1,300**	**0.98**	<0.79	<0.79	<1.6	<1.6	<7.9	**3.2**	**0.9**	**1.6**	<1.6	<0.79	<1.6	ND
CESB14-46'	6/27/19	--	--	--	**270**	**250**	**20**	<0.79	<0.79	<1.6	<1.6	<7.9	<0.79	**0.83**	<0.79	<1.6	<0.79	<1.6	ND
CESB14-49.5'	6/27/19	--	--	--	**78**	**71**	<0.77	<0.77	<0.77	<1.5	<1.5	<7.7	<0.77	<0.77	<0.77	<1.5	**3.8**	<1.5	ND
CESB15-5'	6/28/19	<5.0	<5.0	<5.0	<42	<42	<0.83	<0.83	<0.83	<1.7	<1.7	<8.3	<0.83	<0.83	<0.83	<1.7	<0.83	<1.7	ND
CESB15-10'	6/28/19	<5.0	<5.0	<5.0	<47	<47	<0.93	<0.93	<0.93	<1.9	<1.9	<9.3	<0.93	<0.93	<0.93	<1.9	<0.93	<1.9	ND
CESB15-15'	6/28/19	<4.9	<4.9	<4.9	**84**	**80**	<1.5	<1.5	<1.5	<3.1	<3.1	<15	<1.5	<1.5	<1.5	<3.1	<1.5	<3.1	ND
CESB15-20'	6/28/19	<5.0	<5.0	<5.0	<49	<49	<0.97	<0.97	<0.97	<1.9	<1.9	<9.7	<0.97	<0.97	<0.97	<1.9	<0.97	<1.9	ND
CESB15-25'	6/28/19	<5.0	<5.0	<5.0	<51	<51	<1.0	<1.0	<1.0	<2.0	<2.0	<10	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	ND
CESB15-30'	6/28/19	<5.0	<5.0	<5.0	<51	<51	<1.0	<1.0	<1.0	<2.1	<2.1	<10	<1.0	<1.0	<1.0	<2.1	<1.0	<2.1	ND
CESB15-31.8'	6/28/19	**14.7**	<5.0	<5.0	**320,000**	**250,000**	<54	<54	**130**	<110	<110	<540	**230**	**190**	**1,000**	**240**	<54	**1,960**	ND
CESB15-37'	6/28/19	**2,233**	<50	<50	**2,000,000**	**1,700,000**	<1100	<1100	**3,700**	**3,800**	<2100	<11000	**2,100**	**3,500**	**2,600**	**3,900**	<1100	**16,900**	ND
CESB15-40'	6/28/19	<5.0	<5.0	<5.0	**320**	**320**	**3.2**	<0.82	**1.3**	<1.6	<1.6	**9.5**	<0.82	<0.82	<0.82	<1.6	<0.82	<1.6	ND
CESB15-44'	6/28/19	<5.0	<5.0	<5.0	**2,700**	**2,500**	**2.1**	<0.81	**1.2**	<1.6	<1.6	<8.1	**1.3**	**5.8**	**2.3**	<1.6	<0.81	**1.8**	ND
DUP 1-B11-53	6/26/19	--	--	--	**87**	**92**	<0.83	<0.83	<0.83	<1.7	<1.7	<8.3	<0.83	<0.83	<0.83	<1.7	<0.83	<1.7	ND
DUP2-B14-36	6/27/19	<5.0	<5.0	<5.0	**65,000**	**44,000**	<160	<160	<160	<330	<330	<1600	<160	<160	<160	<330	<160	<330	ND
DUP3-B15-37	6/28/19	--	--	--	**5,200,000**	**4,700,000**	<1100	<1100	**30,000**	**29,000**	<2300	**17,000**	**13,600**	**16,000**	**11,000**	**18,000**	<1100	**98,000**	ND

TPPH - Total Petroleum Hydrocarbons; GRO - Gas Range Organics (C4-C12); ND = Not Detected

B – Benzene; T – Toluene; E – Ethylbenzene; X – Xylene; MTBE - Methyl tert-Butyl Ether

* - (Bromoform - 19 µg/kg)

TABLE IIC

Laboratory Analysis of Soil - Metals (June 2019)

712 West Baker Street,

Long Beach, California

Sample I.D.	Date	CAM Metals - EPA 6010B/7000 (mg/kg)	
		Arsenic	Lead
CESB9-5.5'	6/25/19	**5.57**	**1.97**
CESB9-10.5'	6/25/19	**8.47**	**3.91**
CESB9-15.5'	6/25/19	**1.78**	**2.16**
CESB9-20.5'	6/25/19	**2.04**	**3.79**
CESB9-25.5'	6/25/19	**3.00**	**1.14**
CESB9-32'	6/25/19	**5.32**	**2.54**
CESB9-37'	6/25/19	**11.5**	**3.57**
CESB10-3'	6/25/19	<0.743	**3.02**
CESB10-10.5'	6/25/19	<0.739	**2.11**
CESB10-15.5'	6/25/19	**2.71**	**1.82**
CESB10-20.5'	6/25/19	**3.33**	**1.20**
CESB10-25.5'	6/25/19	**0.948**	**0.827**
CESB11-6.5'	6/26/19	**9.37**	**1.72**
CESB11-11.5'	6/26/19	**14.1**	**2.06**
CESB11-15.5'	6/26/19	**17.8**	**1.76**
CESB11-20.5'	6/26/19	**3.98**	<0.498
CESB11-25.5'	6/26/19	**1.37**	**0.795**
CESB11-30'	6/26/19	**5.18**	**1.25**
CESB11-35.5'	6/26/19	**14.7**	**0.956**
CESB12-6'	6/26/19	**28.1**	**1.26**
CESB12-10'	6/26/19	<0.728	<0.485
CESB12-15'	6/26/19	**2.17**	**1.08**
CESB12-20'	6/26/19	**2.88**	**0.842**
CESB12-25'	6/26/19	**2.63**	<0.485
CESB13-7'	6/27/19	<0.735	**1.96**
CESB13-11'	6/27/19	<0.718	**1.01**
CESB13-15'	6/27/19	<0.735	**1.50**
CESB13-20'	6/27/19	<0.750	**1.08**
CESB13-25'	6/27/19	**12.7**	<0.498
CESB13-30'	6/27/19	**1.48**	<0.498
CESB13-32'	6/27/19	<0.750	**0.525**
CESB13-36'	6/27/19	<0.746	**0.853**
CESB13-40'	6/27/19	<0.743	**0.516**
CESB14-11'	6/27/19	<0.743	**1.03**
CESB14-16'	6/27/19	**2.99**	**3.29**
CESB14-20'	6/27/19	<0.743	**1.43**
CESB14-26'	6/27/19	**6.21**	**1.31**
CESB14-31'	6/27/19	**5.45**	**0.694**
CESB14-36'	6/27/19	**0.835**	**0.818**
CESB15-5'	6/28/19	**2.12**	**1.68**
CESB15-10'	6/28/19	**2.29**	**1.94**
CESB15-15'	6/28/19	**4.40**	**1.70**
CESB15-20'	6/28/19	<0.765	**4.23**
CESB15-25'	6/28/19	**3.15**	**0.998**
CESB15-30'	6/28/19	**1.32**	**4.61**
CESB15-31.8'	6/28/19	**13.3**	**7.11**
CESB15-37'	6/28/19	**4.47**	**1.74**
CESB15-40'	6/28/19	**24.2**	**3.8**
CESB15-44'	6/28/19	**3.45**	**2.13**
CE DUP 2	6/27/19	<0.773	<0.515

* - Arsenic concentration compared to background levels - in SoCal 3-15 mg/kg

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (TPH)

Sample ID	Date	Depth (ft.)	TPH Gasoline (C4-C12)	TPH Diesel (C13-C22)	TPH Oil[2]	
					TPH (C23-C32)	TPH (C33-C40)
B1@5	May-15	5	ND (<1)	**84**	**460**	**670**
B1@10	May-15	10	**33**	**2,300**	**2,200**	**1,600**
B1@15	May-15	15	ND (<1)	**5.4**	**2.9**	**1.6**
B1@20	May-15	20	ND (<1)	**2**	**1.9**	**1**
B1@30	May-15	30	ND (<1)	**2.3**	ND (<1)	ND (<1)
B2@5	May-15	5	ND (<1)	**12**	**19**	**13**
B2@10	May-15	10	**6.1**	**3,200**	**3,100**	**2,500**
B2@15	May-15	15	**34**	**870**	**780**	**480**
B2@20	May-15	20	**160**	**11,000**	**8,200**	**5,200**
B2@35	May-15	35	**150**	**5,400**	**4,000**	**2,800**
B3@5	May-15	5	ND (<1)	**2,800**	**3,200**	**2,500**
B3@10	May-15	10	ND (<1)	**8.4**	**9.7**	**4.9**
B3@15	May-15	15	ND (<1)	**5.4**	**10**	**8.1**
B3@20	May-15	20	ND (<1)	**17**	**17**	**10**
B3@35	May-15	35	**110**	**3,100**	**2,200**	**1,200**
B4@5	May-15	5	**19**	**3,600**	**3,800**	**2,800**
B4@10	May-15	10	**42**	**1,500**	**1,200**	**800**
B4@15	May-15	15	**38**	**1,700**	**1,500**	**1,000**
B4@20	May-15	20	**25**	**1,100**	**920**	**580**
B4@35	May-15	35	**65**	**2,200**	**1,600**	**1,000**
B5@5	May-15	5	**37**	**5,700**	**5,200**	**3,700**
B5@10	May-15	10	**18**	**1,500**	**1,300**	**950**
B5@15	May-15	15	ND (<1)	**7.8**	**7.2**	**4.3**
B5@20	May-15	20	ND (<1)	**1.6**	**1.4**	ND (<1)
B5@30	May-15	30	ND (<1)	**1**	ND (<1)	ND (<1)
B6@5	May-15	5	**35**	**2,100**	**1,700**	**1,200**
B6@10	May-15	10	**3.4**	**940**	**5,000**	**6,500**
B6@15	May-15	15	ND (<1)	**3.1**	**6.6**	**5.8**
B6@20	May-15	20	ND (<1)	**5.5**	**5.6**	**3.9**
B6@30	May-15	30	ND (<1)	**4.5**	**3.8**	ND (<1)
B7@5	May-15	5	**2.4**	**1,200**	**1,100**	**790**
B7@10	May-15	10	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B7@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B7@30	May-15	30	ND (<1)	**3.3**	**2.9**	**1.2**
B8-5	May-15	5	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B8-10	May-15	10	**1,500**	**15,000**	ND (<400)	ND (<400)
B8-15	May-15	15	**87**	**430**	ND (<50)	ND (<50)
B8-20	May-15	20	**280**	**680**	ND (<25)	ND (<25)
B8-30	May-15	30	**800**	**2,000**	ND (<50)	ND (<50)
B8-40	May-15	40	**320**	**520**	ND (<20)	ND (<20)
B8-50	May-15	50	**570**	**150**	ND (<10)	ND (<10)
B9@5	May-15	5	ND (<1)	ND (<1)	**1.4**	ND (<1)
RSL[1]			500	3,000	5,000	

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (TPH)

Sample ID	Date	Depth (ft.)	TPH Gasoline (C4-C12)	TPH Diesel (C13-C22)	TPH Oil[2]	
					TPH (C23-C32)	TPH (C33-C40)
B9@10	May-15	10	ND (<1)	**1.2**	**1.1**	ND (<1)
B9@20	May-15	20	ND (<1)	**1.4**	**1.2**	ND (<1)
B12@5	May-15	5	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B12@10	May-15	10	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B12@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B12@35	May-15	35	**4,100**	**55**	ND (<20)	ND (<20)
B13@5	May-15	5	ND (<1)	**4.4**	**25**	**34**
B13@10	May-15	10	ND (<1)	**180**	**1,200**	**2,300**
B13@20	May-15	20	ND (<1)	**190**	**270**	**200**
B13@35	May-15	35	ND (<1)	**1.5**	ND (<1)	ND (<1)
B14@5	May-15	5	ND (<1)	**490**	**1,100**	**850**
B14@10	May-15	10	ND (<1)	**60**	**220**	**210**
B14@20	May-15	20	ND (<1)	**170**	**260**	**230**
B14@35	May-15	35	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B15@5	May-15	5	ND (<1)	ND (<1)	**1.7**	**2.1**
B15@10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**1.5**
B15@20	May-15	20	ND (<1)	**1.6**	**1.4**	**1.7**
B15@30	May-15	30	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B16@3	May-15	3	ND (<1)	ND (<10)	**81**	**190**
B16@10	May-15	10	ND (<1)	ND (<1)	**1.8**	**1.1**
B16@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B16@30	May-15	30	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B17@5	May-15	5	ND (<1)	**360**	**940**	**790**
B17@10	May-15	10	ND (<1)	ND (<1)	**1.3**	ND (<1)
B17@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B17@30	May-15	30	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B18@3	May-15	3	ND (<1)	**6,400**	**13,000**	**8,900**
B18@10	May-15	10	**13**	**5,500**	**3,600**	**2,100**
B18@20	May-15	20	ND (<1)	ND (<1)	**1.1**	ND (<1)
B18@30	May-15	30	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B19@5	May-15	5	ND (<1)	**1.4**	**2**	**2.2**
B19@10	May-15	10	ND (<1)	**1.4**	**1.2**	ND (<1)
B19@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B19@30	May-15	30	ND (<1)	**1.6**	**1.1**	ND (<1)
B20-5	May-15	5	**20**	**4,900**	**4,000**	**2,400**
B20-10	May-15	10	ND (<1)	**1**	**1.2**	**1.1**
B20-20	May-15	20	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B20-35	May-15	35	ND (<1)	**2**	**4.8**	**3.7**
B21@5	May-15	5	ND (<1)	**1.5**	**13**	**20**
B21@10	May-15	10	ND (<1)	**48**	**66**	**39**
B21@15	May-15	15	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B21@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	ND (<1)
RSL[1]			500	3,000	5,000	

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (TPH)

Sample ID	Date	Depth (ft.)	TPH Gasoline (C4-C12)	TPH Diesel (C13-C22)	TPH Oil[2]	
					TPH (C23-C32)	TPH (C33-C40)
B21@30	May-15	30	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B22@5	May-15	5	ND (<1)	**1,700**	**1,900**	**1,100**
B22@10	May-15	10	ND (<1)	**5.8**	**5.8**	**3.6**
B22@20	May-15	20	ND (<1)	**1.2**	**1.6**	ND (<1)
B22@30	May-15	30	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B23@5	May-15	5	ND (<1)	**20**	**27**	**19**
B23@10	May-15	10	**87**	**6,800**	**8,100**	**4,300**
B23@20	May-15	20	ND (<1)	**4**	**5.2**	**2.5**
B23@30	May-15	30	ND (<1)	**2.4**	**2.1**	**1.1**
B24-5	May-15	5	ND (<1)	**17**	**45**	**34**
B24-10	May-15	10	ND (<1)	**710**	**3,000**	**3,800**
B24-15	May-15	15	ND (<1)	**1.6**	**2.1**	**1.7**
B24-20	May-15	20	ND (<1)	**1.8**	**5.2**	**4.5**
B24-30	May-15	30	ND (<1)	ND (<1)	ND (<1)	**1.2**
B24-40	May-15	40	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B25-5	May-15	5	ND (<1)	**3**	**6.1**	**4.5**
B25-10	May-15	10	ND (<1)	ND (<1)	**1.4**	**1.5**
B25-15	May-15	15	ND (<1)	ND (<1)	**1.4**	**1.4**
B25-20	May-15	20	ND (<1)	ND (<1)	**1.3**	**1.1**
B25-30	May-15	30	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B25-40	May-15	40	ND (<1)	**1**	**2.3**	**1.9**
B26-5	May-15	5	ND (<1)	**190**	**840**	**920**
B26-10	May-15	10	ND (<1)	**2.2**	**3.5**	**2.9**
B26-15	May-15	15	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B26-20	May-15	20	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B26-30	May-15	30	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B26-40	May-15	40	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B26-50	May-15	50	ND (<1)	**1**	ND (<1)	ND (<1)
B27-5	May-15	5	ND (<1)	**3,000**	**4,900**	**3,200**
B27-10	May-15	10	**15**	**2,400**	**2,000**	**1,300**
B27-15	May-15	15	ND (<1)	**9.3**	**5.3**	**3.1**
B27-20	May-15	20	ND (<1)	**2.5**	ND (<1)	ND (<1)
B27-30	May-15	30	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B27-40	May-15	40	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B28@5	May-15	5	ND (<1)	**490**	**2,600**	**3,500**
B28@10	May-15	10	**25**	**51**	**39**	**25**
B28@15	May-15	15	ND (<1)	**1.3**	ND (<1)	ND (<1)
B28@20	May-15	20	ND (<1)	**1.1**	ND (<1)	ND (<1)
B28@30	May-15	30	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B29@2	May-15	2	ND (<1)	**110**	**340**	**370**
B29@5	May-15	5	ND (<1)	ND (<1)	**1.3**	ND (<1)
B29@10	May-15	10	ND (<1)	**1.6**	**1.4**	**1.1**
RSL[1]			500	3,000	5,000	

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (TPH)

Sample ID	Date	Depth (ft.)	TPH Gasoline (C4-C12)	TPH Diesel (C13-C22)	TPH Oil[2]	
					TPH (C23-C32)	TPH (C33-C40)
B29@15	May-15	15	ND (<1)	ND (<1)	**1.1**	ND (<1)
B29@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	ND (<1)
B30@5	May-15	5	ND (<1)	**1,400**	**1,800**	**1,400**
B30@10	May-15	10	**1.3**	**3,200**	**4,000**	**2,400**
B30@20	May-15	20	ND (<1)	**2.3**	**1.8**	ND (<1)
B30@30	May-15	30	ND (<1)	ND (<1)	**1.3**	ND (<1)
SSL[1]			500	3,000	5,000	

Definitions:

ft. = feet below ground surface.

mg/kg = milligrams per kilogram.

PQL = practical quantification limits.

ND = Not detected (below PQL shown in parentheses).

TPH = total petroleum hydrocarbons.

USEPA = United States Environmental Protection Agency.

SSL = Site Screening Level from SSI work Plan (Tetr Tech, 2015a; 2015b).

Notes:

TPH analyzed in general accordance with USEPA Method No. 8015B. Results are in mg/kg.

< = analyte not detected at or above the laboratory's PQL.

Bold = analyte detected at concentration above the laboratory's PQL.

Green color indicates the analyte was detected at a concentration above its SSL.

1. SSL in mg/kg.

2. The combination of C23-C32 and C33-C40 represents TPH oil (TPHo).

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene
B1@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B1@10	May-15	10	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)
B1@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B1@20	May-15	20	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B1@30	May-15	30	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)
B2@5	May-15	5	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B2@10	May-15	10	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B2@15	May-15	15	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B2@20	May-15	20	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)
B2@35	May-15	35	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B3@5	May-15	5	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)
B3@10	May-15	10	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)
B3@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B3@20	May-15	20	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B3@35	May-15	35	ND (<0.28)	ND (<0.28)	ND (<0.28)	ND (<0.28)	ND (<0.28)	ND (<0.28)	ND (<0.28)
B4@5	May-15	5	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)
B4@10	May-15	10	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B4@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B4@20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B4@35	May-15	35	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)
B5@5	May-15	5	ND (<0.22)	ND (<0.22)	ND (<0.22)	ND (<0.22)	ND (<0.22)	ND (<0.22)	ND (<0.22)
B5@10	May-15	10	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene
B1@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0085)	ND (<0.0042)	ND (<0.0042)
B1@10	May-15	10	ND (<0.19)	ND (<0.19)	ND (<0.19)	**6.3**	ND (<0.39	ND (<0.19)	ND (<0.19)
B1@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0076)	ND (<0.0038)	ND (<0.0038)
B1@20	May-15	20	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0071)	ND (<0.0036)	ND (<0.0036)
B1@30	May-15	30	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0091)	ND (<0.0046)	ND (<0.0046)
B2@5	May-15	5	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	**0.0089**	ND (<0.0082)	ND (<0.0041)	ND (<0.0041)
B2@10	May-15	10	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	**0.28**	ND (<0.0093)	ND (<0.0047)	ND (<0.0047)
B2@15	May-15	15	ND (<0.004)	ND (<0.004)	ND (<0.004)	**0.025**	ND (<0.008)	ND (<0.004)	ND (<0.004)
B2@20	May-15	20	ND (<0.21)	ND (<0.21)	ND (<0.21)	**5.4**	ND (<0.42	ND (<0.21)	**0.35**
B2@35	May-15	35	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	**6.6**	ND (<0.0095)	ND (<0.0048)	ND (<0.0048)
B3@5	May-15	5	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0087)	ND (<0.0043)	ND (<0.0043)
B3@10	May-15	10	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.007)	ND (<0.0035)	ND (<0.0035)
B3@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0076)	ND (<0.0038)	ND (<0.0038)
B3@20	May-15	20	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0079)	ND (<0.0039)	ND (<0.0039)
B3@35	May-15	35	ND (<0.28)	ND (<0.28)	ND (<0.28)	**15**	ND (<0.55	ND (<0.28)	ND (<0.28)
B4@5	May-15	5	ND (<0.19)	ND (<0.19)	ND (<0.19)	**3.5**	ND (<0.37)	ND (<0.19)	ND (<0.19)
B4@10	May-15	10	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	**0.22**	ND (<0.0076)	ND (<0.0038)	**0.0064**
B4@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	**5.1**	ND (<0.0077)	ND (<0.0038)	**0.029**
B4@20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	**0.09**	ND (<0.0076)	ND (<0.0038)	**0.0084**
B4@35	May-15	35	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	**8.2**	ND (<0.01)	ND (<0.0051)	**0.038**
B5@5	May-15	5	ND (<0.22)	ND (<0.22)	ND (<0.22)	**4.1**	ND (<0.43)	ND (<0.22)	ND (<0.22)
B5@10	May-15	10	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	**0.2**	ND (<0.0083)	ND (<0.0042)	ND (<0.0042)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane
B1@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B1@10	May-15	10	ND (<0.19)	ND (<0.19)	**0.34**	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)
B1@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B1@20	May-15	20	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B1@30	May-15	30	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)
B2@5	May-15	5	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B2@10	May-15	10	ND (<0.0047)	ND (<0.0047)	**0.033**	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B2@15	May-15	15	ND (<0.004)	ND (<0.004)	**0.011**	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B2@20	May-15	20	ND (<0.21)	ND (<0.21)	**1.6**	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)
B2@35	May-15	35	ND (<0.0048)	ND (<0.0048)	**0.098**	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B3@5	May-15	5	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)
B3@10	May-15	10	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)
B3@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B3@20	May-15	20	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B3@35	May-15	35	ND (<0.28)	ND (<0.28)	**4.5**	ND (<0.28)	ND (<0.28)	ND (<0.28)	ND (<0.28)
B4@5	May-15	5	ND (<0.19)	ND (<0.19)	**0.4**	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)
B4@10	May-15	10	ND (<0.0038)	ND (<0.0038)	**0.091**	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B4@15	May-15	15	ND (<0.0038)	ND (<0.0038)	**0.13**	ND (<0.0038)	ND (<0.0038)	**0.011**	ND (<0.0038)
B4@20	May-15	20	ND (<0.0038)	ND (<0.0038)	**0.027**	ND (<0.0038)	ND (<0.0038)	**0.0044**	ND (<0.0038)
B4@35	May-15	35	ND (<0.0051)	ND (<0.0051)	**0.1**	ND (<0.0051)	ND (<0.0051)	**0.01**	ND (<0.0051)
B5@5	May-15	5	ND (<0.22)	ND (<0.22)	**0.58**	ND (<0.22)	ND (<0.22)	ND (<0.22)	ND (<0.22)
B5@10	May-15	10	ND (<0.0042)	ND (<0.0042)	**0.057**	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	2-Chlorotoluene	4-Chlorotoluene	Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform
B1@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B1@10	May-15	10	ND (<0.19)	ND (<0.19)	**0.45**	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)
B1@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B1@20	May-15	20	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B1@30	May-15	30	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)
B2@5	May-15	5	ND (<0.0041)	ND (<0.0041)	**0.005**	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B2@10	May-15	10	ND (<0.0047)	ND (<0.0047)	**0.04**	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B2@15	May-15	15	ND (<0.004)	ND (<0.004)	**0.17**	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B2@20	May-15	20	ND (<0.21)	ND (<0.21)	**2.1**	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)
B2@35	May-15	35	ND (<0.0048)	ND (<0.0048)	**0.089**	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B3@5	May-15	5	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)
B3@10	May-15	10	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)
B3@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B3@20	May-15	20	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B3@35	May-15	35	ND (<0.28)	ND (<0.28)	**1.2**	ND (<0.28)	ND (<0.28)	ND (<0.28)	ND (<0.28)
B4@5	May-15	5	ND (<0.19)	ND (<0.19)	**0.25**	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)
B4@10	May-15	10	ND (<0.0038)	ND (<0.0038)	**0.047**	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B4@15	May-15	15	ND (<0.0038)	ND (<0.0038)	**0.15**	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B4@20	May-15	20	ND (<0.0038)	ND (<0.0038)	**0.22**	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B4@35	May-15	35	ND (<0.0051)	ND (<0.0051)	**0.11**	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)
B5@5	May-15	5	ND (<0.22)	ND (<0.22)	**0.24**	ND (<0.22)	ND (<0.22)	ND (<0.22)	ND (<0.22)
B5@10	May-15	10	ND (<0.0042)	ND (<0.0042)	**0.027**	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	Bromomethane	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane
B1@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B1@10	May-15	10	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)
B1@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B1@20	May-15	20	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B1@30	May-15	30	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)
B2@5	May-15	5	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B2@10	May-15	10	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B2@15	May-15	15	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B2@20	May-15	20	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)
B2@35	May-15	35	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B3@5	May-15	5	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)
B3@10	May-15	10	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)
B3@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B3@20	May-15	20	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B3@35	May-15	35	ND (<0.28)	ND (<0.28)	ND (<0.28)	ND (<0.28)	ND (<0.28)	ND (<0.28)	ND (<0.28)
B4@5	May-15	5	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)
B4@10	May-15	10	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B4@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B4@20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B4@35	May-15	35	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)
B5@5	May-15	5	ND (<0.22)	ND (<0.22)	ND (<0.22)	ND (<0.22)	ND (<0.22)	ND (<0.22)	ND (<0.22)
B5@10	May-15	10	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Diisopropyl ether (DIPE)	Ethyl Acetate
B1@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.042)
B1@10	May-15	10	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<1.9)
B1@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)
B1@20	May-15	20	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.036)
B1@30	May-15	30	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.046)
B2@5	May-15	5	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.041)
B2@10	May-15	10	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.047)
B2@15	May-15	15	**0.011**	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.04)
B2@20	May-15	20	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<2.1)
B2@35	May-15	35	**0.0063**	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.048)
B3@5	May-15	5	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.043)
B3@10	May-15	10	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.035)
B3@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)
B3@20	May-15	20	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.039)
B3@35	May-15	35	ND (<0.28)	ND (<0.28)	ND (<0.28)	ND (<0.28)	ND (<0.28)	ND (<0.28)	ND (<2.8)
B4@5	May-15	5	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<1.9)
B4@10	May-15	10	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)
B4@15	May-15	15	**0.0079**	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)
B4@20	May-15	20	**0.016**	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)
B4@35	May-15	35	**0.0055**	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.051)
B5@5	May-15	5	ND (<0.22)	ND (<0.22)	ND (<0.22)	ND (<0.22)	ND (<0.22)	ND (<0.22)	ND (<2.2)
B5@10	May-15	10	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.042)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	Ethyl Ether	Ethyl tert-butyl ether (ETBE)	Ethylbenzene	Freon-113	Hexachlorobutadiene	Isopropylbenzene	m,p-Xylenes
B1@5	May-15	5	ND (<0.042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0085)
B1@10	May-15	10	ND (<1.9)	ND (<0.19)	**1.7**	ND (<0.19)	ND (<0.19)	**1**	**1.3**
B1@15	May-15	15	ND (<0.038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0076)
B1@20	May-15	20	ND (<0.036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0071)
B1@30	May-15	30	ND (<0.046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0091)
B2@5	May-15	5	ND (<0.041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0082)
B2@10	May-15	10	ND (<0.047)	ND (<0.0047)	**0.066**	ND (<0.0047)	ND (<0.0047)	**0.035**	**0.055**
B2@15	May-15	15	ND (<0.04)	ND (<0.004)	**0.068**	ND (<0.004)	ND (<0.004)	**0.028**	**0.033**
B2@20	May-15	20	ND (<2.1)	ND (<0.21)	**1.8**	ND (<0.21)	ND (<0.21)	**0.71**	**6.5**
B2@35	May-15	35	ND (<0.048)	ND (<0.0048)	**0.14**	ND (<0.0048)	ND (<0.0048)	**0.062**	**0.29**
B3@5	May-15	5	ND (<0.043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0087)
B3@10	May-15	10	ND (<0.035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.007)
B3@15	May-15	15	ND (<0.038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0076)
B3@20	May-15	20	ND (<0.039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0079)
B3@35	May-15	35	ND (<2.8)	ND (<0.28)	**3.1**	ND (<0.28)	ND (<0.28)	**1.4**	**11**
B4@5	May-15	5	ND (<1.9)	ND (<0.19)	**0.76**	ND (<0.19)	ND (<0.19)	**0.48**	**0.7**
B4@10	May-15	10	ND (<0.038)	ND (<0.0038)	**0.06**	ND (<0.0038)	ND (<0.0038)	**0.031**	**0.043**
B4@15	May-15	15	ND (<0.038)	ND (<0.0038)	**0.12**	ND (<0.0038)	ND (<0.0038)	**0.051**	**0.19**
B4@20	May-15	20	ND (<0.038)	ND (<0.0038)	**0.061**	ND (<0.0038)	ND (<0.0038)	**0.015**	**0.12**
B4@35	May-15	35	ND (<0.051)	ND (<0.0051)	**0.14**	ND (<0.0051)	ND (<0.0051)	**0.057**	**0.25**
B5@5	May-15	5	ND (<2.2)	ND (<0.22)	**1.1**	ND (<0.22)	ND (<0.22)	**0.6**	**0.8**
B5@10	May-15	10	ND (<0.042)	ND (<0.0042)	**0.057**	ND (<0.0042)	ND (<0.0042)	**0.03**	**0.041**

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	Methylene chloride	Methyl-tert-butyl Ether (MTBE)	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Xylene	p-Isopropyltoluene
B1@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B1@10	May-15	10	ND (<0.19)	ND (<0.19)	**3.9**	**0.77**	**1.6**	ND (<0.19)	**1.5**
B1@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B1@20	May-15	20	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B1@30	May-15	30	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)
B2@5	May-15	5	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B2@10	May-15	10	ND (<0.0047)	ND (<0.0047)	**0.15**	**0.033**	**0.055**	**0.0054**	**0.049**
B2@15	May-15	15	ND (<0.004)	ND (<0.004)	**0.092**	**0.016**	**0.041**	**0.03**	**0.023**
B2@20	May-15	20	ND (<0.21)	ND (<0.21)	**4.3**	**0.83**	**1.2**	**2.8**	**0.85**
B2@35	May-15	35	ND (<0.0048)	ND (<0.0048)	**0.25**	**0.058**	**0.096**	**0.14**	**0.062**
B3@5	May-15	5	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)
B3@10	May-15	10	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)
B3@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B3@20	May-15	20	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B3@35	May-15	35	ND (<0.28)	ND (<0.28)	**8.8**	**2.7**	**2.6**	**4.9**	**2.2**
B4@5	May-15	5	ND (<0.19)	ND (<0.19)	**1.9**	**0.33**	**0.72**	ND (<0.19)	**0.71**
B4@10	May-15	10	ND (<0.0038)	ND (<0.0038)	**0.13**	**0.045**	**0.05**	**0.007**	**0.044**
B4@15	May-15	15	ND (<0.0038)	ND (<0.0038)	**3.3**	**0.064**	**0.083**	**0.13**	**0.061**
B4@20	May-15	20	ND (<0.0038)	ND (<0.0038)	**0.068**	**0.0048**	**0.02**	**0.056**	**0.0056**
B4@35	May-15	35	ND (<0.0051)	ND (<0.0051)	**0.26**	**0.06**	**0.088**	**0.089**	**0.053**
B5@5	May-15	5	ND (<0.22)	ND (<0.22)	**2.6**	**0.54**	**0.9**	ND (<0.22)	**0.98**
B5@10	May-15	10	ND (<0.0042)	ND (<0.0042)	**0.12**	**0.032**	**0.044**	**0.005**	**0.045**

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	sec-Butylbenzene	Styrene	tert-Amyl methyl ether	tert-Butyl alcohol (TBA)	tert-Butylbenzene	Tetrachloroethene	Toluene
B1@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.085)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B1@10	May-15	10	**0.92**	ND (<0.19)	ND (<0.19)	ND (<3.9)	ND (<0.19)	ND (<0.19)	ND (<0.19)
B1@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.076)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B1@20	May-15	20	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.071)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B1@30	May-15	30	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.091)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)
B2@5	May-15	5	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.082)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B2@10	May-15	10	**0.031**	ND (<0.0047)	ND (<0.0047)	ND (<0.093)	ND (<0.0047)	ND (<0.0047)	**0.0055**
B2@15	May-15	15	**0.019**	ND (<0.004)	ND (<0.004)	ND (<0.08)	ND (<0.004)	ND (<0.004)	**0.047**
B2@20	May-15	20	**0.57**	ND (<0.21)	ND (<0.21)	ND (<4.2)	ND (<0.21)	ND (<0.21)	**1.1**
B2@35	May-15	35	**0.044**	ND (<0.0048)	ND (<0.0048)	ND (<0.095)	ND (<0.0048)	ND (<0.0048)	**0.046**
B3@5	May-15	5	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.087)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)
B3@10	May-15	10	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.07)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)
B3@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.076)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B3@20	May-15	20	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.079)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B3@35	May-15	35	**1.5**	ND (<0.28)	ND (<0.28)	ND (<5.5)	ND (<0.28)	ND (<0.28)	**0.53**
B4@5	May-15	5	**0.47**	ND (<0.19)	ND (<0.19)	ND (<3.7)	ND (<0.19)	ND (<0.19)	ND (<0.19)
B4@10	May-15	10	**0.032**	ND (<0.0038)	ND (<0.0038)	ND (<0.076)	ND (<0.0038)	ND (<0.0038)	**0.0057**
B4@15	May-15	15	**0.043**	ND (<0.0038)	ND (<0.0038)	ND (<0.077)	ND (<0.0038)	ND (<0.0038)	**0.073**
B4@20	May-15	20	**0.005**	ND (<0.0038)	ND (<0.0038)	ND (<0.076)	ND (<0.0038)	ND (<0.0038)	**0.06**
B4@35	May-15	35	**0.043**	ND (<0.0051)	ND (<0.0051)	ND (<0.1)	ND (<0.0051)	ND (<0.0051)	**0.016**
B5@5	May-15	5	**0.54**	ND (<0.22)	ND (<0.22)	ND (<4.3)	ND (<0.22)	ND (<0.22)	ND (<0.22)
B5@10	May-15	10	**0.025**	ND (<0.0042)	ND (<0.0042)	ND (<0.083)	ND (<0.0042)	ND (<0.0042)	**0.0047**

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl acetate	Vinyl chloride
B1@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.042)	ND (<0.0042)
B1@10	May-15	10	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<1.9)	ND (<0.19)
B1@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)	ND (<0.0038)
B1@20	May-15	20	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.036)	ND (<0.0036)
B1@30	May-15	30	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.046)	ND (<0.0046)
B2@5	May-15	5	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.041)	ND (<0.0041)
B2@10	May-15	10	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.047)	ND (<0.0047)
B2@15	May-15	15	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.04)	ND (<0.004)
B2@20	May-15	20	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<2.1)	ND (<0.21)
B2@35	May-15	35	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.048)	ND (<0.0048)
B3@5	May-15	5	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.043)	ND (<0.0043)
B3@10	May-15	10	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.035)	ND (<0.0035)
B3@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)	ND (<0.0038)
B3@20	May-15	20	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.039)	ND (<0.0039)
B3@35	May-15	35	ND (<0.28)	ND (<0.28)	ND (<0.28)	ND (<0.28)	ND (<2.8)	ND (<0.28)
B4@5	May-15	5	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<1.9)	ND (<0.19)
B4@10	May-15	10	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)	ND (<0.0038)
B4@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)	ND (<0.0038)
B4@20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)	ND (<0.0038)
B4@35	May-15	35	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.051)	ND (<0.0051)
B5@5	May-15	5	ND (<0.22)	ND (<0.22)	ND (<0.22)	ND (<0.22)	ND (<2.2)	ND (<0.22)
B5@10	May-15	10	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.042)	ND (<0.0042)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)
B1@5	May-15	5
B1@10	May-15	10
B1@15	May-15	15
B1@20	May-15	20
B1@30	May-15	30
B2@5	May-15	5
B2@10	May-15	10
B2@15	May-15	15
B2@20	May-15	20
B2@35	May-15	35
B3@5	May-15	5
B3@10	May-15	10
B3@15	May-15	15
B3@20	May-15	20
B3@35	May-15	35
B4@5	May-15	5
B4@10	May-15	10
B4@15	May-15	15
B4@20	May-15	20
B4@35	May-15	35
B5@5	May-15	5
B5@10	May-15	10

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene
B5@15	May-15	15	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B5@20	May-15	20	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B5@30	May-15	30	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B6@5	May-15	5	ND (<0.26)	ND (<0.26)	ND (<0.26)	ND (<0.26)	ND (<0.26)	ND (<0.26)	ND (<0.26)
B6@10	May-15	10	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B6@15	May-15	15	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)
B6@20	May-15	20	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)
B6@30	May-15	30	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)
B7@5	May-15	5	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B7@10	May-15	10	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B7@20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
RSL[1]			--	--	--	--	--	--	--
B7@30	May-15	30	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B8-5	May-15	5	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B8-10	May-15	10	ND (<0.24)	ND (<0.24)	ND (<0.24)	ND (<0.24)	ND (<0.24)	ND (<0.24)	ND (<0.24)
B8-15	May-15	15	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B8-20	May-15	20	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B8-30	May-15	30	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B8-40	May-15	40	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B8-50	May-15	50	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B9@5	May-15	5	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B9@10	May-15	10	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene
B5@15	May-15	15	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0088)	ND (<0.0044)	ND (<0.0044)
B5@20	May-15	20	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0095)	ND (<0.0048)	ND (<0.0048)
B5@30	May-15	30	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0078)	ND (<0.0039)	ND (<0.0039)
B6@5	May-15	5	ND (<0.26)	ND (<0.26)	ND (<0.26)	**7.6**	ND (<0.52)	ND (<0.26)	ND (<0.26)
B6@10	May-15	10	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0071)	ND (<0.0036)	ND (<0.0036)
B6@15	May-15	15	ND (<0.2)	ND (<0.2)	ND (<0.2)	**4.8**	ND (<0.4)	ND (<0.2)	ND (<0.2)
B6@20	May-15	20	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0048)	ND (<0.0024)	ND (<0.0024)
B6@30	May-15	30	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.012)	ND (<0.0059)	ND (<0.0059)
B7@5	May-15	5	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	**0.012**	ND (<0.0082)	ND (<0.0041)	ND (<0.0041)
B7@10	May-15	10	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.008)	ND (<0.004)	ND (<0.004)
B7@20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0076)	ND (<0.0038)	ND (<0.0038)
RSL[1]			--	--	--	5.8	--	--	180
B7@30	May-15	30	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0095)	ND (<0.0047)	ND (<0.0047)
B8-5	May-15	5	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0074)	ND (<0.0037)	ND (<0.0037)
B8-10	May-15	10	ND (<0.24)	ND (<0.24)	ND (<0.24)	**13**	ND (<0.47)	ND (<0.24)	ND (<0.24)
B8-15	May-15	15	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	**2.9**	ND (<0.0096)	ND (<0.0048)	ND (<0.0048)
B8-20	May-15	20	ND (<0.005)	ND (<0.005)	ND (<0.005)	**4.1**	ND (<0.0099)	ND (<0.005)	ND (<0.005)
B8-30	May-15	30	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	**7.6**	ND (<0.0083)	ND (<0.0041)	ND (<0.0041)
B8-40	May-15	40	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	**8.1**	ND (<0.0094)	ND (<0.0047)	ND (<0.0047)
B8-50	May-15	50	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	**3.8**	ND (<0.0071)	ND (<0.0036)	ND (<0.0036)
B9@5	May-15	5	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.008)	ND (<0.004)	ND (<0.004)
B9@10	May-15	10	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.0079)	ND (<0.004)	ND (<0.004)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane
B5@15	May-15	15	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B5@20	May-15	20	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B5@30	May-15	30	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B6@5	May-15	5	ND (<0.26)	ND (<0.26)	**0.29**	ND (<0.26)	ND (<0.26)	ND (<0.26)	ND (<0.26)
B6@10	May-15	10	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B6@15	May-15	15	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)
B6@20	May-15	20	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)
B6@30	May-15	30	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)
B7@5	May-15	5	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B7@10	May-15	10	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B7@20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
RSL[1]			0.46	--	78	--	--	2.6	--
B7@30	May-15	30	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B8-5	May-15	5	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B8-10	May-15	10	ND (<0.24)	ND (<0.24)	**4.5**	ND (<0.24)	ND (<0.24)	ND (<0.24)	ND (<0.24)
B8-15	May-15	15	ND (<0.0048)	ND (<0.0048)	**0.17**	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B8-20	May-15	20	ND (<0.005)	ND (<0.005)	**1.5**	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B8-30	May-15	30	ND (<0.0041)	ND (<0.0041)	**2.8**	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B8-40	May-15	40	ND (<0.0047)	ND (<0.0047)	**2.6**	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B8-50	May-15	50	ND (<0.0036)	ND (<0.0036)	**0.18**	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B9@5	May-15	5	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B9@10	May-15	10	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	2-Chlorotoluene	4-Chlorotoluene	Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform
B5@15	May-15	15	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B5@20	May-15	20	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B5@30	May-15	30	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B6@5	May-15	5	ND (<0.26)	ND (<0.26)	ND (<0.26)	ND (<0.26)	ND (<0.26)	ND (<0.26)	ND (<0.26)
B6@10	May-15	10	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B6@15	May-15	15	ND (<0.2)	ND (<0.2)	**0.22**	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)
B6@20	May-15	20	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)
B6@30	May-15	30	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)
B7@5	May-15	5	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B7@10	May-15	10	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B7@20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
RSL[1]			--	--	1.2	--	--	--	--
B7@30	May-15	30	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B8-5	May-15	5	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B8-10	May-15	10	ND (<0.24)	ND (<0.24)	**3.8**	ND (<0.24)	ND (<0.24)	ND (<0.24)	ND (<0.24)
B8-15	May-15	15	ND (<0.0048)	ND (<0.0048)	**0.083**	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B8-20	May-15	20	ND (<0.005)	ND (<0.005)	**0.14**	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B8-30	May-15	30	ND (<0.0041)	ND (<0.0041)	**2**	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B8-40	May-15	40	ND (<0.0047)	ND (<0.0047)	**0.15**	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B8-50	May-15	50	ND (<0.0036)	ND (<0.0036)	**1.3**	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B9@5	May-15	5	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B9@10	May-15	10	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	Bromomethane	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane
B5@15	May-15	15	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B5@20	May-15	20	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B5@30	May-15	30	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B6@5	May-15	5	ND (<0.26)	ND (<0.26)	ND (<0.26)	ND (<0.26)	ND (<0.26)	ND (<0.26)	ND (<0.26)
B6@10	May-15	10	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B6@15	May-15	15	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)
B6@20	May-15	20	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)
B6@30	May-15	30	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)
B7@5	May-15	5	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B7@10	May-15	10	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B7@20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
RSL[1]			0.68	77	--	--	--	--	--
B7@30	May-15	30	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B8-5	May-15	5	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B8-10	May-15	10	ND (<0.24)	ND (<0.24)	ND (<0.24)	ND (<0.24)	ND (<0.24)	ND (<0.24)	ND (<0.24)
B8-15	May-15	15	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B8-20	May-15	20	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B8-30	May-15	30	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B8-40	May-15	40	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B8-50	May-15	50	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B9@5	May-15	5	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B9@10	May-15	10	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Diisopropyl ether (DIPE)	Ethyl Acetate
B5@15	May-15	15	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.044)
B5@20	May-15	20	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.048)
B5@30	May-15	30	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.039)
B6@5	May-15	5	ND (<0.26)	ND (<0.26)	ND (<0.26)	ND (<0.26)	ND (<0.26)	ND (<0.26)	ND (<2.6)
B6@10	May-15	10	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.036)
B6@15	May-15	15	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<2)
B6@20	May-15	20	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.024)
B6@30	May-15	30	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.059)
B7@5	May-15	5	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.041)
B7@10	May-15	10	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.04)
B7@20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)
RSL[1]			16	--	--	--	--	--	--
B7@30	May-15	30	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.047)
B8-5	May-15	5	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.037)
B8-10	May-15	10	ND (<0.24)	ND (<0.24)	ND (<0.24)	ND (<0.24)	ND (<0.24)	ND (<0.24)	ND (<2.4)
B8-15	May-15	15	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.048)
B8-20	May-15	20	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)
B8-30	May-15	30	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.041)
B8-40	May-15	40	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.047)
B8-50	May-15	50	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.036)
B9@5	May-15	5	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.04)
B9@10	May-15	10	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.04)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	Ethyl Ether	Ethyl tert-butyl ether (ETBE)	Ethylbenzene	Freon-113	Hexachlorobutadiene	Isopropylbenzene	m,p-Xylenes
B5@15	May-15	15	ND (<0.044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0088)
B5@20	May-15	20	ND (<0.048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0095)
B5@30	May-15	30	ND (<0.039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0078)
B6@5	May-15	5	ND (<2.6)	ND (<0.26)	**1.5**	ND (<0.26)	ND (<0.26)	**1.2**	**0.83**
B6@10	May-15	10	ND (<0.036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0071)
B6@15	May-15	15	ND (<2)	ND (<0.2)	**0.82**	ND (<0.2)	ND (<0.2)	**0.51**	**0.73**
B6@20	May-15	20	ND (<0.024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0048)
B6@30	May-15	30	ND (<0.059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.012)
B7@5	May-15	5	ND (<0.041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0082)
B7@10	May-15	10	ND (<0.04)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.008)
B7@20	May-15	20	ND (<0.038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0076)
RSL[1]			--	--	5.8	--	--	--	65
B7@30	May-15	30	ND (<0.047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0095)
B8-5	May-15	5	ND (<0.037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0074)
B8-10	May-15	10	ND (<2.4)	ND (<0.24)	**1.5**	ND (<0.24)	ND (<0.24)	**0.41**	**2.8**
B8-15	May-15	15	ND (<0.048)	ND (<0.0048)	**1.7**	ND (<0.0048)	ND (<0.0048)	**0.046**	**4.2**
B8-20	May-15	20	ND (<0.05)	ND (<0.005)	**1.8**	ND (<0.005)	ND (<0.005)	**0.11**	**4.8**
B8-30	May-15	30	ND (<0.041)	ND (<0.0041)	**4.4**	ND (<0.0041)	ND (<0.0041)	**0.083**	**5.2**
B8-40	May-15	40	ND (<0.047)	ND (<0.0047)	**2.5**	ND (<0.0047)	ND (<0.0047)	**0.077**	**3.6**
B8-50	May-15	50	ND (<0.036)	ND (<0.0036)	**2.7**	ND (<0.0036)	ND (<0.0036)	**0.05**	**0.18**
B9@5	May-15	5	ND (<0.04)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.008)
B9@10	May-15	10	ND (<0.04)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.0079)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	Methylene chloride	Methyl-tert-butyl Ether (MTBE)	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Xylene	p-Isopropyltoluene
B5@15	May-15	15	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B5@20	May-15	20	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B5@30	May-15	30	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B6@5	May-15	5	ND (<0.26)	ND (<0.26)	**4.7**	**1**	**1.9**	ND (<0.26)	**1.9**
B6@10	May-15	10	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B6@15	May-15	15	ND (<0.2)	ND (<0.2)	**2.5**	**0.43**	**0.76**	ND (<0.2)	**1.1**
B6@20	May-15	20	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)
B6@30	May-15	30	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)
B7@5	May-15	5	ND (<0.0041)	ND (<0.0041)	**0.037**	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	**0.0056**
B7@10	May-15	10	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B7@20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
RSL[1]			--	--	3.8	390	--	65	--
B7@30	May-15	30	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B8-5	May-15	5	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B8-10	May-15	10	ND (<0.24)	ND (<0.24)	**51**	**3.4**	**0.79**	**0.27**	**2.2**
B8-15	May-15	15	ND (<0.0048)	ND (<0.0048)	**2.6**	**0.044**	**0.08**	**0.18**	**0.033**
B8-20	May-15	20	ND (<0.005)	ND (<0.005)	**2.8**	**0.095**	**0.2**	**0.76**	**0.065**
B8-30	May-15	30	ND (<0.0041)	ND (<0.0041)	**8.6**	**0.071**	**0.14**	**0.024**	**0.051**
B8-40	May-15	40	ND (<0.0047)	ND (<0.0047)	**1.4**	**0.13**	**0.17**	**0.18**	**0.072**
B8-50	May-15	50	ND (<0.0036)	ND (<0.0036)	**0.067**	**0.079**	**0.11**	**0.044**	**0.035**
B9@5	May-15	5	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B9@10	May-15	10	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	sec-Butylbenzene	Styrene	tert-Amyl methyl ether	tert-Butyl alcohol (TBA)	tert-Butylbenzene	Tetrachloroethene	Toluene
B5@15	May-15	15	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.088)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B5@20	May-15	20	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.095)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B5@30	May-15	30	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.078)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B6@5	May-15	5	**1.2**	ND (<0.26)	ND (<0.26)	ND (<5.2)	ND (<0.26)	ND (<0.26)	ND (<0.26)
B6@10	May-15	10	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.071)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B6@15	May-15	15	**0.63**	ND (<0.2)	ND (<0.2)	ND (<4)	ND (<0.2)	ND (<0.2)	ND (<0.2)
B6@20	May-15	20	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.048)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)
B6@30	May-15	30	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.12)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)
B7@5	May-15	5	**0.0042**	ND (<0.0041)	ND (<0.0041)	ND (<0.082)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B7@10	May-15	10	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.08)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B7@20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.076)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
RSL[1]			780	--	--	--	--	--	490
B7@30	May-15	30	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.095)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B8-5	May-15	5	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.074)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B8-10	May-15	10	**1.2**	ND (<0.24)	ND (<0.24)	ND (<4.7)	ND (<0.24)	ND (<0.24)	**1.6**
B8-15	May-15	15	**0.02**	ND (<0.0048)	ND (<0.0048)	ND (<0.096)	ND (<0.0048)	ND (<0.0048)	**0.062**
B8-20	May-15	20	**0.044**	ND (<0.005)	ND (<0.005)	ND (<0.099)	ND (<0.005)	ND (<0.005)	**0.061**
B8-30	May-15	30	**0.032**	ND (<0.0041)	ND (<0.0041)	ND (<0.083)	ND (<0.0041)	ND (<0.0041)	**0.16**
B8-40	May-15	40	**0.045**	ND (<0.0047)	ND (<0.0047)	ND (<0.094)	ND (<0.0047)	ND (<0.0047)	**0.18**
B8-50	May-15	50	**0.024**	ND (<0.0036)	ND (<0.0036)	ND (<0.071)	ND (<0.0036)	ND (<0.0036)	**0.067**
B9@5	May-15	5	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.08)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B9@10	May-15	10	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.079)	ND (<0.004)	ND (<0.004)	ND (<0.004)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl acetate	Vinyl chloride
B5@15	May-15	15	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.044)	ND (<0.0044)
B5@20	May-15	20	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.048)	ND (<0.0048)
B5@30	May-15	30	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.039)	ND (<0.0039)
B6@5	May-15	5	ND (<0.26)	ND (<0.26)	ND (<0.26)	ND (<0.26)	ND (<2.6)	ND (<0.26)
B6@10	May-15	10	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.036)	ND (<0.0036)
B6@15	May-15	15	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<2)	ND (<0.2)
B6@20	May-15	20	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.0024)	ND (<0.024)	ND (<0.0024)
B6@30	May-15	30	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.059)	ND (<0.0059)
B7@5	May-15	5	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.041)	ND (<0.0041)
B7@10	May-15	10	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.04)	ND (<0.004)
B7@20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)	ND (<0.0038)
RSL[1]			--	--	--	--	--	--
B7@30	May-15	30	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.047)	ND (<0.0047)
B8-5	May-15	5	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.037)	ND (<0.0037)
B8-10	May-15	10	ND (<0.24)	ND (<0.24)	ND (<0.24)	ND (<0.24)	ND (<2.4)	ND (<0.24)
B8-15	May-15	15	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.048)	ND (<0.0048)
B8-20	May-15	20	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)	ND (<0.005)
B8-30	May-15	30	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.041)	ND (<0.0041)
B8-40	May-15	40	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.047)	ND (<0.0047)
B8-50	May-15	50	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.036)	ND (<0.0036)
B9@5	May-15	5	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.04)	ND (<0.004)
B9@10	May-15	10	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.04)	ND (<0.004)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)
B5@15	May-15	15
B5@20	May-15	20
B5@30	May-15	30
B6@5	May-15	5
B6@10	May-15	10
B6@15	May-15	15
B6@20	May-15	20
B6@30	May-15	30
B7@5	May-15	5
B7@10	May-15	10
B7@20	May-15	20
RSL[1]		
B7@30	May-15	30
B8-5	May-15	5
B8-10	May-15	10
B8-15	May-15	15
B8-20	May-15	20
B8-30	May-15	30
B8-40	May-15	40
B8-50	May-15	50
B9@5	May-15	5
B9@10	May-15	10

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene
B9@20	May-15	20	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)
B12@5	May-15	5	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)
B12@10	May-15	10	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)
B12@20	May-15	20	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B12@35	May-15	35	ND (<2.7)	ND (<2.7)	ND (<2.7)	ND (<2.7)	ND (<2.7)	ND (<2.7)	ND (<2.7)
B13@5	May-15	5	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)
B13@10	May-15	10	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)
B13@20	May-15	20	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B13@35	May-15	35	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B14@5	May-15	5	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)
B14@10	May-15	10	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)
B14@20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B14@35	May-15	35	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)
B15@5	May-15	5	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B15@10	May-15	10	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B15@20	May-15	20	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B15@30	May-15	30	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B16@3	May-15	3	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B16@10	May-15	10	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)
B16@20	May-15	20	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)
B16@30	May-15	30	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B17@5	May-15	5	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene
B9@20	May-15	20	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.011)	ND (<0.0055)	ND (<0.0055)
B12@5	May-15	5	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0089)	ND (<0.0045)	ND (<0.0045)
B12@10	May-15	10	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0093)	ND (<0.0046)	ND (<0.0046)
B12@20	May-15	20	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0098)	ND (<0.0049)	ND (<0.0049)
B12@35	May-15	35	ND (<2.7)	ND (<2.7)	ND (<2.7)	ND (<2.7)	ND (<5.4)	ND (<2.7)	ND (<2.7)
B13@5	May-15	5	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.012)	ND (<0.0062)	ND (<0.0062)
B13@10	May-15	10	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0085)	ND (<0.0043)	ND (<0.0043)
B13@20	May-15	20	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0087)	ND (<0.0044)	ND (<0.0044)
B13@35	May-15	35	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0083)	ND (<0.0042)	ND (<0.0042)
B14@5	May-15	5	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.011)	ND (<0.0056)	ND (<0.0056)
B14@10	May-15	10	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0054)	ND (<0.0027)	ND (<0.0027)
B14@20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0075)	ND (<0.0038)	ND (<0.0038)
B14@35	May-15	35	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0087)	ND (<0.0043)	ND (<0.0043)
B15@5	May-15	5	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0098)	ND (<0.0049)	ND (<0.0049)
B15@10	May-15	10	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0075)	ND (<0.0037)	ND (<0.0037)
B15@20	May-15	20	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0079)	ND (<0.0039)	ND (<0.0039)
B15@30	May-15	30	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0082)	ND (<0.0041)	ND (<0.0041)
B16@3	May-15	3	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0083)	ND (<0.0041)	ND (<0.0041)
B16@10	May-15	10	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.009)	ND (<0.0045)	ND (<0.0045)
B16@20	May-15	20	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.007)	ND (<0.0035)	ND (<0.0035)
B16@30	May-15	30	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.0079)	ND (<0.004)	ND (<0.004)
B17@5	May-15	5	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0088)	ND (<0.0044)	ND (<0.0044)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane
B9@20	May-15	20	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)
B12@5	May-15	5	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)
B12@10	May-15	10	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)
B12@20	May-15	20	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B12@35	May-15	35	ND (<2.7)	ND (<2.7)	**11**	ND (<2.7)	ND (<2.7)	ND (<2.7)	ND (<2.7)
B13@5	May-15	5	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)
B13@10	May-15	10	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)
B13@20	May-15	20	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B13@35	May-15	35	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B14@5	May-15	5	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)
B14@10	May-15	10	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)
B14@20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B14@35	May-15	35	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)
B15@5	May-15	5	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B15@10	May-15	10	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B15@20	May-15	20	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B15@30	May-15	30	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B16@3	May-15	3	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B16@10	May-15	10	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)
B16@20	May-15	20	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)
B16@30	May-15	30	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B17@5	May-15	5	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	2-Chlorotoluene	4-Chlorotoluene	Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform
B9@20	May-15	20	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)
B12@5	May-15	5	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)
B12@10	May-15	10	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)
B12@20	May-15	20	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B12@35	May-15	35	ND (<2.7)	ND (<2.7)	ND (<2.7)	ND (<2.7)	ND (<2.7)	ND (<2.7)	ND (<2.7)
B13@5	May-15	5	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)
B13@10	May-15	10	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)
B13@20	May-15	20	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B13@35	May-15	35	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B14@5	May-15	5	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)
B14@10	May-15	10	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)
B14@20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B14@35	May-15	35	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)
B15@5	May-15	5	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B15@10	May-15	10	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B15@20	May-15	20	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B15@30	May-15	30	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B16@3	May-15	3	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B16@10	May-15	10	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)
B16@20	May-15	20	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)
B16@30	May-15	30	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B17@5	May-15	5	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	Bromomethane	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane
B9@20	May-15	20	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)
B12@5	May-15	5	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)
B12@10	May-15	10	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)
B12@20	May-15	20	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B12@35	May-15	35	ND (<2.7)	ND (<2.7)	ND (<2.7)	ND (<2.7)	ND (<2.7)	ND (<2.7)	ND (<2.7)
B13@5	May-15	5	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)
B13@10	May-15	10	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)
B13@20	May-15	20	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B13@35	May-15	35	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B14@5	May-15	5	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)
B14@10	May-15	10	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)
B14@20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B14@35	May-15	35	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)
B15@5	May-15	5	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B15@10	May-15	10	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B15@20	May-15	20	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B15@30	May-15	30	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B16@3	May-15	3	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B16@10	May-15	10	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)
B16@20	May-15	20	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)
B16@30	May-15	30	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B17@5	May-15	5	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Diisopropyl ether (DIPE)	Ethyl Acetate
B9@20	May-15	20	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.055)
B12@5	May-15	5	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.045)
B12@10	May-15	10	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.046)
B12@20	May-15	20	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.049)
B12@35	May-15	35	ND (<2.7)	ND (<2.7)	ND (<2.7)	ND (<2.7)	ND (<2.7)	ND (<2.7)	ND (<27)
B13@5	May-15	5	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.062)
B13@10	May-15	10	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.043)
B13@20	May-15	20	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.044)
B13@35	May-15	35	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.042)
B14@5	May-15	5	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.056)
B14@10	May-15	10	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.027)
B14@20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)
B14@35	May-15	35	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.043)
B15@5	May-15	5	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.049)
B15@10	May-15	10	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.037)
B15@20	May-15	20	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.039)
B15@30	May-15	30	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.041)
B16@3	May-15	3	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.041)
B16@10	May-15	10	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.045)
B16@20	May-15	20	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.035)
B16@30	May-15	30	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.04)
B17@5	May-15	5	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.044)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	Ethyl Ether	Ethyl tert-butyl ether (ETBE)	Ethylbenzene	Freon-113	Hexachlorobutadiene	Isopropylbenzene	m,p-Xylenes
B9@20	May-15	20	ND (<0.055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.011)
B12@5	May-15	5	ND (<0.045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0089)
B12@10	May-15	10	ND (<0.046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0093)
B12@20	May-15	20	ND (<0.049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0098)
B12@35	May-15	35	ND (<27)	ND (<2.7)	**40**	ND (<2.7)	ND (<2.7)	**27**	ND (<5.4)
B13@5	May-15	5	ND (<0.062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.012)
B13@10	May-15	10	ND (<0.043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0085)
B13@20	May-15	20	ND (<0.044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0087)
B13@35	May-15	35	ND (<0.042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0083)
B14@5	May-15	5	ND (<0.056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.011)
B14@10	May-15	10	ND (<0.027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0054)
B14@20	May-15	20	ND (<0.038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0075)
B14@35	May-15	35	ND (<0.043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0087)
B15@5	May-15	5	ND (<0.049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0098)
B15@10	May-15	10	ND (<0.037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0075)
B15@20	May-15	20	ND (<0.039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0079)
B15@30	May-15	30	ND (<0.041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0082)
B16@3	May-15	3	ND (<0.041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0083)
B16@10	May-15	10	ND (<0.045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.009)
B16@20	May-15	20	ND (<0.035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.007)
B16@30	May-15	30	ND (<0.04)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.0079)
B17@5	May-15	5	ND (<0.044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0088)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	Methylene chloride	Methyl-tert-butyl Ether (MTBE)	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Xylene	p-Isopropyltoluene
B9@20	May-15	20	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)
B12@5	May-15	5	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)
B12@10	May-15	10	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)
B12@20	May-15	20	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B12@35	May-15	35	ND (<2.7)	ND (<2.7)	**54**	**19**	**42**	ND (<2.7)	**50**
B13@5	May-15	5	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)
B13@10	May-15	10	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)
B13@20	May-15	20	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B13@35	May-15	35	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B14@5	May-15	5	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)
B14@10	May-15	10	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)
B14@20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B14@35	May-15	35	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)
B15@5	May-15	5	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B15@10	May-15	10	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B15@20	May-15	20	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B15@30	May-15	30	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B16@3	May-15	3	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B16@10	May-15	10	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)
B16@20	May-15	20	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)
B16@30	May-15	30	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B17@5	May-15	5	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	sec-Butylbenzene	Styrene	tert-Amyl methyl ether	tert-Butyl alcohol (TBA)	tert-Butylbenzene	Tetrachloroethene	Toluene
B9@20	May-15	20	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.11)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)
B12@5	May-15	5	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.089)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)
B12@10	May-15	10	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.093)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)
B12@20	May-15	20	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.098)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B12@35	May-15	35	**16**	ND (<2.7)	ND (<2.7)	ND (<54)	ND (<2.7)	ND (<2.7)	ND (<2.7)
B13@5	May-15	5	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.12)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)
B13@10	May-15	10	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.085)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)
B13@20	May-15	20	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.087)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B13@35	May-15	35	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.083)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B14@5	May-15	5	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.11)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)
B14@10	May-15	10	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.054)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)
B14@20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.075)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B14@35	May-15	35	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.087)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)
B15@5	May-15	5	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.098)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B15@10	May-15	10	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.075)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B15@20	May-15	20	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.079)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B15@30	May-15	30	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.082)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B16@3	May-15	3	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.083)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B16@10	May-15	10	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.09)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)
B16@20	May-15	20	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.07)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)
B16@30	May-15	30	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.079)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B17@5	May-15	5	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.088)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl acetate	Vinyl chloride
B9@20	May-15	20	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.0055)	ND (<0.055)	ND (<0.0055)
B12@5	May-15	5	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.045)	ND (<0.0045)
B12@10	May-15	10	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.046)	ND (<0.0046)
B12@20	May-15	20	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.049)	ND (<0.0049)
B12@35	May-15	35	ND (<2.7)	ND (<2.7)	ND (<2.7)	ND (<2.7)	ND (<27)	ND (<2.7)
B13@5	May-15	5	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.0062)	ND (<0.062)	ND (<0.0062)
B13@10	May-15	10	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.043)	ND (<0.0043)
B13@20	May-15	20	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.044)	ND (<0.0044)
B13@35	May-15	35	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.042)	ND (<0.0042)
B14@5	May-15	5	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.0056)	ND (<0.056)	ND (<0.0056)
B14@10	May-15	10	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.0027)	ND (<0.027)	ND (<0.0027)
B14@20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)	ND (<0.0038)
B14@35	May-15	35	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.043)	ND (<0.0043)
B15@5	May-15	5	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.049)	ND (<0.0049)
B15@10	May-15	10	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.037)	ND (<0.0037)
B15@20	May-15	20	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.039)	ND (<0.0039)
B15@30	May-15	30	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.041)	ND (<0.0041)
B16@3	May-15	3	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.041)	ND (<0.0041)
B16@10	May-15	10	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.045)	ND (<0.0045)
B16@20	May-15	20	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.035)	ND (<0.0035)
B16@30	May-15	30	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.04)	ND (<0.004)
B17@5	May-15	5	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.044)	ND (<0.0044)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)
B9@20	May-15	20
B12@5	May-15	5
B12@10	May-15	10
B12@20	May-15	20
B12@35	May-15	35
B13@5	May-15	5
B13@10	May-15	10
B13@20	May-15	20
B13@35	May-15	35
B14@5	May-15	5
B14@10	May-15	10
B14@20	May-15	20
B14@35	May-15	35
B15@5	May-15	5
B15@10	May-15	10
B15@20	May-15	20
B15@30	May-15	30
B16@3	May-15	3
B16@10	May-15	10
B16@20	May-15	20
B16@30	May-15	30
B17@5	May-15	5

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene
B17@10	May-15	10	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
RSL[1]			--	--	--	--	--	--	--
B17@20	May-15	20	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B17@30	May-15	30	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B18@3	May-15	3	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)
B18@10	May-15	10	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B18@20	May-15	20	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B18@30	May-15	30	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B19@5	May-15	5	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)
B19@10	May-15	10	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B19@20	May-15	20	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)
B19@30	May-15	30	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B20-5	May-15	5	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B20-10	May-15	10	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B20-20	May-15	20	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B20-35	May-15	35	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B21@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B21@10	May-15	10	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B21@15	May-15	15	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)
B21@20	May-15	20	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)
B21@30	May-15	30	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)
B22@5	May-15	5	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene
B17@10	May-15	10	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0074)	ND (<0.0037)	ND (<0.0037)
RSL[1]			--	--	--	5.8	--	--	180
B17@20	May-15	20	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.0079)	ND (<0.004)	ND (<0.004)
B17@30	May-15	30	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0088)	ND (<0.0044)	ND (<0.0044)
B18@3	May-15	3	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.01)	ND (<0.0052)	ND (<0.0052)
B18@10	May-15	10	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0096)	ND (<0.0048)	ND (<0.0048)
B18@20	May-15	20	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0083)	ND (<0.0041)	ND (<0.0041)
B18@30	May-15	30	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0097)	ND (<0.0049)	ND (<0.0049)
B19@5	May-15	5	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.014)	ND (<0.0069)	ND (<0.0069)
B19@10	May-15	10	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0099)	ND (<0.0049)	ND (<0.0049)
B19@20	May-15	20	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.01)	ND (<0.0052)	ND (<0.0052)
B19@30	May-15	30	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0084)	ND (<0.0042)	ND (<0.0042)
B20-5	May-15	5	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0093)	ND (<0.0047)	ND (<0.0047)
B20-10	May-15	10	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0079)	ND (<0.0039)	ND (<0.0039)
B20-20	May-15	20	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.0099)	ND (<0.005)	ND (<0.005)
B20-35	May-15	35	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0093)	ND (<0.0047)	ND (<0.0047)
B21@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0083)	ND (<0.0042)	ND (<0.0042)
B21@10	May-15	10	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0072)	ND (<0.0036)	ND (<0.0036)
B21@15	May-15	15	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.011)	ND (<0.0054)	ND (<0.0054)
B21@20	May-15	20	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.007)	ND (<0.0035)	ND (<0.0035)
B21@30	May-15	30	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.01)	ND (<0.0051)	ND (<0.0051)
B22@5	May-15	5	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)	ND (<0.012)	ND (<0.0058)	ND (<0.0058)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane
B17@10	May-15	10	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
RSL[1]			0.46	--	78	--	--	2.6	--
B17@20	May-15	20	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B17@30	May-15	30	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B18@3	May-15	3	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)
B18@10	May-15	10	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B18@20	May-15	20	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B18@30	May-15	30	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B19@5	May-15	5	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)
B19@10	May-15	10	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B19@20	May-15	20	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)
B19@30	May-15	30	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B20-5	May-15	5	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B20-10	May-15	10	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B20-20	May-15	20	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B20-35	May-15	35	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B21@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B21@10	May-15	10	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B21@15	May-15	15	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)
B21@20	May-15	20	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)
B21@30	May-15	30	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)
B22@5	May-15	5	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	2-Chlorotoluene	4-Chlorotoluene	Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform
B17@10	May-15	10	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
RSL[1]			--	--	1.2	--	--	--	--
B17@20	May-15	20	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B17@30	May-15	30	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B18@3	May-15	3	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)
B18@10	May-15	10	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B18@20	May-15	20	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B18@30	May-15	30	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B19@5	May-15	5	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)
B19@10	May-15	10	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B19@20	May-15	20	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)
B19@30	May-15	30	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B20-5	May-15	5	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B20-10	May-15	10	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B20-20	May-15	20	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B20-35	May-15	35	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B21@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B21@10	May-15	10	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B21@15	May-15	15	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)
B21@20	May-15	20	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)
B21@30	May-15	30	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)
B22@5	May-15	5	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	Bromomethane	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane
B17@10	May-15	10	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
RSL[1]			0.68	77	--	--	--	--	--
B17@20	May-15	20	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B17@30	May-15	30	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B18@3	May-15	3	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)
B18@10	May-15	10	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B18@20	May-15	20	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B18@30	May-15	30	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B19@5	May-15	5	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)
B19@10	May-15	10	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B19@20	May-15	20	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)
B19@30	May-15	30	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B20-5	May-15	5	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B20-10	May-15	10	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B20-20	May-15	20	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B20-35	May-15	35	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B21@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B21@10	May-15	10	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B21@15	May-15	15	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)
B21@20	May-15	20	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)
B21@30	May-15	30	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)
B22@5	May-15	5	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Diisopropyl ether (DIPE)	Ethyl Acetate
B17@10	May-15	10	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.037)
RSL[1]			16	--	--	--	--	--	--
B17@20	May-15	20	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.04)
B17@30	May-15	30	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.044)
B18@3	May-15	3	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.052)
B18@10	May-15	10	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.048)
B18@20	May-15	20	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.041)
B18@30	May-15	30	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.049)
B19@5	May-15	5	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.069)
B19@10	May-15	10	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.049)
B19@20	May-15	20	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.052)
B19@30	May-15	30	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.042)
B20-5	May-15	5	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.047)
B20-10	May-15	10	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.039)
B20-20	May-15	20	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)
B20-35	May-15	35	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.047)
B21@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.042)
B21@10	May-15	10	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.036)
B21@15	May-15	15	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.054)
B21@20	May-15	20	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.035)
B21@30	May-15	30	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.051)
B22@5	May-15	5	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)	ND (<0.058)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	Ethyl Ether	Ethyl tert-butyl ether (ETBE)	Ethylbenzene	Freon-113	Hexachlorobutadiene	Isopropylbenzene	m,p-Xylenes
B17@10	May-15	10	ND (<0.037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0074)
RSL[1]			--	--	5.8	--	--	--	65
B17@20	May-15	20	ND (<0.04)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.0079)
B17@30	May-15	30	ND (<0.044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0088)
B18@3	May-15	3	ND (<0.052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.01)
B18@10	May-15	10	ND (<0.048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	**0.016**	ND (<0.0096)
B18@20	May-15	20	ND (<0.041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0083)
B18@30	May-15	30	ND (<0.049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0097)
B19@5	May-15	5	ND (<0.069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.014)
B19@10	May-15	10	ND (<0.049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0099)
B19@20	May-15	20	ND (<0.052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.01)
B19@30	May-15	30	ND (<0.042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0084)
B20-5	May-15	5	ND (<0.047)	ND (<0.0047)	**0.025**	ND (<0.0047)	ND (<0.0047)	**0.025**	ND (<0.0093)
B20-10	May-15	10	ND (<0.039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0079)
B20-20	May-15	20	ND (<0.05)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.0099)
B20-35	May-15	35	ND (<0.047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0093)
B21@5	May-15	5	ND (<0.042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0083)
B21@10	May-15	10	ND (<0.036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0072)
B21@15	May-15	15	ND (<0.054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.011)
B21@20	May-15	20	ND (<0.035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.007)
B21@30	May-15	30	ND (<0.051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.01)
B22@5	May-15	5	ND (<0.058)	ND (<0.0058)	**0.0064**	ND (<0.0058)	ND (<0.0058)	**0.014**	ND (<0.012)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	Methylene chloride	Methyl-tert-butyl Ether (MTBE)	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Xylene	p-Isopropyltoluene
B17@10	May-15	10	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
RSL[1]			--	--	3.8	390	--	65	--
B17@20	May-15	20	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B17@30	May-15	30	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B18@3	May-15	3	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)
B18@10	May-15	10	ND (<0.0048)	ND (<0.0048)	**6.8**	ND (<0.0048)	**0.028**	ND (<0.0048)	ND (<0.0048)
B18@20	May-15	20	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B18@30	May-15	30	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B19@5	May-15	5	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)
B19@10	May-15	10	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B19@20	May-15	20	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)
B19@30	May-15	30	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B20-5	May-15	5	ND (<0.0047)	ND (<0.0047)	**0.15**	**0.025**	**0.039**	ND (<0.0047)	**0.017**
B20-10	May-15	10	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B20-20	May-15	20	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B20-35	May-15	35	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B21@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B21@10	May-15	10	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B21@15	May-15	15	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)
B21@20	May-15	20	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)
B21@30	May-15	30	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)
B22@5	May-15	5	ND (<0.0058)	ND (<0.0058)	**0.019**	ND (<0.0058)	**0.018**	ND (<0.0058)	**0.0091**

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	sec-Butylbenzene	Styrene	tert-Amyl methyl ether	tert-Butyl alcohol (TBA)	tert-Butylbenzene	Tetrachloroethene	Toluene
B17@10	May-15	10	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.074)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
RSL[1]			780	--	--	--	--	--	490
B17@20	May-15	20	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.079)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B17@30	May-15	30	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.088)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B18@3	May-15	3	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.1)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)
B18@10	May-15	10	**0.034**	ND (<0.0048)	ND (<0.0048)	ND (<0.096)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B18@20	May-15	20	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.083)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B18@30	May-15	30	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.097)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B19@5	May-15	5	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.14)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)
B19@10	May-15	10	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.099)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B19@20	May-15	20	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.1)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)
B19@30	May-15	30	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.084)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B20-5	May-15	5	**0.024**	ND (<0.0047)	ND (<0.0047)	ND (<0.093)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B20-10	May-15	10	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.079)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B20-20	May-15	20	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.099)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B20-35	May-15	35	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.093)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B21@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.083)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B21@10	May-15	10	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.072)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B21@15	May-15	15	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.11)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)
B21@20	May-15	20	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.07)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)
B21@30	May-15	30	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.1)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)
B22@5	May-15	5	**0.0089**	ND (<0.0058)	ND (<0.0058)	ND (<0.12)	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl acetate	Vinyl chloride
B17@10	May-15	10	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.037)	ND (<0.0037)
RSL[1]			--	--	--	--	--	--
B17@20	May-15	20	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.04)	ND (<0.004)
B17@30	May-15	30	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.044)	ND (<0.0044)
B18@3	May-15	3	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.052)	ND (<0.0052)
B18@10	May-15	10	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.048)	ND (<0.0048)
B18@20	May-15	20	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.041)	ND (<0.0041)
B18@30	May-15	30	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.049)	ND (<0.0049)
B19@5	May-15	5	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.0069)	ND (<0.069)	ND (<0.0069)
B19@10	May-15	10	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.049)	ND (<0.0049)
B19@20	May-15	20	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.0052)	ND (<0.052)	ND (<0.0052)
B19@30	May-15	30	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.042)	ND (<0.0042)
B20-5	May-15	5	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.047)	ND (<0.0047)
B20-10	May-15	10	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.039)	ND (<0.0039)
B20-20	May-15	20	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)	ND (<0.005)
B20-35	May-15	35	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.047)	ND (<0.0047)
B21@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.042)	ND (<0.0042)
B21@10	May-15	10	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.036)	ND (<0.0036)
B21@15	May-15	15	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.0054)	ND (<0.054)	ND (<0.0054)
B21@20	May-15	20	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.0035)	ND (<0.035)	ND (<0.0035)
B21@30	May-15	30	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.051)	ND (<0.0051)
B22@5	May-15	5	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)	ND (<0.0058)	ND (<0.058)	ND (<0.0058)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)
B17@10	May-15	10
RSL[1]		
B17@20	May-15	20
B17@30	May-15	30
B18@3	May-15	3
B18@10	May-15	10
B18@20	May-15	20
B18@30	May-15	30
B19@5	May-15	5
B19@10	May-15	10
B19@20	May-15	20
B19@30	May-15	30
B20-5	May-15	5
B20-10	May-15	10
B20-20	May-15	20
B20-35	May-15	35
B21@5	May-15	5
B21@10	May-15	10
B21@15	May-15	15
B21@20	May-15	20
B21@30	May-15	30
B22@5	May-15	5

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene
B22@10	May-15	10	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)
B22@20	May-15	20	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)
B22@30	May-15	30	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)
B23@5	May-15	5	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B23@10	May-15	10	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)
B23@20	May-15	20	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B23@30	May-15	30	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B24-5	May-15	5	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B24-10	May-15	10	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)
B24-15	May-15	15	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B24-20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B24-30	May-15	30	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)
B24-40	May-15	40	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)
RSL[1]			--	--	--	--	--	--	--
B25-5	May-15	5	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B25-10	May-15	10	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B25-15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B25-20	May-15	20	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B25-30	May-15	30	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B25-40	May-15	40	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B26-5	May-15	5	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B26-10	May-15	10	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene
B22@10	May-15	10	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)	ND (<0.0068)	ND (<0.0034)	ND (<0.0034)
B22@20	May-15	20	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.011)	ND (<0.0053)	ND (<0.0053)
B22@30	May-15	30	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0066)	ND (<0.0033)	ND (<0.0033)
B23@5	May-15	5	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.0081)	ND (<0.004)	ND (<0.004)
B23@10	May-15	10	ND (<0.19)	ND (<0.19)	ND (<0.19)	**18**	ND (<0.38	ND (<0.19)	**0.42**
B23@20	May-15	20	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0085)	ND (<0.0042)	ND (<0.0042)
B23@30	May-15	30	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0073)	ND (<0.0037)	ND (<0.0037)
B24-5	May-15	5	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0078)	ND (<0.0039)	ND (<0.0039)
B24-10	May-15	10	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.01)	ND (<0.0051)	ND (<0.0051)
B24-15	May-15	15	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0097)	ND (<0.0049)	ND (<0.0049)
B24-20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0076)	ND (<0.0038)	ND (<0.0038)
B24-30	May-15	30	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.01)	ND (<0.0051)	ND (<0.0051)
B24-40	May-15	40	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0089)	ND (<0.0045)	ND (<0.0045)
RSL[1]			--	--	--	5.8	--	--	180
B25-5	May-15	5	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0097)	ND (<0.0048)	ND (<0.0048)
B25-10	May-15	10	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0088)	ND (<0.0044)	ND (<0.0044)
B25-15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0075)	ND (<0.0038)	ND (<0.0038)
B25-20	May-15	20	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.01)	ND (<0.005)	ND (<0.005)
B25-30	May-15	30	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.01)	ND (<0.005)	ND (<0.005)
B25-40	May-15	40	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.01)	ND (<0.005)	ND (<0.005)
B26-5	May-15	5	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0088)	ND (<0.0044)	ND (<0.0044)
B26-10	May-15	10	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0088)	ND (<0.0044)	ND (<0.0044)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane
B22@10	May-15	10	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)
B22@20	May-15	20	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)
B22@30	May-15	30	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)
B23@5	May-15	5	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B23@10	May-15	10	ND (<0.19)	ND (<0.19)	**4.1**	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)
B23@20	May-15	20	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B23@30	May-15	30	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B24-5	May-15	5	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B24-10	May-15	10	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)
B24-15	May-15	15	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B24-20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B24-30	May-15	30	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)
B24-40	May-15	40	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)
RSL[1]			0.46	--	78	--	--	2.6	--
B25-5	May-15	5	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B25-10	May-15	10	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B25-15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B25-20	May-15	20	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B25-30	May-15	30	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B25-40	May-15	40	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B26-5	May-15	5	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B26-10	May-15	10	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	2-Chlorotoluene	4-Chlorotoluene	Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform
B22@10	May-15	10	ND (<0.0034)	ND (<0.0034)	**0.0046**	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)
B22@20	May-15	20	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)
B22@30	May-15	30	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)
B23@5	May-15	5	ND (<0.004)	ND (<0.004)	**0.015**	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B23@10	May-15	10	ND (<0.19)	ND (<0.19)	**1.3**	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)
B23@20	May-15	20	ND (<0.0042)	ND (<0.0042)	**0.0066**	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B23@30	May-15	30	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B24-5	May-15	5	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B24-10	May-15	10	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)
B24-15	May-15	15	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B24-20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B24-30	May-15	30	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)
B24-40	May-15	40	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)
RSL[1]			--	--	1.2	--	--	--	--
B25-5	May-15	5	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B25-10	May-15	10	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B25-15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B25-20	May-15	20	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B25-30	May-15	30	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B25-40	May-15	40	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B26-5	May-15	5	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B26-10	May-15	10	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	Bromomethane	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane
B22@10	May-15	10	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)
B22@20	May-15	20	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)
B22@30	May-15	30	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)
B23@5	May-15	5	ND (<0.004)	**0.006**	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B23@10	May-15	10	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)
B23@20	May-15	20	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B23@30	May-15	30	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B24-5	May-15	5	**0.0079**	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B24-10	May-15	10	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)
B24-15	May-15	15	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B24-20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B24-30	May-15	30	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)
B24-40	May-15	40	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)
RSL[1]			0.68	77	--	--	--	--	--
B25-5	May-15	5	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B25-10	May-15	10	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B25-15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B25-20	May-15	20	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B25-30	May-15	30	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B25-40	May-15	40	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B26-5	May-15	5	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B26-10	May-15	10	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Diisopropyl ether (DIPE)	Ethyl Acetate
B22@10	May-15	10	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)	ND (<0.034)
B22@20	May-15	20	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.053)
B22@30	May-15	30	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.033)
B23@5	May-15	5	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.04)
B23@10	May-15	10	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<1.9)
B23@20	May-15	20	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.042)
B23@30	May-15	30	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.037)
B24-5	May-15	5	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.039)
B24-10	May-15	10	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.051)
B24-15	May-15	15	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.049)
B24-20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)
B24-30	May-15	30	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.051)
B24-40	May-15	40	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.045)
RSL[1]			16	--	--	--	--	--	--
B25-5	May-15	5	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.048)
B25-10	May-15	10	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.044)
B25-15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)
B25-20	May-15	20	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)
B25-30	May-15	30	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)
B25-40	May-15	40	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)
B26-5	May-15	5	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.044)
B26-10	May-15	10	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.044)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	Ethyl Ether	Ethyl tert-butyl ether (ETBE)	Ethylbenzene	Freon-113	Hexachlorobutadiene	Isopropylbenzene	m,p-Xylenes
B22@10	May-15	10	ND (<0.034)	ND (<0.0034)	**0.0061**	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)	ND (<0.0068)
B22@20	May-15	20	ND (<0.053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.011)
B22@30	May-15	30	ND (<0.033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0066)
B23@5	May-15	5	ND (<0.04)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.0081)
B23@10	May-15	10	ND (<1.9)	ND (<0.19)	**3.9**	ND (<0.19)	ND (<0.19)	**1.4**	**11**
B23@20	May-15	20	ND (<0.042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0085)
B23@30	May-15	30	ND (<0.037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0073)
B24-5	May-15	5	ND (<0.039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0078)
B24-10	May-15	10	ND (<0.051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.01)
B24-15	May-15	15	ND (<0.049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0097)
B24-20	May-15	20	ND (<0.038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0076)
B24-30	May-15	30	ND (<0.051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.01)
B24-40	May-15	40	ND (<0.045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0089)
RSL[1]			--	--	5.8	--	--	--	65
B25-5	May-15	5	ND (<0.048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0097)
B25-10	May-15	10	ND (<0.044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0088)
B25-15	May-15	15	ND (<0.038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0075)
B25-20	May-15	20	ND (<0.05)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.01)
B25-30	May-15	30	ND (<0.05)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.01)
B25-40	May-15	40	ND (<0.05)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.01)
B26-5	May-15	5	ND (<0.044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0088)
B26-10	May-15	10	ND (<0.044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0088)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	Methylene chloride	Methyl-tert-butyl Ether (MTBE)	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Xylene	p-Isopropyltoluene
B22@10	May-15	10	ND (<0.0034)	ND (<0.0034)	**0.0062**	ND (<0.0034)	**0.0036**	ND (<0.0034)	ND (<0.0034)
B22@20	May-15	20	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)
B22@30	May-15	30	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)
B23@5	May-15	5	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B23@10	May-15	10	ND (<0.19)	ND (<0.19)	**9.3**	**2.5**	**2.6**	**5.1**	**1.9**
B23@20	May-15	20	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B23@30	May-15	30	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B24-5	May-15	5	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B24-10	May-15	10	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)
B24-15	May-15	15	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B24-20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B24-30	May-15	30	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)
B24-40	May-15	40	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)
RSL[1]			--	--	3.8	390	--	65	--
B25-5	May-15	5	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B25-10	May-15	10	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B25-15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B25-20	May-15	20	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B25-30	May-15	30	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B25-40	May-15	40	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B26-5	May-15	5	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B26-10	May-15	10	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	sec-Butylbenzene	Styrene	tert-Amyl methyl ether	tert-Butyl alcohol (TBA)	tert-Butylbenzene	Tetrachloroethene	Toluene
B22@10	May-15	10	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)	ND (<0.068)	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)
B22@20	May-15	20	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.11)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)
B22@30	May-15	30	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.066)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)
B23@5	May-15	5	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.081)	ND (<0.004)	ND (<0.004)	**0.0092**
B23@10	May-15	10	**1.4**	ND (<0.19)	ND (<0.19)	ND (<3.8)	ND (<0.19)	ND (<0.19)	**2.6**
B23@20	May-15	20	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.085)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B23@30	May-15	30	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.073)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B24-5	May-15	5	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.078)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B24-10	May-15	10	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.1)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)
B24-15	May-15	15	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.097)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B24-20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.076)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B24-30	May-15	30	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.1)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)
B24-40	May-15	40	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.089)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)
RSL[1]			780	--	--	--	--	--	490
B25-5	May-15	5	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.097)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B25-10	May-15	10	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.088)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B25-15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.075)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B25-20	May-15	20	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.1)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B25-30	May-15	30	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.1)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B25-40	May-15	40	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.1)	ND (<0.005)	ND (<0.005)	ND (<0.005)
B26-5	May-15	5	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.088)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B26-10	May-15	10	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.088)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl acetate	Vinyl chloride
B22@10	May-15	10	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)	ND (<0.0034)	ND (<0.034)	ND (<0.0034)
B22@20	May-15	20	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.0053)	ND (<0.053)	ND (<0.0053)
B22@30	May-15	30	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.033)	ND (<0.0033)
B23@5	May-15	5	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.04)	ND (<0.004)
B23@10	May-15	10	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<0.19)	ND (<1.9)	ND (<0.19)
B23@20	May-15	20	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.042)	ND (<0.0042)
B23@30	May-15	30	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.037)	ND (<0.0037)
B24-5	May-15	5	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.039)	ND (<0.0039)
B24-10	May-15	10	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.051)	ND (<0.0051)
B24-15	May-15	15	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.049)	ND (<0.0049)
B24-20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)	ND (<0.0038)
B24-30	May-15	30	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.0051)	ND (<0.051)	ND (<0.0051)
B24-40	May-15	40	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.045)	ND (<0.0045)
RSL[1]			--	--	--	--	--	--
B25-5	May-15	5	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.048)	ND (<0.0048)
B25-10	May-15	10	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.044)	ND (<0.0044)
B25-15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)	ND (<0.0038)
B25-20	May-15	20	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)	ND (<0.005)
B25-30	May-15	30	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)	ND (<0.005)
B25-40	May-15	40	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)	ND (<0.005)
B26-5	May-15	5	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.044)	ND (<0.0044)
B26-10	May-15	10	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.044)	ND (<0.0044)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)
B22@10	May-15	10
B22@20	May-15	20
B22@30	May-15	30
B23@5	May-15	5
B23@10	May-15	10
B23@20	May-15	20
B23@30	May-15	30
B24-5	May-15	5
B24-10	May-15	10
B24-15	May-15	15
B24-20	May-15	20
B24-30	May-15	30
B24-40	May-15	40
RSL[1]		
B25-5	May-15	5
B25-10	May-15	10
B25-15	May-15	15
B25-20	May-15	20
B25-30	May-15	30
B25-40	May-15	40
B26-5	May-15	5
B26-10	May-15	10

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene
B26-15	May-15	15	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B26-20	May-15	20	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B26-30	May-15	30	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)
B26-40	May-15	40	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)
B26-50	May-15	50	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B27-5	May-15	5	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)
B27-10	May-15	10	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)
B27-15	May-15	15	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B27-20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B27-30	May-15	30	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B27-40	May-15	40	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B28@5	May-15	5	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B28@10	May-15	10	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B28@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B28@20	May-15	20	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B28@30	May-15	30	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B29@2	May-15	2	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B29@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B29@10	May-15	10	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B29@15	May-15	15	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B29@20	May-15	20	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)
B30@5	May-15	5	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene
B26-15	May-15	15	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0088)	ND (<0.0044)	ND (<0.0044)
B26-20	May-15	20	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0098)	ND (<0.0049)	ND (<0.0049)
B26-30	May-15	30	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0085)	ND (<0.0043)	ND (<0.0043)
B26-40	May-15	40	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0092)	ND (<0.0046)	ND (<0.0046)
B26-50	May-15	50	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0075)	ND (<0.0038)	ND (<0.0038)
B27-5	May-15	5	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.018)	ND (<0.0088)	ND (<0.0088)
B27-10	May-15	10	ND (<0.21)	ND (<0.21)	ND (<0.21)	**1**	ND (<0.41)	ND (<0.21)	ND (<0.21)
B27-15	May-15	15	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0075)	ND (<0.0037)	ND (<0.0037)
B27-20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0077)	ND (<0.0038)	ND (<0.0038)
B27-30	May-15	30	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0072)	ND (<0.0036)	ND (<0.0036)
B27-40	May-15	40	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0083)	ND (<0.0041)	ND (<0.0041)
B28@5	May-15	5	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0096)	ND (<0.0048)	ND (<0.0048)
B28@10	May-15	10	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0089)	ND (<0.0044)	ND (<0.0044)
B28@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0075)	ND (<0.0038)	ND (<0.0038)
B28@20	May-15	20	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.008)	ND (<0.004)	ND (<0.004)
B28@30	May-15	30	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.008)	ND (<0.004)	ND (<0.004)
B29@2	May-15	2	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0075)	ND (<0.0038)	ND (<0.0038)
B29@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0083)	ND (<0.0042)	ND (<0.0042)
B29@10	May-15	10	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0078)	ND (<0.0039)	ND (<0.0039)
B29@15	May-15	15	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0085)	ND (<0.0042)	ND (<0.0042)
B29@20	May-15	20	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0092)	ND (<0.0046)	ND (<0.0046)
B30@5	May-15	5	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.009)	ND (<0.0045)	ND (<0.0045)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane
B26-15	May-15	15	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B26-20	May-15	20	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B26-30	May-15	30	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)
B26-40	May-15	40	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)
B26-50	May-15	50	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B27-5	May-15	5	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)
B27-10	May-15	10	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)
B27-15	May-15	15	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B27-20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B27-30	May-15	30	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B27-40	May-15	40	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B28@5	May-15	5	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B28@10	May-15	10	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B28@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B28@20	May-15	20	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B28@30	May-15	30	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B29@2	May-15	2	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B29@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B29@10	May-15	10	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B29@15	May-15	15	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B29@20	May-15	20	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)
B30@5	May-15	5	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	2-Chlorotoluene	4-Chlorotoluene	Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform
B26-15	May-15	15	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B26-20	May-15	20	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B26-30	May-15	30	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)
B26-40	May-15	40	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)
B26-50	May-15	50	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B27-5	May-15	5	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)
B27-10	May-15	10	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)
B27-15	May-15	15	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B27-20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B27-30	May-15	30	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B27-40	May-15	40	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B28@5	May-15	5	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B28@10	May-15	10	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B28@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B28@20	May-15	20	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B28@30	May-15	30	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B29@2	May-15	2	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B29@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B29@10	May-15	10	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B29@15	May-15	15	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B29@20	May-15	20	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)
B30@5	May-15	5	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	Bromomethane	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane
B26-15	May-15	15	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B26-20	May-15	20	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B26-30	May-15	30	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)
B26-40	May-15	40	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)
B26-50	May-15	50	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B27-5	May-15	5	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)
B27-10	May-15	10	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)
B27-15	May-15	15	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B27-20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B27-30	May-15	30	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B27-40	May-15	40	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B28@5	May-15	5	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B28@10	May-15	10	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B28@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B28@20	May-15	20	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B28@30	May-15	30	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B29@2	May-15	2	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B29@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B29@10	May-15	10	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B29@15	May-15	15	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B29@20	May-15	20	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)
B30@5	May-15	5	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Diisopropyl ether (DIPE)	Ethyl Acetate
B26-15	May-15	15	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.044)
B26-20	May-15	20	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.049)
B26-30	May-15	30	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.043)
B26-40	May-15	40	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.046)
B26-50	May-15	50	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)
B27-5	May-15	5	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.088)
B27-10	May-15	10	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<2.1)
B27-15	May-15	15	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.037)
B27-20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)
B27-30	May-15	30	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.036)
B27-40	May-15	40	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.041)
B28@5	May-15	5	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.048)
B28@10	May-15	10	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.044)
B28@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)
B28@20	May-15	20	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.04)
B28@30	May-15	30	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.04)
B29@2	May-15	2	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)
B29@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.042)
B29@10	May-15	10	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.039)
B29@15	May-15	15	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.042)
B29@20	May-15	20	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.046)
B30@5	May-15	5	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.045)

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Sample ID	Date	Depth (ft.)	Ethyl Ether	Ethyl tert-butyl ether (ETBE)	Ethylbenzene	Freon-113	Hexachlorobutadiene	Isopropylbenzene	m,p-Xylenes
B26-15	May-15	15	ND (<0.044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0088)
B26-20	May-15	20	ND (<0.049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0098)
B26-30	May-15	30	ND (<0.043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0085)
B26-40	May-15	40	ND (<0.046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0092)
B26-50	May-15	50	ND (<0.038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0075)
B27-5	May-15	5	ND (<0.088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.018)
B27-10	May-15	10	ND (<2.1)	ND (<0.21)	**0.98**	ND (<0.21)	ND (<0.21)	**0.59**	ND (<0.41)
B27-15	May-15	15	ND (<0.037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0075)
B27-20	May-15	20	ND (<0.038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0077)
B27-30	May-15	30	ND (<0.036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0072)
B27-40	May-15	40	ND (<0.041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0083)
B28@5	May-15	5	ND (<0.048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0096)
B28@10	May-15	10	ND (<0.044)	ND (<0.0044)	**0.09**	ND (<0.0044)	ND (<0.0044)	**0.04**	ND (<0.0089)
B28@15	May-15	15	ND (<0.038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0075)
B28@20	May-15	20	ND (<0.04)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.008)
B28@30	May-15	30	ND (<0.04)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.008)
B29@2	May-15	2	ND (<0.038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0075)
B29@5	May-15	5	ND (<0.042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0083)
B29@10	May-15	10	ND (<0.039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0078)
B29@15	May-15	15	ND (<0.042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0085)
B29@20	May-15	20	ND (<0.046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0092)
B30@5	May-15	5	ND (<0.045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.009)

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Sample ID	Date	Depth (ft.)	Methylene chloride	Methyl-tert-butyl Ether (MTBE)	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Xylene	p-Isopropyltoluene
B26-15	May-15	15	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B26-20	May-15	20	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B26-30	May-15	30	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)
B26-40	May-15	40	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)
B26-50	May-15	50	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B27-5	May-15	5	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)
B27-10	May-15	10	ND (<0.21)	ND (<0.21)	**3.1**	**0.56**	**1**	ND (<0.21)	**0.51**
B27-15	May-15	15	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B27-20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B27-30	May-15	30	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B27-40	May-15	40	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B28@5	May-15	5	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B28@10	May-15	10	ND (<0.0044)	ND (<0.0044)	**0.13**	**0.02**	**0.056**	ND (<0.0044)	ND (<0.0044)
B28@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B28@20	May-15	20	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B28@30	May-15	30	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B29@2	May-15	2	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B29@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B29@10	May-15	10	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B29@15	May-15	15	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B29@20	May-15	20	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)
B30@5	May-15	5	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)

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Sample ID	Date	Depth (ft.)	sec-Butylbenzene	Styrene	tert-Amyl methyl ether	tert-Butyl alcohol (TBA)	tert-Butylbenzene	Tetrachloroethene	Toluene
B26-15	May-15	15	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.088)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B26-20	May-15	20	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.098)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)
B26-30	May-15	30	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.085)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)
B26-40	May-15	40	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.092)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)
B26-50	May-15	50	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.075)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B27-5	May-15	5	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.18)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)
B27-10	May-15	10	**0.59**	ND (<0.21)	ND (<0.21)	ND (<4.1)	ND (<0.21)	ND (<0.21)	ND (<0.21)
B27-15	May-15	15	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	**0.96**	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B27-20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	**0.19**	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B27-30	May-15	30	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.072)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
B27-40	May-15	40	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.083)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)
B28@5	May-15	5	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.096)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)
B28@10	May-15	10	**0.023**	ND (<0.0044)	ND (<0.0044)	ND (<0.089)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)
B28@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.075)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B28@20	May-15	20	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.08)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B28@30	May-15	30	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.08)	ND (<0.004)	ND (<0.004)	ND (<0.004)
B29@2	May-15	2	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.075)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)
B29@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.083)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B29@10	May-15	10	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.078)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)
B29@15	May-15	15	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.085)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)
B29@20	May-15	20	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.092)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)
B30@5	May-15	5	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.09)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl acetate	Vinyl chloride
B26-15	May-15	15	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.044)	ND (<0.0044)
B26-20	May-15	20	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.0049)	ND (<0.049)	ND (<0.0049)
B26-30	May-15	30	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.0043)	ND (<0.043)	ND (<0.0043)
B26-40	May-15	40	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.046)	ND (<0.0046)
B26-50	May-15	50	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)	ND (<0.0038)
B27-5	May-15	5	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.0088)	ND (<0.088)	ND (<0.0088)
B27-10	May-15	10	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<0.21)	ND (<2.1)	ND (<0.21)
B27-15	May-15	15	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.037)	ND (<0.0037)
B27-20	May-15	20	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)	ND (<0.0038)
B27-30	May-15	30	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.036)	ND (<0.0036)
B27-40	May-15	40	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.0041)	ND (<0.041)	ND (<0.0041)
B28@5	May-15	5	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.0048)	ND (<0.048)	ND (<0.0048)
B28@10	May-15	10	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.0044)	ND (<0.044)	ND (<0.0044)
B28@15	May-15	15	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)	ND (<0.0038)
B28@20	May-15	20	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.04)	ND (<0.004)
B28@30	May-15	30	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.004)	ND (<0.04)	ND (<0.004)
B29@2	May-15	2	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.0038)	ND (<0.038)	ND (<0.0038)
B29@5	May-15	5	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.042)	ND (<0.0042)
B29@10	May-15	10	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.0039)	ND (<0.039)	ND (<0.0039)
B29@15	May-15	15	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.0042)	ND (<0.042)	ND (<0.0042)
B29@20	May-15	20	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.0046)	ND (<0.046)	ND (<0.0046)
B30@5	May-15	5	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.0045)	ND (<0.045)	ND (<0.0045)

Definitions:

ft. = feet bel
mg/kg = mil
PQL = pract
ND = Not de
VOCs = vol
USEPA = U
RSL = Regi

Notes:

VOCs analy
< = analyte r
Bold = analy
-- = No RSL
Green color
1. RSL in m

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)
B26-15	May-15	15
B26-20	May-15	20
B26-30	May-15	30
B26-40	May-15	40
B26-50	May-15	50
B27-5	May-15	5
B27-10	May-15	10
B27-15	May-15	15
B27-20	May-15	20
B27-30	May-15	30
B27-40	May-15	40
B28@5	May-15	5
B28@10	May-15	10
B28@15	May-15	15
B28@20	May-15	20
B28@30	May-15	30
B29@2	May-15	2
B29@5	May-15	5
B29@10	May-15	10
B29@15	May-15	15
B29@20	May-15	20
B30@5	May-15	5

ow ground surface.
ligrams per kilogram.
ical quantification limits.
etected (below PQL shown in parentheses).
atile organic compounds.
nited States Environmental Protection Agency.
onal Screening Level for residential soil, USEPA Summary Table June 2015.

zed in general accordance with USEPA Method No. 8260B. Results are in mg/kg.
ot detected at or above the laboratory's PQL.
te detected at concentration above the laboratory's PQL.
has been developed.
indicates the analyte was detected at a concentration above its RSL.
g/kg.

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene
B30@10	May-15	10	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B30@20	May-15	20	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B30@30	May-15	30	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
RSL[1]			--	--	--	--	--	--	--

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene
B30@10	May-15	10	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	**0.017**	ND (<0.0073)	ND (<0.0037)	ND (<0.0037)
B30@20	May-15	20	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0095)	ND (<0.0047)	ND (<0.0047)
B30@30	May-15	30	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0072)	ND (<0.0036)	ND (<0.0036)
RSL[1]			--	--	--	5.8	--	--	180

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane
B30@10	May-15	10	ND (<0.0037)	ND (<0.0037)	**0.0058**	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B30@20	May-15	20	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B30@30	May-15	30	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
RSL[1]			0.46	--	78	--	--	2.6	--

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	2-Chlorotoluene	4-Chlorotoluene	Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform
B30@10	May-15	10	ND (<0.0037)	ND (<0.0037)	**0.0088**	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B30@20	May-15	20	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B30@30	May-15	30	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
RSL[1]			--	--	1.2	--	--	--	--

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	Bromomethane	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane
B30@10	May-15	10	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B30@20	May-15	20	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B30@30	May-15	30	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
RSL[1]			0.68	77	--	--	--	--	--

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Diisopropyl ether (DIPE)	Ethyl Acetate
B30@10	May-15	10	**0.005**	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.037)
B30@20	May-15	20	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.047)
B30@30	May-15	30	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.036)
RSL[1]			16	--	--	--	--	--	--

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	Ethyl Ether	Ethyl tert-butyl ether (ETBE)	Ethylbenzene	Freon-113	Hexachlorobutadiene	Isopropylbenzene	m,p-Xylenes
B30@10	May-15	10	ND (<0.037)	ND (<0.0037)	**0.0038**	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	**0.0097**
B30@20	May-15	20	ND (<0.047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0095)
B30@30	May-15	30	ND (<0.036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0072)
RSL[1]			--	--	5.8	--	--	--	65

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	Methylene chloride	Methyl-tert-butyl Ether (MTBE)	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Xylene	p-Isopropyltoluene
B30@10	May-15	10	ND (<0.0037)	ND (<0.0037)	**0.02**	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)
B30@20	May-15	20	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B30@30	May-15	30	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
RSL[1]			--	--	3.8	390	--	65	--

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	sec-Butylbenzene	Styrene	tert-Amyl methyl ether	tert-Butyl alcohol (TBA)	tert-Butylbenzene	Tetrachloroethene	Toluene
B30@10	May-15	10	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.073)	ND (<0.0037)	ND (<0.0037)	**0.0044**
B30@20	May-15	20	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.095)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)
B30@30	May-15	30	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.072)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)
RSL[1]			780	--	--	--	--	--	490

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl acetate	Vinyl chloride
B30@10	May-15	10	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.0037)	ND (<0.037)	ND (<0.0037)
B30@20	May-15	20	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.0047)	ND (<0.047)	ND (<0.0047)
B30@30	May-15	30	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.0036)	ND (<0.036)	ND (<0.0036)
RSL[1]			--	--	--	--	--	--

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (VOCs)

Sample ID	Date	Depth (ft.)
B30@10	May-15	10
B30@20	May-15	20
B30@30	May-15	30
RSL[1]		

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Metals)

Sample ID	Date	Depth (ft.)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt
B1@5	May-15	5	ND (<2)	**7.3**	**98**	ND (<1)	ND (<1)	**17**	**8.5**
B1@10	May-15	10	ND (<2)	**6.6**	**620**	ND (<1)	ND (<1)	**20**	**7**
B1@15	May-15	15	ND (<2)	**1.9**	**130**	ND (<1)	ND (<1)	**20**	**8.5**
B1@20	May-15	20	ND (<2)	**5.4**	**130**	ND (<1)	ND (<1)	**21**	**9.6**
B1@30	May-15	30	ND (<2)	**3**	**67**	ND (<1)	ND (<1)	**15**	**6.1**
B2@5	May-15	5	ND (<2)	**2.1**	**130**	ND (<1)	ND (<1)	**18**	**7.7**
B2@10	May-15	10	ND (<2)	**11**	**410**	ND (<1)	ND (<1)	**24**	**7.5**
B2@15	May-15	15	ND (<2)	**5**	**210**	ND (<1)	ND (<1)	**21**	**7.8**
B2@20	May-15	20	ND (<2)	**30**	**520**	ND (<1)	ND (<1)	**21**	**7.4**
B2@35	May-15	35	ND (<2)	**9.1**	**98**	ND (<1)	ND (<1)	**19**	**11**
B3@5	May-15	5	ND (<2)	**8.2**	**690**	ND (<1)	**1**	**22**	**7.7**
B3@10	May-15	10	ND (<2)	**4**	**84**	ND (<1)	ND (<1)	**18**	**9.2**
B3@15	May-15	15	ND (<2)	**6.8**	**140**	ND (<1)	ND (<1)	**20**	**7.8**
B3@20	May-15	20	ND (<2)	**5.1**	**130**	ND (<1)	ND (<1)	**19**	**7.8**
B3@35	May-15	35	ND (<2)	**4.9**	**99**	ND (<1)	ND (<1)	**11**	**5.7**
B4@5	May-15	5	ND (<2)	**11**	**760**	ND (<1)	**1**	**21**	**7.4**
B4@10	May-15	10	ND (<2)	**12**	**370**	ND (<1)	ND (<1)	**20**	**7.3**
B4@15	May-15	15	ND (<2)	**23**	**410**	ND (<1)	ND (<1)	**27**	**7.8**
B4@20	May-15	20	ND (<2)	**12**	**260**	ND (<1)	ND (<1)	**21**	**8.3**
B4@35	May-15	35	ND (<2)	ND (<1)	**31**	ND (<1)	ND (<1)	**10**	**3.4**
B5@5	May-15	5	ND (<2)	**5.9**	**550**	ND (<1)	ND (<1)	**19**	**7.1**
B5@10	May-15	10	ND (<2)	**14**	**350**	ND (<1)	ND (<1)	**20**	**7.7**
B5@15	May-15	15	ND (<2)	**6.6**	**120**	ND (<1)	ND (<1)	**19**	**6.6**
B5@20	May-15	20	ND (<2)	**1.9**	**43**	ND (<1)	ND (<1)	**11**	**3.8**
B5@30	May-15	30	ND (<2)	**1**	**49**	ND (<1)	ND (<1)	**12**	**4.4**
B6@5	May-15	5	ND (<2)	**6.7**	**540**	ND (<1)	ND (<1)	**20**	**6.8**
B6@10	May-15	10	ND (<2)	**1.2**	**100**	ND (<1)	ND (<1)	**9.9**	**3.4**
B6@15	May-15	15	ND (<2)	**5.8**	**99**	ND (<1)	ND (<1)	**19**	**8.2**
B6@20	May-15	20	ND (<2)	**8.2**	**94**	ND (<1)	ND (<1)	**21**	**9.7**
B6@30	May-15	30	ND (<2)	ND (<1)	**27**	ND (<1)	ND (<1)	**5.6**	**3.8**
B7@5	May-15	5	ND (<2)	**3.7**	**210**	ND (<1)	ND (<1)	**21**	**8.9**
B7@10	May-15	10	ND (<2)	**5.2**	**150**	ND (<1)	ND (<1)	**27**	**11**
B7@20	May-15	20	ND (<2)	**4.8**	**83**	ND (<1)	ND (<1)	**15**	**7.5**
B7@30	May-15	30	ND (<2)	**5.5**	**50**	ND (<1)	ND (<1)	**10**	**3.9**
B8-5	May-15	5	ND (<2)	**2.8**	**65**	ND (<1)	ND (<1)	**20**	**8.5**
B8-10	May-15	10	ND (<2)	**24**	**110**	ND (<1)	ND (<1)	**32**	**6.4**
B8-15	May-15	15	ND (<2)	**1.9**	**33**	ND (<1)	ND (<1)	**9.5**	**5.1**

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Metals)

Sample ID	Date	Depth (ft.)	Copper	Iron	Lead	Manganese	Mercury	Molybdenum	Nickel
B1@5	May-15	5	**17**	--	**11**	--	ND (<0.1)	ND (<1)	**14**
B1@10	May-15	10	**37**	--	**200**	--	**0.37**	ND (<1)	**18**
B1@15	May-15	15	**29**	--	**5.5**	--	ND (<0.1)	ND (<1)	**16**
B1@20	May-15	20	**25**	--	**5.2**	--	ND (<0.1)	ND (<1)	**18**
B1@30	May-15	30	**49**	--	**3.4**	--	**0.25**	ND (<1)	**13**
B2@5	May-15	5	**26**	--	**12**	--	ND (<0.1)	ND (<1)	**15**
B2@10	May-15	10	**30**	--	**140**	--	**0.17**	ND (<1)	**18**
B2@15	May-15	15	**25**	--	**64**	--	ND (<0.1)	ND (<1)	**17**
B2@20	May-15	20	**33**	--	**290**	--	**0.25**	ND (<1)	**20**
B2@35	May-15	35	**28**	--	**9.1**	--	ND (<0.1)	ND (<1)	**18**
B3@5	May-15	5	**55**	--	**480**	--	**0.83**	ND (<1)	**21**
B3@10	May-15	10	**22**	--	**5.2**	--	ND (<0.1)	ND (<1)	**17**
B3@15	May-15	15	**20**	--	**5.1**	--	ND (<0.1)	ND (<1)	**15**
B3@20	May-15	20	**18**	--	**5.1**	--	ND (<0.1)	ND (<1)	**15**
B3@35	May-15	35	**11**	--	**5**	--	ND (<0.1)	ND (<1)	**12**
B4@5	May-15	5	**74**	--	**520**	--	**1.5**	ND (<1)	**22**
B4@10	May-15	10	**28**	--	**86**	--	**0.11**	ND (<1)	**17**
B4@15	May-15	15	**68**	--	**460**	--	**0.51**	ND (<1)	**18**
B4@20	May-15	20	**24**	--	**82**	--	ND (<0.1)	ND (<1)	**16**
B4@35	May-15	35	**6.3**	--	**3.8**	--	ND (<0.1)	ND (<1)	**7.4**
B5@5	May-15	5	**44**	--	**280**	--	**0.52**	ND (<1)	**19**
B5@10	May-15	10	**30**	--	**160**	--	**0.19**	ND (<1)	**16**
B5@15	May-15	15	**20**	--	**5.1**	--	ND (<0.1)	ND (<1)	**14**
B5@20	May-15	20	**12**	--	**2.4**	--	ND (<0.1)	ND (<1)	**8.1**
B5@30	May-15	30	**14**	--	**2.9**	--	ND (<0.1)	ND (<1)	**10**
B6@5	May-15	5	**33**	--	**170**	--	**0.31**	ND (<1)	**17**
B6@10	May-15	10	**13**	--	**19**	--	ND (<0.1)	ND (<1)	**13**
B6@15	May-15	15	**20**	--	**4.5**	--	ND (<0.1)	ND (<1)	**15**
B6@20	May-15	20	**20**	--	**5.6**	--	**0.12**	ND (<1)	**20**
B6@30	May-15	30	**17**	--	**1.7**	--	ND (<0.1)	ND (<1)	**7.9**
B7@5	May-15	5	**20**	--	**12**	--	ND (<0.1)	ND (<1)	**15**
B7@10	May-15	10	**29**	--	**7.5**	--	ND (<0.1)	ND (<1)	**20**
B7@20	May-15	20	**19**	--	**4.6**	--	ND (<0.1)	ND (<1)	**14**
B7@30	May-15	30	**9.3**	--	**2.5**	--	ND (<0.1)	ND (<1)	**6.8**
B8-5	May-15	5	**20**	**25,000**	**5.2**	**410**	ND (<0.1)	ND (<1)	**18**
B8-10	May-15	10	**50**	--	**11**	--	ND (<0.1)	ND (<1)	**14**
B8-15	May-15	15	**11**	--	**2.1**	--	ND (<0.1)	ND (<1)	**11**

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Metals)

Sample ID	Date	Depth (ft.)	Selenium	Silver	Thallium	Vanadium	Zinc
B1@5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**31**	**53**
B1@10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**29**	**78**
B1@15	May-15	15	ND (<1)	ND (<1)	ND (<1)	**33**	**65**
B1@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**38**	**56**
B1@30	May-15	30	ND (<1)	ND (<1)	ND (<1)	**32**	**47**
B2@5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**31**	**71**
B2@10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**32**	**400**
B2@15	May-15	15	ND (<1)	ND (<1)	ND (<1)	**32**	**60**
B2@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**30**	**210**
B2@35	May-15	35	ND (<1)	ND (<1)	ND (<1)	**37**	**71**
B3@5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**32**	**95**
B3@10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**28**	**39**
B3@15	May-15	15	ND (<1)	ND (<1)	ND (<1)	**30**	**37**
B3@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**32**	**38**
B3@35	May-15	35	ND (<1)	ND (<1)	ND (<1)	**18**	**35**
B4@5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**30**	**120**
B4@10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**29**	**87**
B4@15	May-15	15	ND (<1)	ND (<1)	ND (<1)	**30**	**120**
B4@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**32**	**79**
B4@35	May-15	35	ND (<1)	ND (<1)	ND (<1)	**15**	**110**
B5@5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**31**	**90**
B5@10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**29**	**110**
B5@15	May-15	15	ND (<1)	ND (<1)	ND (<1)	**33**	**42**
B5@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**20**	**30**
B5@30	May-15	30	ND (<1)	ND (<1)	ND (<1)	**19**	**40**
B6@5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**29**	**93**
B6@10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**19**	**30**
B6@15	May-15	15	ND (<1)	ND (<1)	ND (<1)	**28**	**38**
B6@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**34**	**39**
B6@30	May-15	30	ND (<1)	ND (<1)	ND (<1)	**10**	**16**
B7@5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**35**	**40**
B7@10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**46**	**47**
B7@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**28**	**36**
B7@30	May-15	30	ND (<1)	ND (<1)	ND (<1)	**22**	**23**
B8-5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**36**	**36**
B8-10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**59**	**44**
B8-15	May-15	15	ND (<1)	ND (<1)	ND (<1)	**18**	**27**

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Metals)

Sample ID	Date	Depth (ft.)
B1@5	May-15	5
B1@10	May-15	10
B1@15	May-15	15
B1@20	May-15	20
B1@30	May-15	30
B2@5	May-15	5
B2@10	May-15	10
B2@15	May-15	15
B2@20	May-15	20
B2@35	May-15	35
B3@5	May-15	5
B3@10	May-15	10
B3@15	May-15	15
B3@20	May-15	20
B3@35	May-15	35
B4@5	May-15	5
B4@10	May-15	10
B4@15	May-15	15
B4@20	May-15	20
B4@35	May-15	35
B5@5	May-15	5
B5@10	May-15	10
B5@15	May-15	15
B5@20	May-15	20
B5@30	May-15	30
B6@5	May-15	5
B6@10	May-15	10
B6@15	May-15	15
B6@20	May-15	20
B6@30	May-15	30
B7@5	May-15	5
B7@10	May-15	10
B7@20	May-15	20
B7@30	May-15	30
B8-5	May-15	5
B8-10	May-15	10
B8-15	May-15	15

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Metals)

Sample ID	Date	Depth (ft.)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt
B8-20	May-15	20	ND (<2)	**1.8**	**38**	ND (<1)	ND (<1)	**9.7**	**5.1**
B8-30	May-15	30	ND (<2)	**4.7**	**34**	ND (<1)	ND (<1)	**12**	**4.9**
B8-40	May-15	40	ND (<2)	**5.7**	**24**	ND (<1)	ND (<1)	**8**	**2.9**
B8-50	May-15	50	ND (<2)	**35**	**62**	ND (<1)	ND (<1)	**17**	**7.3**
B9@5	May-15	5	ND (<2)	**1.9**	**99**	ND (<1)	ND (<1)	**20**	**10**
B9@10	May-15	10	ND (<2)	**14**	**86**	ND (<1)	ND (<1)	**19**	**6.6**
B9@20	May-15	20	ND (<2)	**25**	**120**	ND (<1)	ND (<1)	**24**	**9.7**
RSL[1]			--	0.68	15,000	160	71	120,000[4]	23
BK[2]			--	12	--	--	--	--	--
SSL[3]			--	--	--	--	--	--	--
B10@2	May-15	2	ND (<2)	**1.4**	**67**	ND (<1)	ND (<1)	**13**	**5.2**
B11@2	May-15	2	ND (<2)	**1.7**	**83**	ND (<1)	ND (<1)	**17**	**5.8**
B12@2	May-15	2	ND (<2)	**2.1**	**71**	ND (<1)	ND (<1)	**12**	**4.8**
B12@5	May-15	5	ND (<2)	**1.9**	**45**	ND (<1)	ND (<1)	**10**	**3.9**
B12@10	May-15	10	ND (<2)	**2.4**	**29**	ND (<1)	ND (<1)	**5.7**	**2.4**
B12@20	May-15	20	ND (<2)	**1.5**	**32**	ND (<1)	ND (<1)	**9.3**	**4.6**
B12@35	May-15	35	ND (<2)	**14**	**130**	ND (<1)	ND (<1)	**20**	**9.2**
B13@2	May-15	2	ND (<2)	**12**	**430**	ND (<1)	ND (<1)	**20**	**6**
B13@5	May-15	5	ND (<2)	ND (<1)	**92**	ND (<1)	ND (<1)	**15**	**6**
B13@10	May-15	10	ND (<2)	**38**	**200**	ND (<1)	ND (<1)	**16**	**5.9**
B13@20	May-15	20	ND (<2)	**22**	**250**	ND (<1)	ND (<1)	**15**	**6**
B13@35	May-15	35	ND (<2)	**22**	**120**	ND (<1)	ND (<1)	**24**	**10**
B14@5	May-15	5	ND (<2)	**16**	**500**	ND (<1)	ND (<1)	**23**	**6.5**
B14@10	May-15	10	ND (<2)	**20**	**120**	ND (<1)	ND (<1)	**17**	**7.6**
B14@20	May-15	20	ND (<2)	**7.7**	**230**	ND (<1)	ND (<1)	**21**	**7.6**
B14@35	May-15	35	ND (<2)	ND (<1)	**62**	ND (<1)	ND (<1)	**4.8**	**2.5**
B15@5	May-15	5	ND (<2)	ND (<1)	**130**	ND (<1)	ND (<1)	**12**	**5**
B15@10	May-15	10	ND (<2)	**1.1**	**310**	ND (<1)	ND (<1)	**19**	**6.2**
B15@20	May-15	20	ND (<2)	**2.1**	**210**	ND (<1)	ND (<1)	**19**	**7.9**
B15@30	May-15	30	ND (<2)	**3**	**170**	ND (<1)	ND (<1)	**13**	**6.5**
B16@3	May-15	3	ND (<2)	**1.8**	**74**	ND (<1)	ND (<1)	**13**	**5.8**
B16@10	May-15	10	ND (<2)	ND (<1)	**500**	ND (<1)	ND (<1)	**61**	**4.9**
B16@20	May-15	20	ND (<2)	**4.5**	**130**	ND (<1)	ND (<1)	**22**	**9**
B16@30	May-15	30	ND (<2)	**15**	**150**	ND (<1)	ND (<1)	**27**	**12**
B17@5	May-15	5	ND (<2)	**4.4**	**64**	ND (<1)	ND (<1)	**11**	**4.1**
B17@10	May-15	10	ND (<2)	**1.8**	**84**	ND (<1)	ND (<1)	**15**	**6.6**

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Metals)

Sample ID	Date	Depth (ft.)	Copper	Iron	Lead	Manganese	Mercury	Molybdenum	Nickel
B8-20	May-15	20	**11**	--	**2.2**	--	ND (<0.1)	ND (<1)	**9.1**
B8-30	May-15	30	**10**	--	**4**	--	ND (<0.1)	ND (<1)	**11**
B8-40	May-15	40	**4.8**	--	**1.8**	--	ND (<0.1)	ND (<1)	**5.6**
B8-50	May-15	50	**21**	--	**4.7**	--	**0.16**	ND (<1)	**14**
B9@5	May-15	5	**19**	--	**5.6**	--	ND (<0.1)	ND (<1)	**18**
B9@10	May-15	10	**20**	--	**4.7**	--	ND (<0.1)	ND (<1)	**16**
B9@20	May-15	20	**33**	--	**7.4**	--	ND (<0.1)	ND (<1)	**21**
RSL[1]			3,100	55,000	--	1,800	9.40	390	840
BK[2]			--	--	--	--	--	--	--
SSL[3]			--	--	80	--	--	--	--
B10@2	May-15	2	**15**	**13,000**	**8.9**	**310**	ND (<0.1)	ND (<1)	**11**
B11@2	May-15	2	**17**	**15,000**	**21**	**280**	ND (<0.1)	ND (<1)	**24**
B12@2	May-15	2	**12**	**12,000**	**10**	**230**	ND (<0.1)	ND (<1)	**8.9**
B12@5	May-15	5	**6.9**	--	**2.8**	--	ND (<0.1)	ND (<1)	**7.7**
B12@10	May-15	10	**5.3**	--	**2**	--	ND (<0.1)	ND (<1)	**6.5**
B12@20	May-15	20	**12**	--	**2.1**	--	ND (<0.1)	ND (<1)	**14**
B12@35	May-15	35	**29**	--	**6.1**	--	ND (<0.1)	ND (<1)	**20**
B13@2	May-15	2	**20**	**17,000**	**46**	**290**	**0.13**	ND (<1)	**17**
B13@5	May-15	5	**18**	--	**54**	--	ND (<0.1)	ND (<1)	**10**
B13@10	May-15	10	**20**	--	**57**	--	ND (<0.1)	ND (<1)	**12**
B13@20	May-15	20	**17**	--	**15**	--	ND (<0.1)	ND (<1)	**12**
B13@35	May-15	35	**37**	--	**5.5**	--	ND (<0.1)	ND (<1)	**20**
B14@5	May-15	5	**26**	--	**69**	--	**0.15**	ND (<1)	**20**
B14@10	May-15	10	**29**	--	**32**	--	ND (<0.1)	ND (<1)	**14**
B14@20	May-15	20	**21**	--	**16**	--	ND (<0.1)	ND (<1)	**15**
B14@35	May-15	35	**6.5**	--	**2**	--	ND (<0.1)	ND (<1)	**4.5**
B15@5	May-15	5	**14**	--	**2.5**	--	ND (<0.1)	ND (<1)	**15**
B15@10	May-15	10	**18**	--	**5**	--	ND (<0.1)	ND (<1)	**15**
B15@20	May-15	20	**23**	--	**4.7**	--	**0.19**	ND (<1)	**18**
B15@30	May-15	30	**19**	--	**2.8**	--	ND (<0.1)	ND (<1)	**28**
B16@3	May-15	3	**14**	--	**5.3**	--	ND (<0.1)	ND (<1)	**13**
B16@10	May-15	10	**40**	--	**18**	--	ND (<0.1)	ND (<1)	**15**
B16@20	May-15	20	**24**	--	**6**	--	ND (<0.1)	ND (<1)	**24**
B16@30	May-15	30	**41**	--	**8.7**	--	ND (<0.1)	ND (<1)	**28**
B17@5	May-15	5	**11**	--	**3.9**	--	ND (<0.1)	ND (<1)	**8.9**
B17@10	May-15	10	**18**	--	**3.1**	--	ND (<0.1)	ND (<1)	**11**

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Metals)

Sample ID	Date	Depth (ft.)	Selenium	Silver	Thallium	Vanadium	Zinc
B8-20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**18**	**27**
B8-30	May-15	30	ND (<1)	ND (<1)	ND (<1)	**25**	**31**
B8-40	May-15	40	ND (<1)	ND (<1)	ND (<1)	**14**	**18**
B8-50	May-15	50	ND (<1)	ND (<1)	ND (<1)	**27**	**35**
B9@5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**39**	**280**
B9@10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**36**	**65**
B9@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**37**	**71**
RSL[1]			390	390	0.78	390	23,000
BK[2]			--	--	--	--	--
SSL[3]			--	--	--	--	--
B10@2	May-15	2	ND (<1)	ND (<1)	ND (<1)	**22**	**34**
B11@2	May-15	2	ND (<1)	ND (<1)	ND (<1)	**24**	**42**
B12@2	May-15	2	ND (<1)	ND (<1)	ND (<1)	**21**	**47**
B12@5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**19**	**20**
B12@10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**12**	**11**
B12@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**16**	**22**
B12@35	May-15	35	ND (<1)	ND (<1)	ND (<1)	**35**	**46**
B13@2	May-15	2	ND (<1)	ND (<1)	ND (<1)	**27**	**54**
B13@5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**29**	**88**
B13@10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**27**	**56**
B13@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**28**	**41**
B13@35	May-15	35	ND (<1)	ND (<1)	ND (<1)	**44**	**57**
B14@5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**27**	**67**
B14@10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**29**	**48**
B14@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**33**	**41**
B14@35	May-15	35	ND (<1)	ND (<1)	ND (<1)	**9.2**	**14**
B15@5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**23**	**30**
B15@10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**27**	**37**
B15@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**29**	**37**
B15@30	May-15	30	ND (<1)	ND (<1)	ND (<1)	**25**	**35**
B16@3	May-15	3	ND (<1)	ND (<1)	ND (<1)	**23**	**32**
B16@10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**33**	**33**
B16@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**35**	**46**
B16@30	May-15	30	ND (<1)	ND (<1)	ND (<1)	**41**	**56**
B17@5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**17**	**26**
B17@10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**28**	**36**

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Metals)

Sample ID	Date	Depth (ft.)
B8-20	May-15	20
B8-30	May-15	30
B8-40	May-15	40
B8-50	May-15	50
B9@5	May-15	5
B9@10	May-15	10
B9@20	May-15	20
RSL[1]		
BK[2]		
SSL[3]		
B10@2	May-15	2
B11@2	May-15	2
B12@2	May-15	2
B12@5	May-15	5
B12@10	May-15	10
B12@20	May-15	20
B12@35	May-15	35
B13@2	May-15	2
B13@5	May-15	5
B13@10	May-15	10
B13@20	May-15	20
B13@35	May-15	35
B14@5	May-15	5
B14@10	May-15	10
B14@20	May-15	20
B14@35	May-15	35
B15@5	May-15	5
B15@10	May-15	10
B15@20	May-15	20
B15@30	May-15	30
B16@3	May-15	3
B16@10	May-15	10
B16@20	May-15	20
B16@30	May-15	30
B17@5	May-15	5
B17@10	May-15	10

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Metals)

Sample ID	Date	Depth (ft.)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt
B17@20	May-15	20	ND (<2)	**27**	**81**	ND (<1)	ND (<1)	**24**	**11**
B17@30	May-15	30	ND (<2)	ND (<1)	**25**	ND (<1)	ND (<1)	**6.6**	**2.8**
B18@3	May-15	3	ND (<2)	**2.8**	**250**	ND (<1)	ND (<1)	**14**	**8.1**
B18@10	May-15	10	ND (<2)	**2.1**	**140**	ND (<1)	ND (<1)	**16**	**6.9**
B18@20	May-15	20	ND (<2)	**9**	**150**	ND (<1)	ND (<1)	**27**	**11**
B18@30	May-15	30	ND (<2)	**1.6**	**56**	ND (<1)	ND (<1)	**11**	**5.2**
B19@5	May-15	5	ND (<2)	**1.5**	**190**	ND (<1)	ND (<1)	**18**	**8.5**
B19@10	May-15	10	ND (<2)	**2.5**	**120**	ND (<1)	ND (<1)	**21**	**8.2**
B19@20	May-15	20	ND (<2)	**3.4**	**370**	ND (<1)	ND (<1)	**31**	**11**
B19@30	May-15	30	ND (<2)	**1.7**	**25**	ND (<1)	ND (<1)	**7.3**	**2.7**
B20-5	May-15	5	ND (<2)	ND (<1)	**130**	ND (<1)	ND (<1)	**14**	**6.1**
B20-10	May-15	10	ND (<2)	**6.1**	**160**	ND (<1)	ND (<1)	**26**	**10**
B20-20	May-15	20	ND (<2)	**3.5**	**33**	ND (<1)	ND (<1)	**7.1**	**2.6**
B20-35	May-15	35	ND (<2)	ND (<1)	**21**	ND (<1)	ND (<1)	**5.3**	**2**
B21@5	May-15	5	ND (<2)	**6**	**100**	ND (<1)	ND (<1)	**18**	**6.8**
B21@10	May-15	10	ND (<2)	**11**	**440**	ND (<1)	ND (<1)	**21**	**7.9**
B21@15	May-15	15	ND (<2)	ND (<1)	**190**	ND (<1)	ND (<1)	**12**	**5.3**
B21@20	May-15	20	ND (<2)	**3.5**	**250**	ND (<1)	ND (<1)	**23**	**11**
RSL[1]			--	0.68	15,000	160	71	120,000[4]	23
BK[2]			--	12	--	--	--	--	--
SSL[3]			--	--	--	--	--	--	--
B21@30	May-15	30	ND (<2)	ND (<1)	**50**	ND (<1)	ND (<1)	**5.9**	**3.2**
B22@5	May-15	5	ND (<2)	**2.5**	**150**	ND (<1)	ND (<1)	**16**	**6.9**
B22@10	May-15	10	ND (<2)	**14**	**290**	ND (<1)	ND (<1)	**22**	**8.2**
B22@20	May-15	20	ND (<2)	**1.3**	**50**	ND (<1)	ND (<1)	**5.6**	**3**
B22@30	May-15	30	ND (<2)	ND (<1)	**47**	ND (<1)	ND (<1)	**4.5**	**2.5**
B23@5	May-15	5	ND (<2)	**5.2**	**180**	ND (<1)	ND (<1)	**20**	**11**
B23@10	May-15	10	ND (<2)	**26**	**340**	ND (<1)	ND (<1)	**20**	**7**
B23@20	May-15	20	ND (<2)	**26**	**260**	ND (<1)	ND (<1)	**17**	**9.2**
B23@30	May-15	30	ND (<2)	ND (<1)	**47**	ND (<1)	ND (<1)	**3.5**	**2.2**
B24-5	May-15	5	ND (<2)	**13**	**90**	ND (<1)	ND (<1)	**16**	**5.8**
B24-10	May-15	10	ND (<2)	ND (<1)	**170**	ND (<1)	ND (<1)	**12**	**5.7**
B24-15	May-15	15	ND (<2)	ND (<1)	**330**	ND (<1)	ND (<1)	**16**	**6.1**
B24-20	May-15	20	ND (<2)	**7.9**	**110**	ND (<1)	ND (<1)	**15**	**6.3**
B24-30	May-15	30	ND (<2)	ND (<1)	**19**	ND (<1)	ND (<1)	**6.7**	**2.9**
B24-40	May-15	40	ND (<2)	**2.4**	**120**	ND (<1)	ND (<1)	**24**	**12**

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Metals)

Sample ID	Date	Depth (ft.)	Copper	Iron	Lead	Manganese	Mercury	Molybdenum	Nickel
B17@20	May-15	20	**45**	--	**9.2**	--	ND (<0.1)	ND (<1)	**22**
B17@30	May-15	30	**6.4**	--	**1.8**	--	ND (<0.1)	ND (<1)	**4.8**
B18@3	May-15	3	**28**	--	**610**	--	**0.36**	ND (<1)	**27**
B18@10	May-15	10	**21**	--	**4.4**	--	ND (<0.1)	ND (<1)	**16**
B18@20	May-15	20	**33**	--	**7.5**	--	ND (<0.1)	ND (<1)	**24**
B18@30	May-15	30	**14**	--	**2.4**	--	ND (<0.1)	ND (<1)	**14**
B19@5	May-15	5	**26**	--	**6.5**	--	**0.12**	ND (<1)	**15**
B19@10	May-15	10	**21**	--	**4.6**	--	ND (<0.1)	ND (<1)	**17**
B19@20	May-15	20	**42**	--	**6.5**	--	ND (<0.1)	ND (<1)	**22**
B19@30	May-15	30	**7.5**	--	**1.7**	--	ND (<0.1)	ND (<1)	**5.4**
B20-5	May-15	5	**15**	--	**3**	--	ND (<0.1)	ND (<1)	**12**
B20-10	May-15	10	**37**	--	**6.8**	--	ND (<0.1)	ND (<1)	**21**
B20-20	May-15	20	**7.4**	--	**1.7**	--	ND (<0.1)	ND (<1)	**5.6**
B20-35	May-15	35	**4.1**	--	**1.1**	--	ND (<0.1)	ND (<1)	**3.8**
B21@5	May-15	5	**18**	--	**30**	--	ND (<0.1)	ND (<1)	**13**
B21@10	May-15	10	**24**	--	**28**	--	ND (<0.1)	ND (<1)	**17**
B21@15	May-15	15	**13**	--	**2.7**	--	ND (<0.1)	ND (<1)	**9.4**
B21@20	May-15	20	**22**	--	**6.1**	--	ND (<0.1)	ND (<1)	**19**
RSL[1]			3,100	55,000	--	1,800	9.40	390	840
BK[2]			--	--	--	--	--	--	--
SSL[3]			--	--	80	--	--	--	--
B21@30	May-15	30	**8.2**	--	**1.7**	--	ND (<0.1)	ND (<1)	**6**
B22@5	May-15	5	**17**	--	**16**	--	ND (<0.1)	ND (<1)	**16**
B22@10	May-15	10	**25**	--	**5.5**	--	ND (<0.1)	ND (<1)	**18**
B22@20	May-15	20	**7.3**	--	**1.6**	--	ND (<0.1)	ND (<1)	**4.9**
B22@30	May-15	30	**6.5**	--	**1.5**	--	ND (<0.1)	ND (<1)	**4.1**
B23@5	May-15	5	**18**	--	**5.8**	--	ND (<0.1)	ND (<1)	**16**
B23@10	May-15	10	**25**	--	**29**	--	ND (<0.1)	ND (<1)	**17**
B23@20	May-15	20	**23**	--	**4.2**	--	ND (<0.1)	ND (<1)	**16**
B23@30	May-15	30	**6.2**	--	**1.7**	--	ND (<0.1)	ND (<1)	**3.5**
B24-5	May-15	5	**14**	--	**9.1**	--	ND (<0.1)	ND (<1)	**11**
B24-10	May-15	10	**14**	--	**2.6**	--	ND (<0.1)	ND (<1)	**14**
B24-15	May-15	15	**19**	--	**3.7**	--	ND (<0.1)	ND (<1)	**13**
B24-20	May-15	20	**20**	--	**3.8**	--	ND (<0.1)	ND (<1)	**12**
B24-30	May-15	30	**9.1**	--	**1.4**	--	ND (<0.1)	ND (<1)	**6.3**
B24-40	May-15	40	**34**	--	**8.4**	--	ND (<0.1)	ND (<1)	**24**

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Metals)

Sample ID	Date	Depth (ft.)	Selenium	Silver	Thallium	Vanadium	Zinc
B17@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**46**	**46**
B17@30	May-15	30	ND (<1)	ND (<1)	ND (<1)	**12**	**15**
B18@3	May-15	3	ND (<1)	ND (<1)	ND (<1)	**29**	**210**
B18@10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**32**	**39**
B18@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**43**	**44**
B18@30	May-15	30	ND (<1)	ND (<1)	ND (<1)	**21**	**30**
B19@5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**33**	**47**
B19@10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**33**	**40**
B19@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**31**	**47**
B19@30	May-15	30	ND (<1)	ND (<1)	ND (<1)	**12**	**15**
B20-5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**29**	**36**
B20-10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**45**	**49**
B20-20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**15**	**14**
B20-35	May-15	35	ND (<1)	ND (<1)	ND (<1)	**7.6**	**10**
B21@5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**31**	**43**
B21@10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**36**	**41**
B21@15	May-15	15	ND (<1)	ND (<1)	ND (<1)	**22**	**29**
B21@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**43**	**44**
RSL[1]			390	390	0.78	390	23,000
BK[2]			--	--	--	--	--
SSL[3]			--	--	--	--	--
B21@30	May-15	30	ND (<1)	ND (<1)	ND (<1)	**13**	**17**
B22@5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**31**	**130**
B22@10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**39**	**65**
B22@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**12**	**95**
B22@30	May-15	30	ND (<1)	ND (<1)	ND (<1)	**8.7**	**39**
B23@5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**33**	**78**
B23@10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**32**	**53**
B23@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**33**	**74**
B23@30	May-15	30	ND (<1)	ND (<1)	ND (<1)	**6.5**	**16**
B24-5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**25**	**32**
B24-10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**27**	**32**
B24-15	May-15	15	ND (<1)	ND (<1)	ND (<1)	**26**	**38**
B24-20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**26**	**36**
B24-30	May-15	30	ND (<1)	ND (<1)	ND (<1)	**11**	**14**
B24-40	May-15	40	ND (<1)	ND (<1)	ND (<1)	**36**	**48**

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Metals)

Sample ID	Date	Depth (ft.)
B17@20	May-15	20
B17@30	May-15	30
B18@3	May-15	3
B18@10	May-15	10
B18@20	May-15	20
B18@30	May-15	30
B19@5	May-15	5
B19@10	May-15	10
B19@20	May-15	20
B19@30	May-15	30
B20-5	May-15	5
B20-10	May-15	10
B20-20	May-15	20
B20-35	May-15	35
B21@5	May-15	5
B21@10	May-15	10
B21@15	May-15	15
B21@20	May-15	20
RSL[1]		
BK[2]		
SSL[3]		
B21@30	May-15	30
B22@5	May-15	5
B22@10	May-15	10
B22@20	May-15	20
B22@30	May-15	30
B23@5	May-15	5
B23@10	May-15	10
B23@20	May-15	20
B23@30	May-15	30
B24-5	May-15	5
B24-10	May-15	10
B24-15	May-15	15
B24-20	May-15	20
B24-30	May-15	30
B24-40	May-15	40

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Metals)

Sample ID	Date	Depth (ft.)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt
B25-5	May-15	5	ND (<2)	**1.3**	**70**	ND (<1)	ND (<1)	**12**	**5.4**
B25-10	May-15	10	ND (<2)	ND (<1)	**78**	ND (<1)	ND (<1)	**13**	**6.2**
B25-15	May-15	15	ND (<2)	**23**	**260**	ND (<1)	ND (<1)	**26**	**9.1**
B25-20	May-15	20	ND (<2)	**7.4**	**87**	ND (<1)	ND (<1)	**23**	**9.3**
B25-30	May-15	30	ND (<2)	**1.1**	**36**	ND (<1)	ND (<1)	**7.6**	**3.8**
B25-40	May-15	40	ND (<2)	**1.1**	**23**	ND (<1)	ND (<1)	**5.3**	**2.9**
B26-5	May-15	5	ND (<2)	**9.8**	**350**	ND (<1)	ND (<1)	**21**	**8.2**
B26-10	May-15	10	ND (<2)	**4.2**	**170**	ND (<1)	ND (<1)	**21**	**7.2**
B26-15	May-15	15	ND (<2)	**2.1**	**47**	ND (<1)	ND (<1)	**13**	**4.8**
B26-20	May-15	20	ND (<2)	**1.5**	**46**	ND (<1)	ND (<1)	**9.8**	**3.5**
B26-30	May-15	30	ND (<2)	**11**	**80**	ND (<1)	ND (<1)	**21**	**5.6**
B26-40	May-15	40	ND (<2)	**1.9**	**21**	ND (<1)	ND (<1)	**6.1**	**1.9**
B26-50	May-15	50	ND (<2)	**16**	**80**	ND (<1)	ND (<1)	**22**	**8.5**
B27-5	May-15	5	ND (<2)	**4.7**	**160**	ND (<1)	**3.2**	**20**	**7.1**
B27-10	May-15	10	ND (<2)	**6**	**360**	ND (<1)	ND (<1)	**18**	**6.1**
B27-15	May-15	15	ND (<2)	**22**	**200**	ND (<1)	ND (<1)	**26**	**11**
B27-20	May-15	20	ND (<2)	**18**	**110**	ND (<1)	ND (<1)	**26**	**10**
B27-30	May-15	30	ND (<2)	ND (<1)	**13**	ND (<1)	ND (<1)	**7.5**	**2.8**
B27-40	May-15	40	ND (<2)	ND (<1)	**21**	ND (<1)	ND (<1)	**4.7**	**2.7**
B28@5	May-15	5	ND (<2)	**1.9**	**52**	ND (<1)	ND (<1)	**8.4**	**3.6**
B28@10	May-15	10	ND (<2)	**3.2**	**150**	ND (<1)	ND (<1)	**24**	**9.3**
B28@15	May-15	15	ND (<2)	**16**	**160**	ND (<1)	ND (<1)	**29**	**12**
B28@20	May-15	20	ND (<2)	**11**	**90**	ND (<1)	ND (<1)	**20**	**10**
B28@30	May-15	30	ND (<2)	ND (<1)	**21**	ND (<1)	ND (<1)	**5.6**	**2.7**
B29@2	May-15	2	ND (<2)	**2.2**	**140**	ND (<1)	ND (<1)	**14**	**4.7**
B29@5	May-15	5	ND (<2)	**2**	**230**	ND (<1)	ND (<1)	**28**	**11**
B29@10	May-15	10	ND (<2)	**2.2**	**240**	ND (<1)	ND (<1)	**26**	**10**
B29@15	May-15	15	ND (<2)	**2.1**	**78**	ND (<1)	ND (<1)	**7.8**	**3.9**
B29@20	May-15	20	ND (<2)	**1.2**	**37**	ND (<1)	ND (<1)	**7.6**	**2.9**
RSL[1]			--	0.68	15,000	160	71	120,000[4]	23
BK[2]			--	12	--	--	--	--	--
SSL[3]			--	--	--	--	--	--	--
B30@5	May-15	5	ND (<2)	**3**	**130**	ND (<1)	ND (<1)	**15**	**6.4**
B30@10	May-15	10	ND (<2)	**120**	**1,100**	ND (<1)	**1.1**	**50**	**5.5**
B30@20	May-15	20	ND (<2)	**1.5**	**120**	ND (<1)	ND (<1)	**9.2**	**4.7**
B30@30	May-15	30	ND (<2)	ND (<1)	**53**	ND (<1)	ND (<1)	**4**	**1.9**

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Metals)

Sample ID	Date	Depth (ft.)	Copper	Iron	Lead	Manganese	Mercury	Molybdenum	Nickel
B25-5	May-15	5	**13**	--	**2.8**	--	ND (<0.1)	ND (<1)	**9.3**
B25-10	May-15	10	**14**	--	**3.4**	--	ND (<0.1)	ND (<1)	**11**
B25-15	May-15	15	**24**	--	**5.4**	--	ND (<0.1)	**1.8**	**18**
B25-20	May-15	20	**29**	--	**5.9**	--	**0.17**	ND (<1)	**22**
B25-30	May-15	30	**8.9**	--	**2.2**	--	ND (<0.1)	ND (<1)	**6.6**
B25-40	May-15	40	**6.1**	--	**1.7**	--	ND (<0.1)	ND (<1)	**5.6**
B26-5	May-15	5	**24**	--	**21**	--	ND (<0.1)	ND (<1)	**18**
B26-10	May-15	10	**21**	--	**6.2**	--	ND (<0.1)	ND (<1)	**20**
B26-15	May-15	15	**13**	--	**2.4**	--	ND (<0.1)	ND (<1)	**11**
B26-20	May-15	20	**8.8**	--	**1.7**	--	ND (<0.1)	ND (<1)	**7.4**
B26-30	May-15	30	**22**	--	**2.7**	--	ND (<0.1)	ND (<1)	**16**
B26-40	May-15	40	**3.1**	--	**1.1**	--	ND (<0.1)	ND (<1)	**3.4**
B26-50	May-15	50	**23**	--	**5.7**	--	ND (<0.1)	ND (<1)	**19**
B27-5	May-15	5	**230**	--	**65**	--	**0.44**	ND (<1)	**20**
B27-10	May-15	10	**24**	--	**28**	--	**0.13**	ND (<1)	**16**
B27-15	May-15	15	**23**	--	**6.2**	--	ND (<0.1)	ND (<1)	**18**
B27-20	May-15	20	**29**	--	**6.3**	--	**0.12**	ND (<1)	**22**
B27-30	May-15	30	**8.3**	--	**1.8**	--	ND (<0.1)	ND (<1)	**5.2**
B27-40	May-15	40	**5.4**	--	**1.4**	--	ND (<0.1)	ND (<1)	**4.9**
B28@5	May-15	5	**10**	--	**16**	--	ND (<0.1)	ND (<1)	**11**
B28@10	May-15	10	**28**	--	**7.5**	--	ND (<0.1)	ND (<1)	**17**
B28@15	May-15	15	**36**	--	**8.5**	--	ND (<0.1)	ND (<1)	**25**
B28@20	May-15	20	**30**	--	**6.7**	--	ND (<0.1)	ND (<1)	**20**
B28@30	May-15	30	**7.1**	--	**1.4**	--	ND (<0.1)	ND (<1)	**4.3**
B29@2	May-15	2	**16**	--	**11**	--	**0.11**	ND (<1)	**33**
B29@5	May-15	5	**35**	--	**6.5**	--	ND (<0.1)	ND (<1)	**36**
B29@10	May-15	10	**32**	--	**6**	--	ND (<0.1)	ND (<1)	**25**
B29@15	May-15	15	**8.8**	--	**2**	--	ND (<0.1)	ND (<1)	**11**
B29@20	May-15	20	**8.2**	--	**1.7**	--	ND (<0.1)	ND (<1)	**16**
RSL[1]			3,100	55,000	--	1,800	9.40	390	840
BK[2]			--	--	--	--	--	--	--
SSL[3]			--	--	80	--	--	--	--
B30@5	May-15	5	**16**	--	**18**	--	**0.14**	ND (<1)	**13**
B30@10	May-15	10	**33**	--	**820**	--	**0.21**	ND (<1)	**22**
B30@20	May-15	20	**11**	--	**3.6**	--	ND (<0.1)	ND (<1)	**7.2**
B30@30	May-15	30	**6**	--	**1.4**	--	ND (<0.1)	ND (<1)	**3.5**

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Metals)

Sample ID	Date	Depth (ft.)	Selenium	Silver	Thallium	Vanadium	Zinc
B25-5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**26**	**33**
B25-10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**27**	**37**
B25-15	May-15	15	ND (<1)	ND (<1)	ND (<1)	**41**	**41**
B25-20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**41**	**44**
B25-30	May-15	30	ND (<1)	ND (<1)	ND (<1)	**17**	**18**
B25-40	May-15	40	ND (<1)	ND (<1)	ND (<1)	**11**	**15**
B26-5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**35**	**42**
B26-10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**28**	**36**
B26-15	May-15	15	ND (<1)	ND (<1)	ND (<1)	**23**	**30**
B26-20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**17**	**20**
B26-30	May-15	30	ND (<1)	ND (<1)	ND (<1)	**35**	**30**
B26-40	May-15	40	ND (<1)	ND (<1)	ND (<1)	**15**	**12**
B26-50	May-15	50	ND (<1)	ND (<1)	ND (<1)	**44**	**41**
B27-5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**38**	**4,700**
B27-10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**30**	**66**
B27-15	May-15	15	ND (<1)	ND (<1)	ND (<1)	**44**	**51**
B27-20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**43**	**53**
B27-30	May-15	30	ND (<1)	ND (<1)	ND (<1)	**15**	**19**
B27-40	May-15	40	ND (<1)	ND (<1)	ND (<1)	**10**	**17**
B28@5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**21**	**22**
B28@10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**33**	**46**
B28@15	May-15	15	ND (<1)	ND (<1)	ND (<1)	**50**	**48**
B28@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**37**	**41**
B28@30	May-15	30	ND (<1)	ND (<1)	ND (<1)	**11**	**13**
B29@2	May-15	2	ND (<1)	ND (<1)	ND (<1)	**21**	**36**
B29@5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**42**	**46**
B29@10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**41**	**45**
B29@15	May-15	15	ND (<1)	ND (<1)	ND (<1)	**14**	**17**
B29@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**17**	**14**
RSL[1]			390	390	0.78	390	23,000
BK[2]			--	--	--	--	--
SSL[3]			--	--	--	--	--
B30@5	May-15	5	ND (<1)	ND (<1)	ND (<1)	**33**	**43**
B30@10	May-15	10	ND (<1)	ND (<1)	ND (<1)	**27**	**130**
B30@20	May-15	20	ND (<1)	ND (<1)	ND (<1)	**15**	**22**
B30@30	May-15	30	ND (<1)	ND (<1)	ND (<1)	**8**	**330**

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Metals)

Sample ID	Date	Depth (ft.)
B25-5	May-15	5
B25-10	May-15	10
B25-15	May-15	15
B25-20	May-15	20
B25-30	May-15	30
B25-40	May-15	40
B26-5	May-15	5
B26-10	May-15	10
B26-15	May-15	15
B26-20	May-15	20
B26-30	May-15	30
B26-40	May-15	40
B26-50	May-15	50
B27-5	May-15	5
B27-10	May-15	10
B27-15	May-15	15
B27-20	May-15	20
B27-30	May-15	30
B27-40	May-15	40
B28@5	May-15	5
B28@10	May-15	10
B28@15	May-15	15
B28@20	May-15	20
B28@30	May-15	30
B29@2	May-15	2
B29@5	May-15	5
B29@10	May-15	10
B29@15	May-15	15
B29@20	May-15	20
RSL[1]		
BK[2]		
SSL[3]		
B30@5	May-15	5
B30@10	May-15	10
B30@20	May-15	20
B30@30	May-15	30

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Metals)

Sample ID	Date	Depth (ft.)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt
RSL[1]			--	0.68	15,000	160	71	120,000[4]	23
BK[2]			--	12	--	--	--	--	--
SSL[3]			--	--	--	--	--	--	--

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Metals)

Sample ID	Date	Depth (ft.)	Copper	Iron	Lead	Manganese	Mercury	Molybdenum	Nickel
RSL[1]			3,100	55,000	--	1,800	9.40	390	840
BK[2]			--	--	--	--	--	--	--
SSL[3]			--	--	80	--	--	--	--

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Metals)

Sample ID	Date	Depth (ft.)	Selenium	Silver	Thallium	Vanadium	Zinc
RSL[1]			390	390	0.78	390	23,000
BK[2]			--	--	--	--	--
SSL[3]			--	--	--	--	--

Definitions:

ft. = feet below ground surface.
mg/kg = milligrams per kilogram.
PQL = practical quantification limits.
ND = Not detected (below PQL shown in parentheses).
USEPA = United States Environmental Protection Agency.
RSL = Regional Screening Level for residential soil, USEPA Summary Table June 2015.
BK = California regional background arsenic concentration in soil (Chernoff, et.al., 2008).
SSL = Site Screening Level from SSI Work Plan (Tetra Tech, 2015a; 2015b).

Notes:

Title 22 metals analyzed in general accordance with USEPA Method No. 6010B. Results are in mg/kg.
Mercury analyzed in general accordance with USEPA Method No. 7471A. Results are in mg/kg.
< = analyte not detected at or above the laboratory's PQL.
Bold = analyte detected at concentration above the laboratory's PQL.
-- = Not analyzed or no RSL has been developed.
Green color indicates the analyte was detected at a concentration above its RSL, BK (in the case of arsenic), or SSL (in t
1. RSL in mg/kg.
2. BK in mg/kg.
3. SSL in mg/kg.
4. RSL in mg/kg for trivalent chromium (chrom III).

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Metals)

Sample ID	Date	Depth (ft.)
RSL[1]		
BK[2]		
SSL[3]		

ıe case of lead).

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (SVOCs)

Sample ID	Date	Depth (ft.)	1,2,4-Trichlorobenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol
B1@30	May-15	30	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B2@5	May-15	5	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B2@10	May-15	10	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<82)	ND (<16)
B2@15	May-15	15	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<16)	ND (<3.3)
B2@20	May-15	20	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<120)	ND (<25)
B2@35	May-15	35	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<82)	ND (<16)
B4@5	May-15	5	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<120)	ND (<25)
B4@10	May-15	10	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<82)	ND (<16)
B4@15	May-15	15	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<82)	ND (<16)
B4@20	May-15	20	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<16)	ND (<3.3)
B4@35	May-15	35	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<33)	ND (<6.6)
B17@5	May-15	5	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<16)	ND (<3.3)
B17@10	May-15	10	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B17@20	May-15	20	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<3.3)	ND (<0.66)
B17@30	May-15	30	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<3.3)	ND (<0.66)
B22@5	May-15	5	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<120)	ND (<25)
B22@10	May-15	10	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B22@20	May-15	20	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B22@30	May-15	30	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B23@5	May-15	5	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B23@10	May-15	10	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<120)	ND (<25)
B23@20	May-15	20	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B23@30	May-15	30	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B28@5	May-15	5	ND (<50)	ND (<50)	ND (<50)	ND (<50)	ND (<50)	ND (<50)	ND (<250)	ND (<50)
B28@10	May-15	10	ND (<1.6)	ND (<1.6)	ND (<1.6)	ND (<1.6)	ND (<1.6)	ND (<1.6)	ND (<8.2)	ND (<1.6)
B28@15	May-15	15	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B28@20	May-15	20	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<3.3)	ND (<0.66)
B28@30	May-15	30	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (SVOCs)

Sample ID	Date	Depth (ft.)	1,2,4-Trichlorobenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol
RSL[1]			--	--	--	--	--	--	--	--

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (SVOCs)

Sample ID	Date	Depth (ft.)	2,4-Dinitrophenol	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Chloronaphthalene	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol	2-Nitroaniline
B1@30	May-15	30	ND (<1.6)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)
B2@5	May-15	5	ND (<1.6)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)
B2@10	May-15	10	ND (<82)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<82)
B2@15	May-15	15	ND (<16)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	**4**	ND (<3.3)	ND (<16)
B2@20	May-15	20	ND (<120)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	**57**	ND (<25)	ND (<120)
B2@35	May-15	35	ND (<82)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	**25**	ND (<16)	ND (<82)
B4@5	May-15	5	ND (<120)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<120)
B4@10	May-15	10	ND (<82)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<82)
B4@15	May-15	15	ND (<82)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<82)
B4@20	May-15	20	ND (<16)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	**6.2**	ND (<3.3)	ND (<16)
B4@35	May-15	35	ND (<33)	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<6.6)	**17**	ND (<6.6)	ND (<33)
B17@5	May-15	5	ND (<16)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<16)
B17@10	May-15	10	ND (<1.6)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)
B17@20	May-15	20	ND (<3.3)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<3.3)
B17@30	May-15	30	ND (<3.3)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<3.3)
B22@5	May-15	5	ND (<120)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<120)
B22@10	May-15	10	ND (<1.6)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)
B22@20	May-15	20	ND (<1.6)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)
B22@30	May-15	30	ND (<1.6)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)
B23@5	May-15	5	ND (<1.6)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)
B23@10	May-15	10	ND (<120)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<120)
B23@20	May-15	20	ND (<1.6)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)
B23@30	May-15	30	ND (<1.6)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)
B28@5	May-15	5	ND (<250)	ND (<50)	ND (<50)	ND (<50)	ND (<50)	ND (<50)	ND (<50)	ND (<250)
B28@10	May-15	10	ND (<8.2)	ND (<1.6)	ND (<1.6)	ND (<1.6)	ND (<1.6)	**2.7**	ND (<1.6)	ND (<8.2)
B28@15	May-15	15	ND (<1.6)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)
B28@20	May-15	20	ND (<3.3)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<3.3)
B28@30	May-15	30	ND (<1.6)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (SVOCs)

Sample ID	Date	Depth (ft.)	2,4-Dinitrophenol	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Chloronaphthalene	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol	2-Nitroaniline
RSL[1]			--	--	--	--	--	--	--	--

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (SVOCs)

Sample ID	Date	Depth (ft.)	2-Nitrophenol	3,3´-Dichlorobenzidine	3-Nitroaniline	4,6-Dinitro-2-methyphenol	4-Bromophenyl-phenylethe	4-Chloro-3-methylphenol	4-Chloroaniline	4-Chlorophenyl-phenylethe
B1@30	May-15	30	ND (<0.33)	ND (<0.66)	ND (<1.6)	ND (<1.6)	ND (<0.33)	ND (<0.66)	ND (<0.66)	ND (<0.33)
B2@5	May-15	5	ND (<0.33)	ND (<0.66)	ND (<1.6)	ND (<1.6)	ND (<0.33)	ND (<0.66)	ND (<0.66)	ND (<0.33)
B2@10	May-15	10	ND (<16)	ND (<33)	ND (<82)	ND (<82)	ND (<16)	ND (<33)	ND (<33)	ND (<16)
B2@15	May-15	15	ND (<3.3)	ND (<6.6)	ND (<16)	ND (<16)	ND (<3.3)	ND (<6.6)	ND (<6.6)	ND (<3.3)
B2@20	May-15	20	ND (<25)	ND (<50)	ND (<120)	ND (<120)	ND (<25)	ND (<50)	ND (<50)	ND (<25)
B2@35	May-15	35	ND (<16)	ND (<33)	ND (<82)	ND (<82)	ND (<16)	ND (<33)	ND (<33)	ND (<16)
B4@5	May-15	5	ND (<25)	ND (<50)	ND (<120)	ND (<120)	ND (<25)	ND (<50)	ND (<50)	ND (<25)
B4@10	May-15	10	ND (<16)	ND (<33)	ND (<82)	ND (<82)	ND (<16)	ND (<33)	ND (<33)	ND (<16)
B4@15	May-15	15	ND (<16)	ND (<33)	ND (<82)	ND (<82)	ND (<16)	ND (<33)	ND (<33)	ND (<16)
B4@20	May-15	20	ND (<3.3)	ND (<6.6)	ND (<16)	ND (<16)	ND (<3.3)	ND (<6.6)	ND (<6.6)	ND (<3.3)
B4@35	May-15	35	ND (<6.6)	ND (<13)	ND (<33)	ND (<33)	ND (<6.6)	ND (<13)	ND (<13)	ND (<6.6)
B17@5	May-15	5	ND (<3.3)	ND (<6.6)	ND (<16)	ND (<16)	ND (<3.3)	ND (<6.6)	ND (<6.6)	ND (<3.3)
B17@10	May-15	10	ND (<0.33)	ND (<0.66)	ND (<1.6)	ND (<1.6)	ND (<0.33)	ND (<0.66)	ND (<0.66)	ND (<0.33)
B17@20	May-15	20	ND (<0.66)	ND (<1.3)	ND (<3.3)	ND (<3.3)	ND (<0.66)	ND (<1.3)	ND (<1.3)	ND (<0.66)
B17@30	May-15	30	ND (<0.66)	ND (<1.3)	ND (<3.3)	ND (<3.3)	ND (<0.66)	ND (<1.3)	ND (<1.3)	ND (<0.66)
B22@5	May-15	5	ND (<25)	ND (<50)	ND (<120)	ND (<120)	ND (<25)	ND (<50)	ND (<50)	ND (<25)
B22@10	May-15	10	ND (<0.33)	ND (<0.66)	ND (<1.6)	ND (<1.6)	ND (<0.33)	ND (<0.66)	ND (<0.66)	ND (<0.33)
B22@20	May-15	20	ND (<0.33)	ND (<0.66)	ND (<1.6)	ND (<1.6)	ND (<0.33)	ND (<0.66)	ND (<0.66)	ND (<0.33)
B22@30	May-15	30	ND (<0.33)	ND (<0.66)	ND (<1.6)	ND (<1.6)	ND (<0.33)	ND (<0.66)	ND (<0.66)	ND (<0.33)
B23@5	May-15	5	ND (<0.33)	ND (<0.66)	ND (<1.6)	ND (<1.6)	ND (<0.33)	ND (<0.66)	ND (<0.66)	ND (<0.33)
B23@10	May-15	10	ND (<25)	ND (<50)	ND (<120)	ND (<120)	ND (<25)	ND (<50)	ND (<50)	ND (<25)
B23@20	May-15	20	ND (<0.33)	ND (<0.66)	ND (<1.6)	ND (<1.6)	ND (<0.33)	ND (<0.66)	ND (<0.66)	ND (<0.33)
B23@30	May-15	30	ND (<0.33)	ND (<0.66)	ND (<1.6)	ND (<1.6)	ND (<0.33)	ND (<0.66)	ND (<0.66)	ND (<0.33)
B28@5	May-15	5	ND (<50)	ND (<99)	ND (<250)	ND (<250)	ND (<50)	ND (<99)	ND (<99)	ND (<50)
B28@10	May-15	10	ND (<1.6)	ND (<3.3)	ND (<8.2)	ND (<8.2)	ND (<1.6)	ND (<3.3)	ND (<3.3)	ND (<1.6)
B28@15	May-15	15	ND (<0.33)	ND (<0.66)	ND (<1.6)	ND (<1.6)	ND (<0.33)	ND (<0.66)	ND (<0.66)	ND (<0.33)
B28@20	May-15	20	ND (<0.66)	ND (<1.3)	ND (<3.3)	ND (<3.3)	ND (<0.66)	ND (<1.3)	ND (<1.3)	ND (<0.66)
B28@30	May-15	30	ND (<0.33)	ND (<0.66)	ND (<1.6)	ND (<1.6)	ND (<0.33)	ND (<0.66)	ND (<0.66)	ND (<0.33)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (SVOCs)

Sample ID	Date	Depth (ft.)	2-Nitrophenol	3,3´-Dichlorobenzidine	3-Nitroaniline	4,6-Dinitro-2-methyphenol	4-Bromophenyl-phenylethe	4-Chloro-3-methylphenol	4-Chloroaniline	4-Chlorophenyl-phenylethe
RSL[1]			--	--	--	--	--	--	--	--

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (SVOCs)

Sample ID	Date	Depth (ft.)	4-Methylphenol	4-Nitroaniline	4-Nitrophenol	Acenaphthene	Acenaphthylene	Anthracene	Benzidine	Benzo(a)anthracene
B1@30	May-15	30	ND (<0.33)	ND (<1.6)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B2@5	May-15	5	ND (<0.33)	ND (<1.6)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B2@10	May-15	10	ND (<16)	ND (<82)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<82)	ND (<16)
B2@15	May-15	15	ND (<3.3)	ND (<16)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<16)	ND (<3.3)
B2@20	May-15	20	ND (<25)	ND (<120)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<120)	ND (<25)
B2@35	May-15	35	ND (<16)	ND (<82)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<82)	ND (<16)
B4@5	May-15	5	ND (<25)	ND (<120)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<120)	ND (<25)
B4@10	May-15	10	ND (<16)	ND (<82)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<82)	ND (<16)
B4@15	May-15	15	ND (<16)	ND (<82)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<82)	ND (<16)
B4@20	May-15	20	ND (<3.3)	ND (<16)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<16)	ND (<3.3)
B4@35	May-15	35	ND (<6.6)	ND (<33)	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<33)	ND (<6.6)
B17@5	May-15	5	ND (<3.3)	ND (<16)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<16)	ND (<3.3)
B17@10	May-15	10	ND (<0.33)	ND (<1.6)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B17@20	May-15	20	ND (<0.66)	ND (<3.3)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<3.3)	ND (<0.66)
B17@30	May-15	30	ND (<0.66)	ND (<3.3)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<3.3)	ND (<0.66)
B22@5	May-15	5	ND (<25)	ND (<120)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<120)	ND (<25)
B22@10	May-15	10	ND (<0.33)	ND (<1.6)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B22@20	May-15	20	ND (<0.33)	ND (<1.6)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B22@30	May-15	30	ND (<0.33)	ND (<1.6)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B23@5	May-15	5	ND (<0.33)	ND (<1.6)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B23@10	May-15	10	ND (<25)	ND (<120)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<120)	ND (<25)
B23@20	May-15	20	ND (<0.33)	ND (<1.6)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B23@30	May-15	30	ND (<0.33)	ND (<1.6)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B28@5	May-15	5	ND (<50)	ND (<250)	ND (<50)	ND (<50)	ND (<50)	ND (<50)	ND (<250)	ND (<50)
B28@10	May-15	10	ND (<1.6)	ND (<8.2)	ND (<1.6)	ND (<1.6)	ND (<1.6)	ND (<1.6)	ND (<8.2)	ND (<1.6)
B28@15	May-15	15	ND (<0.33)	ND (<1.6)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B28@20	May-15	20	ND (<0.66)	ND (<3.3)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<3.3)	ND (<0.66)
B28@30	May-15	30	ND (<0.33)	ND (<1.6)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (SVOCs)

Sample ID	Date	Depth (ft.)	4-Methylphenol	4-Nitroaniline	4-Nitrophenol	Acenaphthene	Acenaphthylene	Anthracene	Benzidine	Benzo(a)anthracene
RSL[1]			--	--	--	--	--	--	--	--

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (SVOCs)

Sample ID	Date	Depth (ft.)	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic acid	Benzyl alcohol	bis(2-chloroethoxy)methane	bis(2-Chloroethyl)ether
B1@30	May-15	30	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.66)	ND (<0.33)	ND (<0.33)
B2@5	May-15	5	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.66)	ND (<0.33)	ND (<0.33)
B2@10	May-15	10	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<82)	ND (<33)	ND (<16)	ND (<16)
B2@15	May-15	15	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<16)	ND (<6.6)	ND (<3.3)	ND (<3.3)
B2@20	May-15	20	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<120)	ND (<50)	ND (<25)	ND (<25)
B2@35	May-15	35	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<82)	ND (<33)	ND (<16)	ND (<16)
B4@5	May-15	5	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<120)	ND (<50)	ND (<25)	ND (<25)
B4@10	May-15	10	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<82)	ND (<33)	ND (<16)	ND (<16)
B4@15	May-15	15	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<82)	ND (<33)	ND (<16)	ND (<16)
B4@20	May-15	20	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<16)	ND (<6.6)	ND (<3.3)	ND (<3.3)
B4@35	May-15	35	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<33)	ND (<13)	ND (<6.6)	ND (<6.6)
B17@5	May-15	5	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<16)	ND (<6.6)	ND (<3.3)	ND (<3.3)
B17@10	May-15	10	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.66)	ND (<0.33)	ND (<0.33)
B17@20	May-15	20	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<3.3)	ND (<1.3)	ND (<0.66)	ND (<0.66)
B17@30	May-15	30	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<3.3)	ND (<1.3)	ND (<0.66)	ND (<0.66)
B22@5	May-15	5	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<120)	ND (<50)	ND (<25)	ND (<25)
B22@10	May-15	10	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.66)	ND (<0.33)	ND (<0.33)
B22@20	May-15	20	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.66)	ND (<0.33)	ND (<0.33)
B22@30	May-15	30	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.66)	ND (<0.33)	ND (<0.33)
B23@5	May-15	5	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.66)	ND (<0.33)	ND (<0.33)
B23@10	May-15	10	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<120)	ND (<50)	ND (<25)	ND (<25)
B23@20	May-15	20	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.66)	ND (<0.33)	ND (<0.33)
B23@30	May-15	30	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.66)	ND (<0.33)	ND (<0.33)
B28@5	May-15	5	ND (<50)	ND (<50)	ND (<50)	ND (<50)	ND (<250)	ND (<99)	ND (<50)	ND (<50)
B28@10	May-15	10	ND (<1.6)	ND (<1.6)	ND (<1.6)	ND (<1.6)	ND (<8.2)	ND (<3.3)	ND (<1.6)	ND (<1.6)
B28@15	May-15	15	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.66)	ND (<0.33)	ND (<0.33)
B28@20	May-15	20	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<3.3)	ND (<1.3)	ND (<0.66)	ND (<0.66)
B28@30	May-15	30	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.66)	ND (<0.33)	ND (<0.33)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (SVOCs)

Sample ID	Date	Depth (ft.)	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic acid	Benzyl alcohol	bis(2-chloroethoxy)methane	bis(2-Chloroethyl)ether
RSL[1]			--	--	--	--	--	--	--	--

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (SVOCs)

Sample ID	Date	Depth (ft.)	bis(2-chloroisopropyl)ether	bis(2-ethylhexyl)phthalate	Butylbenzylphthalate	Chrysene	Dibenz(a,h)anthracene	Dibenzofuran	Diethyl phthalate	Dimethyl phthalate
B1@30	May-15	30	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)
B2@5	May-15	5	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)
B2@10	May-15	10	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)
B2@15	May-15	15	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)
B2@20	May-15	20	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)
B2@35	May-15	35	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)
B4@5	May-15	5	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)
B4@10	May-15	10	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)
B4@15	May-15	15	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)
B4@20	May-15	20	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)
B4@35	May-15	35	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<6.6)
B17@5	May-15	5	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)
B17@10	May-15	10	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)
B17@20	May-15	20	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)
B17@30	May-15	30	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)
B22@5	May-15	5	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)
B22@10	May-15	10	ND (<0.33)	**0.4**	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)
B22@20	May-15	20	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)
B22@30	May-15	30	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)
B23@5	May-15	5	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)
B23@10	May-15	10	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)
B23@20	May-15	20	ND (<0.33)	**1.4**	**0.4**	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)
B23@30	May-15	30	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)
B28@5	May-15	5	ND (<50)	ND (<50)	ND (<50)	ND (<50)	ND (<50)	ND (<50)	ND (<50)	ND (<50)
B28@10	May-15	10	ND (<1.6)	ND (<1.6)	ND (<1.6)	ND (<1.6)	ND (<1.6)	ND (<1.6)	ND (<1.6)	ND (<1.6)
B28@15	May-15	15	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)
B28@20	May-15	20	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)
B28@30	May-15	30	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (SVOCs)

Sample ID	Date	Depth (ft.)	bis(2-chloroisopropyl)ether	bis(2-ethylhexyl)phthalate	Butylbenzylphthalate	Chrysene	Dibenz(a,h)anthracene	Dibenzofuran	Diethyl phthalate	Dimethyl phthalate
RSL[1]			--	--	290	--	--	--	--	--

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (SVOCs)

Sample ID	Date	Depth (ft.)	Di-n-butylphthalate	Di-n-octylphthalate	Fluoranthene	Fluorene	Hexachlorobenzene	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane
B1@30	May-15	30	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.66)	ND (<0.66)	ND (<0.33)
B2@5	May-15	5	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.66)	ND (<0.66)	ND (<0.33)
B2@10	May-15	10	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<33)	ND (<33)	ND (<16)
B2@15	May-15	15	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<6.6)	ND (<6.6)	ND (<3.3)
B2@20	May-15	20	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<50)	ND (<50)	ND (<25)
B2@35	May-15	35	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<33)	ND (<33)	ND (<16)
B4@5	May-15	5	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<50)	ND (<50)	ND (<25)
B4@10	May-15	10	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<33)	ND (<33)	ND (<16)
B4@15	May-15	15	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<33)	ND (<33)	ND (<16)
B4@20	May-15	20	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<6.6)	ND (<6.6)	ND (<3.3)
B4@35	May-15	35	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<13)	ND (<13)	ND (<6.6)
B17@5	May-15	5	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<6.6)	ND (<6.6)	ND (<3.3)
B17@10	May-15	10	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.66)	ND (<0.66)	ND (<0.33)
B17@20	May-15	20	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<1.3)	ND (<1.3)	ND (<0.66)
B17@30	May-15	30	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<1.3)	ND (<1.3)	ND (<0.66)
B22@5	May-15	5	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<50)	ND (<50)	ND (<25)
B22@10	May-15	10	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.66)	ND (<0.66)	ND (<0.33)
B22@20	May-15	20	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.66)	ND (<0.66)	ND (<0.33)
B22@30	May-15	30	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.66)	ND (<0.66)	ND (<0.33)
B23@5	May-15	5	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.66)	ND (<0.66)	ND (<0.33)
B23@10	May-15	10	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<50)	ND (<50)	ND (<25)
B23@20	May-15	20	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.66)	ND (<0.66)	ND (<0.33)
B23@30	May-15	30	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.66)	ND (<0.66)	ND (<0.33)
B28@5	May-15	5	ND (<50)	ND (<50)	ND (<50)	ND (<50)	ND (<50)	ND (<99)	ND (<99)	ND (<50)
B28@10	May-15	10	ND (<1.6)	ND (<1.6)	ND (<1.6)	ND (<1.6)	ND (<1.6)	ND (<3.3)	ND (<3.3)	ND (<1.6)
B28@15	May-15	15	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.66)	ND (<0.66)	ND (<0.33)
B28@20	May-15	20	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<1.3)	ND (<1.3)	ND (<0.66)
B28@30	May-15	30	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.66)	ND (<0.66)	ND (<0.33)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (SVOCs)

Sample ID	Date	Depth (ft.)	Di-n-butylphthalate	Di-n-octylphthalate	Fluoranthene	Fluorene	Hexachlorobenzene	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane
RSL[1]			--	--	--	--	--	--	--	--

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (SVOCs)

Sample ID	Date	Depth (ft.)	Indeno(1,2,3-cd)pyrene	Isophorone	Naphthalene	Nitrobenzene	N-Nitroso-di-n propylamine	N-Nitrosodiphenylamine	Pentachlorophenol	Phenanthrene
B1@30	May-15	30	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B2@5	May-15	5	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B2@10	May-15	10	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<82)	ND (<16)
B2@15	May-15	15	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<16)	ND (<3.3)
B2@20	May-15	20	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<120)	ND (<25)
B2@35	May-15	35	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<82)	ND (<16)
B4@5	May-15	5	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<120)	ND (<25)
B4@10	May-15	10	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<82)	ND (<16)
B4@15	May-15	15	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<16)	ND (<82)	ND (<16)
B4@20	May-15	20	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<16)	ND (<3.3)
B4@35	May-15	35	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<33)	ND (<6.6)
B17@5	May-15	5	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<3.3)	ND (<16)	ND (<3.3)
B17@10	May-15	10	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B17@20	May-15	20	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<3.3)	ND (<0.66)
B17@30	May-15	30	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<3.3)	ND (<0.66)
B22@5	May-15	5	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<120)	ND (<25)
B22@10	May-15	10	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B22@20	May-15	20	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B22@30	May-15	30	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B23@5	May-15	5	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B23@10	May-15	10	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<120)	ND (<25)
B23@20	May-15	20	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B23@30	May-15	30	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B28@5	May-15	5	ND (<50)	ND (<50)	ND (<50)	ND (<50)	ND (<50)	ND (<50)	ND (<250)	ND (<50)
B28@10	May-15	10	ND (<1.6)	ND (<1.6)	ND (<1.6)	ND (<1.6)	ND (<1.6)	ND (<1.6)	ND (<8.2)	ND (<1.6)
B28@15	May-15	15	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)
B28@20	May-15	20	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<0.66)	ND (<3.3)	ND (<0.66)
B28@30	May-15	30	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<1.6)	ND (<0.33)

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (SVOCs)

Sample ID	Date	Depth (ft.)	Indeno(1,2,3-cd)pyrene	Isophorone	Naphthalene	Nitrobenzene	N-Nitroso-di-n propylamine	N-Nitrosodiphenylamine	Pentachlorophenol	Phenanthrene
RSL[1]			--	--	--	--	--	--	--	--

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (SVOCs)

Sample ID	Date	Depth (ft.)	Phenol	Pyrene	Pyridine
B1@30	May-15	30	ND (<0.33)	ND (<0.33)	ND (<1.6)
B2@5	May-15	5	ND (<0.33)	ND (<0.33)	ND (<1.6)
B2@10	May-15	10	ND (<16)	ND (<16)	ND (<82)
B2@15	May-15	15	ND (<3.3)	ND (<3.3)	ND (<16)
B2@20	May-15	20	ND (<25)	ND (<25)	ND (<120)
B2@35	May-15	35	ND (<16)	ND (<16)	ND (<82)
B4@5	May-15	5	ND (<25)	ND (<25)	ND (<120)
B4@10	May-15	10	ND (<16)	ND (<16)	ND (<82)
B4@15	May-15	15	ND (<16)	ND (<16)	ND (<82)
B4@20	May-15	20	ND (<3.3)	ND (<3.3)	ND (<16)
B4@35	May-15	35	ND (<6.6)	ND (<6.6)	ND (<33)
B17@5	May-15	5	ND (<3.3)	ND (<3.3)	ND (<16)
B17@10	May-15	10	ND (<0.33)	ND (<0.33)	ND (<1.6)
B17@20	May-15	20	ND (<0.66)	ND (<0.66)	ND (<3.3)
B17@30	May-15	30	ND (<0.66)	ND (<0.66)	ND (<3.3)
B22@5	May-15	5	ND (<25)	ND (<25)	ND (<120)
B22@10	May-15	10	ND (<0.33)	ND (<0.33)	ND (<1.6)
B22@20	May-15	20	ND (<0.33)	ND (<0.33)	ND (<1.6)
B22@30	May-15	30	ND (<0.33)	ND (<0.33)	ND (<1.6)
B23@5	May-15	5	ND (<0.33)	ND (<0.33)	ND (<1.6)
B23@10	May-15	10	ND (<25)	ND (<25)	ND (<120)
B23@20	May-15	20	ND (<0.33)	ND (<0.33)	ND (<1.6)
B23@30	May-15	30	ND (<0.33)	ND (<0.33)	ND (<1.6)
B28@5	May-15	5	ND (<50)	ND (<50)	ND (<250)
B28@10	May-15	10	ND (<1.6)	ND (<1.6)	ND (<8.2)
B28@15	May-15	15	ND (<0.33)	ND (<0.33)	ND (<1.6)
B28@20	May-15	20	ND (<0.66)	ND (<0.66)	ND (<3.3)
B28@30	May-15	30	ND (<0.33)	ND (<0.33)	ND (<1.6)

Definitions:

ft. = feet below ground surface.
mg/kg = milligrams per kilogram.
PQL = practical quantification limits.
ND = Not detected (below PQL shown in parentheses).
SVOCs = semi-volatile organic compounds.
USEPA = United States Environmental Protection Agency.
RSL = Regional Screening Level for residential soil, USEPA

Notes:

SVOCs analyzed in general accordance with USEPA Method
< = analyte not detected at or above the laboratory's PQL.
Bold = analyte detected at concentration above the laboratory'
-- = No RSL has been developed.
1. RSL in mg/kg.

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (SVOCs)

Sample ID	Date	Depth (ft.)	Phenol	Pyrene	Pyridine
RSL[1]			--	--	--

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (SVOCs)

Sample ID	Date	Depth (ft.)
B1@30	May-15	30
B2@5	May-15	5
B2@10	May-15	10
B2@15	May-15	15
B2@20	May-15	20
B2@35	May-15	35
B4@5	May-15	5
B4@10	May-15	10
B4@15	May-15	15
B4@20	May-15	20
B4@35	May-15	35
B17@5	May-15	5
B17@10	May-15	10
B17@20	May-15	20
B17@30	May-15	30
B22@5	May-15	5
B22@10	May-15	10
B22@20	May-15	20
B22@30	May-15	30
B23@5	May-15	5
B23@10	May-15	10
B23@20	May-15	20
B23@30	May-15	30
B28@5	May-15	5
B28@10	May-15	10
B28@15	May-15	15
B28@20	May-15	20
B28@30	May-15	30

ummary Table June 2015.

No. 8270C. Results are in mg/kg.

s PQL.

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (SVOCs)

Sample ID	Date	Depth (ft.)
RSL[1]		

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (PCBs)

Sample ID	Date	Depth (ft.)	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262
B1@30	May-15	30	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)
B2@5	May-15	5	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	**0.02**	**0.046**	ND (<0.016)
B2@10	May-15	10	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)
B2@15	May-15	15	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)
B2@20	May-15	20	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)
B2@35	May-15	35	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)
B4@5	May-15	5	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)
B4@10	May-15	10	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)
B4@15	May-15	15	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)
B4@20	May-15	20	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)
B4@35	May-15	35	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)	ND (<0.16)
B17@5	May-15	5	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)
B17@10	May-15	10	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)
B17@20	May-15	20	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)
B17@30	May-15	30	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)
B28@5	May-15	5	ND (<0.032)	ND (<0.032)	ND (<0.032)	ND (<0.032)	ND (<0.032)	ND (<0.032)	ND (<0.032)	ND (<0.032)
B28@10	May-15	10	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)
B28@15	May-15	15	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)
B28@20	May-15	20	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)
B28@30	May-15	30	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)	ND (<0.016)
RSL[1]			--	--	--	--	--	0.12	0.24	--

Definitions:

ft. = feet below ground surface.

mg/kg = milligrams per kilogram.

PQL = practical quantification limits.

ND = Not detected (below PQL shown in parentheses).

PCBs = Polychlorinated biphenyls.

USEPA = United States Environmental Protection Agency.

RSL = Regional Screening Level for residential soil, USEPA Summary Table June 2015.

Notes:

PCBs analyzed in general accordance with U.S.EPA Method No.

Results are in mg/kg.

< = analyte not detected at or above the laboratory's PQL.

Bold = analyte detected at concentration above the laboratory's P

-- = No RSL has been developed.

1. RSL in mg/kg .

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (PCBs)

Aroclor 1268
ND (<0.016)
ND (<0.016)
ND (<0.16)
ND (<0.16)
ND (<0.16)
ND (<0.16)
ND (<0.16)
ND (<0.16)
ND (<0.16)
ND (<0.16)
ND (<0.16)
ND (<0.16)
ND (<0.016)
ND (<0.016)
ND (<0.016)
ND (<0.016)
ND (<0.016)
ND (<0.032)
ND (<0.016)
ND (<0.016)
ND (<0.016)
ND (<0.016)
--

8082.

QL.

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Pesticides)

Sample ID	Date	Depth (ft.)	4,4´-DDD	4,4´-DDE	4,4´-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	Chlordane
B8-5	May-15	5	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.001)	ND (<0.001)	ND (<0.001)	ND (<0.001)	ND (<0.0085)
B10@2	May-15	2	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.001)	ND (<0.001)	ND (<0.001)	ND (<0.001)	ND (<0.0085)
B11@2	May-15	2	ND (<0.002)	ND (<0.002)	**0.0031**	ND (<0.001)	ND (<0.001)	ND (<0.001)	ND (<0.001)	ND (<0.0085)
B12@2	May-15	2	ND (<0.002)	ND (<0.002)	**0.0036**	ND (<0.001)	ND (<0.001)	ND (<0.001)	ND (<0.001)	ND (<0.0085)
B13@2	May-15	2	ND (<0.01)	ND (<0.01)	**0.011**	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	**0.042**
RSL[1]			--	--	1.9	--	--	--	--	1.7

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Pesticides)

Sample ID	Date	Depth (ft.)	delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone
B8-5	May-15	5	ND (<0.001)	ND (<0.002)	ND (<0.001)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)
B10@2	May-15	2	ND (<0.001)	ND (<0.002)	ND (<0.001)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)
B11@2	May-15	2	ND (<0.001)	ND (<0.002)	ND (<0.001)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)
B12@2	May-15	2	ND (<0.001)	ND (<0.002)	ND (<0.001)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)
B13@2	May-15	2	ND (<0.005)	ND (<0.01)	ND (<0.005)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)
RSL[1]			--	--	--	--	--	--	--	--

Definitions:

ft. = feet below ground surface.
mg/kg = milligrams per kilogra
PQL = practical quantification
ND = Not detected (below PQL
USEPA = United States Enviro
RSL = Regional Screening Lev

Notes:

Pesticides analyzed in general a
< = analyte not detected at or al
Bold = analyte detected at conc
-- = No RSL has been develope
1. RSL in mg/kg .

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Pesticides)

Sample ID	Date	Depth (ft.)	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor epoxid	Methoxychlor	Toxaphene
B8-5	May-15	5	ND (<0.001)	ND (<0.001)	ND (<0.001)	ND (<0.001)	ND (<0.005)	ND (<0.05)
B10@2	May-15	2	ND (<0.001)	ND (<0.001)	ND (<0.001)	ND (<0.001)	ND (<0.005)	ND (<0.05)
B11@2	May-15	2	ND (<0.001)	ND (<0.001)	ND (<0.001)	ND (<0.001)	ND (<0.005)	ND (<0.05)
B12@2	May-15	2	ND (<0.001)	ND (<0.001)	ND (<0.001)	ND (<0.001)	ND (<0.005)	ND (<0.05)
B13@2	May-15	2	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.025)	ND (<0.25)
RSL[1]			--	--	--	--	--	--

m.
limits.
. shown in parentheses).
nmental Protection Agency.
el for residential soil, USEPA Summary Table June 2015.

ccordance with U.S.EPA Method No. 8081. Results are in mg/kg.
ove the laboratory's PQL.
entration above the laboratory's PQL.
d.

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Chlorinated Herbicides)

Sample ID	Date	Depth (ft.)	2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)	2,4,5-TP	2,4-D	2,4-DB	3,5-Dichlorobenzoic acid	4-Nitrophenol	Acifluorfen	Bentazon	Chloramben	Dalapon
B10@2	5/14/2015	2	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.02)	ND (<0.01)	ND (<0.01)	ND (<0.02)
B11@2	5/14/2015	2	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.02)	ND (<0.01)	ND (<0.01)	ND (<0.02)
B12@2	5/14/2015	2	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.02)	ND (<0.01)	ND (<0.01)	ND (<0.02)
B13@2	5/14/2015	2	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.1)	ND (<0.05)	ND (<0.05)	ND (<0.1)
RSL[1]			--	--	--	--	--	--	--	--	--	--

Definitions:

ft. = feet below ground surface.

mg/kg = milligrams per kilogram.

PQL = practical quantification limits.

ND = Not detected (below PQL shown in parentheses).

USEPA = United States Environmental Protection Agency.

RSL = Regional Screening Level for residential soil, USEPA Summary Table June 2015.

Notes:

Herbicides analyzed in general accordance with U.S.EPA Method No. 8151A . Results are in mg/kg.

< = analyte not detected at or above the laboratory's PQL.

-- = No RSL has been developed.

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Chlorinated Herbicides)

1. RSL in mg/kg.

Tetra Tech SSI: Summary of Analytical Results: Soil Samples (Chlorinated Herbicides)

DCPA diacid	Dicamba	Dichloroprop	Dinoseb (DNBP, 2-sec-Butyl-4, 6-dinitrophenol	MCPA	MCPP	Pentachlorophenol (PCP)	Picloram
ND (<0.02)	ND (<0.01)	ND (<0.01)	ND (<0.02)	ND (<2)	ND (<2)	ND (<0.01)	ND (<0.01)
ND (<0.02)	ND (<0.01)	ND (<0.01)	ND (<0.02)	ND (<2)	ND (<2)	ND (<0.01)	ND (<0.01)
ND (<0.02)	ND (<0.01)	ND (<0.01)	ND (<0.02)	ND (<2)	ND (<2)	ND (<0.01)	ND (<0.01)
ND (<0.1)	ND (<0.05)	ND (<0.05)	ND (<0.1)	ND (<10)	ND (<10)	ND (<0.05)	ND (<0.05)
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APPENDIX III

Tables of Groundwater Data

Table IIB
Historical CoC Trends in Groundwater - OOI
712 W. Baker Street
Long Beach, California 90806

Well ID	Date	TPHg (µg/L)	TPHd (mg/L)	TPHo (mg/L)	Benzene (µg/L)	Arsenic (mg/L)	Lead (mg/L)
92-MW1	2/8/19	<50	<0.4	<0.8	<0.5	<0.02	<0.02
	3/19/18	<50	<0.4	<0.8	<0.5	<0.02	<0.02
	12/9/15	<50	<0.4	<0.8	<0.5	<0.02	<0.02
	12/12/12	<100	<0.4	<0.8	<0.5	<0.02	<0.02
	9/27/04	<400	<0.4	<0.8	<0.5	<0.02	<0.02
ESE-MW1	2/8/19	**400**	<0.4	<0.8	**54**	**0.053**	<0.02
	3/19/18	**1200**	<0.4	<0.8	**75**	**0.135**	<0.02
	12/9/15	**18900**	**0.85**	<0.8	**490**	**0.224**	<0.02
	12/12/12	**7200**	**7.13**	<0.8	**580**	**0.364**	<0.02
	9/27/04	<400	**0.43**	<0.8	**50**	<0.02	<0.02
ESE-MW2	2/8/19	<50	<0.4	<0.8	<0.5	<0.02	<0.02
	3/19/18	<50	<0.4	<0.8	<0.5	<0.02	<0.02
	12/9/15	<50	<0.4	<0.8	<0.5	<0.02	<0.02
	12/12/12	<100	<0.4	<0.8	<0.5	**0.047**	<0.02
	9/27/04	<400	**0.67**	<0.8	<0.5	**0.15**	<0.02
BRYCON-MW1	2/8/19	**100000**	<0.4	<0.8	**310**	**0.053**	<0.02
	3/19/18	**50000**	<0.4	<0.8	**310**	**0.09**	<0.02
	12/9/15	**5400**	<0.4	<0.8	**46**	**0.056**	<0.02
	12/12/12	**123000**	**214**	<0.8	**460**	**0.054**	<0.02
BRYCON-MW2	2/8/19	**280**	**<0.4**	<0.8	**20**	**0.2**	<0.02
	3/19/18	**2200**	**<0.4**	<0.8	**110**	**0.337**	<0.02
	12/9/15	**4020**	**<0.4**	<0.8	**130**	**0.332**	<0.02
	12/12/12	**2900**	**6.42**	<0.8	**130**	**0.313**	<0.02
BRYCON-MW3	2/8/19	**13000**	0.56	<0.8	**250**	**0.11**	<0.02
	3/19/18	**10000**	<0.4	<0.8	**370**	**0.19**	<0.02
	12/9/15	**17600**	**0.75**	<0.8	**450**	**0.21**	<0.02
	12/12/12	**11300**	**3.84**	<0.8	**380**	**0.22**	<0.02
BRYCON-MW4	2/8/19	**480**	<0.4	<0.8	<0.5	**0.032**	<0.02
	3/19/18	**340**	<0.4	<0.8	<0.5	**0.028**	<0.02
	12/9/15	**350**	<0.4	<0.8	**0.55**	**0.298**	<0.02
BRYCON-MW5	2/8/19	**<50**	<0.4	<0.8	<0.50	<0.20	<0.02
	3/19/18	**5700**	<0.4	<0.8	**160**	**0.177**	<0.02
	12/9/15	**740**	<0.4	<0.8	**2.5**	**0.038**	<0.02
TMW1	2/8/19	<50	<0.4	<0.8	<0.5	<0.02	<0.02
	3/20/18	<50	<0.4	<0.8	<0.5	<0.02	<0.02
	3/21/18	<50	<0.4	<0.8	<0.5	**0.121**	<0.02
TMW2	2/8/19	<50	<0.4	<0.8	<0.5	**0.155**	<0.02
	3/19/18	<50	<0.4	<0.8	<0.5	**0.25**	<0.02
	12/9/15	<50	<0.4	<0.8	<0.5	**0.26**	<0.02
TMW3	2/8/19	<50	<0.4	<0.8	<0.5	<0.02	<0.02
	3/19/18	<50	<0.4	<0.8	<0.5	<0.02	<0.02
	12/9/15	<50	<0.4	<0.8	<0.5	**0.02**	<0.02
TMW4	2/8/19	<50	<0.4	<0.8	<0.5	<0.02	<0.02
	3/19/18	<50	<0.4	<0.8	<0.5	<0.02	<0.02
	12/9/15	<50	<0.4	<0.8	<0.5	<0.02	<0.02
TMW5	2/8/19	**9800**	1.2	<0.8	**1800**	**0.11**	<0.02
	3/19/18	**17000**	<0.4	<0.8	**3200**	**0.2**	<0.02
	12/9/15	**34800**	**1.7**	<0.8	**3000**	**0.325**	<0.02
TMW6	2/8/19	<50	<0.4	<0.8	<0.5	**0.711**	<0.02
	3/19/18	**18**	<0.4	<0.8	**0.66**	**0.556**	<0.02
	12/9/15	**320**	<0.4	<0.8	<0.5	**0.48**	<0.02

TPHg = Total Petroleum Hydrocarbons as Gasoline
TPHd = Total Petroleum Hydrocarbons as Diesel
TPHo = Total Petroleum Hydrocarbons as Oil

Table 1. Groundwater Elevations (as measured on June 24, 2021)

Well No.	Date Measured	Time (AM)	Well Elevation* (feet, msl)	Depth to Groundwater (feet)	Well Screen Info. (Depth Below Top of Casing)	Groundwater Elevation (feet, msl)
92-MW1	6/24/21	7:16	29.21	28.12	No Info. T.D. = 76.5 ft.	+ 1.09
ESE-MW1	6/24/21	12:22 pm	50.24	48.37	Top = 48.0 ft. Btm. = 73.0 ft.	+ 1.87
ESE-MW2	6/24/21	9:35	34.39	32.19	Top = 36.5 ft. Btm. = 56.5 ft.	+ 2.20
Brycon-MW1	6/24/21	10:36	40.48	38.17**	Top = 38.0 ft. Btm. = 53.0 ft.	+ 2.31
Brycon-MW2	6/24/21	11:58	40.72	38.83	Top = 38.0 ft. Btm. = 48.0 ft.	+ 1.89
Brycon-MW3	6/24/21	2:07 pm	47.46	45.73	Top = 47.0 ft. Btm. = 62.0 ft.	+ 1.73
Brycon-MW4	6/24/21	11:26	40.55	38.47	Top = 33.0 ft. Btm. = 63.0 ft.	+2.08
Brycon-MW5	6/24/21	10:05	41.09	38.85	Top = 33.0 ft. Btm. = 63.0 ft.	+ 2.24
TMW1	6/24/21	1:56 pm	41.64	39.95	Top = 39.0 ft. Btm. = 59.0 ft.	+ 1.69
TMW2	6/24/21	1:25 pm	33.26	31.57	Top = 28.0 ft. Btm. = 48.0 ft.	+ 1.69
TMW3	6/24/21	9:00	32.41	30.64	Top = 20.0 ft. Btm. = 40.0 ft.	+ 1.77
TMW5	6/24/21	8:20	46.32	44.01	Top = 40.0 ft. Btm. = 58.0 ft.	+ 2.31
TMW6	6/24/21	1:25 pm	29.66	27.78	Top = 20.0 ft. Btm. = 40.0 ft.	+ 1.88

Notes:
Feet, msl: units are in feet relative to mean sea level
* Elevation is measured at top of casing as surveyed in Aug. 2011, Aug. 2013 and Sept. 2015 by Russell W. Greer, L.S.
** Calculated Water Surface Depth (Top of Product = 38.16, Top of Water = 38.20 measured with Interface Probe)

Table 2. Analytical Results of June 2021 Groundwater Monitoring

Well Number	TPH EPA Method 8015 (mg/l)	VOCs Method 8260B	EPA (ug/l)	CAM Metals EPA Methods 6010/7470A (mg/l)	PH EPA Method 9040	TOC Method SM 5310D (mg/l)	TDS EPA Method 160.1 (mg/l)	TSS EPA Method 160.2 (mg/l)	Chloride EPA Method 300.0 (mg/l)
ESE-MW1	0.65 (C4-C12) 0.44 (C13-C22) ND (C23-C40)	Benzene 1,2, –DCA ethylbenzene Isopropylbenzene n-propylbenzene Toluene 1,2,4 –trimethylbenzene Total xylenes All other constituents	180 9.3 39 12 11 2.7 3.2 16 ND	Arsenic 0.111 barium 0.138 vanadium 0.164 ALL OTHERS ND	6.63	20.6	2,070	26	650
ESE-MW2	ND (C4-C40)	All constituents	ND	Arsenic 0.0301 barium 0.0380 molybdenum 0.0147 vanadium 0.0657 ALL OTHERS ND	6.64	7.81	2,410	18	640
92-MW1	ND (C4-12) ND (C13-C40)	All constituents	ND	barium 0.176 vanadium 0.208 ALL OTHERS ND	6.71	8.11	3,910	24	1,700
Brycon-MW1	89.0 (C4-C12) 37 (C13-C22) 1.3 (C23-C40	Benzene n-Butylbenzene Sec-Butylbenzene Ethylbenzene Isopropyibenzene Naphthalene 4-Isopropytoluene n-propylbenzene 1,2,4 –trimethylbenzene 1,3,5 –trimethylbenzene Total xylenes All other constituents	140 92 89 710 280 440 260 310 1100 240 734 ND	Arsenic 0.193 barium 0.0627 vanadium 0.0721 ALL OTHERS ND	6.82	11.1	1,120	245	120

mg/l: milligrams per liter
$C_9 – C_{12}$: carbon chain range
ug/l: micrograms per liter
1,2-DCA: 1,2-dichloroethane
TDS: total dissolved solids
VOCs: volatile organic compounds
TPH: total petroleum hydrocarbons
TSS: total suspended solids
ND: not detected (see laboratory reports for detection limits)
TOC: total organic carbon
DL: detection limit

Table 2 Continued - Analytical Results of June 2021 Groundwater Monitoring

Well Number	TPH EPA Method 8015 (mg/l)	VOCs EPA Method 8260B (ug/l)	CAM Metals EPA Methods 6010/7470A (mg/l)	PH EPA Method 9040	TOC Method SM 5310D (mg/l)	TDS EPA Method 160.1 (mg/l)	TSS EPA Method 160.2 (mg/l)	Chloride EPA Method 300.0 (mg/l)
Brycon-MW2	0.38 (C4-C12) ND (C13-C22) ND (C23-C40)	t-Butanol (TBA) 130 Isopropylbenzene 1.2 n-propylbenzene 0.50 All other constituents ND	arsenic 0.139 barium 0.139 vanadium 0.239 ALL OTHERS ND	6.70	12.9	2,740	38	930
Brycon – MW3	1.7 (C4-C12) 12 (C13-C22) ND (C23-C40)	Benzene 47 ethylbenzene 75 isopropylbenzene 18 4-Isopropytoluene 8.4 n-propylbenzene 12 Toluene 7.1 $_{1,2,4}$–trimethylbenzene 47 $_{1,3,5}$–trimethylbenzene 18 Total xylenes 98 All other constituents ND	arsenic 0.164 barium 0.111 vanadium 0.167 ALL OTHERS ND	6.58	80.8	1,570	52	330
Brycon – MW4	0.29 (C4-C12) ND (C13-C22) ND (C23-C40)	$_{1,2,}$–DCA 15 All other constituents ND	Arsenic 0.0560 barium 0.409 molybdenum 0.0113 vanadium 0.403 ALL OTHERS ND	6.63	8.01	4,020	90	1,500
Brycon – MW5	ND (C4-C12) ND (C13-C22) ND (C23-C40)	$_{1,2,}$–DCA 14 All other constituents ND	barium 0. 282 molybdenum 0.0208 vanadium 0.150 ALL OTHERS ND	6.80	7.47	3,720	90	1,700

Table 2 Continued - Analytical Results of June 2021 Groundwater Monitoring

Well Number	TPH EPA Method 8015 (mg/l)	VOCs EPA Method 8260B (ug/l)	CAM Metals EPA Methods 6010/7470A (mg/l)	PH EPA Method 9040	TOC Method SM 5310D (mg/l)	TDS EPA Method 160.1 (mg/l)	TSS EPA Method 160.2 (mg/l)	Chloride EPA Method 300.0 (mg/l)
TMW1	ND (C4-C12) ND (C13-C22) ND (C23-C40)	All constituents ND	barium 0.0270 vanadium 0.463 ALL OTHERS ND	6.74	6.46	4,540	68	1,000
TMW2	ND (C4-C12) ND (C13-C22) ND (C23-C40)	All constituents ND	arsenic 0.119 barium 0.272 molybdenum 0.0350 nickel 0.0175 vanadium 0.262 ALL OTHERS ND	6.69	17.0	3,670	62	1,800
TMW3	ND (C4-C12) ND (C13-C22) ND (C23-C40)	Benzene 0.56 All other constituents ND	barium 0.0508 molybdenum 0.0585 vanadium 0.0973 ALL OTHERS ND	6.70	16.9	3,930	36	1,300

mg/l: milligrams per liter
$C_9 – C_{12}$: carbon chain range
ug/l: micrograms per liter
1,2-DCA: 1,2-dichloroethane
TDS: total dissolved solids
VOCs: volatile organic compounds
TPH: total petroleum hydrocarbons
TSS: total suspended solids
ND: not detected (see laboratory reports for detection limits)
TOC: total organic carbon
DL: detection limit

Table 2 Continued - Analytical Results of June 2021 Groundwater Monitoring

Well Number	TPH EPA Method 8015 (mg/l)	VOCs EPA Method 8260B (ug/l)	CAM Metals EPA Methods 6010/7470A (mg/l)	PH EPA Method 9040	TOC Method SM 5310D (mg/l)	TDS EPA Method 160.1 (mg/l)	TSS EPA Method 160.2 (mg/l)	Chloride EPA Method 300.0 (mg/l)
TMW5	5.2 (C4-C12) 6.0 (C13-C22) ND (C23-C40)	Benzene 1,830 ethylbenzene 313 Isopropylbenzene 17 Naphthalene 125 n-propylbenzene 25 Toluene 127 $_{1,2,4}$–trimethylbenzene 93 $_{1,3,5}$–trimethylbenzene 32 Total xylenes 277 All other constituents ND	arsenic 0.139 barium 0.109 vanadium 0.264 ALL OTHERS ND	6.56	52.2	1,940	48	670
TMW6	ND (C4-C12) ND (C13-C22) ND (C23-C40)	All constituents ND	arsenic 0.453 barium 0.167 cadmium 0.0061 molybdenum 0.0224 vanadium 0.0731 ALL OTHERS ND	6.92	30.2	3,640	38	1,300

mg/l: milligrams per liter
C_9 – C_{12}: carbon chain range
ug/l: micrograms per liter
1,2-DCA: 1,2-dichloroethane
TDS: total dissolved solids
VOCs: volatile organic compounds
TPH: total petroleum hydrocarbons
TSS: total suspended solids
ND: not detected (see laboratory reports for detection limits)
TOC: total organic carbon
DL: detection limit

Table 1. Groundwater Elevations (as measured on February 8, 2019)

Well No.	Date Measured	Time (AM)	Well Elevation* (feet, msl)	Depth to Groundwater (feet)	Well Screen Info. (Depth Below Top of Casing)	Groundwater Elevation (feet, msl)
92-MW1	2/8/19	7:20	29.21	30.75	No Info. T.D. = 76.5 ft.	- 1.54
ESE-MW1	2/8/19	11:55	50.24	51.18	Top = 48.0 ft. Btm. = 73.0 ft.	- 0.94
ESE-MW2	2/8/19	9:10	34.39	35.02	Top = 36.5 ft. Btm. = 56.5 ft.	- 0.63
Brycon-MW1	2/8/19	10:10	40.48	40.86**	Top = 38.0 ft. Btm. = 53.0 ft.	- 0.38
Brycon-MW2	2/8/19	11:30	40.72	41.57	Top = 38.0 ft. Btm. = 48.0 ft.	- 0.85
Brycon-MW3	2/8/19	1:49 pm	47.46	48.71	Top = 47.0 ft. Btm. = 62.0 ft.	- 1.25
Brycon-MW4	2/8/19	11:00	40.55	41.25	Top = 33.0 ft. Btm. = 63.0 ft.	- 0.70
Brycon-MW5	2/8/19	9:40	41.09	41.52	Top = 33.0 ft. Btm. = 63.0 ft.	- 0.43
TMW1	2/8/19	3:35 pm	41.64	43.17	Top = 39.0 ft. Btm. = 59.0 ft.	-1.53
TMW2	2/8/19	3:05 pm	33.26	34.59	Top = 28.0 ft. Btm. = 48.0 ft.	- 1.33
TMW3	2/8/19	8:10	32.41	33.44	Top = 20.0 ft. Btm. = 40.0 ft.	- 1.03
TMW4	2/8/19	8:35	35.66	36.52	Top = 27.0 ft. Btm. = 47.0 ft.	- 0.86
TMW5	2/8/19	1:40 pm	46.32	47.59	Top = 40.0 ft. Btm. = 58.0 ft.	- 1.27
TMW6	2/8/19	2:40 pm	29.66	30.55	Top = 20.0 ft. Btm. = 40.0 ft.	- 0.89

Notes:
Feet, msl: units are in feet relative to mean sea level
* Elevation is measured at top of casing as surveyed in Aug. 2011, Aug. 2013 and Sept. 2015 by Russell W. Greer, L.S.
** Calculated Water Surface Depth (Top of Product = 40.85, Top of Water = 40.87 measured with Interface Probe)

Table 2. Analytical Results of February 2019 Groundwater Monitoring

Well Number	TPH EPA Method 8015 (mg/l)	VOCs Method 8260B EPA (ug/l)	CAM Metals EPA Methods 6010/7470A (mg/l)	PH EPA Method 9040	TOC Method SM 5310D (mg/l)	TDS EPA Method 160.1 (mg/l)	TSS EPA Method 160.2 (mg/l)	Chloride EPA Method 300.0 (mg/l)
ESE-MW1	.400 (C4-C12) ND (C13-C22) ND (C23-C40)	Benzene 54 $_{1,2,}$–DCA 3.6 Isopropylbenzene 5.4 n-propylbenzene 5.0 Toluene 0.51 All other constituents ND	Arsenic 0.0530 barium 0.126 vanadium 0.131 ALL OTHERS ND	6.74	13	1,910	350	650
ESE-MW2	ND (C4-C40)	All constituents ND	barium 0.0236 molybdenum 0.0207 silver 0.0476 vanadium 0.0237 ALL OTHERS ND	6.87	2.8	2,380	202	560
92-MW1	ND (C4-12) ND (C13-C40)	All constituents ND	barium 0.135 vanadium 0.127 ALL OTHERS ND	6.87	15	3,350	46	1,700
Brycon-MW1	100.0 (C4-C12) ND (C13-C22) ND (C23-C40	4-Isopropytoluene 150 $_{1,2,4}$ –trimethylbenzene 540 $_{1,3,5}$ –trimethylbenzene 210 All other constituents ND	Arsenic 0.053 barium 0.191 vanadium 0.168 ALL OTHERS ND	6.64	11	2,760	226	1,500

mg/l: milligrams per liter
C_9 – C_{12}: carbon chain range
ug/l: micrograms per liter
1,2-DCA: 1,2-dichloroethane
TDS: total dissolved solids
VOCs: volatile organic compounds
TPH: total petroleum hydrocarbons
TSS: total suspended solids
ND: not detected (see laboratory reports for detection limits)
TOC: total organic carbon
DL: detection limit

Table 2 Continued - Analytical Results of February 2019 Groundwater Monitoring

Well Number	TPH EPA Method 8015 (mg/l)	VOCs EPA Method 8260B (ug/l)	CAM Metals EPA Methods 6010/7470A (mg/l)	PH EPA Method 9040	TOC Method SM 5310D (mg/l)	TDS EPA Method 160.1 (mg/l)	TSS EPA Method 160.2 (mg/l)	Chloride EPA Method 300.0 (mg/l)
Brycon-MW2	.280 (C4-C12) ND (C13-C22) ND (C23-C40)	Benzene 20 2-Chlorotoluene 18 4-Isopropytoluene 3.3 n-propylbenzene 18 Isopropylbenzene 24 Total xylenes 5.0 All other constituents ND	arsenic 0.200 barium 0.0807 vanadium 0.0151 ALL OTHERS ND	6.73	16	1,980	124	740
Brycon – MW3	13.0 (C4-C12) 0.56 (C13-C22) ND (C23-C40)	Benzene 250 Sec-Butylbenzene 5.6 ethylbenzene 190 isopropylbenzene 50 4-Isopropytoluene 17 Naphthalene 30 n-propylbenzene 43 Toluene 29 $_{1,2,4}$–trimethylbenzene 190 $_{1,3,5}$–trimethylbenzene 53 Total xylenes 471 All other constituents ND	arsenic 0.110 barium 0.165 molybdenum 0.0140 vanadium 0.184 ALL OTHERS ND	6.66	45	1,920	138	730
Brycon – MW4	0.48 (C4-C12) ND (C13-C22) ND (C23-C40)	$_{1,2,}$–DCA 2.1 All other constituents ND	Arsenic 0.0319 barium 0.866 molybdenum 0.0119 vanadium 0.350 ALL OTHERS ND	6.64	4.1	4,050	332	2,400
Brycon – MW5	ND (C4-C12) ND (C13-C22) ND (C23-C40)	$_{1,2,}$–DCA 6.3 $_{1,2,4}$–trimethylbenzene 1.2 All other constituents ND	barium 0.248 molybdenum 0.0153 vanadium 0.134 ALL OTHERS ND	6.70	7.5	3,620	102	2,200

Table 2 Continued - Analytical Results of February 2019 Groundwater Monitoring

Well Number	TPH EPA Method 8015 (mg/l)	VOCs EPA Method 8260B (ug/l)	CAM Metals EPA Methods 6010/7470A (mg/l)	PH EPA Method 9040	TOC Method SM 5310D (mg/l)	TDS EPA Method 160.1 (mg/l)	TSS EPA Method 160.2 (mg/l)	Chloride EPA Method 300.0 (mg/l)
TMW1	ND (C4-C12) ND (C13-C22) ND (C23-C40)	All constituents ND	barium 0.0283 vanadium 0.315 ALL OTHERS ND	6.85	9.5	6,040	1,010	3,500
TMW2	ND (C4-C12) ND (C13-C22) ND (C23-C40)	All constituents ND	arsenic 0.155 molybdenum 0.0304 vanadium 0.235 ALL OTHERS ND	6.73	11	3,300	3,510	2,800
TMW3	ND (C4-C12) ND (C13-C22) ND (C23-C40)	All constituents ND	barium 0.0628 molybdenum 0.0788 vanadium 0.0790 ALL OTHERS ND	6.97	12	4,070	134	1,800
TMW4	ND (C4-C12) ND (C13-C22) ND (C23-C40	All constituents ND	barium 0.0549 molybdenum 0.0254 vanadium 0.152 ALL OTHERS ND	6.85	17	6,810	260	5,600

mg/l: milligrams per liter
$C_9 – C_{12}$: carbon chain range
ug/l: micrograms per liter
1,2-DCA: 1,2-dichloroethane
TDS: total dissolved solids
VOCs: volatile organic compounds
TPH: total petroleum hydrocarbons
TSS: total suspended solids
ND: not detected (see laboratory reports for detection limits)
TOC: total organic carbon
DL: detection limit

Table 2 Continued - Analytical Results of February 2019 Groundwater Monitoring

Well Number	TPH EPA Method 8015 (mg/l)	VOCs EPA Method 8260B (ug/l)	CAM Metals EPA Methods 6010/7470A (mg/l)	PH EPA Method 9040	TOC Method SM 5310D (mg/l)	TDS EPA Method 160.1 (mg/l)	TSS EPA Method 160.2 (mg/l)	Chloride EPA Method 300.0 (mg/l)
TMW5	9.8 (C4-C12) 1.2 (C13-C22) ND (C23-C40)	Benzene 1,800 ethylbenzene 330 Naphthalene 61 n-propylbenzene 31 Isopropylbenzene 22 Toluene 310 $_{1,2,4}$–trimethylbenzene 200 $_{1,3,5}$–trimethylbenzene 51 Total xylenes 930 All other constituents ND	arsenic 0.110 barium 0.161 vanadium 0.190 ALL OTHERS ND	6.78	17	1,800	870	710
TMW6	ND (C4-C12) ND (C13-C22) ND (C23-C40)	All constituents ND	arsenic 0.711 barium 0.158 molybdenum 0.0196 vanadium 0.0274 ALL OTHERS ND	7.16	5.8	2,630	3,350	1,100

mg/l: milligrams per liter
C_9 – C_{12}: carbon chain range
ug/l: micrograms per liter
1,2-DCA: 1,2-dichloroethane
TDS: total dissolved solids
VOCs: volatile organic compounds
TPH: total petroleum hydrocarbons
TSS: total suspended solids
ND: not detected (see laboratory reports for detection limits)
TOC: total organic carbon
DL: detection limit

APPENDIX IV

Lab Test Report – TPH/Pb/As Data March 2018

AMERICAN ANALYTICS

9765 Eton Avenue
Chatsworth
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Tel: (818) 998-5547
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March 09, 2018

Charles Buckley

Cal Environmental

30423 Canwood Street, Suite 208

Agoura Hills, CA 91301

Re : OOI-SOB / 3029

A243897 / 8C02001

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received on 03/01/18 15:40 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Program Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report or require additional information please call me at American Analytics.

Sincerely,

Allen Aminian

QA/QC Manager

LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18

Sample ID	Laboratory ID	Matrix	TAT	Date Sampled	Date Received
Arsenic Total EPA 6010B					
B20@5FT	8C02001-01	Soil	5	03/01/18 07:30	03/01/18 15:40
B20@15FT	8C02001-02	Soil	5	03/01/18 08:05	03/01/18 15:40
B20@20FT	8C02001-03	Soil	5	03/01/18 08:12	03/01/18 15:40
B20@25FT	8C02001-04	Soil	5	03/01/18 08:20	03/01/18 15:40
B21@5FT	8C02001-05	Soil	5	03/01/18 08:40	03/01/18 15:40
B21@10FT	8C02001-06	Soil	5	03/01/18 08:55	03/01/18 15:40
B21@15FT	8C02001-07	Soil	5	03/01/18 09:01	03/01/18 15:40
B21@20FT	8C02001-08	Soil	5	03/01/18 09:07	03/01/18 15:40
B21@25FT	8C02001-09	Soil	5	03/01/18 09:15	03/01/18 15:40
B22@5FT	8C02001-10	Soil	5	03/01/18 09:35	03/01/18 15:40
B22@10FT	8C02001-11	Soil	5	03/01/18 09:45	03/01/18 15:40
B22@15FT	8C02001-12	Soil	5	03/01/18 09:50	03/01/18 15:40
B22@20FT	8C02001-13	Soil	5	03/01/18 09:58	03/01/18 15:40
B22@25FT	8C02001-14	Soil	5	03/01/18 10:05	03/01/18 15:40
B23@5FT	8C02001-15	Soil	5	03/01/18 10:20	03/01/18 15:40
B23@8FT	8C02001-16	Soil	5	03/01/18 10:25	03/01/18 15:40
B23@11FT	8C02001-17	Soil	5	03/01/18 10:33	03/01/18 15:40
B23@14FT	8C02001-18	Soil	5	03/01/18 10:43	03/01/18 15:40
B23@17FT	8C02001-19	Soil	5	03/01/18 10:52	03/01/18 15:40

Allen Aminian
QA/QC Manager

LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18

Sample ID	Laboratory ID	Matrix	TAT	Date Sampled	Date Received
B23@20FT	8C02001-20	Soil	5	03/01/18 10:58	03/01/18 15:40
B23@23FT	8C02001-21	Soil	5	03/01/18 11:03	03/01/18 15:40
B23@26FT	8C02001-22	Soil	5	03/01/18 11:11	03/01/18 15:40
B23@29FT	8C02001-23	Soil	5	03/01/18 11:15	03/01/18 15:40
B23@32FT	8C02001-24	Soil	5	03/01/18 11:20	03/01/18 15:40
B24@5FT	8C02001-25	Soil	5	03/01/18 11:45	03/01/18 15:40
B24@10FT	8C02001-26	Soil	5	03/01/18 11:52	03/01/18 15:40
B24@15FT	8C02001-27	Soil	5	03/01/18 11:56	03/01/18 15:40
B24@20FT	8C02001-28	Soil	5	03/01/18 12:00	03/01/18 15:40
B26@5FT	8C02001-29	Soil	5	03/01/18 12:50	03/01/18 15:40
B26@10FT	8C02001-30	Soil	5	03/01/18 13:00	03/01/18 15:40
B26@15FT	8C02001-31	Soil	5	03/01/18 13:05	03/01/18 15:40
B26@20FT	8C02001-32	Soil	5	03/01/18 13:10	03/01/18 15:40
B27@5FT	8C02001-33	Soil	5	03/01/18 13:20	03/01/18 15:40
B27@10FT	8C02001-34	Soil	5	03/01/18 13:28	03/01/18 15:40
B27@15FT	8C02001-35	Soil	5	03/01/18 13:33	03/01/18 15:40
B27@20FT	8C02001-36	Soil	5	03/01/18 13:42	03/01/18 15:40
B27@25FT	8C02001-37	Soil	5	03/01/18 13:45	03/01/18 15:40

Carbon Chain Characterization 8015M

B20@5FT	8C02001-01	Soil	5	03/01/18 07:30	03/01/18 15:40

Allen Aminian
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LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18

Sample ID	Laboratory ID	Matrix	TAT	Date Sampled	Date Received
B20@15FT	8C02001-02	Soil	5	03/01/18 08:05	03/01/18 15:40
B20@20FT	8C02001-03	Soil	5	03/01/18 08:12	03/01/18 15:40
B20@25FT	8C02001-04	Soil	5	03/01/18 08:20	03/01/18 15:40
B21@5FT	8C02001-05	Soil	5	03/01/18 08:40	03/01/18 15:40
B21@10FT	8C02001-06	Soil	5	03/01/18 08:55	03/01/18 15:40
B21@15FT	8C02001-07	Soil	5	03/01/18 09:01	03/01/18 15:40
B21@20FT	8C02001-08	Soil	5	03/01/18 09:07	03/01/18 15:40
B21@25FT	8C02001-09	Soil	5	03/01/18 09:15	03/01/18 15:40
B22@5FT	8C02001-10	Soil	5	03/01/18 09:35	03/01/18 15:40
B22@10FT	8C02001-11	Soil	5	03/01/18 09:45	03/01/18 15:40
B22@15FT	8C02001-12	Soil	5	03/01/18 09:50	03/01/18 15:40
B22@20FT	8C02001-13	Soil	5	03/01/18 09:58	03/01/18 15:40
B22@25FT	8C02001-14	Soil	5	03/01/18 10:05	03/01/18 15:40
B23@5FT	8C02001-15	Soil	5	03/01/18 10:20	03/01/18 15:40
B23@8FT	8C02001-16	Soil	5	03/01/18 10:25	03/01/18 15:40
B23@11FT	8C02001-17	Soil	5	03/01/18 10:33	03/01/18 15:40
B23@14FT	8C02001-18	Soil	5	03/01/18 10:43	03/01/18 15:40
B23@17FT	8C02001-19	Soil	5	03/01/18 10:52	03/01/18 15:40
B23@20FT	8C02001-20	Soil	5	03/01/18 10:58	03/01/18 15:40
B23@23FT	8C02001-21	Soil	5	03/01/18 11:03	03/01/18 15:40

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QA/QC Manager

LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18

Sample ID	Laboratory ID	Matrix	TAT	Date Sampled	Date Received
B23@26FT	8C02001-22	Soil	5	03/01/18 11:11	03/01/18 15:40
B23@29FT	8C02001-23	Soil	5	03/01/18 11:15	03/01/18 15:40
B23@32FT	8C02001-24	Soil	5	03/01/18 11:20	03/01/18 15:40
B24@5FT	8C02001-25	Soil	5	03/01/18 11:45	03/01/18 15:40
B24@10FT	8C02001-26	Soil	5	03/01/18 11:52	03/01/18 15:40
B24@15FT	8C02001-27	Soil	5	03/01/18 11:56	03/01/18 15:40
B24@20FT	8C02001-28	Soil	5	03/01/18 12:00	03/01/18 15:40
B26@5FT	8C02001-29	Soil	5	03/01/18 12:50	03/01/18 15:40
B26@10FT	8C02001-30	Soil	5	03/01/18 13:00	03/01/18 15:40
B26@15FT	8C02001-31	Soil	5	03/01/18 13:05	03/01/18 15:40
B26@20FT	8C02001-32	Soil	5	03/01/18 13:10	03/01/18 15:40
B27@5FT	8C02001-33	Soil	5	03/01/18 13:20	03/01/18 15:40
B27@10FT	8C02001-34	Soil	5	03/01/18 13:28	03/01/18 15:40
B27@15FT	8C02001-35	Soil	5	03/01/18 13:33	03/01/18 15:40
B27@20FT	8C02001-36	Soil	5	03/01/18 13:42	03/01/18 15:40
B27@25FT	8C02001-37	Soil	5	03/01/18 13:45	03/01/18 15:40
Lead Total EPA 6010B					
B20@5FT	8C02001-01	Soil	5	03/01/18 07:30	03/01/18 15:40
B20@15FT	8C02001-02	Soil	5	03/01/18 08:05	03/01/18 15:40
B20@20FT	8C02001-03	Soil	5	03/01/18 08:12	03/01/18 15:40

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QA/QC Manager

LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18

Sample ID	Laboratory ID	Matrix	TAT	Date Sampled	Date Received
B20@25FT	8C02001-04	Soil	5	03/01/18 08:20	03/01/18 15:40
B21@5FT	8C02001-05	Soil	5	03/01/18 08:40	03/01/18 15:40
B21@10FT	8C02001-06	Soil	5	03/01/18 08:55	03/01/18 15:40
B21@15FT	8C02001-07	Soil	5	03/01/18 09:01	03/01/18 15:40
B21@20FT	8C02001-08	Soil	5	03/01/18 09:07	03/01/18 15:40
B21@25FT	8C02001-09	Soil	5	03/01/18 09:15	03/01/18 15:40
B22@5FT	8C02001-10	Soil	5	03/01/18 09:35	03/01/18 15:40
B22@10FT	8C02001-11	Soil	5	03/01/18 09:45	03/01/18 15:40
B22@15FT	8C02001-12	Soil	5	03/01/18 09:50	03/01/18 15:40
B22@20FT	8C02001-13	Soil	5	03/01/18 09:58	03/01/18 15:40
B22@25FT	8C02001-14	Soil	5	03/01/18 10:05	03/01/18 15:40
B23@5FT	8C02001-15	Soil	5	03/01/18 10:20	03/01/18 15:40
B23@8FT	8C02001-16	Soil	5	03/01/18 10:25	03/01/18 15:40
B23@11FT	8C02001-17	Soil	5	03/01/18 10:33	03/01/18 15:40
B23@14FT	8C02001-18	Soil	5	03/01/18 10:43	03/01/18 15:40
B23@17FT	8C02001-19	Soil	5	03/01/18 10:52	03/01/18 15:40
B23@20FT	8C02001-20	Soil	5	03/01/18 10:58	03/01/18 15:40
B23@23FT	8C02001-21	Soil	5	03/01/18 11:03	03/01/18 15:40
B23@26FT	8C02001-22	Soil	5	03/01/18 11:11	03/01/18 15:40
B23@29FT	8C02001-23	Soil	5	03/01/18 11:15	03/01/18 15:40

Allen Aminian
QA/QC Manager

LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18

Sample ID	Laboratory ID	Matrix	TAT	Date Sampled	Date Received
B23@32FT	8C02001-24	Soil	5	03/01/18 11:20	03/01/18 15:40
B24@5FT	8C02001-25	Soil	5	03/01/18 11:45	03/01/18 15:40
B24@10FT	8C02001-26	Soil	5	03/01/18 11:52	03/01/18 15:40
B24@15FT	8C02001-27	Soil	5	03/01/18 11:56	03/01/18 15:40
B24@20FT	8C02001-28	Soil	5	03/01/18 12:00	03/01/18 15:40
B26@5FT	8C02001-29	Soil	5	03/01/18 12:50	03/01/18 15:40
B26@10FT	8C02001-30	Soil	5	03/01/18 13:00	03/01/18 15:40
B26@15FT	8C02001-31	Soil	5	03/01/18 13:05	03/01/18 15:40
B26@20FT	8C02001-32	Soil	5	03/01/18 13:10	03/01/18 15:40
B27@5FT	8C02001-33	Soil	5	03/01/18 13:20	03/01/18 15:40
B27@10FT	8C02001-34	Soil	5	03/01/18 13:28	03/01/18 15:40
B27@15FT	8C02001-35	Soil	5	03/01/18 13:33	03/01/18 15:40
B27@20FT	8C02001-36	Soil	5	03/01/18 13:42	03/01/18 15:40
B27@25FT	8C02001-37	Soil	5	03/01/18 13:45	03/01/18 15:40

Allen Aminian
QA/QC Manager

LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18

ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
		Carbon Chain by GC/FID						
C8-C10	B20@5FT	**2.4**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C10-C12	B20@5FT	**9.3**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C12-C14	B20@5FT	**38**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C14-C16	B20@5FT	**110**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C16-C18	B20@5FT	**150**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C18-C20	B20@5FT	**310**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C20-C22	B20@5FT	**180**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C22-C24	B20@5FT	**180**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C24-C26	B20@5FT	**160**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C26-C28	B20@5FT	**250**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C28-C32	B20@5FT	**410**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C32-C34	B20@5FT	**140**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C34-C36	B20@5FT	**150**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C36-C40	B20@5FT	**230**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C40-C44	B20@5FT	**120**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
TPH (C6-C44)	B20@5FT	**2400**	10	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C8-C10	B20@15FT	**56**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C10-C12	B20@15FT	**140**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C12-C14	B20@15FT	**370**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C14-C16	B20@15FT	**610**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C16-C18	B20@15FT	**740**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C18-C20	B20@15FT	**1500**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C20-C22	B20@15FT	**790**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C22-C24	B20@15FT	**760**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C24-C26	B20@15FT	**790**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C26-C28	B20@15FT	**880**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C28-C32	B20@15FT	**1500**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C32-C34	B20@15FT	**620**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C34-C36	B20@15FT	**370**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M

Allen Aminian
QA/QC Manager

LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18

ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
C36-C40	B20@15FT	**780**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C40-C44	B20@15FT	**460**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
TPH (C6-C44)	B20@15FT	**10000**	100	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C8-C10	B20@20FT	**4.6**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C10-C12	B20@20FT	**11**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C12-C14	B20@20FT	**35**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C14-C16	B20@20FT	**75**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C16-C18	B20@20FT	**130**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C18-C20	B20@20FT	**240**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C20-C22	B20@20FT	**150**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C22-C24	B20@20FT	**130**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C24-C26	B20@20FT	**140**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C26-C28	B20@20FT	**200**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C28-C32	B20@20FT	**310**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C32-C34	B20@20FT	**120**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C34-C36	B20@20FT	**85**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C36-C40	B20@20FT	**160**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C40-C44	B20@20FT	**99**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
TPH (C6-C44)	B20@20FT	**1900**	10	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C18-C20	B21@5FT	**3.8**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C20-C22	B21@5FT	**3.2**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C22-C24	B21@5FT	**5.2**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C24-C26	B21@5FT	**7.3**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C26-C28	B21@5FT	**16**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C28-C32	B21@5FT	**43**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C32-C34	B21@5FT	**21**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C34-C36	B21@5FT	**20**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C36-C40	B21@5FT	**46**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C40-C44	B21@5FT	**36**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
TPH (C6-C44)	B21@5FT	**200**	10	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C8-C10	B21@10FT	**1.9**	1.0	mg/kg	1	03/06/18	03/07/18	EPA 8015M

Allen Aminian
QA/QC Manager

LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18

ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
C10-C12	B21@10FT	**4.0**	1.0	mg/kg	1	03/06/18	03/07/18	EPA 8015M
C12-C14	B21@10FT	**15**	1.0	mg/kg	1	03/06/18	03/07/18	EPA 8015M
C14-C16	B21@10FT	**26**	1.0	mg/kg	1	03/06/18	03/07/18	EPA 8015M
C16-C18	B21@10FT	**41**	1.0	mg/kg	1	03/06/18	03/07/18	EPA 8015M
C18-C20	B21@10FT	**99**	1.0	mg/kg	1	03/06/18	03/07/18	EPA 8015M
C20-C22	B21@10FT	**63**	1.0	mg/kg	1	03/06/18	03/07/18	EPA 8015M
C22-C24	B21@10FT	**60**	1.0	mg/kg	1	03/06/18	03/07/18	EPA 8015M
C24-C26	B21@10FT	**72**	1.0	mg/kg	1	03/06/18	03/07/18	EPA 8015M
C26-C28	B21@10FT	**110**	1.0	mg/kg	1	03/06/18	03/07/18	EPA 8015M
C28-C32	B21@10FT	**200**	1.0	mg/kg	1	03/06/18	03/07/18	EPA 8015M
C32-C34	B21@10FT	**84**	1.0	mg/kg	1	03/06/18	03/07/18	EPA 8015M
C34-C36	B21@10FT	**66**	1.0	mg/kg	1	03/06/18	03/07/18	EPA 8015M
C36-C40	B21@10FT	**130**	1.0	mg/kg	1	03/06/18	03/07/18	EPA 8015M
C40-C44	B21@10FT	**81**	1.0	mg/kg	1	03/06/18	03/07/18	EPA 8015M
TPH (C6-C44)	B21@10FT	**1100**	10	mg/kg	1	03/06/18	03/07/18	EPA 8015M
C8-C10	B21@15FT	**20**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C10-C12	B21@15FT	**49**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C12-C14	B21@15FT	**150**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C14-C16	B21@15FT	**290**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C16-C18	B21@15FT	**390**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C18-C20	B21@15FT	**780**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C20-C22	B21@15FT	**430**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C22-C24	B21@15FT	**420**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C24-C26	B21@15FT	**360**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C26-C28	B21@15FT	**530**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C28-C32	B21@15FT	**820**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C32-C34	B21@15FT	**310**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C34-C36	B21@15FT	**260**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C36-C40	B21@15FT	**380**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C40-C44	B21@15FT	**270**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
TPH (C6-C44)	B21@15FT	**5500**	100	mg/kg	10	03/06/18	03/06/18	EPA 8015M

Allen Aminian
QA/QC Manager

LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18

ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
C26-C28	B22@5FT	**2.2**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C28-C32	B22@5FT	**8.1**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C32-C34	B22@5FT	**4.8**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C34-C36	B22@5FT	**4.9**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C36-C40	B22@5FT	**11**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C40-C44	B22@5FT	**9.9**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
TPH (C6-C44)	B22@5FT	**41**	10	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C8-C10	B22@10FT	**12**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C12-C14	B22@10FT	**34**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C14-C16	B22@10FT	**120**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C16-C18	B22@10FT	**220**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C18-C20	B22@10FT	**510**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C20-C22	B22@10FT	**310**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C22-C24	B22@10FT	**290**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C24-C26	B22@10FT	**270**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C26-C28	B22@10FT	**440**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C28-C32	B22@10FT	**720**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C32-C34	B22@10FT	**270**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C34-C36	B22@10FT	**210**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C36-C40	B22@10FT	**380**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C40-C44	B22@10FT	**190**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
TPH (C6-C44)	B22@10FT	**4000**	100	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C8-C10	B22@15FT	**16**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C10-C12	B22@15FT	**38**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C12-C14	B22@15FT	**150**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C14-C16	B22@15FT	**280**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C16-C18	B22@15FT	**300**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C18-C20	B22@15FT	**580**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C20-C22	B22@15FT	**320**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C22-C24	B22@15FT	**290**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C24-C26	B22@15FT	**290**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M

Allen Aminian
QA/QC Manager

LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18

ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
C26-C28	B22@15FT	**330**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C28-C32	B22@15FT	**580**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C32-C34	B22@15FT	**220**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C34-C36	B22@15FT	**190**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C36-C40	B22@15FT	**270**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C40-C44	B22@15FT	**190**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
TPH (C6-C44)	B22@15FT	**4000**	100	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C8-C10	B22@20FT	**1.1**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C12-C14	B22@20FT	**4.4**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C12-C14	B23@5FT	**18**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C14-C16	B23@5FT	**100**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C16-C18	B23@5FT	**190**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C18-C20	B23@5FT	**550**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C20-C22	B23@5FT	**330**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C22-C24	B23@5FT	**300**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C24-C26	B23@5FT	**280**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C26-C28	B23@5FT	**450**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C28-C32	B23@5FT	**770**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C32-C34	B23@5FT	**320**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C34-C36	B23@5FT	**200**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C36-C40	B23@5FT	**490**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C40-C44	B23@5FT	**340**	10	mg/kg	10	03/06/18	03/06/18	EPA 8015M
TPH (C6-C44)	B23@5FT	**4300**	100	mg/kg	10	03/06/18	03/06/18	EPA 8015M
C8-C10	B23@11FT	**1.0**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C28-C32	B23@11FT	**1.4**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C8-C10	B23@14FT	**1.1**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C18-C20	B23@14FT	**6.0**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C20-C22	B23@14FT	**6.0**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C22-C24	B23@14FT	**7.9**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C24-C26	B23@14FT	**9.5**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C26-C28	B23@14FT	**20**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M

Allen Aminian
QA/QC Manager

LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18

ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
C28-C32	B23@14FT	**49**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C32-C34	B23@14FT	**22**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C34-C36	B23@14FT	**21**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C36-C40	B23@14FT	**42**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C40-C44	B23@14FT	**35**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
TPH (C6-C44)	B23@14FT	**220**	10	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C8-C10	B23@17FT	**38**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C10-C12	B23@17FT	**120**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C12-C14	B23@17FT	**340**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C14-C16	B23@17FT	**520**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C16-C18	B23@17FT	**600**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C18-C20	B23@17FT	**1300**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C20-C22	B23@17FT	**690**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C22-C24	B23@17FT	**630**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C24-C26	B23@17FT	**600**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C26-C28	B23@17FT	**730**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C28-C32	B23@17FT	**1300**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C32-C34	B23@17FT	**480**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C34-C36	B23@17FT	**360**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C36-C40	B23@17FT	**640**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C40-C44	B23@17FT	**360**	10	mg/kg	10	03/06/18	03/07/18	EPA 8015M
TPH (C6-C44)	B23@17FT	**8600**	100	mg/kg	10	03/06/18	03/07/18	EPA 8015M
C8-C10	B23@20FT	**5.6**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C10-C12	B23@20FT	**21**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C12-C14	B23@20FT	**58**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C14-C16	B23@20FT	**84**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C16-C18	B23@20FT	**100**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C18-C20	B23@20FT	**190**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C20-C22	B23@20FT	**110**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C22-C24	B23@20FT	**100**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C24-C26	B23@20FT	**110**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M

Allen Aminian
QA/QC Manager

LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18

ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
C26-C28	B23@20FT	**110**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C28-C32	B23@20FT	**200**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C32-C34	B23@20FT	**81**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C34-C36	B23@20FT	**50**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C36-C40	B23@20FT	**110**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C40-C44	B23@20FT	**68**	1.0	mg/kg	1	03/06/18	03/06/18	EPA 8015M
TPH (C6-C44)	B23@20FT	**1400**	10	mg/kg	1	03/06/18	03/06/18	EPA 8015M
C8-C10	B23@23FT	**12**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C10-C12	B23@23FT	**32**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C12-C14	B23@23FT	**120**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C14-C16	B23@23FT	**180**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C16-C18	B23@23FT	**250**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C18-C20	B23@23FT	**240**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C20-C22	B23@23FT	**260**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C22-C24	B23@23FT	**320**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C24-C26	B23@23FT	**270**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C26-C28	B23@23FT	**280**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C28-C32	B23@23FT	**600**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C32-C34	B23@23FT	**170**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C34-C36	B23@23FT	**80**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C36-C40	B23@23FT	**96**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
TPH (C6-C44)	B23@23FT	**2900**	100	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C8-C10	B23@26FT	**18**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C10-C12	B23@26FT	**24**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C12-C14	B23@26FT	**140**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C14-C16	B23@26FT	**270**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C16-C18	B23@26FT	**430**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C18-C20	B23@26FT	**480**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C20-C22	B23@26FT	**480**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C22-C24	B23@26FT	**590**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C24-C26	B23@26FT	**510**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M

Allen Aminian
QA/QC Manager

LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18

ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
C26-C28	B23@26FT	**520**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C28-C32	B23@26FT	**1000**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C32-C34	B23@26FT	**250**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C34-C36	B23@26FT	**120**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C36-C40	B23@26FT	**110**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C40-C44	B23@26FT	**14**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
TPH (C6-C44)	B23@26FT	**5000**	100	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C28-C32	B24@5FT	**1.1**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C10-C12	B24@10FT	**1.3**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C12-C14	B24@10FT	**3.9**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C14-C16	B24@10FT	**9.5**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C16-C18	B24@10FT	**16**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C18-C20	B24@10FT	**33**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C20-C22	B24@10FT	**40**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C22-C24	B24@10FT	**51**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C24-C26	B24@10FT	**49**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C26-C28	B24@10FT	**54**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C28-C32	B24@10FT	**120**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C32-C34	B24@10FT	**32**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C34-C36	B24@10FT	**15**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C36-C40	B24@10FT	**34**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C40-C44	B24@10FT	**26**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
TPH (C6-C44)	B24@10FT	**490**	10	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C8-C10	B24@15FT	**17**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C10-C12	B24@15FT	**49**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C12-C14	B24@15FT	**160**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C14-C16	B24@15FT	**250**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C16-C18	B24@15FT	**400**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C18-C20	B24@15FT	**460**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C20-C22	B24@15FT	**450**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C22-C24	B24@15FT	**610**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M

Allen Aminian
QA/QC Manager

LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18

ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
C24-C26	B24@15FT	**420**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C26-C28	B24@15FT	**470**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C28-C32	B24@15FT	**980**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C32-C34	B24@15FT	**260**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C34-C36	B24@15FT	**130**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C36-C40	B24@15FT	**160**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C40-C44	B24@15FT	**96**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
TPH (C6-C44)	B24@15FT	**4900**	100	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C14-C16	B26@5FT	**1.4**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C16-C18	B26@5FT	**4.2**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C18-C20	B26@5FT	**10**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C20-C22	B26@5FT	**18**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C22-C24	B26@5FT	**25**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C24-C26	B26@5FT	**26**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C26-C28	B26@5FT	**31**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C28-C32	B26@5FT	**91**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C32-C34	B26@5FT	**20**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C34-C36	B26@5FT	**20**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C36-C40	B26@5FT	**23**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C40-C44	B26@5FT	**27**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
TPH (C6-C44)	B26@5FT	**300**	10	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C8-C10	B26@10FT	**2.6**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C10-C12	B26@10FT	**11**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C12-C14	B26@10FT	**30**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C14-C16	B26@10FT	**45**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C16-C18	B26@10FT	**66**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C18-C20	B26@10FT	**71**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C20-C22	B26@10FT	**93**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C22-C24	B26@10FT	**110**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C24-C26	B26@10FT	**96**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C26-C28	B26@10FT	**99**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M

Allen Aminian
QA/QC Manager

LABORATORY ANALYSIS RESULTS

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Project Name: OOI-SOB

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18

ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
C28-C32	B26@10FT	**190**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C32-C34	B26@10FT	**31**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C34-C36	B26@10FT	**20**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C36-C40	B26@10FT	**40**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C40-C44	B26@10FT	**22**	1.0	mg/kg	1	03/08/18	03/09/18	EPA 8015M
TPH (C6-C44)	B26@10FT	**920**	10	mg/kg	1	03/08/18	03/09/18	EPA 8015M
C10-C12	B26@15FT	**2.1**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C12-C14	B26@15FT	**8.2**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C14-C16	B26@15FT	**14**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C16-C18	B26@15FT	**25**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C18-C20	B26@15FT	**35**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C20-C22	B26@15FT	**42**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C22-C24	B26@15FT	**51**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C24-C26	B26@15FT	**49**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C26-C28	B26@15FT	**48**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C28-C32	B26@15FT	**110**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C32-C34	B26@15FT	**27**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C34-C36	B26@15FT	**15**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C36-C40	B26@15FT	**22**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C40-C44	B26@15FT	**13**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
TPH (C6-C44)	B26@15FT	**460**	10	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C26-C28	B27@5FT	**1.2**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C28-C32	B27@5FT	**5.2**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C32-C34	B27@5FT	**1.3**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C34-C36	B27@5FT	**1.4**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C36-C40	B27@5FT	**1.6**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
TPH (C6-C44)	B27@5FT	**11**	10	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C8-C10	B27@10FT	**17**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C10-C12	B27@10FT	**49**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C12-C14	B27@10FT	**160**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C14-C16	B27@10FT	**240**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M

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QA/QC Manager

LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
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Project Name: OOI-SOB

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18

ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
C16-C18	B27@10FT	**280**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C18-C20	B27@10FT	**400**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C20-C22	B27@10FT	**410**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C22-C24	B27@10FT	**460**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C24-C26	B27@10FT	**400**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C26-C28	B27@10FT	**390**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C28-C32	B27@10FT	**860**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C32-C34	B27@10FT	**240**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C34-C36	B27@10FT	**110**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C36-C40	B27@10FT	**180**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C40-C44	B27@10FT	**36**	10	mg/kg	10	03/08/18	03/08/18	EPA 8015M
TPH (C6-C44)	B27@10FT	**4200**	100	mg/kg	10	03/08/18	03/08/18	EPA 8015M
C8-C10	B27@15FT	**1.0**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C10-C12	B27@15FT	**6.2**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C12-C14	B27@15FT	**23**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C14-C16	B27@15FT	**36**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C16-C18	B27@15FT	**51**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C18-C20	B27@15FT	**73**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C20-C22	B27@15FT	**65**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C22-C24	B27@15FT	**60**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C24-C26	B27@15FT	**64**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C26-C28	B27@15FT	**60**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C28-C32	B27@15FT	**120**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C32-C34	B27@15FT	**31**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C34-C36	B27@15FT	**14**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C36-C40	B27@15FT	**18**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C40-C44	B27@15FT	**12**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
TPH (C6-C44)	B27@15FT	**640**	10	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C8-C10	B27@20FT	**2.9**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C10-C12	B27@20FT	**16**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C12-C14	B27@20FT	**46**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M

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QA/QC Manager

LABORATORY ANALYSIS RESULTS

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ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
C14-C16	B27@20FT	**69**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C16-C18	B27@20FT	**88**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C18-C20	B27@20FT	**110**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C20-C22	B27@20FT	**120**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C22-C24	B27@20FT	**140**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C24-C26	B27@20FT	**100**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C26-C28	B27@20FT	**120**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C28-C32	B27@20FT	**210**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C32-C34	B27@20FT	**45**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C34-C36	B27@20FT	**25**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C36-C40	B27@20FT	**47**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
C40-C44	B27@20FT	**22**	1.0	mg/kg	1	03/08/18	03/08/18	EPA 8015M
TPH (C6-C44)	B27@20FT	**1200**	10	mg/kg	1	03/08/18	03/08/18	EPA 8015M
Total Metals by ICP Atomic Emission Spectroscopy								
Lead	B20@5FT	**86**	3.0	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Arsenic	B20@5FT	**36**	0.50	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Lead	B20@15FT	**260**	3.0	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Arsenic	B20@15FT	**170**	0.50	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Lead	B20@20FT	**68**	3.0	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Arsenic	B20@20FT	**44**	0.50	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Lead	B20@25FT	**6.3**	3.0	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Arsenic	B20@25FT	**10**	0.50	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Lead	B21@5FT	**32**	3.0	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Arsenic	B21@5FT	**38**	0.50	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Arsenic	B21@10FT	**50**	0.50	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Lead	B21@10FT	**67**	3.0	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Lead	B21@15FT	**230**	3.0	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Arsenic	B21@15FT	**80**	0.50	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Arsenic	B21@20FT	**8.1**	0.50	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Lead	B21@20FT	**6.1**	3.0	mg/kg	1	03/05/18	03/06/18	EPA 6010B

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QA/QC Manager

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ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
Lead	B21@25FT	**4.0**	3.0	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Arsenic	B21@25FT	**2.4**	0.50	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Lead	B22@5FT	**6.8**	3.0	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Arsenic	B22@5FT	**5.4**	0.50	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Lead	B22@10FT	**120**	3.0	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Arsenic	B22@10FT	**50**	0.50	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Arsenic	B22@15FT	**49**	0.50	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Lead	B22@15FT	**130**	3.0	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Arsenic	B22@20FT	**3.5**	0.50	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Lead	B22@25FT	**5.6**	3.0	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Arsenic	B22@25FT	**28**	0.50	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Lead	B23@5FT	**68**	3.0	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Arsenic	B23@5FT	**19**	0.50	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Arsenic	B23@8FT	**6.8**	0.50	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Lead	B23@8FT	**6.9**	3.0	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Arsenic	B23@11FT	**22**	0.50	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Lead	B23@11FT	**20**	3.0	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Arsenic	B23@14FT	**15**	0.50	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Lead	B23@14FT	**19**	3.0	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Arsenic	B23@17FT	**48**	0.50	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Lead	B23@17FT	**170**	3.0	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Lead	B23@20FT	**10**	3.0	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Arsenic	B23@20FT	**9.9**	0.50	mg/kg	1	03/05/18	03/06/18	EPA 6010B
Arsenic	B23@23FT	**26**	0.50	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Lead	B23@23FT	**77**	3.0	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Arsenic	B23@26FT	**50**	0.50	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Lead	B23@26FT	**130**	3.0	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Lead	B23@29FT	**4.6**	3.0	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Arsenic	B23@29FT	**5.1**	0.50	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Arsenic	B23@32FT	**3.5**	0.50	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Lead	B23@32FT	**3.8**	3.0	mg/kg	1	03/05/18	03/07/18	EPA 6010B

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Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
Lead	B24@5FT	**46**	3.0	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Arsenic	B24@5FT	**4.4**	0.50	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Arsenic	B24@10FT	**14**	0.50	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Lead	B24@10FT	**77**	3.0	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Lead	B24@15FT	**120**	3.0	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Arsenic	B24@15FT	**58**	0.50	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Lead	B24@20FT	**4.7**	3.0	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Arsenic	B24@20FT	**4.0**	0.50	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Lead	B26@5FT	**36**	3.0	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Arsenic	B26@5FT	**30**	0.50	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Lead	B26@10FT	**70**	3.0	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Arsenic	B26@10FT	**24**	0.50	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Arsenic	B26@15FT	**12**	0.50	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Lead	B26@15FT	**13**	3.0	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Lead	B26@20FT	**4.7**	3.0	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Arsenic	B26@20FT	**5.9**	0.50	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Arsenic	B27@5FT	**3.3**	0.50	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Lead	B27@5FT	**47**	3.0	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Lead	B27@10FT	**160**	3.0	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Arsenic	B27@10FT	**61**	0.50	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Lead	B27@15FT	**26**	3.0	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Arsenic	B27@15FT	**18**	0.50	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Lead	B27@20FT	**38**	3.0	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Arsenic	B27@20FT	**35**	0.50	mg/kg	1	03/05/18	03/07/18	EPA 6010B
Arsenic	B27@25FT	**2.7**	0.50	mg/kg	1	03/05/18	03/07/18	EPA 6010B

Allen Aminian
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LABORATORY ANALYSIS RESULTS

Client:	Cal Environmental	**AA Project No:**	A243897
Project No:	3029	**Date Received:**	03/01/18
Project Name:	OOI-SOB	**Date Reported:**	03/09/18
Method:	Carbon Chain by GC/FID	**Units:**	mg/kg

Date Sampled:	03/01/18	03/01/18	03/01/18	03/01/18	
Date Prepared:	03/06/18	03/06/18	03/06/18	03/06/18	
Date Analyzed:	03/06/18	03/06/18	03/06/18	03/06/18	
AA ID No:	8C02001-01	8C02001-02	8C02001-03	8C02001-04	
Client ID No:	B20@5FT	B20@15FT	B20@20FT	B20@25FT	
Matrix:	Soil	Soil	Soil	Soil	
Dilution Factor:	1	10	1	1	MRL
Carbon Chain Characterization 8015M (EPA 8015M)					
C6-C8	<1.0	<10	<1.0	<1.0	1.0
C8-C10	**2.4**	**56**	**4.6**	<1.0	1.0
C10-C12	**9.3**	**140**	**11**	<1.0	1.0
C12-C14	**38**	**370**	**35**	<1.0	1.0
C14-C16	**110**	**610**	**75**	<1.0	1.0
C16-C18	**150**	**740**	**130**	<1.0	1.0
C18-C20	**310**	**1500**	**240**	<1.0	1.0
C20-C22	**180**	**790**	**150**	<1.0	1.0
C22-C24	**180**	**760**	**130**	<1.0	1.0
C24-C26	**160**	**790**	**140**	<1.0	1.0
C26-C28	**250**	**880**	**200**	<1.0	1.0
C28-C32	**410**	**1500**	**310**	<1.0	1.0
C32-C34	**140**	**620**	**120**	<1.0	1.0
C34-C36	**150**	**370**	**85**	<1.0	1.0
C36-C40	**230**	**780**	**160**	<1.0	1.0
C40-C44	**120**	**460**	**99**	<1.0	1.0
TPH (C6-C44)	**2400**	**10000**	**1900**	<10	10
Surrogates					**%REC Limits**
o-Terphenyl	56%	91%	60%	83%	50-150

Allen Aminian
QA/QC Manager

LABORATORY ANALYSIS RESULTS

Client:	Cal Environmental	**AA Project No:**	A243897
Project No:	3029	**Date Received:**	03/01/18
Project Name:	OOI-SOB	**Date Reported:**	03/09/18
Method:	Carbon Chain by GC/FID	**Units:**	mg/kg

Date Sampled:	03/01/18	03/01/18	03/01/18	03/01/18	
Date Prepared:	03/06/18	03/06/18	03/06/18	03/06/18	
Date Analyzed:	03/06/18	03/07/18	03/06/18	03/06/18	
AA ID No:	8C02001-05	8C02001-06	8C02001-07	8C02001-08	
Client ID No:	B21@5FT	B21@10FT	B21@15FT	B21@20FT	
Matrix:	Soil	Soil	Soil	Soil	
Dilution Factor:	1	1	10	1	MRL
Carbon Chain Characterization 8015M (EPA 8015M)					
C6-C8	<1.0	<1.0	<10	<1.0	1.0
C8-C10	<1.0	**1.9**	**20**	<1.0	1.0
C10-C12	<1.0	**4.0**	**49**	<1.0	1.0
C12-C14	<1.0	**15**	**150**	<1.0	1.0
C14-C16	<1.0	**26**	**290**	<1.0	1.0
C16-C18	<1.0	**41**	**390**	<1.0	1.0
C18-C20	**3.8**	**99**	**780**	<1.0	1.0
C20-C22	**3.2**	**63**	**430**	<1.0	1.0
C22-C24	**5.2**	**60**	**420**	<1.0	1.0
C24-C26	**7.3**	**72**	**360**	<1.0	1.0
C26-C28	**16**	**110**	**530**	<1.0	1.0
C28-C32	**43**	**200**	**820**	<1.0	1.0
C32-C34	**21**	**84**	**310**	<1.0	1.0
C34-C36	**20**	**66**	**260**	<1.0	1.0
C36-C40	**46**	**130**	**380**	<1.0	1.0
C40-C44	**36**	**81**	**270**	<1.0	1.0
TPH (C6-C44)	**200**	**1100**	**5500**	<10	10
Surrogates					**%REC Limits**
o-Terphenyl	83%	66%	85%	82%	50-150

Allen Aminian
QA/QC Manager

LABORATORY ANALYSIS RESULTS

Client:	Cal Environmental	**AA Project No:**	A243897
Project No:	3029	**Date Received:**	03/01/18
Project Name:	OOI-SOB	**Date Reported:**	03/09/18
Method:	Carbon Chain by GC/FID	**Units:**	mg/kg

Date Sampled:	03/01/18	03/01/18	03/01/18	03/01/18	
Date Prepared:	03/06/18	03/06/18	03/06/18	03/06/18	
Date Analyzed:	03/06/18	03/06/18	03/07/18	03/07/18	
AA ID No:	8C02001-09	8C02001-10	8C02001-11	8C02001-12	
Client ID No:	B21@25FT	B22@5FT	B22@10FT	B22@15FT	
Matrix:	Soil	Soil	Soil	Soil	
Dilution Factor:	1	1	10	10	MRL
Carbon Chain Characterization 8015M (EPA 8015M)					
C6-C8	<1.0	<1.0	<10	<10	1.0
C8-C10	<1.0	<1.0	**12**	**16**	1.0
C10-C12	<1.0	<1.0	<10	**38**	1.0
C12-C14	<1.0	<1.0	**34**	**150**	1.0
C14-C16	<1.0	<1.0	**120**	**280**	1.0
C16-C18	<1.0	<1.0	**220**	**300**	1.0
C18-C20	<1.0	<1.0	**510**	**580**	1.0
C20-C22	<1.0	<1.0	**310**	**320**	1.0
C22-C24	<1.0	<1.0	**290**	**290**	1.0
C24-C26	<1.0	<1.0	**270**	**290**	1.0
C26-C28	<1.0	**2.2**	**440**	**330**	1.0
C28-C32	<1.0	**8.1**	**720**	**580**	1.0
C32-C34	<1.0	**4.8**	**270**	**220**	1.0
C34-C36	<1.0	**4.9**	**210**	**190**	1.0
C36-C40	<1.0	**11**	**380**	**270**	1.0
C40-C44	<1.0	**9.9**	**190**	**190**	1.0
TPH (C6-C44)	<10	**41**	**4000**	**4000**	10
Surrogates					**%REC Limits**
o-Terphenyl	85%	90%	98%	86%	50-150

Allen Aminian
QA/QC Manager

LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB
Method: Carbon Chain by GC/FID

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18
Units: mg/kg

Date Sampled:	03/01/18	03/01/18	03/01/18	03/01/18	
Date Prepared:	03/06/18	03/06/18	03/06/18	03/06/18	
Date Analyzed:	03/06/18	03/06/18	03/06/18	03/06/18	
AA ID No:	8C02001-13	8C02001-14	8C02001-15	8C02001-16	
Client ID No:	B22@20FT	B22@25FT	B23@5FT	B23@8FT	
Matrix:	Soil	Soil	Soil	Soil	
Dilution Factor:	1	1	10	1	MRL
Carbon Chain Characterization 8015M (EPA 8015M)					
C6-C8	<1.0	<1.0	<10	<1.0	1.0
C8-C10	**1.1**	<1.0	<10	<1.0	1.0
C10-C12	<1.0	<1.0	<10	<1.0	1.0
C12-C14	**4.4**	<1.0	**18**	<1.0	1.0
C14-C16	<1.0	<1.0	**100**	<1.0	1.0
C16-C18	<1.0	<1.0	**190**	<1.0	1.0
C18-C20	<1.0	<1.0	**550**	<1.0	1.0
C20-C22	<1.0	<1.0	**330**	<1.0	1.0
C22-C24	<1.0	<1.0	**300**	<1.0	1.0
C24-C26	<1.0	<1.0	**280**	<1.0	1.0
C26-C28	<1.0	<1.0	**450**	<1.0	1.0
C28-C32	<1.0	<1.0	**770**	<1.0	1.0
C32-C34	<1.0	<1.0	**320**	<1.0	1.0
C34-C36	<1.0	<1.0	**200**	<1.0	1.0
C36-C40	<1.0	<1.0	**490**	<1.0	1.0
C40-C44	<1.0	<1.0	**340**	<1.0	1.0
TPH (C6-C44)	<10	<10	**4300**	<10	10
Surrogates					**%REC Limits**
o-Terphenyl	87%	84%	85%	84%	50-150

Allen Aminian
QA/QC Manager

LABORATORY ANALYSIS RESULTS

Client:	Cal Environmental	**AA Project No:**	A243897
Project No:	3029	**Date Received:**	03/01/18
Project Name:	OOI-SOB	**Date Reported:**	03/09/18
Method:	Carbon Chain by GC/FID	**Units:**	mg/kg

Date Sampled:	03/01/2018	03/01/2018	03/01/2018	03/01/2018	
Date Prepared:	03/06/18	03/06/18	03/06/18	03/06/18	
Date Analyzed:	03/06/18	03/06/18	03/07/18	03/06/18	
AA ID No:	8C02001-17	8C02001-18	8C02001-19	8C02001-20	
Client ID No:	B23@11FT	B23@14FT	B23@17FT	B23@20FT	
Matrix:	Soil	Soil	Soil	Soil	
Dilution Factor:	1	1	10	1	MRL
Carbon Chain Characterization 8015M (EPA 8015M)					
C6-C8	<1.0	<1.0	<10	<1.0	1.0
C8-C10	**1.0**	**1.1**	**38**	**5.6**	1.0
C10-C12	<1.0	<1.0	**120**	**21**	1.0
C12-C14	<1.0	<1.0	**340**	**58**	1.0
C14-C16	<1.0	<1.0	**520**	**84**	1.0
C16-C18	<1.0	<1.0	**600**	**100**	1.0
C18-C20	<1.0	**6.0**	**1300**	**190**	1.0
C20-C22	<1.0	**6.0**	**690**	**110**	1.0
C22-C24	<1.0	**7.9**	**630**	**100**	1.0
C24-C26	<1.0	**9.5**	**600**	**110**	1.0
C26-C28	<1.0	**20**	**730**	**110**	1.0
C28-C32	**1.4**	**49**	**1300**	**200**	1.0
C32-C34	<1.0	**22**	**480**	**81**	1.0
C34-C36	<1.0	**21**	**360**	**50**	1.0
C36-C40	<1.0	**42**	**640**	**110**	1.0
C40-C44	<1.0	**35**	**360**	**68**	1.0
TPH (C6-C44)	<10	**220**	**8600**	**1400**	10
Surrogates					**%REC Limits**
o-Terphenyl	85%	96%	100%	60%	50-150

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LABORATORY ANALYSIS RESULTS

Client:	Cal Environmental	**AA Project No:**	A243897
Project No:	3029	**Date Received:**	03/01/18
Project Name:	OOI-SOB	**Date Reported:**	03/09/18
Method:	Carbon Chain by GC/FID	**Units:**	mg/kg

Date Sampled:	03/01/18	03/01/18	03/01/18	03/01/18	
Date Prepared:	03/08/18	03/08/18	03/08/18	03/08/18	
Date Analyzed:	03/08/18	03/08/18	03/08/18	03/08/18	
AA ID No:	8C02001-21	8C02001-22	8C02001-23	8C02001-24	
Client ID No:	B23@23FT	B23@26FT	B23@29FT	B23@32FT	
Matrix:	Soil	Soil	Soil	Soil	
Dilution Factor:	10	10	1	1	MRL
Carbon Chain Characterization 8015M (EPA 8015M)					
C6-C8	<10	<10	<1.0	<1.0	1.0
C8-C10	**12**	**18**	<1.0	<1.0	1.0
C10-C12	**32**	**24**	<1.0	<1.0	1.0
C12-C14	**120**	**140**	<1.0	<1.0	1.0
C14-C16	**180**	**270**	<1.0	<1.0	1.0
C16-C18	**250**	**430**	<1.0	<1.0	1.0
C18-C20	**240**	**480**	<1.0	<1.0	1.0
C20-C22	**260**	**480**	<1.0	<1.0	1.0
C22-C24	**320**	**590**	<1.0	<1.0	1.0
C24-C26	**270**	**510**	<1.0	<1.0	1.0
C26-C28	**280**	**520**	<1.0	<1.0	1.0
C28-C32	**600**	**1000**	<1.0	<1.0	1.0
C32-C34	**170**	**250**	<1.0	<1.0	1.0
C34-C36	**80**	**120**	<1.0	<1.0	1.0
C36-C40	**96**	**110**	<1.0	<1.0	1.0
C40-C44	<10	**14**	<1.0	<1.0	1.0
TPH (C6-C44)	**2900**	**5000**	<10	<10	10
Surrogates					**%REC Limits**
o-Terphenyl	74%	80%	76%	86%	50-150

Allen Aminian
QA/QC Manager

LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB
Method: Carbon Chain by GC/FID

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18
Units: mg/kg

Date Sampled:	03/01/18	03/01/18	03/01/18	03/01/18	
Date Prepared:	03/08/18	03/08/18	03/08/18	03/08/18	
Date Analyzed:	03/08/18	03/09/18	03/08/18	03/08/18	
AA ID No:	8C02001-25	8C02001-26	8C02001-27	8C02001-28	
Client ID No:	B24@5FT	B24@10FT	B24@15FT	B24@20FT	
Matrix:	Soil	Soil	Soil	Soil	
Dilution Factor:	1	1	10	1	MRL
Carbon Chain Characterization 8015M (EPA 8015M)					
C6-C8	<1.0	<1.0	<10	<1.0	1.0
C8-C10	<1.0	<1.0	**17**	<1.0	1.0
C10-C12	<1.0	**1.3**	**49**	<1.0	1.0
C12-C14	<1.0	**3.9**	**160**	<1.0	1.0
C14-C16	<1.0	**9.5**	**250**	<1.0	1.0
C16-C18	<1.0	**16**	**400**	<1.0	1.0
C18-C20	<1.0	**33**	**460**	<1.0	1.0
C20-C22	<1.0	**40**	**450**	<1.0	1.0
C22-C24	<1.0	**51**	**610**	<1.0	1.0
C24-C26	<1.0	**49**	**420**	<1.0	1.0
C26-C28	<1.0	**54**	**470**	<1.0	1.0
C28-C32	**1.1**	**120**	**980**	<1.0	1.0
C32-C34	<1.0	**32**	**260**	<1.0	1.0
C34-C36	<1.0	**15**	**130**	<1.0	1.0
C36-C40	<1.0	**34**	**160**	<1.0	1.0
C40-C44	<1.0	**26**	**96**	<1.0	1.0
TPH (C6-C44)	<10	**490**	**4900**	<10	10
Surrogates					**%REC Limits**
o-Terphenyl	73%	108%	84%	80%	50-150

Allen Aminian
QA/QC Manager

LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB
Method: Carbon Chain by GC/FID

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18
Units: mg/kg

Date Sampled:	03/01/18	03/01/18	03/01/18	03/01/18	
Date Prepared:	03/08/18	03/08/18	03/08/18	03/08/18	
Date Analyzed:	03/09/18	03/09/18	03/08/18	03/08/18	
AA ID No:	8C02001-29	8C02001-30	8C02001-31	8C02001-32	
Client ID No:	B26@5FT	B26@10FT	B26@15FT	B26@20FT	
Matrix:	Soil	Soil	Soil	Soil	
Dilution Factor:	1	1	1	1	MRL
Carbon Chain Characterization 8015M (EPA 8015M)					
C6-C8	<1.0	<1.0	<1.0	<1.0	1.0
C8-C10	<1.0	**2.6**	<1.0	<1.0	1.0
C10-C12	<1.0	**11**	**2.1**	<1.0	1.0
C12-C14	<1.0	**30**	**8.2**	<1.0	1.0
C14-C16	**1.4**	**45**	**14**	<1.0	1.0
C16-C18	**4.2**	**66**	**25**	<1.0	1.0
C18-C20	**10**	**71**	**35**	<1.0	1.0
C20-C22	**18**	**93**	**42**	<1.0	1.0
C22-C24	**25**	**110**	**51**	<1.0	1.0
C24-C26	**26**	**96**	**49**	<1.0	1.0
C26-C28	**31**	**99**	**48**	<1.0	1.0
C28-C32	**91**	**190**	**110**	<1.0	1.0
C32-C34	**20**	**31**	**27**	<1.0	1.0
C34-C36	**20**	**20**	**15**	<1.0	1.0
C36-C40	**23**	**40**	**22**	<1.0	1.0
C40-C44	**27**	**22**	**13**	<1.0	1.0
TPH (C6-C44)	**300**	**920**	**460**	<10	10
Surrogates					**%REC Limits**
o-Terphenyl	88%	78%	114%	86%	50-150

Allen Aminian
QA/QC Manager

LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB
Method: Carbon Chain by GC/FID

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18
Units: mg/kg

Date Sampled:	03/01/18	03/01/18	03/01/18	03/01/18	
Date Prepared:	03/08/18	03/08/18	03/08/18	03/08/18	
Date Analyzed:	03/08/18	03/08/18	03/08/18	03/08/18	
AA ID No:	8C02001-33	8C02001-34	8C02001-35	8C02001-36	
Client ID No:	B27@5FT	B27@10FT	B27@15FT	B27@20FT	
Matrix:	Soil	Soil	Soil	Soil	
Dilution Factor:	1	10	1	1	MRL
Carbon Chain Characterization 8015M (EPA 8015M)					
C6-C8	<1.0	<10	<1.0	<1.0	1.0
C8-C10	<1.0	**17**	**1.0**	**2.9**	1.0
C10-C12	<1.0	**49**	**6.2**	**16**	1.0
C12-C14	<1.0	**160**	**23**	**46**	1.0
C14-C16	<1.0	**240**	**36**	**69**	1.0
C16-C18	<1.0	**280**	**51**	**88**	1.0
C18-C20	<1.0	**400**	**73**	**110**	1.0
C20-C22	<1.0	**410**	**65**	**120**	1.0
C22-C24	<1.0	**460**	**60**	**140**	1.0
C24-C26	<1.0	**400**	**64**	**100**	1.0
C26-C28	**1.2**	**390**	**60**	**120**	1.0
C28-C32	**5.2**	**860**	**120**	**210**	1.0
C32-C34	**1.3**	**240**	**31**	**45**	1.0
C34-C36	**1.4**	**110**	**14**	**25**	1.0
C36-C40	**1.6**	**180**	**18**	**47**	1.0
C40-C44	<1.0	**36**	**12**	**22**	1.0
TPH (C6-C44)	**11**	**4200**	**640**	**1200**	10
Surrogates					**%REC Limits**
o-Terphenyl	85%	81%	73%	77%	50-150

Allen Aminian
QA/QC Manager

LABORATORY ANALYSIS RESULTS

Client:	Cal Environmental	**AA Project No:**	A243897
Project No:	3029	**Date Received:**	03/01/18
Project Name:	OOI-SOB	**Date Reported:**	03/09/18
Method:	Carbon Chain by GC/FID	**Units:**	mg/kg

Date Sampled:	03/01/18	
Date Prepared:	03/08/18	
Date Analyzed:	03/08/18	
AA ID No:	8C02001-37	
Client ID No:	B27@25FT	
Matrix:	Soil	
Dilution Factor:	1	MRL

Carbon Chain Characterization 8015M (EPA 8015M)

C6-C8	<1.0	1.0
C8-C10	<1.0	1.0
C10-C12	<1.0	1.0
C12-C14	<1.0	1.0
C14-C16	<1.0	1.0
C16-C18	<1.0	1.0
C18-C20	<1.0	1.0
C20-C22	<1.0	1.0
C22-C24	<1.0	1.0
C24-C26	<1.0	1.0
C26-C28	<1.0	1.0
C28-C32	<1.0	1.0
C32-C34	<1.0	1.0
C34-C36	<1.0	1.0
C36-C40	<1.0	1.0
C40-C44	<1.0	1.0
TPH (C6-C44)	<10	10

Surrogates		**%REC Limits**
o-Terphenyl	82%	50-150

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LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB
Method: Total Metals by ICP Atomic Emission Spectroscopy

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18

AA I.D. No.	Client I.D. No.	Sampled	Prepared	Analyzed	Dilution	Result	Units	MRL
Arsenic Total EPA 6010B (EPA 6010B)								
8C02001-01	B20@5FT	03/01/18	03/05/18	03/06/18	1	**36**	mg/kg	0.5
8C02001-02	B20@15FT	03/01/18	03/05/18	03/06/18	1	**170**	mg/kg	0.5
8C02001-03	B20@20FT	03/01/18	03/05/18	03/06/18	1	**44**	mg/kg	0.5
8C02001-04	B20@25FT	03/01/18	03/05/18	03/06/18	1	**10**	mg/kg	0.5
8C02001-05	B21@5FT	03/01/18	03/05/18	03/06/18	1	**38**	mg/kg	0.5
8C02001-06	B21@10FT	03/01/18	03/05/18	03/06/18	1	**50**	mg/kg	0.5
8C02001-07	B21@15FT	03/01/18	03/05/18	03/06/18	1	**80**	mg/kg	0.5
8C02001-08	B21@20FT	03/01/18	03/05/18	03/06/18	1	**8.1**	mg/kg	0.5
8C02001-09	B21@25FT	03/01/18	03/05/18	03/06/18	1	**2.4**	mg/kg	0.5
8C02001-10	B22@5FT	03/01/18	03/05/18	03/06/18	1	**5.4**	mg/kg	0.5
8C02001-11	B22@10FT	03/01/18	03/05/18	03/06/18	1	**50**	mg/kg	0.5
8C02001-12	B22@15FT	03/01/18	03/05/18	03/06/18	1	**49**	mg/kg	0.5
8C02001-13	B22@20FT	03/01/18	03/05/18	03/06/18	1	**3.5**	mg/kg	0.5
8C02001-14	B22@25FT	03/01/18	03/05/18	03/06/18	1	**28**	mg/kg	0.5
8C02001-15	B23@5FT	03/01/18	03/05/18	03/06/18	1	**19**	mg/kg	0.5
8C02001-16	B23@8FT	03/01/18	03/05/18	03/06/18	1	**6.8**	mg/kg	0.5
8C02001-17	B23@11FT	03/01/18	03/05/18	03/06/18	1	**22**	mg/kg	0.5
8C02001-18	B23@14FT	03/01/18	03/05/18	03/06/18	1	**15**	mg/kg	0.5
8C02001-19	B23@17FT	03/01/18	03/05/18	03/06/18	1	**48**	mg/kg	0.5
8C02001-20	B23@20FT	03/01/18	03/05/18	03/06/18	1	**9.9**	mg/kg	0.5
8C02001-21	B23@23FT	03/01/18	03/05/18	03/07/18	1	**26**	mg/kg	0.5
8C02001-22	B23@26FT	03/01/18	03/05/18	03/07/18	1	**50**	mg/kg	0.5
8C02001-23	B23@29FT	03/01/18	03/05/18	03/07/18	1	**5.1**	mg/kg	0.5
8C02001-24	B23@32FT	03/01/18	03/05/18	03/07/18	1	**3.5**	mg/kg	0.5

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LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB
Method: Total Metals by ICP Atomic Emission Spectroscopy

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18

AA I.D. No.	Client I.D. No.	Sampled	Prepared	Analyzed	Dilution	Result	Units	MRL
Arsenic Total EPA 6010B (EPA 6010B)								
8C02001-25	B24@5FT	03/01/18	03/05/18	03/07/18	1	**4.4**	mg/kg	0.5
8C02001-26	B24@10FT	03/01/18	03/05/18	03/07/18	1	**14**	mg/kg	0.5
8C02001-27	B24@15FT	03/01/18	03/05/18	03/07/18	1	**58**	mg/kg	0.5
8C02001-28	B24@20FT	03/01/18	03/05/18	03/07/18	1	**4.0**	mg/kg	0.5
8C02001-29	B26@5FT	03/01/18	03/05/18	03/07/18	1	**30**	mg/kg	0.5
8C02001-30	B26@10FT	03/01/18	03/05/18	03/07/18	1	**24**	mg/kg	0.5
8C02001-31	B26@15FT	03/01/18	03/05/18	03/07/18	1	**12**	mg/kg	0.5
8C02001-32	B26@20FT	03/01/18	03/05/18	03/07/18	1	**5.9**	mg/kg	0.5
8C02001-33	B27@5FT	03/01/18	03/05/18	03/07/18	1	**3.3**	mg/kg	0.5
8C02001-34	B27@10FT	03/01/18	03/05/18	03/07/18	1	**61**	mg/kg	0.5
8C02001-35	B27@15FT	03/01/18	03/05/18	03/07/18	1	**18**	mg/kg	0.5
8C02001-36	B27@20FT	03/01/18	03/05/18	03/07/18	1	**35**	mg/kg	0.5
8C02001-37	B27@25FT	03/01/18	03/05/18	03/07/18	1	**2.7**	mg/kg	0.5
Lead Total EPA 6010B (EPA 6010B)								
8C02001-01	B20@5FT	03/01/18	03/05/18	03/06/18	1	**86**	mg/kg	3
8C02001-02	B20@15FT	03/01/18	03/05/18	03/06/18	1	**260**	mg/kg	3
8C02001-03	B20@20FT	03/01/18	03/05/18	03/06/18	1	**68**	mg/kg	3
8C02001-04	B20@25FT	03/01/18	03/05/18	03/06/18	1	**6.3**	mg/kg	3
8C02001-05	B21@5FT	03/01/18	03/05/18	03/06/18	1	**32**	mg/kg	3
8C02001-06	B21@10FT	03/01/18	03/05/18	03/06/18	1	**67**	mg/kg	3
8C02001-07	B21@15FT	03/01/18	03/05/18	03/06/18	1	**230**	mg/kg	3
8C02001-08	B21@20FT	03/01/18	03/05/18	03/06/18	1	**6.1**	mg/kg	3
8C02001-09	B21@25FT	03/01/18	03/05/18	03/06/18	1	**4.0**	mg/kg	3

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LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB
Method: Total Metals by ICP Atomic Emission Spectroscopy

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18

Lead Total EPA 6010B (EPA 6010B)

AA I.D. No.	Client I.D. No.	Sampled	Prepared	Analyzed	Dilution	Result	Units	MRL
8C02001-10	B22@5FT	03/01/18	03/05/18	03/06/18	1	**6.8**	mg/kg	3
8C02001-11	B22@10FT	03/01/18	03/05/18	03/06/18	1	**120**	mg/kg	3
8C02001-12	B22@15FT	03/01/18	03/05/18	03/06/18	1	**130**	mg/kg	3
8C02001-13	B22@20FT	03/01/18	03/05/18	03/06/18	1	<3.0	mg/kg	3
8C02001-14	B22@25FT	03/01/18	03/05/18	03/06/18	1	**5.6**	mg/kg	3
8C02001-15	B23@5FT	03/01/18	03/05/18	03/06/18	1	**68**	mg/kg	3
8C02001-16	B23@8FT	03/01/18	03/05/18	03/06/18	1	**6.9**	mg/kg	3
8C02001-17	B23@11FT	03/01/18	03/05/18	03/06/18	1	**20**	mg/kg	3
8C02001-18	B23@14FT	03/01/18	03/05/18	03/06/18	1	**19**	mg/kg	3
8C02001-19	B23@17FT	03/01/18	03/05/18	03/06/18	1	**170**	mg/kg	3
8C02001-20	B23@20FT	03/01/18	03/05/18	03/06/18	1	**10**	mg/kg	3
8C02001-21	B23@23FT	03/01/18	03/05/18	03/07/18	1	**77**	mg/kg	3
8C02001-22	B23@26FT	03/01/18	03/05/18	03/07/18	1	**130**	mg/kg	3
8C02001-23	B23@29FT	03/01/18	03/05/18	03/07/18	1	**4.6**	mg/kg	3
8C02001-24	B23@32FT	03/01/18	03/05/18	03/07/18	1	**3.8**	mg/kg	3
8C02001-25	B24@5FT	03/01/18	03/05/18	03/07/18	1	**46**	mg/kg	3
8C02001-26	B24@10FT	03/01/18	03/05/18	03/07/18	1	**77**	mg/kg	3
8C02001-27	B24@15FT	03/01/18	03/05/18	03/07/18	1	**120**	mg/kg	3
8C02001-28	B24@20FT	03/01/18	03/05/18	03/07/18	1	**4.7**	mg/kg	3
8C02001-29	B26@5FT	03/01/18	03/05/18	03/07/18	1	**36**	mg/kg	3
8C02001-30	B26@10FT	03/01/18	03/05/18	03/07/18	1	**70**	mg/kg	3
8C02001-31	B26@15FT	03/01/18	03/05/18	03/07/18	1	**13**	mg/kg	3
8C02001-32	B26@20FT	03/01/18	03/05/18	03/07/18	1	**4.7**	mg/kg	3
8C02001-33	B27@5FT	03/01/18	03/05/18	03/07/18	1	**47**	mg/kg	3

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LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB
Method: Total Metals by ICP Atomic Emission Spectroscopy

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18

AA I.D. No.	Client I.D. No.	Sampled	Prepared	Analyzed	Dilution	Result	Units	MRL
Lead Total EPA 6010B (EPA 6010B)								
8C02001-34	B27@10FT	03/01/18	03/05/18	03/07/18	1	**160**	mg/kg	3
8C02001-35	B27@15FT	03/01/18	03/05/18	03/07/18	1	**26**	mg/kg	3
8C02001-36	B27@20FT	03/01/18	03/05/18	03/07/18	1	**38**	mg/kg	3
8C02001-37	B27@25FT	03/01/18	03/05/18	03/07/18	1	<3.0	mg/kg	3

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LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Carbon Chain by GC/FID - Quality Control										
Batch B8C0626 - EPA 3550B										
Blank (B8C0626-BLK1)				Prepared & Analyzed: 03/06/18						
C6-C8	<1.0	1.0	mg/kg							
C8-C10	<1.0	1.0	mg/kg							
C10-C12	<1.0	1.0	mg/kg							
C12-C14	<1.0	1.0	mg/kg							
C14-C16	<1.0	1.0	mg/kg							
C16-C18	<1.0	1.0	mg/kg							
C18-C20	<1.0	1.0	mg/kg							
C20-C22	<1.0	1.0	mg/kg							
C22-C24	<1.0	1.0	mg/kg							
C24-C26	<1.0	1.0	mg/kg							
C26-C28	<1.0	1.0	mg/kg							
C28-C32	<1.0	1.0	mg/kg							
C32-C34	<1.0	1.0	mg/kg							
C34-C36	<1.0	1.0	mg/kg							
C36-C40	<1.0	1.0	mg/kg							
C40-C44	<1.0	1.0	mg/kg							
TPH (C6-C44)	<10	10	mg/kg							
Surrogate: o-Terphenyl	*9.29*		*mg/kg*	*10*		*92.9*	*50-150*			
LCS (B8C0626-BS1)				Prepared & Analyzed: 03/06/18						
Diesel Range Organics as Diesel	**176**	10	mg/kg	200		88.0	75-125			
Surrogate: o-Terphenyl	*13.1*		*mg/kg*	*10*		*131*	*50-150*			
LCS Dup (B8C0626-BSD1)				Prepared & Analyzed: 03/06/18						
Diesel Range Organics as Diesel	**183**	10	mg/kg	200		91.7	75-125	4.17	40	
Surrogate: o-Terphenyl	*11.9*		*mg/kg*	*10*		*119*	*50-150*			
Matrix Spike (B8C0626-MS1)			**Source: 8C02001-09**	Prepared & Analyzed: 03/06/18						
Diesel Range Organics as Diesel	**183**	10	mg/kg	200		91.3	70-130			
Surrogate: o-Terphenyl	*12.4*		*mg/kg*	*10*		*124*	*50-150*			
Matrix Spike Dup (B8C0626-MSD1)			**Source: 8C02001-09**	Prepared & Analyzed: 03/06/18						
Diesel Range Organics as Diesel	**194**	10	mg/kg	200		96.8	70-130	5.83	40	

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LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Carbon Chain by GC/FID - Quality Control										
Batch B8C0626 - EPA 3550B										
Matrix Spike Dup (B8C0626-MSD1) Continued			**Source: 8C02001-09**	Prepared & Analyzed: 03/06/18						
Surrogate: o-Terphenyl	*12.2*		*mg/kg*	*10*		*122*	*50-150*			
Batch B8C0809 - EPA 3550B										
Blank (B8C0809-BLK1)				Prepared & Analyzed: 03/08/18						
C6-C8	<1.0	1.0	mg/kg							
C8-C10	<1.0	1.0	mg/kg							
C10-C12	<1.0	1.0	mg/kg							
C12-C14	<1.0	1.0	mg/kg							
C14-C16	<1.0	1.0	mg/kg							
C16-C18	<1.0	1.0	mg/kg							
C18-C20	<1.0	1.0	mg/kg							
C20-C22	<1.0	1.0	mg/kg							
C22-C24	<1.0	1.0	mg/kg							
C24-C26	<1.0	1.0	mg/kg							
C26-C28	<1.0	1.0	mg/kg							
C28-C32	<1.0	1.0	mg/kg							
C32-C34	<1.0	1.0	mg/kg							
C34-C36	<1.0	1.0	mg/kg							
C36-C40	<1.0	1.0	mg/kg							
C40-C44	<1.0	1.0	mg/kg							
TPH (C6-C44)	<10	10	mg/kg							
Surrogate: o-Terphenyl	*6.97*		*mg/kg*	*10*		*69.7*	*50-150*			
LCS (B8C0809-BS1)				Prepared & Analyzed: 03/08/18						
Diesel Range Organics as Diesel	**192**	10	mg/kg	200		96.1	75-125			
Surrogate: o-Terphenyl	*10.1*		*mg/kg*	*10*		*101*	*50-150*			
LCS Dup (B8C0809-BSD1)				Prepared & Analyzed: 03/08/18						
Diesel Range Organics as Diesel	**206**	10	mg/kg	200		103	75-125	7.16	40	
Surrogate: o-Terphenyl	*10.5*		*mg/kg*	*10*		*105*	*50-150*			
Matrix Spike (B8C0809-MS1)			**Source: 8C02001-32**	Prepared & Analyzed: 03/08/18						
Diesel Range Organics as Diesel	**203**	10	mg/kg	200		101	70-130			

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LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Carbon Chain by GC/FID - Quality Control										
Batch B8C0809 - EPA 3550B										
Matrix Spike (B8C0809-MS1) Continued Source: 8C02001-32 Prepared & Analyzed: 03/08/18										
Surrogate: o-Terphenyl	*10.2*		*mg/kg*	*10*		*102*	*50-150*			
Matrix Spike Dup (B8C0809-MSD1) Source: 8C02001-32 Prepared & Analyzed: 03/08/18										
Diesel Range Organics as Diesel	**200**	10	mg/kg	200		100	70-130	1.21	40	
Surrogate: o-Terphenyl	*10.1*		*mg/kg*	*10*		*101*	*50-150*			
Total Metals by ICP Atomic Emission Spectroscopy - Quality Control										
Batch B8C0534 - EPA 3050B										
Blank (B8C0534-BLK1) Prepared: 03/05/18 Analyzed: 03/06/18										
Lead	<3.0	3.0	mg/kg							
Arsenic	<0.50	0.50	mg/kg							
LCS (B8C0534-BS1) Prepared: 03/05/18 Analyzed: 03/06/18										
Arsenic	**53.2**	0.50	mg/kg	50		106	80-120		20	
Lead	**54.4**	3.0	mg/kg	50		109	80-120		20	
LCS Dup (B8C0534-BSD1) Prepared: 03/05/18 Analyzed: 03/06/18										
Lead	**50.7**	3.0	mg/kg	50		101	80-120	7.02	20	
Arsenic	**50.6**	0.50	mg/kg	50		101	80-120	5.09	20	
Duplicate (B8C0534-DUP1) Source: 8C02001-13 Prepared: 03/05/18 Analyzed: 03/06/18										
Arsenic	**2.89**	0.50	mg/kg		3.49			18.8	40	
Lead	**<3.0**	3.0	mg/kg		<3.0				40	
Matrix Spike (B8C0534-MS1) Source: 8C02001-04 Prepared: 03/05/18 Analyzed: 03/06/18										
Lead	**51.5**	3.0	mg/kg	50	6.31	90.3	75-125		40	
Arsenic	**53.9**	0.50	mg/kg	50	9.95	88.0	75-125		40	
Matrix Spike Dup (B8C0534-MSD1) Source: 8C02001-04 Prepared: 03/05/18 Analyzed: 03/06/18										
Lead	**47.9**	3.0	mg/kg	50	6.31	83.1	75-125	7.23	40	
Arsenic	**51.8**	0.50	mg/kg	50	9.95	83.7	75-125	4.07	40	
Batch B8C0535 - EPA 3050B										
Blank (B8C0535-BLK1) Prepared: 03/05/18 Analyzed: 03/07/18										
Arsenic	<0.50	0.50	mg/kg							
Lead	<3.0	3.0	mg/kg							
LCS (B8C0535-BS1) Prepared: 03/05/18 Analyzed: 03/07/18										

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LABORATORY ANALYSIS RESULTS

Client: Cal Environmental
Project No: 3029
Project Name: OOI-SOB

AA Project No: A243897
Date Received: 03/01/18
Date Reported: 03/09/18

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Metals by ICP Atomic Emission Spectroscopy - Quality Control										
Batch B8C0535 - EPA 3050B										
LCS (B8C0535-BS1) Continued				Prepared: 03/05/18			Analyzed: 03/07/18			
Lead	**50.2**	3.0	mg/kg	50		100	80-120		20	
Arsenic	**51.8**	0.50	mg/kg	50		104	80-120		20	
LCS Dup (B8C0535-BSD1)				Prepared: 03/05/18			Analyzed: 03/07/18			
Lead	**51.4**	3.0	mg/kg	50		103	80-120	2.30	20	
Arsenic	**52.4**	0.50	mg/kg	50		105	80-120	1.25	20	
Duplicate (B8C0535-DUP1)		**Source: 8C02002-03**		Prepared: 03/05/18			Analyzed: 03/07/18			
Arsenic	**10.7**	0.50	mg/kg		9.75			9.38	40	
Lead	**48.9**	3.0	mg/kg		41.5			16.4	40	
Matrix Spike (B8C0535-MS1)		**Source: 8C02001-24**		Prepared: 03/05/18			Analyzed: 03/07/18			
Lead	**50.8**	3.0	mg/kg	50	3.82	94.0	75-125		40	
Arsenic	**50.8**	0.50	mg/kg	50	3.53	94.6	75-125		40	
Matrix Spike Dup (B8C0535-MSD1)		**Source: 8C02001-24**		Prepared: 03/05/18			Analyzed: 03/07/18			
Arsenic	**58.2**	0.50	mg/kg	50	3.53	109	75-125	13.6	40	
Lead	**56.3**	3.0	mg/kg	50	3.82	105	75-125	10.3	40	

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QA/QC Manager

LABORATORY ANALYSIS RESULTS

Client:	Cal Environmental	**AA Project No:**	A243897
Project No:	3029	**Date Received:**	03/01/18
Project Name:	OOI-SOB	**Date Reported:**	03/09/18

Special Notes

Allen Aminian
QA/QC Manager

AMERICAN ANALYTICS CHAIN-OF-CUSTODY RECORD

9765 ETON AVE., CHATSWORTH, CA 91311
Tel: 818-998-5547 FAX: 818-998-7258

A.A. COC No.: 17-99
70050822
Page 1 of 3

Client: INTEGRAL | Project Name / No.: 001-50B | Sampler's Name: C. Buckley
Project Manager: C. BUCKLEY | Site Address: 712 BAKER ST. | Sampler's Signature:
Phone: | City: LONG BEACH, CA | P.O. No.: 3029
Fax: | State & Zip: | Quote No.:

TAT Turnaround Codes **

(1) = Same Day Rush
(2) = 24 Hour Rush
(3) = 48 Hour Rush
(4) = 72 Hour Rush
(5) = 5 Day Rush
X = 10 Working Days (Standard TAT)

ANALYSIS REQUESTED (Test Name)

Please enter the TAT Turnaround Codes ** below

Client I.D.	A.A. I.D.	Date	Time	Sample Matrix	No. of Cont	Asbestos	TPH 8015	Special Instructions
B20 e 5ft	8C02001-1	3/1/18	7:30 AM	SOIL	1	X	X	
B20 C 15ft	-2		8:05 AM			X	X	
B20 e 20ft	-3		8:12			X	X	
B20C 25ft	-4		8:20			X	X	
B21 e 5ft	-5		8:40			X	X	
B21 e 10ft	-6		8:55			X	X	
B21 C 15ft	-7		9:01			X	X	
B21 C 20ft	-8		9:07			X	X	
B21 C 25ft	-9		9:15			X	X	
B22 e 5ft	-10		9:35			X	X	
B22 e 10ft	-11		9:45			X	X	
B22 e 15ft	-12		9:50			X	X	
B22 e 20	-13		9:58			X	X	
B22 e 25	-14		10:05			X	X	
B23 e 5	-15		10:20			X	X	

For Laboratory Use
Date 3/1/18 Time 15:40
TAT 5 Days Sign:

A.A. Project No.: A243677/8C0200

Relinquished by	Date	Time	Received by
	3/1/18	15:40	
Relinquished by	Date	Time	Received by
Relinquished by	Date	Time	Received by

Note: By relinquishing samples to American Analytics, client agrees to pay for the services requested on this chain of custody form and any additional client-requested analyses performed on this project.

AMERICAN ANALYTICS CHAIN-OF-CUSTODY RECORD

9765 ETON AVE., CHATSWORTH, CA 91311
Tel: 818-998-5547 FAX: 818-998-7258

A.A. COC No.: 14800

70050827

Client: INTEGRAL	**Project Name / No.:** 001-503	**Sampler's Name:** C. BUCKLEY	
Project Manager: C. BUCKLEY	**Site Address:** 712 BAKER ST	**Sampler's Signature:**	
Phone:	**City:** LONG BEACH, CA	**P.O. No.:** 3029	
Fax:	**State & Zip:**	**Quote No.:**	

TAT Turnaround Codes **

(1) = Same Day Rush
(2) = 24 Hour Rush
(3) = 48 Hour Rush
(4) = 72 Hour Rush
(5) = 5 Day Rush
X = 10 Working Days (Standard TAT)

ANALYSIS REQUESTED (Test Name)

Please enter the TAT Turnaround Codes ** below

Client I.D.	A.A. I.D.	Date	Time	Sample Matrix	No. of Cont	Asph	TPH 8260	Special Instructions
B23 @ 8 ft	8C02001-16	3/1/18	10:25	Soil	1	X	X	
B 23 @ 11 ft	-17		10:33					
B 23 @ 14 ft	-18		10:43					
B 23 @ 17 ft	-19		10:52					
B 23 @ 20 ft	-20		10:58					
B 23 @ 23 ft	-21		11:03					
B 23 @ 26 ft	-22		11:11					
B 23 @ 29 ft	-23		11:15					
B 23 @ 32 ft	-24		11:20					
B 24 @ 5 ft	-25		11:45					
B 24 @ 10 ft	-26		11:52					
B 24 @ 15 ft	-27		11:56					
B 24 @ 20 ft	-28		12P					
B 25 @ 5 ft	-29		12:50					
B 26 @ 10 ft	-30		1PM					

For Laboratory Use

REVIEWED
Date 3/1/18 Time 15:40
TAT 5 Days Sign:

A.A. Project No.: A243897/8C02001

	Relinquished by	Date	Time	Received by
1		3/1/18	15:40	
2	Relinquished by	Date	Time	Received by
3	Relinquished by	Date	Time	Received by

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AMERICAN ANALYTICS CHAIN-OF-CUSTODY RECORD

9765 ETON AVE., CHATSWORTH, CA 91311
Tel: 818-998-5547 FAX: 818-998-7258

A.A. COC No.: 14601
70050823

Client: INTEGRAL	**Project Name / No.:** 001-508	**Sampler's Name:** C. BUCKLEY	
Project Manager: C. BUCKLEY	**Site Address:** 712 BAKER ST.	**Sampler's Signature:**	
Phone:	**City:** LONG BEACH, CA	**P.O. No.:**	
Fax:	**State & Zip:**	**Quote No.:**	

TAT Turnaround Codes **

(1) = Same Day Rush
(2) = 24 Hour Rush
(3) = 48 Hour Rush
(4) = 72 Hour Rush
(5) = 5 Day Rush
X = 10 Working Days (Standard TAT)

ANALYSIS REQUESTED (Test Name)

Please enter the TAT Turnaround Codes ** below

Client I.D.	A.A. I.D.	Date	Time	Sample Matrix	No. of Cont	PAH PB	TPH-e								Special Instructions
B26e 15ft	8C02001-31	3/1/18	1:05	SOIL	1	X	X								
B26e 20ft	-32		1:10			X	X								
B27e 5ft	-33		1:20			X	X								
B27e 10ft	-34		1:28			X	X								
B27e 15ft	-35		1:39			X	X								
B27e 25ft	-36		1:42			X	X								
B27e 35ft	-37	↓	1:45			X	X								

For Laboratory Use

Date 3/1/18 Time 15:40
TAT 5 Days Sign:

A.A. Project No.: A245897/8C02001

Relinquished by	Date	Time	Received by
	3/1/18	15:40	
Relinquished by	Date	Time	Received by
Relinquished by	Date	Time	Received by

Note: By relinquishing samples to American Analytics, client agrees to pay for the services requested on this chain of custody form and any additional client-requested analyses performed on this project.

APPENDIX V

Conceptual Design for VIMS

BROWNFIELD SUBSLAB
SOIL VAPOR MANAGEMENT FOR HABITATION
TX: 4007 McCullough Ave. #469 / San Antonio TX 78212
CA: 5655 Lindero Canyon Road, Suite 106-3, Westlake Village, CA 91362
tel (213) 500-0425, jesepich@gmail.com

November 10, 2020

California Environmental
30423 Canwood Street
Agoura Hills, CA 91301

Attn: Charley Buckley, *tel (818) 991-1542, cbuckley@calenviro.com*

Recommendations for Subslab Soil Vapor Mitigation at Proposed Residential Development, 717 West Baker Street, Long Beach, CA

Summary. *Residential redevelopment is proposed for the above referenced site (see Figure A). It is desired to mitigate the soil vapors as part of the proposed residential redevelopment. Active subslab mitigation is proposed, including membrane, venting, and fans.*

1. Environmental Conditions. Environmental exploratory borings and testing has been conducted, and petroleum hydrocarbons have been identified in the soils at the site (see Figures B, C and D). A draft Remedial Action Plan (RAP)[1] recommends various remediation measures including bio-remediation and/or removal, plus a soil cap north of Baker Street.

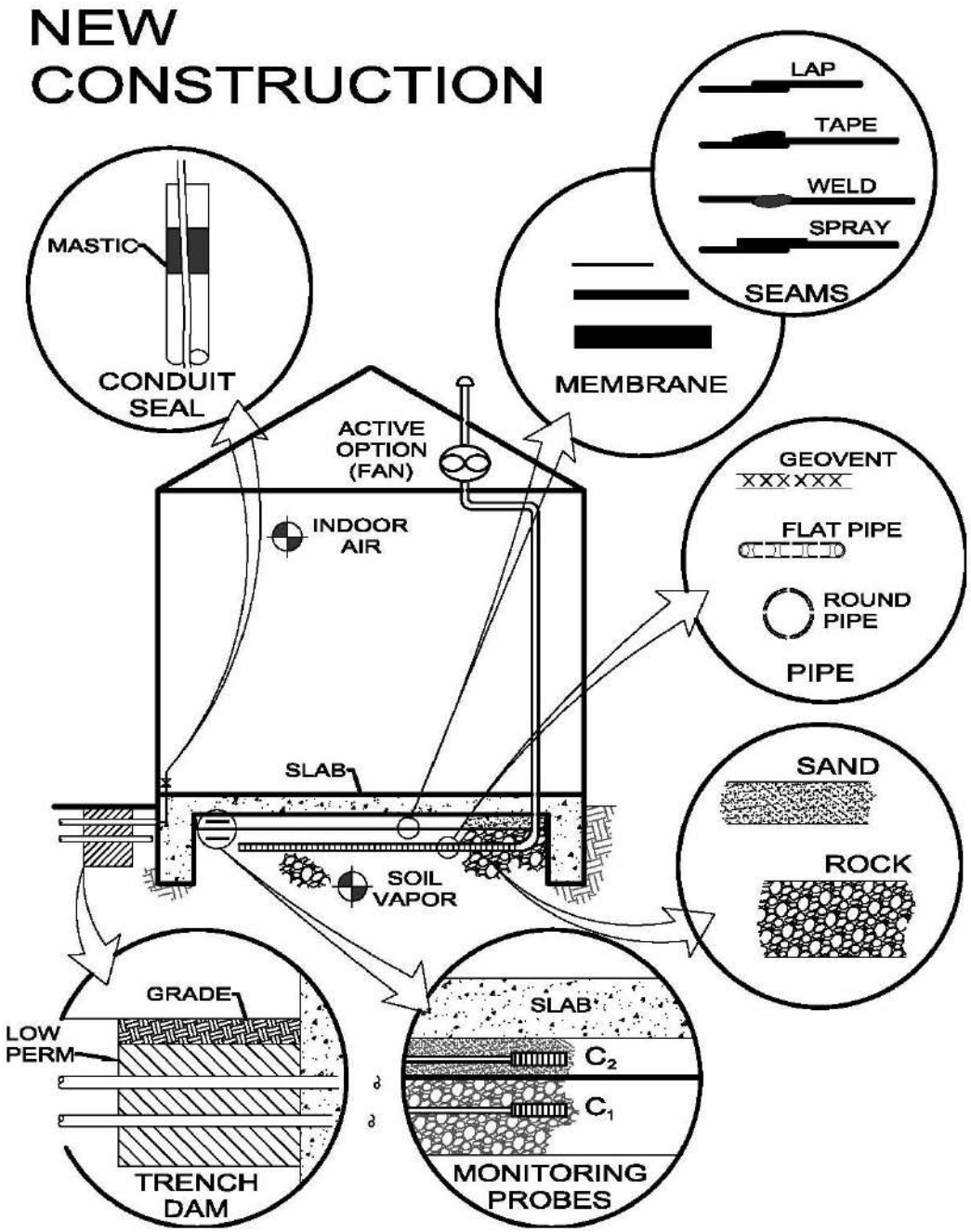
2. Subslab Mitigation. Volatile organic compound (VOC) soil vapors will remain in site soils at some reduced levels even after remediation is completed. Subslab soil vapor mitigation systems consisting of membrane, vent systems, and fans can provide a greater attenuation of vapor concentrations at building slabs, thereby protecting indoor air. It is recommended that the proposed construction be provided with:

- subslab venting – perforated plastic pipe, min. 3" diameter, in stone layer;
- stone layer – minimum four inch thick layer of gravel or pea rock;
- membrane – twenty-mil thick ethyl vinyl alcohol (EVOH) or better;
- membrane seams – taped, sprayed or as spec'd. by design engineer;
- monitoring probes – plastic sampling tubes above and below membrane capable of being monitored without entering the building;

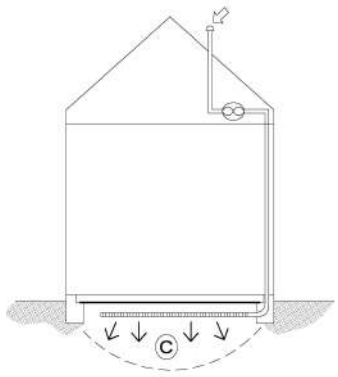
[1] *Draft Remedial Action Plan, Proposed Residential Redevelopment Project, Oil Operators, Inc. Property*, prepared for Integral Partners Funding, LLC, prepared by California Environmental, August 2019.

- trench dams – low permeability plugs in utility trenches at buildings;
- conduit seals -- low VOC caulk at dry utility conduits; and
- active fans – fans to be installed on vent risers, suggested in supply mode since the VOCs of concern are petroleum hydrocarbon related, and are bio-degraded in the presence of oxygen.

Sketch 1 below illustrates the above recommendations.



It is also suggested that the fan operation be in the air supply mode, so as not to draw VOCs towards the subslab, and so as to oxygenate the soil directly under the buildings. The fan pressure should be low, so as not to impact adjacent properties.



Sketch 2 --- air supply to subslab vent system

3. Construction Inspection. Construction should be conducted with deputy-type inspection of the soil vapor mitigation system, and certification of the completed system by an appropriately registered environmental professional at the completion of construction.

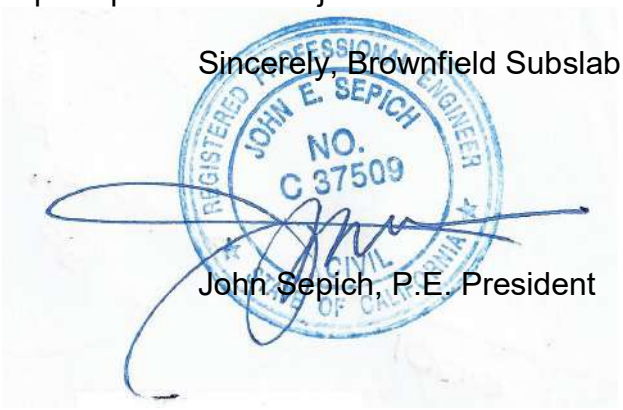
4. Operations and Maintenance. An Operation and Maintenance plan shall be developed during the design phase of the project. The plan should include description of equipment repair and replacement, and description of a monitoring program.

5. Routine Monitoring. Subslab probes should be monitored prior to startup of the active system. If subslab VOC concentrations meet California screening levels in the passive mode then active mode is not necessary. If subslab VOC concentrations exceed screening levels in the passive mode, then fans shall be activated, and probes shall be re-monitored to ensure compliance with screening levels. Monitoring shall be done periodically after start-up and occupancy, with a suggested frequency of quarterly for the first year, and semi-annually for the next four years, with a review at the end of the first five years to determine further operation and monitoring requirements.

6. Reporting. Reporting of results should be: prior to occupancy; and on a semi-annual basis thereafter.

Limitations. This report is based upon the available information described or appended, and recognizes currently accepted practices and principles. This letter is for use only by or as authorized by California Environmental, and the current owners, and any future owners and principals of the subject site.

Sincerely, Brownfield Subslab



John Sepich, P.E. President

ATTACHMENTS:
- Figure A – Proposed Residential Plan
- Figure B – Environmental Borings
- Figure C – Table of Laboratory Data
- Figure D – Map of Benzene in Groundwater

Figure A –Proposed Development

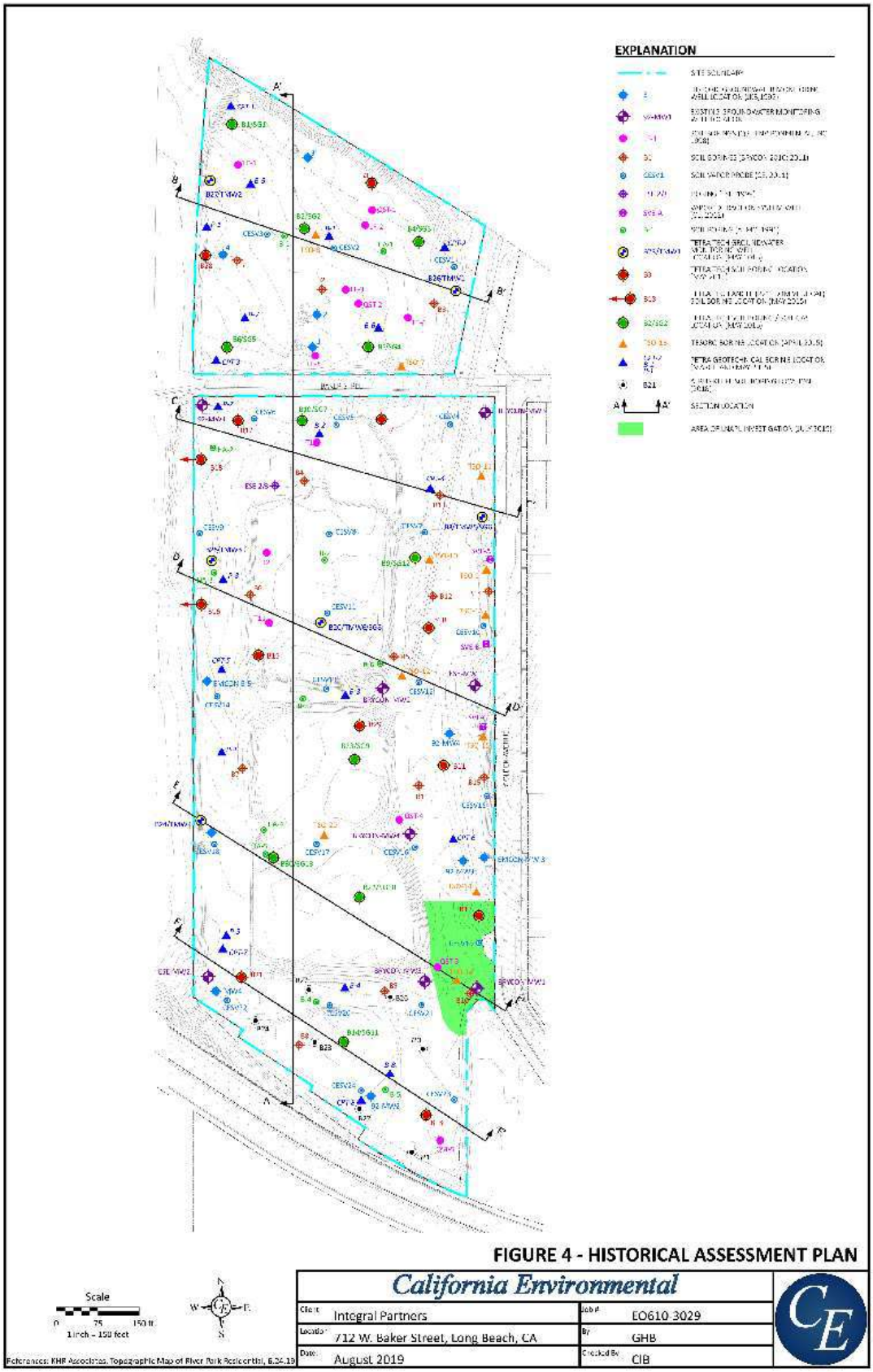


Figure B –Map of Environmental Borings

values in micrograms per liter

Tetra Tech SSI: Summary of Analytical Results: Soil Gas Samples (TPH)

Sample ID	Date	Depth (ft.)	C5-C8 (aliphatic)	C9+ (aliphatic)	C5-C8 (aromatic)	C9+ (aromatic)	TPHg Total at 5 ft. bgs	TPHg Total at 15 ft. bgs
SG1-5	May-15	5	4.59	7.71	0.324	0.219	12.843	–
SG1-15	May-15	15	2,360	613	ND (<0.008)	ND (<0.008)	–	2,970
SG2-5	May-15	5	124	61.7	3.16	1.5	190.36	–
SG2-15 (10P)	May-15	15	5,190	1,140	66.1	ND (<0.008)	–	6,470
SG2-15 (1P)	May-15	15	4,770	994	43.1	ND (<0.008)	–	5,800
SG2-15 (3P)	May-15	15	5,560	1,330	71.2	ND (<0.008)	–	6,960
SG3-5	May-15	5	1,750	385	14.5	0.41	2,150	–
SG4-5	May-15	5	1,100	541	ND (<0.008)	ND (<0.008)	1,640	–
SG4-15	May-15	15	117	61.4	1.41	1.11	–	181
SG5-5	May-15	5	1,270	372	7.79	8.96	1,660	–
SG5-5 dup.	May-15	5	1,420	400	8.44	9.77	1,840	–
SG5-15	May-15	15	559	124	ND (<0.008)	ND (<0.008)	–	683
SG6-5	May-15	5	653	24.4	3.38	1.33	688	–
SG6-15	May-15	15	1,330	478	267	ND (<0.008)	–	2,080
SG7-5	May-15	5	1.96	5.74	ND (<0.008)	ND (<0.008)	7.7	–
SG7-15	May-15	15	5.56	4.99	0.37	0.15	–	11.2
SG8-5	May-15	5	662	131	1.86	0.684	795.544	–
SG8-15	May-15	15	708	101	ND (<0.008)	ND (<0.008)	–	809
SG9-5	May-15	5	414	260	0.65	ND (<0.008)	674.65	–
SG9-15	May-15	15	43,600	1,130	13	5.21	–	44,700
SG10-5	May-15	5	281	34.5	2.32	1.68	319.5	
SG10-15	May-15	15	870	195	2.48	ND (<0.008)	–	1,070
SG11-5	May-15	5	6.09	3.25	ND (<0.008)	ND (<0.008)	9.34	–
SG11-15	May-15	15	9.81	3.51	ND (<0.008)	ND (<0.008)	–	13.32
SG12-5	May-15	5	7.38	3.63	0.234	0.128	11.372	–
SG12-15	May-15	15	5.45	0.844	ND (<0.008)	ND (<0.008)	–	6.294
SG13-5	May-15	5	84.7	65.2	ND (<0.008)	ND (<0.008)	149.9	–
SG13-5 dup.	May-15	5	83.6	71.5	ND (<0.008)	ND (<0.008)	155.1	–
SG13-15	May-15	15	373	226	7.99	5.61	–	612.6
SSL[1]			–	–	–	–	594	–

Oil Operators, Inc. Prop
712 Baker St
Long Beach, CA 90

Figure C –Soil Vapor Laboratory Data

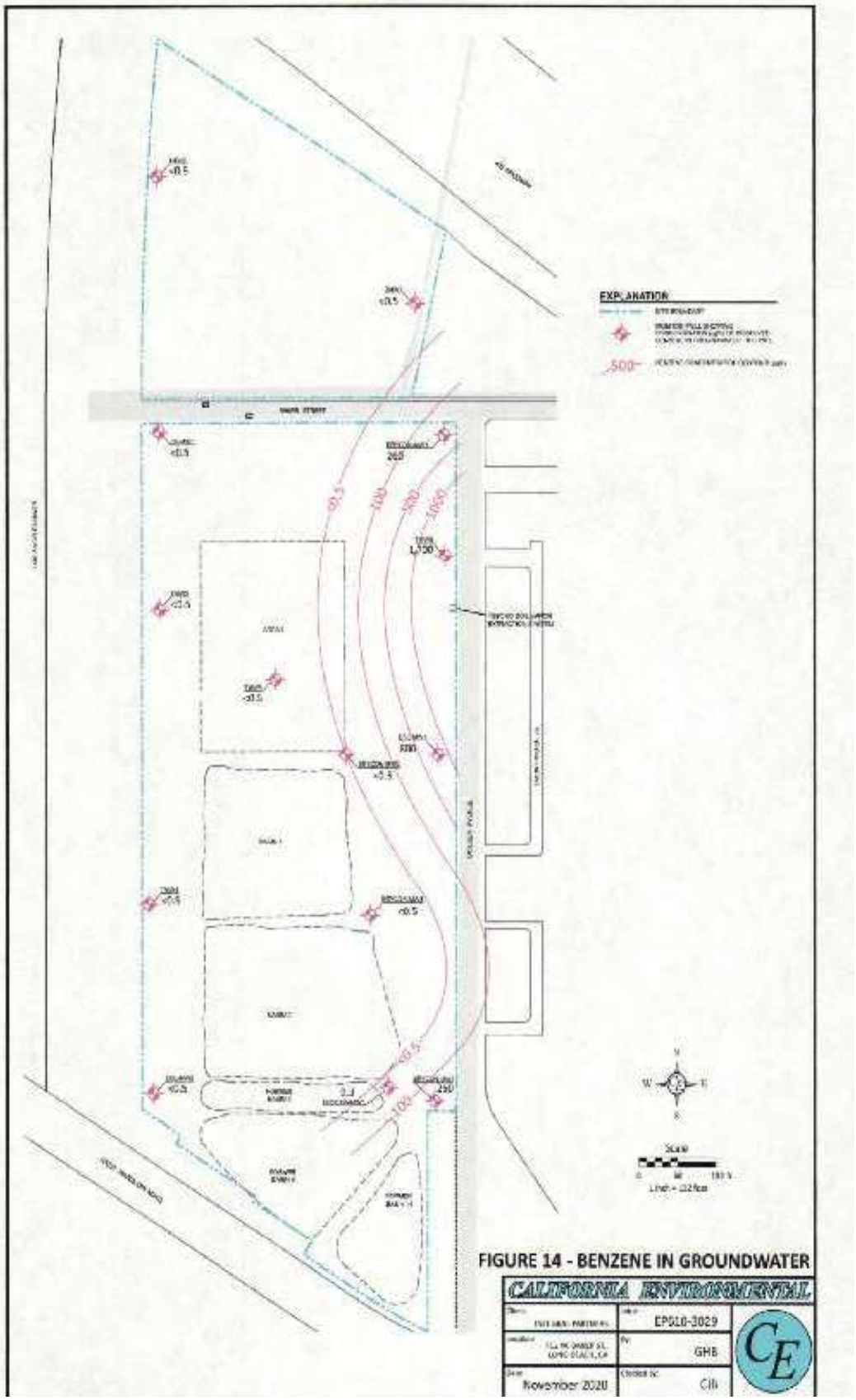


Figure D –Map of Benzene Groundwater Concentrations

APPENDIX VI

LNAPL Assessment Report

California

Environmental

SUPPLEMENTAL ASSESSMENT
FOR ORIGIN OF LNAPL IMPACTS NEAR BRYCON MW1
Oil Operators, Inc. (OOI) Property
712 Baker Street
Long Beach, California 90806

SUBMITTED TO

REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION (LARWQCB)
320 W. Fourth Street, Suite 200
Los Angeles, California 90013
Attention: Ms. Rebecca Orr
SCP Case No. 0093; SCP ID No. 2044M00

FOR

OIL OPERATORS, INC.
2852 Gundry Ave.
Signal Hill, CA 90755
Attention: Mr. Kevin Laney

CE Job No. EP610-3029
July 2019

30423 Canwood Street, Suite 208, Agoura Hills, CA 91301 • P: (818) 991-1542 • F: (818) 991-1542 • E: ceworks@calenviro.com

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Plates 1-7 Logs of Borings
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Figure 2 – Site Plan
Figure 3 – LNAPL Assessment Plan
Figure 4 – Section A-A’
Figure 5 – Section B-B’

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I. Data Tables
Table I – Soil VOCs/TPH
Table II – Soil Arsenic/Lead
Table III – Groundwater VOCs/TPH
II. Geophysical Report
III. CPT/UVOST Report
IV. Laboratory Test Reports
V. Long Beach City – Boring Permit

1.0 INTRODUCTION

A soil/groundwater assessment was implemented as outlined in the February 2019 workplan prepared by California Environmental (CE) and approved by the Los Angeles Regional Water Quality Control Board (LARWQCB). This assessment work provides further delineation of the extent and likely source of the LNAPL (light non-aqueous phase liquid, gasoline) accumulation periodically detected in onsite well Brycon–MW1.

Three (3) subsurface petroleum pipelines (as shown on City of Long Beach Substructure Map-Pipeline Atlas G23) that historically contained petroleum products, including crude oil and gasoline, border the subject site to the east (abutting the eastern property line). These pipelines were (are) owned and operated by independent oil companies including Tesoro, the successor to BP, a previous pipeline operator. The LARWQCB in a letter dated November 6, 2012 named BP Pipelines (successor Tesoro) responsible for the contamination associated with leaks of gasoline (Area of Concern - AOC A) from BP Line 34. The LARWQCB letter also mentions the results of product (LNAPL) characterization from Brycon-MW1 as containing evidence of BP pipeline leaks. The chemical testing confirmed the LNAPL sampled from Brycon-MW1 had the chemical composition typically associated with gasoline. OOI never operated or owned crude oil or refined product pipelines within their wastewater treatment facility boundary. OOI has no record of underground fuel or product tanks being installed at the 712 N. Baker Street property. The supplemental assessment data provided herein suggests that the gasoline product detected in soil and groundwater in the vicinity of Brycon-MW1 likely originated from leaks associated with the gasoline pipelines beneath Golden Avenue, adjacent to the east side of the OOI parcel.

Tesoro prepared an *Addendum to January 25, 2019 Pipeline Update Report* dated April 11, 2019. The report includes Figure 1 – Map of Line Repairs (1945-1964 and 2018) that shows nine areas of historical pipeline leaks along Golden Avenue, three (3) leaks along Baker Street to the north and one (1) leak located north of Wardlow Road. Three (3) of the leak/repair locations, shown on the Tesoro Figure 1, correspond to areas where gasoline was identified in sediment and groundwater samples on the adjacent OOI property and beneath the pipelines in Golden Avenue, including near Brycon-MW1. The

Tesoro Pipeline Leak Map confirms that historical leaks from the offsite gasoline pipelines are the likely source for the product found in Brycon – MW1. The approximate locations of the historical pipeline leaks as identified by Tesoro are shown on the attached **FIGURE 2 – SITE PLAN.**

Monitor well Brycon-MW1 was installed during 2011 within three feet of Brycon boring B10, near the southeast corner of the subject property. Boring B10 was part of the nineteen (19) supplemental assessment borings drilled and sampled on and offsite of the OOI property by Brycon during 2010. Soil and groundwater samples were obtained from B10. The soil samples from depths of 10 and 20 feet were not-detect for VOCs and TPH gasoline. Detectable (OVA) vapor readings, gasoline in soil and gasoline odors were found in the 30-foot (capillary fringe/smear zone) soil sample (Brycon B10 at 30 feet, TPHg = 180 mg/kg). Groundwater was encountered in B10 at a depth of 37 feet and a groundwater sample obtained during September 2010 was found to contain LNAPL. Gasoline (LNAPL) was found periodically in Brycon–MW1 from 2013 through 2018. The monitor well thickness of the LNAPL ranged from 0.03 feet (9/2013) to 1.72 feet (12/2017). A product layer (LNAPL) was not detected in Brycon-MW1 during free product evaluations conducted by CE on April 4 and 5, 2019 and on June 25 and 26, 2019.

An AECOM geologist (Mr. Clark Murphy) was onsite during the soil/groundwater sampling activities that occurred from June 25-28, 2019. Split soil and groundwater samples were obtained by AECOM and were reportedly sent to a state certified lab for analysis. AECOM also screened the sediment cores for VOCs using a hand-held RAE Systems PID. Sediment that exhibited high PID readings along with strong gasoline odors were subjected to a qualitative field screening test procedure by AECOM using a colorimetric indicator manufactured by Oil-In-Soil, LLC. The sensitivity range for the Oil-In-Soil field test kit reportedly ranges from approximately 500-2,500+ ppm.

The supplemental assessment to determine the origin and distribution of the LNAPL included the following: 1) Conducting a geophysical survey on April 8, 2019 in the area near Brycon-MW1 to assess for unknown buried sub-structures 2) excavation of eight (8) CPT/UVOST borings to depths of 18.26 to 59.8 feet on April 8/9, 2019 to obtain a qualitative assessment of the LNAPL distribution in the

subsurface, 3) excavation and sampling of seven (7) hydraulic push borings to depths of 42-53 feet and sub-sampling of the continuous sediment cores, 3) installing seven (7) temporary 3/4-inch PVC casings in the borings and sampling of the groundwater, 4) conduct laboratory testing of soil and groundwater for the presence of lead/arsenic, TPH, and VOCs and 5) prepare this report of findings and data interpretation providing an opinion regarding the origin and distribution of the LNAPL present in the vicinity of Brycon-MW1.

The site stratigraphy developed during this supplemental investigation identified an upper and lower saturated sand separated by a middle clayey aquitard. This sedimentary package extends from approximately 30 to 50+ feet below the ground surface. The gasoline-impacted soil zone is mostly restricted to the upper sand and locally extends a few feet into the aquitard. The discontinuous LNAPL zone is entirely within the upper sand and is characterized by high PID readings, strong gasoline odors, and high concentrations of TPHg in soil. As observed in the soil cores the LNAPL zone is typically several to six inches thick and locally (CESB10 and CESB12) up to several feet thick. The LNAPL zone does not penetrate the aquitard where sampled. The lower saturated sand was apparently not significantly impacted by the gasoline release. Monitor wells (Brycon-MW1 & Brycon-MW5) previously installed at the site have continuous screens that extend across all three lithologic units, from the upper impacted sand through the middle aquitard and into the lower sand. This makes the determination of impacted groundwater versus non-impacted groundwater between the upper and lower zones impractical due to the cross-contamination from the upper saturated zone into the lower saturated zone. The data provided herein indicate the historical leaks from the existing petroleum pipelines located beneath Golden Ave. adjacent to the east OOI property are the source of the LNAPL found in the subsurface near Brycon-MW1.

2.0 SITE DESCRIPTION

2.1 DESCRIPTION OF THE PROPERTY

The subject property consists of a 20.12-acre industrial parcel located west of Golden Avenue, south of the San Diego Freeway, north of Wardlow Road, and east of the Los Angeles River, in the city of Long Beach, California, see **FIGURE 1 – VICINITY MAP**. The property is owned by Oil Operators Inc. (OOI) and has been utilized since the 1920s for treatment of oil field production brines and other fluid by-products of oil production. OOI is currently processing low concentration petroleum hydrocarbon impacted soil on the property (bioremediation) under the auspices of the Long Beach Environmental Health Department. The study area for this LNAPL assessment work includes approximately 1 acre near the southeast corner of the property, see **FIGURE 2 – SITE PLAN.** The County of Los Angeles Tax Assessor's Parcel Numbers (APNs) for the subject property addresses is as follows:

APNs	Address	Acreage
7203-002-001	701 W. Baker Street	4.78
7203-002-005	712 W. Baker Street	13.28
7203-002-007	3801 Golden Avenue	0.58
7203-002-008	3701 Golden Avenue	0.87
7203-002-009	3539 Golden Avenue	0.46
7203-002-010	3501 Golden Avenue	0.15

3.0 PREVIOUS WORK

The OOI property was the subject of extensive environmental testing and investigations from the early 1980s through 2018. The previous investigators include Emcon Associates (1981), Jaykim Engineers, Inc. (JEI, 1986 to 1988c), Jack K. Bryant and Associates (JKB; 1992), Environmental Science & Engineering, Inc., (ESE), California Environmental (2011), AECOM (2015/2016), Tetra Tech (2015) and Brycon, LLC (Brycon, 2001a to 2015c). The Tetra Tech and AECOM reports include comprehensive assessment of the impacts at the OOI property and present summaries of the historical environmental investigations conducted at the OOI property. The previous reports are listed in the references section of this report.

Brycon (and Bedrock Engineering beginning in December 2016) was the environmental consultant since 2001 assisting OOI with characterization and remediation activities at the Site. Ongoing soil remediation (bioremediation of TPH impacted soil) activities were undertaken in response to the Consent Decree issued in 2002, under the oversight of the City of Long Beach Department of Health and Human Services, Division of Hazardous Materials (LBDHHS). The groundwater monitoring (GWM) activities are being performed under the oversight of the California Regional Water Quality Control Board-Los Angeles Region (LARWQCB).

Brycon operated a vapor extraction system (VES) in the eastern part of the Site from 2012 to 2014 to remove vapor phase VOCs associated with the petroleum pipeline releases adjacent to Golden Avenue. AECOM Technical Services, Inc. (ATSI), on behalf of Tesoro Logistic Operations, LLC (TLO) has operated a VES unit in the northeastern part of the Site since April 2015. The ATSI-operated VES unit is expected to continue to remediate the TLO pipeline releases beneath Golden Avenue. The TLO-related activities are in response to a Cleanup and Abatement Order No. R4-2013-0064 dated September 18, 2014 (CAO) that was issued by the LARWQCB (2014a) to BP Pipelines (North America), Inc. Atlantic Richfield Company, and ARCO Terminal Services Corporation (ATSC). TLO in a letter dated July 24, 2013 assumed responsibility for responding to the CAO.

Monitoring of the groundwater quality beneath the site is ongoing and has occurred intermittently from 1989 and continuously from 1999 through 2019. There are fourteen (14) monitor wells currently

part of the monitoring program at the Site. The wells are identified as ESE-MW1, ESE-MW2, 92-MW1, Brycon MW1, MW2, MW3, MW4, MW5, and Tetra Tech-installed wells TMW1, TMW2, TMW3, TMW4, TMW5 and TMW6. Monitor well Brycon MW1 was installed in 2011 to assess the high concentrations of TPHg found in 2010 during the drilling of Brycon assessment boring B10. Subsequently, gasoline (LNAPL) was found in Brycon–MW1 during quarterly groundwater monitoring events from 2013-2019. The monitor well thickness of the LNAPL has historically ranged from 0.01 feet (2/2019) to 1.72 feet (12/2017). CE did not detect LNAPL in Brycon MW1 during observations made in April and June of 2019.

Groundwater samples are currently tested for total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), dissolved CAM metals, total dissolved solids (TDS), total suspended solids (TSS), total organic carbon (TOC), chlorides and pH. The depth to water varies from approximately 32 to 53 feet bgs, corresponding to elevations of -2.81 to -3.95 feet above mean sea level (amsl). The groundwater gradient is very shallow with a variable flow direction, predominately towards the northwest beneath the area south of Baker Street and southwesterly towards the area north of Baker Street. Petroleum hydrocarbons (primarily C_5-C_{12}) and VOC (primarily BTEX compounds) impacts dissolved in groundwater are present beneath the central-eastern third of the property and are likely associated with historical releases from the petroleum pipelines located adjacent to the eastern property line. Quarterly GWM reports are currently prepared by Bedrock Engineering and submitted to the LARWQCB.

4.0 GEOLOGY - HYDROGEOLOGY

The subject property is located within the southeast portion of the Los Angeles Basin near the western terminus of Signal Hill adjacent to the eastern bank of the Los Angeles River. The property is within the south portion of the Los Angeles Coastal Plain and is underlain by made-made fill (up to 30+ft) and undifferentiated alluvial deposits including Pleistocene-age terrace (Palos Verdes Sand) and alluvium associated with deposition from the Los Angeles River. These deposits range from clayey-silts to poorly graded sands with granule gravels.

The Site is located within the eastern portion of the West Coast Groundwater Basin within the Newport-Inglewood Structural Zone. The groundwater regime within this portion of the West Coast Basin is generally characterized as containing an upper and lower aquifer system. The upper system includes Holocene sediments that typically contain unconfined groundwater of poor quality. The lower portion of the upper aquifer system includes upper Pleistocene deposits of the Gage aquifer, also known as the "200 foot sand". Beneath the upper aquifer is the lower aquifer system consisting of the Jefferson, Lynwood and Silverado aquifers. The lower aquifer system is under pressure or confined conditions that likely extend to depths of 1,000 feet beneath the Site.

Historical topographic maps indicate that the western portion of the subject property was at the elevation of the adjacent Los Angeles River bank or about 25 feet amsl. The eastern portion of the property is a concealed (obscured by grading/artificial fill) erosional escarpment associated with the Los Angeles River. Subsequent grading at the property has raised the elevation of most of the site to an elevation of approximately 40 feet amsl. Groundwater level data indicate the groundwater elevation beneath the property is approximately at or several feet below mean sea level. The depth to groundwater across the Site ranges from about 30.55 to 50.24 (February 2019) feet below the ground surface. Groundwater level data indicate a variable but predominately northwesterly groundwater flow direction.

The monitor well network is sampled on a quarterly basis since 2017. The wells are tested for TPH, VOCs, CAM metals, pH, Total Organic Carbon, TDS, TSS and Chloride. Bedrock Engineering (previously Brycon) sampled fourteen (14) onsite monitoring wells during February 2019, as part of the required groundwater monitoring work. The groundwater monitoring data from February 2019 (presented in the report, *February 2019 - Quarterly Groundwater Monitoring at the Oil Operators Property, 712 West Baker Street, Long Beach, California*, dated April 15, 2019 and prepared by Bedrock Engineering) show that TPHg (C_4-C_{12}) was detected in six (6) of the fourteen wells. The six (6) wells with TPHg are located within the eastern half of the property and contain the following TPH concentrations; ESE-MW1 0.4 mg/l, Brycon-MW1 100.0 mg/l, Brycon – MW2 0.28 mg/l, Brycon – MW3 13.0 mg/l, Brycon –MW4 0.48

mg/l, and TMW5 9.8 mg/l. Brycon-MW1 was observed to have a 0.01 foot thick Light Non-Aqueous Phase Liquid (LNAPL) on the groundwater surface. TPH-g and VOC impacts to the underlying groundwater resource from onsite releases were not identified.

The detailed hydrogeology developed during this supplemental investigation identified two (2) distinct saturated zones beneath the LNAPL study area. They include an upper and lower saturated sand separated by a middle clayey aquitard. This sedimentary package extends from approximately 30 to 50+ feet below the ground surface. Monitor wells (Brycon-MW1 & Brycon-MW5) previously installed at the site have continuous screens that extend across all three (3) lithologic units, from the upper fuel-impacted sand through the middle aquitard and into the lower sand. This makes the zonal determination of impacted groundwater versus non-impacted groundwater impractical due to the cross-contamination effect from the upper impacted saturated zone into the lower saturated zone. Soundings made during June 2019 within the upper sand from temporary small diameter casings screened in the upper zone and placed within the CE hydraulic push borings typically contained groundwater levels three-five feet higher than the water level in nearby well Brycon MW1. This indicates that the upper sand and lower sand are probably hydraulically distinct water bearing zones and need to be assessed as such. Recommendations are provided for abandoning the existing wells (Brycon-MW1 & 5) and installation of future groundwater monitoring wells that isolate the upper sand and lower sand zones, when present, so these zones can be sampled and assessed separately.

5.0 LNAPL ASSESSMENT

The LNAPL assessment work was carried out in three (3) phases from April through June 2019, following LARWQCB approval of the February CE workplan. A geophysical survey was implemented to clear utilities and to assess for unknown buried sub-structures. Eight (CPT-1 to CPT-8) CPT/UVOST soundings were made beneath the study area to evaluate the site stratigraphy and to tentatively identify LNAPL zones. Finally, seven (7) continuously cored hydraulic push borings were logged and sampled to assess the location and distribution of the suspect LNAPL zone. Seven (7) temporary casings were placed in the boreholes and groundwater samples were obtained. The assessment work and the data developed are discussed below. The locations of the CE borings are shown on **FIGURE 3 – LNAPL ASSESSMENT PLAN**. The sediment interpretations and laboratory test data are depicted on **FIGURE 4 - CROSS SECTION A-A'** and **FIGURE 5 – CROSS SECTION B-B'**.

5.1 GEOPHYSICAL SURVEY

A geophysical survey (magnetics-EM, ground penetrating radar, E-induction) was conducted onsite by Southwest Geophysics on April 8, 2019. An approximately 31,500 sf area bordered by the property line to the east, the north boundary of the dog park to the south, along the east boundary of Basin 2 and then along an east/west line in the vicinity of well 92-MW3; see **FIGURE 3**. The geophysical survey was used to assess for substructures in the boring locations and to assess for unknown substructures.

The geophysical evaluation included the use of a Geonics Electromagnetics (EM) model M61 MK2, GSSI SIR 3000 Ground Penetrating Radar, Schonstedt Model GA-52C magnetic gradiometer, Fisher M-Scope TW-6 pipe and cable locator and RD8000 line tracer. The instruments provided real-time results to facilitate the delineation of subsurface features. The complete Southwest Geophysical Evaluation Report is attached in **APPENDIX II.**

Numerous geophysical anomalies were identified during the survey. Most were determined to be areas of shallow concrete, metal debris, or abandoned piping. Several of the anomaly areas (A, C, D, E and F) were identified as areas that required additional investigation to determine the origin of the EM and

magnetic responses. These anomaly areas were preliminarily investigated by hand augering through the identified zones. In all locations the hand auger was unable to penetrate beyond several feet due to the presence of concrete and metal debris. Future test trenches/pits through the anomaly areas are planned to further delineate these features.

5.2 CPT/UVOST BORINGS

Gregg Drilling and CE mobilized to the site on April 8, 2019 to advance the CPT borings in conjunction with the UVOST (Ultra-Violet Optical Screening Tool) system. The UVOST process uses a down-hole tool that emits a laser source through a sapphire window stimulating fluorescence (laser induced fluorescence – LIF) of the PAHs present in refined petroleum products. The spectral wavelength response is captured, recorded, and resolved into a percent concentration, relative to the reference compound, for a particular hydrocarbon type. The response spectra are typically calibrated with a reference emitter standard that includes the hydrocarbon profile expected at the site. It was anticipated, based on the previous sampling of Brycon-MW1, that a product sample could be obtained and used as the reference emitter standard (weathered gasoline). However, product was not found in Brycon-MW1 during testing conducted on April 8 and 9, 2019. Therefore, the instrument manufacturer (Dakota Technologies) standard reference emitter (light oil) was utilized to calibrate the UVOST system. The UVOST logging was run in conjunction with the standard CPT lithology log, providing a simultaneous soil type in conjunction with the qualitative hydrocarbon concentration. The complete CPT/UVOST report from Gregg Drilling is attached in **APPENDIX III**.

The eight (8) CPT/UVOST borings ranged in depth from 21.33 to 62.99 feet below ground surface. CPT-7 was terminated on a hard layer at a depth of 21.33 feet. The remaining seven CPT/UVOST borings extended to depths of 52.82 to 62.99 feet below the ground surface. No response signatures indicative of LNAPL zones were recorded by the UVOST system. The lithology identified by the CPT logs included an upper silty sand to a depth of 25 + feet, a middle zone (depth 25-40 feet) of silts and clays with occasional sandy layers and a lower sand/silty zone from 40 to 63 feet bgs. Pore water pressure tests were conducted at a depth of approximately 55 feet in CPT-1 and CPT-2. The calculated depth of potentiometric surface in the lower sand unit based on the pore water dissipation test is 20-25 feet

below grade, or approximately 15-20 feet amsl. This value seems high and would need to be confirmed by placing a piezometer isolated within the lower sand unit.

5.3 SOIL BORINGS

On June 25, 2019 a GeoProbe® Model 8040DT track-mounted hydraulic push rig was mobilized to the site by Cascade Drilling. Seven (7) hydraulic push borings were continuously cored to depths of 42-53 feet with drilling activities terminating on June 28, 2019. All borings were abandoned by pressure grouting via tremie pipe using a neat cement mix with the decommissioning activities completed on June 29, 2019. A permit for the borings was obtained from the City of Long Beach Dept. of Health and Human Services; attached in **APPENDIX V**.

The five-foot long by 1-inch wide sediment cores were sub-sampled per the EPA field preservation Method 5035, at approximately 1-5 foot depth intervals, depending on the field screening results. Typically the upper 25 feet of each boring was sub-sampled as intact six-inch long cores. The 5-foot long cores in the lower section of each boring were split open to allow for more detailed logging. The sediment was screened visually and with the use of a field PID for the presence of gasoline and associated VOCs. A temporary ¾-inch diameter PVC casing (new casing for each location) was placed in all borings and allowed to equilibrate for a one to several days to assess for product layers and to obtain a groundwater/product sample for analysis. Groundwater samples were obtained using a new disposal sampler for each sampling event with the groundwater placed in laboratory supplied preserved 40ml VOAs.

The undersigned hydrogeologist was onsite and conducted all the sampling and boring log preparation. The **CE BORING LOGS** are attached as **Plates 1-7**. Mr. Clark Murphy AECOM geologist was onsite during the soil/groundwater sampling activities that occurred on June 25-28, 2019. Split soil and groundwater samples were obtained by AECOM for analysis. Sediment that exhibited high PID readings along with strong gasoline odors were subjected to a qualitative field screening test procedure by AECOM using a colorimetric indicator manufactured by Oil-In-Soil, LLC. The sensitivity range for the Oil-In-Soil field test kit reportedly ranges from approximately 500-2,500+ ppm.

6.0 ANALYTICAL TESTING

Seventy-one (71) individual soil samples (including duplicate samples) were obtained from the borings and tested for total purgeable hydrocarbons, gasoline range hydrocarbons, and VOCs per EPA Method 8260B/5035. Fifty (50) of the seventy-one (71) samples were tested for total petroleum hydrocarbons, gasoline-oil range, per EPA Method 8015 and for lead and arsenic per EPA Method 6010B/7000. Eight (8) grab groundwater samples were obtained and tested for total purgeable hydrocarbons, gasoline range hydrocarbons and VOCs per EPA Method 8260B.

Soil and groundwater samples were couriered daily from the site to a fixed-base State of California certified laboratory, operated by Eurofins in Garden Grove, California. The laboratory tests on soil and groundwater samples are contained on **TABLES I-III in APPENDIX I**, and are summarized below. The complete laboratory test reports are attached in **APPENDIX IV.**

6.1 ANALYTICAL TESTS ON SOIL

TPHg was detected in all seven (7) borings CESB9-CESB15. Detectable and/or elevated concentrations (>100 mg/kg) of TPHg and detectable VOCs were typically not found in soil in the upper 25 feet of the sediment sampled. Elevated concentrations of TPHg were consistently detected within the Upper Sand lithosome (depths 33-38 feet) at concentrations up to 16,000 mg/kg (CESB10-33 feet). The maximum concentration of benzene found in the Upper Sand was 1,900 µg/kg in CESB12-38 feet. Other gasoline related VOCs detected in the Upper Sand zone include toluene, ethylbenzene, xylene, butylbenzene, isopropylbenzene, isopropyltoluene, propylbenzene and trimethylbenzene. MTBE and other oxygenated compounds were not detected in soil, and this is consistent with previous findings. Much lower to non-detect concentrations of TPHg (0.07-2.7 mg-kg) and VOCs (benzene <1.0 ug/kg) were found in the Lower Sand. All concentrations of lead found in soil during this assessment are less than 10 mg/kg, much lower than the site remediation goal of 80 mg/kg. Arsenic concentrations in soil

ranged from <0.7 to 28.1 mg/kg. Native sediment samples from borings CESB15-40 feet and CESB12-6 feet contained arsenic at 24.2 and 28.1 mg/kg, respectively.

6.2 ANALYTICAL TESTS ON GROUNDWATER

All eight (8) groundwater samples contained elevated concentrations of TPHg that ranged from 6,500-79,000 µg/l, as found in CESB14 and CESB10, respectively. Benzene was detected in all groundwater samples at concentrations that ranged from 7.2 to 390 µg/l. Other gasoline related VOCs detected in groundwater include toluene, ethylbenzene, xylene, butylbenzene, isopropylbenzene, isopropyltoluene, propylbenzene and trimethylbenzene. MTBE and other oxygenated compounds were not detected in groundwater, which is consistent with previous findings. A 5-millimeter thick product layer was initially detected in CESB10 on June 26, 2019. Subsequently, on June 27 a product sheen was observed during groundwater sampling of CESB10. The product layer was of insufficient volume to isolate for characterization.

7.0 CONCLUSIONS

The detailed hydrogeology developed during this supplemental investigation identified an upper and lower saturated sand separated by a middle clayey aquitard in all CE borings, CESB9-CESB15. This sedimentary package extends from approximately 30 to 50+ feet below the ground surface. Gasoline impacted soil was identified (above mobile NAPL concentrations) beneath the study area through continuous coring and direct soil sample analysis. The UVOST methodology was not effective in identifying LNAPL in the subsurface. The data presented below indicates that the historical releases from the product pipelines are the source for the LNAPL found beneath the study area.

The gasoline in soil was initially encountered below a depth of 25 feet. The high concentration gasoline impacted zone is primarily restricted to the lower portion of the Upper Sand unit as shown on **Sections**

A & B, and extends to a depth of about 40 feet corresponding to the top of the Middle Aquitard. The LNAPL zone is entirely within the Upper Sand and is correlated with high PID readings (465 ppmv CESB10 at 35.5 feet, 780 ppmv in CESB12 at 35 feet and 903 ppmv CESB15 at 34 feet), strong gasoline odors and high concentrations of TPHg in soil. As observed in the sediment cores the LNAPL zone is typically several to six inches thick and locally (CESB10 and CESB12) up to several feet thick. It appears the LNAPL zone occurs in pockets or sedimentary traps located within the basal portion of the Upper Sand in the vicinity of Brycon-MW1, CESB9, CESB10 and CESB12. The mobile LNAPL zone is probably not continuous through the study area, but rather occurs in pockets.

A distinction needs to be made between residual LNAPL in soil that is not moving and areas where the LNAPL may be subject to movement. Migration of LNAPL in the vadose zone is a complex fluid mechanics process that engages saturated and unsaturated flow, capillary pressure gradients, soil saturation levels and product depletion. Brost (2000) has proposed the use of screening threshold soil concentrations for various types of hydrocarbon products above which LNAPL movement is likely. The Residual Saturation Screening Value for gasoline in a sandy soil as proposed by Brost is 3,000 mg/kg. Using the Brost criteria the extent of the mobile product layer at the study site would include the areas beneath CESB10, CESB12, CESB15 and Brycon MW1. As mentioned previously, the mobile LNAPL zone is not continuous but occurs in sedimentary traps.

The following facts support the conclusion that the LNAPL found beneath the study area originated from pipeline leaks beneath Golden Ave.

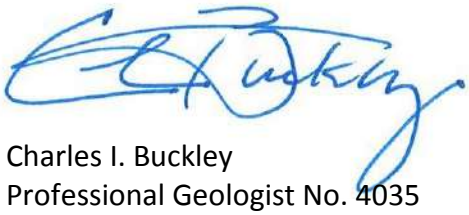
- The pipeline operator (Tesoro) prepared a figure that shows nine (9) areas of historical (1945-1964 and 2018) pipeline leaks (including gasoline) along Golden Avenue, three (3) leaks along Baker Street to the north and one (1) leak located north of Wardlow Road. Three (3) of the leak/repair locations, shown on the Tesoro Figure 1, correspond to areas where gasoline was identified in sediment and groundwater samples on the adjacent OOI property and beneath the pipelines in Golden Avenue, including near Brycon-MW1.
- Characterization (fingerprinting) of the product found in Brycon MW1 by Zymax Forensics in 2012 concluded the sample was gasoline.
- The sampling and observations by CE in 2019 identified a LNAPL migratory pathway from the pipeline area (CESB15) to the vicinity of in CESB10, which is adjacent to Brycon MW1. Gasoline was released from the pipeline beneath Golden Ave., migrated vertically until the saturated Upper Sand was encountered then moved laterally periodically becoming entrained in sedimentary traps as shown on CE Section A-A' (note that CESB15 is close to the reported

location of a historical pipeline leak). Elevated concentrations of gasoline hydrocarbons were not detected in the upper vadose zone (ground surface – 25 feet deep) suggesting no gasoline release points on the OOI property.

- The concentrations of TPHg detected in the Upper Sand were lower towards the west away from the pipeline source area.
- An LNAPL accumulation was detected in CESB10 during groundwater sampling, which is along the LNAPL migratory pathway.
- TPHg dissolved in groundwater is only found in groundwater on the east portion of the OOI property adjacent to the reported leaky pipelines.
- Gasoline was not detected within the upper vadose zone of the study area eliminating the OOI property as the source of the LNAPL.

It is recommended that future groundwater monitoring wells, especially within and near the LNAPL study area, be installed to isolate the Upper and Lower Sand Units. These units need to be assessed and monitored as individual and separate saturated zones to better assess if the pipeline leaks have impacted the aquifer present beneath the Middle Aquitard. The small zone of saturation in the basal portion of the Upper Sand does not meet the accepted definition of an aquifer (will not provide sufficient volume of water for a sustained yield). The Lower Sand probably meets the definition of a useful aquifer. These factors should be considered when developing a plan to mitigate the gasoline releases. It is noted that many of the existing monitor wells will require abandonment during future grading activities. Replacement wells should be sited and installed in light of the hydrogeologic conditions present beneath the area.

Respectfully submitted,



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8.0 REFERENCES

1. American Environmental Management Corporation (AEMC), *1991b, Subsurface Characterization Report of the Southern Portion of Oil Operators, Inc. – 712 West Baker Street – Long Beach, California: Unpublished professional report prepared for Sukut Construction, dated December 12, 1991.*

2. *ATSI, 2015a, Tesoro Logistics Operations LLC Soil Vapor Extraction System Installation and Startup Report – Former BP/ARCO Pipelines, Golden Avenue, between Baker Street and Wardlow Road, Long Beach, California: submitted to the California LARWQCB, dated 30 April 2015.*

3. *Bradford, G.R., Chang, A.C., Page, A.L., Bakhtar, D., Frampton, J.A., Wright, H., 1996, Background concentrations of trace and major elements in California soils: Kearney Foundation of Soil Science Special Report, University of California at Riverside, Riverside, CA, dated March 1996.*

4. *Brost, Edward J., et al Soil Non-Aqueous Phase Liquid (NAPL) Mobility Limits in Soil, in Soil and Groundwater Research Bulletin, API, No. 9 June 2000.*

5. *Brycon, LLC (Brycon), 2001a, Pilot Test Work Plan for Removal, Handling, Treatment and Disposal of Oily Materials from North Pond (Basin 1) at the Oil Operators Incorporated Property, Long Beach, California: prepared for Oil Operators Incorporated, dated September 28, 2001.*

6. *Brycon, 2003b, Basin 1 Corrective Action Plan: Unpublished professional document prepared in response to a letter from the Long Beach/Signal Hill Join Powers Agency, dated September 3, 2003.*

7. *Brycon, 2003c, Revised Corrective Action Plan for Basin 1 at the Oil Operators Incorporated Property, Long Beach California: prepared Oil Operators Incorporated, dated September 23, 2003.*

8. *Brycon, 2008b, 1st Quarter 2008 Quarterly Monitoring Report for Basin 1 – Land Treatment of Petroleum Hydrocarbon - Impacted Soil – Oil Operators Incorporated Property – 712 West Baker Street – Long Beach, California: prepared for Oil Operators Incorporated, dated 15 April 2008.*

9. *Brycon, 2010g, Report On Additional Site Characterization – Oil Operators, Inc. – 712 West Baker Street – Long Beach, California – SCP Case No. 0093; SCPID No. 2044M00: prepared for Oil Operators, Inc. for submittal to California Regional Water Quality Control Board, Los Angeles Region (LARWQCB), dated November 15, 2010.*

10. *Brycon, 2011e, Report On Additional Site Characterization – Oil Operators, Inc. – 712 West Baker Street – Long Beach, California – SCP Case No. 0093; SCPID No. 2044M00: prepared for Oil Operators, Inc. for submittal to California Regional Water Quality Control Board, Los Angeles Region (LARWQCB), dated September 30, 2011.*

11. *Brycon, 2013a – Quarterly Groundwater Monitoring – Oil Operators Property – 712 West Baker Street – Long Beach, California: prepared for Oil Operators, Inc., dated 15 January 2013.*

12. *Brycon, 2015c, December 2015 - Quarterly Groundwater Monitoring – Oil Operators Property – 712 West Baker Street – Long Beach, California, for Oil Operators, Inc., dated January 15, 2016.*

13. *Bedrock Engineering, Quarterly Groundwater Monitoring Reports – Oil Operators Property – 712 West Baker Street – Long Beach, California, for Oil Operators, Inc., dated January 15, 2017 and April 15, 2019.*

14. *California Department of Toxic Substances Control (DTSC), 2011, Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance): Guidance document prepared by DTSC, dated October 2011.*

15. *California Department of Toxic Substances Control (DTSC), Human Health Risk Assessment (HHRA) Note, HERO HHRA Note Number: 3, DTSC-modified Screening Levels (DTSC-SLs), dated January 2018.*

16. *Cozzarelli, Isabelle M., Schreiber, Madeline E., Erickson, Melinda L., & Ziegler, Brady A., "Arsenic Cycling in Hydrocarbon Plumes: Secondary Effects of Natural Attenuation." National Groundwater Association, 54.1, 35-45, dated Jan.-Feb. 2016.*

17. *DTSC, 2012, Advisory – Active Soil Gas Investigations: Guidance document prepared by the DTSC and the California Regional Water Quality Control Board – Los Angeles Region and the California Regional Water Quality Control Board – San Francisco Region, dated April 2012.*

18. *DTSC, 2013, Preliminary Endangerment Assessment Guidance Manual - Interim Final: Guidance Document prepared by the DTSC, revised October 2013.*

19. *DTSC, 2015a, Human Health Risk Assessment (HHRA) Note - HERO HHRA Note Number: 3, DTSC-modified Screening Levels (DTSC-SLs): Document prepared by DTSC, Release Date: May, 2015.*

20. *California Department of Water Resources (DWR), 1961, Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles County: Appendix A - Ground Water Geology: CADWR Bulletin No. 104, dated June, 1961.*

21. *California Environmental Geologist & Engineers, Inc. (CEGE), 2011, Soil Gas Assessment Report – Oil Operators, Inc. (OOI) Property – 712 Baker Street, Long Beach, California 90806 (SCP Case No. 0093); SCP ID No. 2044M00): submitted to California Regional Water Quality Control Board, Los Angeles Region (LARWQCB) for Oil Operators, Inc., dated September 2011.*

22. *California Regional Water Quality Control Board - Los Angeles Region (LARWQCB), 1986, Waste Discharge Requirements for Land Treatment Operation, Long Beach. (File No. 86-93): Waste*

Discharge Requirements (WDR) document dated 7 November 1986, revised 24 November 1986, transmitted via letter addressed to Oil Operators Inc., dated 1 December 1986.

23. *California Regional Water Quality Control Board - Los Angeles Region (LARWQCB), Interim Site Assessment & Cleanup Guidebook, dated May 1996*

24. *California LARWQCB, 2014a, Cleanup and Abatement Order (CAO) No. R4-2013-0064, Former BP/ARCO Pipelines – Golden Avenue, Between Baker Street and West Wardlow Road – Long Beach, California: Transmittal letter, Response to Comments – Draft CAO No. R4-2013-0064 Received 28 May 2013, and CAO No. R4-2013-0064, addressed to BP Pipelines (North America) Inc. Atlantic Richfield Company, and ARCO Terminal Services Corporation, La Palma, CA, dated 18 September 2014.*

25. *California LARWQCB, letter, Rational for BP Pipeline being a Discharger and Responsible Party and for Why BP Pipelines should preform remedial action; BP Pipelines 32 and 34 near 712 Baker Street Long Beach, CA SCP No. 0093A, Site ID No. 2040420, dated November 6, 2012.*

26. *California Regional Water Quality Control Board – San Francisco Bay Region (SFBRWQCB), ESL Workbook, Revision 3, dated February 2016.*

27. *California Regional Water Quality Control Board – San Francisco Bay Region (SFBRWQCB), 2013. Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater. December.*

28. *County of Los Angeles (LAC), 2002, Consent Decree – People of the State of California vs. Oil Operators, Inc., A California Corporation: Document filed in the Municipal Court for the Long Beach Judicial District – County of Los Angeles, State of California, Case # 01LM01702, filed 28 August 2002.*

29. *EMCON Associates, 1981, Hydrogeologic Investigation – Industrial Waste Transfer Station – Long Beach, California: prepared for Chemical Waste Management, Inc., dated February 1981.*

30. *Environmental Science & Engineering, Inc. (ESE), 1999, Groundwater Monitoring Report – Oil Operators Inc. Property – 712 West Baker Street – Long Beach, California – SLIC No. 093 prepared for GreenPark Holdings, LLC submitted to California Regional Water Quality Control Board, Los Angeles Region (LARWQCB), dated October 26, 1999.*

31. *ESE, 2000, Groundwater Monitoring Report for the Fourth Quarter 1999 at the Oil Operators Inc. Property, 712 West Baker Street, Long Beach, California: prepared for GreenPark Holdings, LLC, submitted to LARWQCB, dated 21 February 2000.*

32. *Jack K. Bryant and Associates, Inc. (JKB), 1992, Investigation of Origination of Groundwater/Soil Contamination – Oil Operators South Site – 712 West Baker Street – Long Beach, California: prepared for Oil Operators, dated July, 1992.*

33. *Jaykim Engineers, Inc. (JEI), 1986, Ambient Air Survey for Oil Operators Land Farming Operation: provided by Oil Operators, Inc., dated September 9, 1986.*

34. *JEI, 1987a, Well Logs for Ground Water Monitoring Wells for Oil Operators: Letter transmitting boring logs and a laboratory report, addressed to California Regional Water Quality Control Board-Los Angeles Region, dated January 6, 1987.*

35. *JEI, 1987b, Quarterly Monitoring Report – Land Treatment Operation – Oil Operators, Inc. – Long Beach, California: prepared for Oil Operators, Inc., dated October 15, 1987.*

36. *JEI, 1988a, Quarterly Monitoring Report – Land Treatment Operation – Oil Operators, Inc. – Long Beach, California: prepared for Oil Operators, Inc., dated January 15, 1988.*

37. *JEI, 1988b, Quarterly Monitoring Report for Oil Operators, Inc. – Long Beach, California: prepared for Oil Operators, Inc., dated May 3, 1988.*

38. *JEI, 1988c, Quarterly Monitoring Report for Oil Operators, Inc. – Long Beach, California: prepared for Oil Operators, Inc., dated July 11, 1988.*

39. *Mearns Consulting, LLC., Human Health Risk Assessment, 712 Baker Street, Long Beach, California 90806, dated January 14, 2016.*

40. *Miller Brooks Environmental, Inc., (Miller Brooks) 2001, Quarterly Report for First Quarter 2001 - Oil Operators, Inc. – 712 West Baker Street – Long Beach, California 90806: prepared for Greenpark Ventures, LLC, dated 1 May 2001.*

41. *Petra Geotechnical (PGI), 2015a, Boring Logs for Borings B-1 to B-4 and P-1 to P-5 and Cone Penetrometer Test (CPTP Logs for PGI's 2015 Geotechnical Investigation at 712 Baker Street – Long Beach, California: Unpublished documents transmitted from PGI to Tetra Tech via e-mail in March, May, and June 2015; these documents are included in*
42. *Tetra Tech's SSI report – Appendix A, dated 17 July 2015.*

43. *Poland, Joseph Fairfield, Hydrology of the Long Beach-Santa Ana Area, California, with Special Reference to the Water tightness of the Newport-Inglewood Structural Zone. With a Section on Withdrawal of Ground Water, 1932-41, by Allen Sinnot and J. F. Poland. Washington, U.S. Govt. Print. Off. dated 1959.*

44. *QST Environmental, Inc. (QST), 1998b, Site Assessment Summary and Remedial Action Plan for the Oil Operators, Inc. Property – Long Beach, California: prepared for GreenPark Ventures, LLC, dated December 2, 1998.*

45. *State of California Department of Water Resources, Southern District, Bulletin No. 104, Planned Utilization of the Groundwater Basins of the Coastal Plain of Los Angeles County, Appendix A, Ground Water Geology, Reprinted April 1988.*

46. *Tesoro Refining & Marketing Company LLC (compiler) (TLO), 2013b, Tesoro Split Sampling Results, Oil Operators, Inc. Property – 712 Baker Street – Long Beach, California conducted by AECOM Technical Services (AECOM) with their consultant Brycon during monitoring well installation activities in August 2013 and groundwater sampling in September 2013: prepared for the LARWQCB, dated November 26, 2013.*

47. *Tesoro Refining & Marketing Company LLC (compiler) (TLO), Site Assessment and Human Health Risk Assessment Report, for Golden Ave Site, between Baker St and West Wardlow Road, Long Beach, California conducted by AECOM Technical Services (AECOM) prepared for the LARWQCB, dated November 13, 2015.*

48. *Tesoro, Addendum to January 25, 2019 Pipeline Update, Golden Ave between bake Street and Wardlow Road, Long Beach, CA., April 11, 2019.*

49. *Tetra Tech, Inc. (Tetra Tech), 2015a, Supplemental Site Investigation (SSI) Work Plan for Oil Operators, Inc. Property – 712 Baker Street, Long Beach, California 90806: Unpublished professional report prepared for the California Regional Water Quality Control Board – Los Angeles Region, dated 3 April 2015.*

50. *Tetra Tech, 2015b, Supplemental Site Investigation Work Plan Amendment No. 1 - Oil Operators, Inc. Property at 712 Baker Street, Long Beach, California 90806, addressed to the California Regional Water Quality Control Board – Los Angeles Region, dated 24 April 2015.*

51. *Tetra Tech, Inc. (Tetra Tech), 2015c, Supplemental Site Investigation (SSI) Report for Oil Operators, Inc. Property – 712 Baker Street, Long Beach, California 90806: prepared for the California Regional Water Quality Control Board – Los Angeles Region, dated 17 July 2015*

52. *United States Environmental Protection Agency, Regional Screening Levels (RSLs) – Generic Tables, dated May 2018.*

53. *Zymax, Oil Operators G.W. Project, Dated September 27, 2012.*

ILLUSTRATIONS

Plates 1-7 – Logs of Borings
Figure 1 – Vicinity Map
Figure 2 – Site Plan
Figure 3 – LNAPL Assessment Plan
Figure 4 – Cross Section A-A'
Figure 5 – Cross Section B-B'

CALIFORNIA ENVIRONMENTAL - LOG OF BORING CESB9

JOB NUMBER:	3029	**DATE:**	6/25/2019
CLIENT NAME:	Oil Operators Inc.	**DRILL RIG:**	GeoProbe 8040DT
SITE ADDRESS:	712 N Baker St. Long Beach, CA	**SAMPLING METHOD:**	1-inch wide x 5 ft long plastic liner
LOGGED BY:	Charles I. Buckley, CHG No. 55	**BORING DIAMETER:**	2.75- inches
		SURFACE CONDITIONS:	Unpaved
REVIEWED BY:	Greg Buensuceso		

Depth in Feet	Sample Type†	LITHOLOGIC DESCRIPTION	USCS Code	PID Reading (ppmv)	Graphic Log	Well Diagram
0	SD	Start drilling at 8:30am - initial 5-foot long core partial recovery 3 to 5 ft				
3	SD	at 3 feet - **Silty Sand**, reddish brown(5YR4/3), slightly moist, medium dense, no odor, no staining. Contains sub-angular granule gravel <5%.	SM	0.0		
10	SD	at 10 feet **Sandy Silt** (7.5YR6/4), light brown, moist, firm.	ML	0.0		
12	SD		ML			
14	SD		ML			
16	SD	at 15.5 feet **Silty Sand**, light gray to pale brown (10YR7/2), moist , dense. medium to fine sand, fine sand at 26 feet.	SM	0.0		
18	SD		SM			
20	SD		SM			
22	SD		SM			
24	SD		SM	0.0		
26	SD	at 27 feet **Silty Clay/Clayey Silt**, mottled gray brown, moist, firm. Grades to olive (5Y4/3) at 29.5 feet. Intercalated clayey silt/silty clay with fine sand to 32 feet.	CL			
28	SD		ML/CL	0.0		
30	SD		ML/CL			
32	SD	at 32 feet **Sand and Silt**, Dark Olive Gray (5Y4/2), very moist-wet, medium dense, with strong hydrocarbon odor at 33 feet. Sampler malfunction during the 33-38 foot	ML	**25 at 32 feet**		
34	SD	interval. Drove second liner becomes sandy silt at 38 feet.	ML/SM	**535 at 34.5 feet**		
36	SD		ML	**430 at 35.5 feet**		
38		Drove to depth of 42 feet, set 3/4-inch diameter, 0.010-inch slotted pvc casing 10:45am. Blank casing to ground surface. Sampled groundwater. No product observed	ML/SM	<25 at 38 feet		
40		during well sampling.	ML			
42						
44		**END AT 42 FEET- SET TEMPORARY CASING, SCREEN INTERVAL 32-42 FEET, SAMPLED WELL, THEN ABANDONED BY REMOVING CASING AND FILLING WITH NEAT CEMENT**				
46		**VIA TREMIE. DEPTH TO STATIC WATER LEVELS; 35.0 FEET ON JUNE 25, 2019 AT 2:19**				
48		**PM, 36.9 FEET ON JUNE 27, 2019 AT 3:20 PM.**				
50						

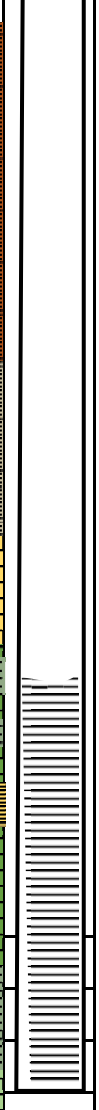
†Sample Type: S=Soil W=Water V=Vapor D=Drive G=Grab N=No Recovery

PLATE 1

CALIFORNIA ENVIRONMENTAL - LOG OF BORING CESB10

JOB NUMBER:	3029	**DATE:**	6/25/2019
CLIENT NAME:	Oil Operators Inc.	**DRILL RIG:**	GeoProbe 8040DT
SITE ADDRESS:	712 N Baker St. Long Beach, CA	**SAMPLING METHOD:**	1-inch wide x 5 ft long plastic liner
LOGGED BY:	Charles I. Buckley, CHG No. 55	**BORING DIAMETER:**	2.75- inches
		SURFACE CONDITIONS:	Unpaved
REVIEWED BY:	Greg Buensuceso		

Depth in Feet	Sample Type†	LITHOLOGIC DESCRIPTION	USCS Code	PID Reading (ppmv)
0	SD	Start drilling at 11:05am -encountered concrete debris - moved boring		
3	SD	at 5 feet - **Silty Sand/Sandy Silt**, mottled brown-reddish brown (5YR4/3), slightly moist, medium dense, no odor, no staining.		
10	SD		SM	0.0
12	SD		SM	
14	SD		SM	
16	SD		SM	0.0
18	SD		SM	
20	SD	at 20 feet **Silty Sand**, light gray to pale brown (10YR7/2), moist , dense.	SP	
22	SD		SM	
24	SD		SM	0.0
26	SD	at 27 feet **Silt with fine Sand**, mottled gray brown, moist, firm. Interbedded **Clayey/Sandy Silt,** 28 to 35 feet. Contains fine sand lenses, at 31.5 grades to dark olive	ML	
28	SD	gray (5Y4/2) with hydrocarbon odor,	ML/CL	0.0
30	SD		ML/CL	**210 at 30 feet**
32	SD		ML	**150 at 32 feet**
34	SD		ML/SM	**334 at 35 feet**
36	SD	at 35 feet **Silt w/ fine Sand**, dark gray (5Y3/1), **wet**, strong hydrocarbon odor	ML	**465 at 35.5 feet**
38	SD	36-38 **Silty Clay**, mottled brn/gray, moist, very firm. No hydrocarbon odor	CL	0.0
40	SD	at 41-43 grades to **Silt** w/sand, mottled brown/gray, moist, very firm no hydrocarbon	CL/ML	**400 (?) at 40.5**
42	SD	odor	ML	0.0
44	SD	at 43.5 to 46 **Sand,** fine-medium sand, gray, **wet**, dense, no HC odor	SM	2.0
46	SD	at 47 feet **Clayey Silt w/ Sand**, mottled brown to light olive gray (5Y6/3), moist, firm with abundant shell fragments. No HC odor	SM	0.0
48			ML	0.0
50		**END AT 48 FEET, SET TEMPORARY 3/4-INCH PVC CASING SCREEN FROM 33-48 FEET AT 3 PM, SAMPLED WELL THEN ABANDONED BY REMOVING CASING AND FILLING WITH NEAT CEMENT GROUT VIA TREMIE. DEPTH TO STATIC WATER LEVEL 35.6 FEET AT 3PM ON JUNE 27, 2019. APPROXIMATELY A 5 mm PRODUCT LAYER DETECTED ON JUNE 26, 2019 8AM.**		



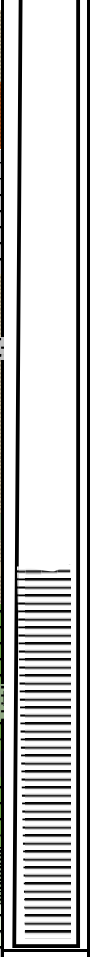
†Sample Type: S=Soil W=Water V=Vapor D=Drive G=Grab N=No Recovery

PLATE 2

CALIFORNIA ENVIRONMENTAL - LOG OF BORING CESB11

JOB NUMBER:	3029	**DATE:**	6/26/2019
CLIENT NAME:	Oil Operators Inc.	**DRILL RIG:**	GeoProbe 8040DT
SITE ADDRESS:	712 N Baker St. Long Beach, CA	**SAMPLING METHOD:**	1-inch wide x 5 ft long plastic liner
LOGGED BY:	Charles I. Buckley, CHG No. 55	**BORING DIAMETER:**	2.75- inches
		SURFACE CONDITIONS:	Unpaved
REVIEWED BY:	Greg Buensuceso		

Depth in Feet	Sample Type†	LITHOLOGIC DESCRIPTION	USCS Code	PID Reading (ppmv)
0	SD	Start drilling at 8.00am - unpaved		
3	SD	at 3 feet **Silty Sand, mottled brown/dark brown, moist, medium dense** at 5 feet - **Silty Sand/Sandy Silt**, mottled brown-reddish brown (5YR4/3), slightly moist, medium dense, no odor, no staining.		
10	SD		SM	0.0
12	SD	at 10 feet, **Silt**, light gray, slightly moist, firm with concrete fragments	ML	
14	SD	at 14.5 feet, **Sand**, fine grained, light brown, moist, dense.	SM	
16	SD		SM	0.0
18	SD	at 18 feet becomes silty	SM/ML	
20	SD	at 20 feet **Silty Sand**, light gray to pale brown (10YR7/2), moist , dense.	SM	0.0
22	SD		SM	
24	SD	At 25 feet, **Sand**, fine grained, light brown, moist, dense.	SM	0.0
26	SD	Interbedded **Clayey/Sandy Silt,** 28 to 35 feet. Contains fine sand lenses, at 31.5 feet grades to dark olive gray (5Y4/2) with hydrocarbon odor,	SM	
28	SD		ML/CL	0.0
30	SD		ML/CL	**30 at 30 feet**
32	SD		ML	**125 at 32.5 feet**
34	SD		SM	**>300 at 35.5 feet**
36	SD	at 35.5 feet **Sand, fine sand with silt**, dark gray (5Y3/1), **wet**, strong hydrocarbon odor.	ML	
38	SD	36-37 feet **Silt**, mottled light gray (5Y7/1), moist, very firm. No HC odor.	ML	<1.0
40	SD	38-42.5 feet grades to **Clay with Clayey Silt,** mottled light brown/light gray, moist, firm, no hydrocarbon odor	CL/ML	<1.0
42	SD		ML	
44	SD	at 42.5 feet **Silty Sand,** fine-medium sand, gray, **wet**, dense, no HC odor	SM	0.0
46	SD	at 43-46.5 feet grades to **Silty** with **sand** mottled light-medium brown. At 47.5 to 53 feet **Silty Sand**, light gray, wet, dense.	SM	
48	SD		SM	0.0
50	SD		SM	
52	SD		SM	0.0
54		**END AT 53 FEET, SET TEMPORARY 3/4-INCH PVC CASING SCREEN FROM 27-42 FEET DUE TO HOLE COLLAPSE, SAMPLED WELL THEN ABANDONED BY REMOVING CASING AND FILLING WITH NEAT CEMENT GROUT VIA TREMIE. DEPTH TO STATIC WATER LEVEL 35.8 FEET AT 3 PM ON JUNE 26, 2019. NO PRODUCT OBSERVED.**		



†Sample Type: S=Soil W=Water V=Vapor D=Drive G=Grab N=No Recovery

CALIFORNIA ENVIRONMENTAL - LOG OF BORING CESB12

JOB NUMBER:	3029	**DATE:**	6/26/2019
CLIENT NAME:	Oil Operators Inc.	**DRILL RIG:**	GeoProbe 8040DT
SITE ADDRESS:	712 N Baker St. Long Beach, CA	**SAMPLING METHOD:**	1-inch wide x 5 ft long plastic liner
LOGGED BY:	Charles I. Buckley, CHG No. 55	**BORING DIAMETER:**	2.75- inches
		SURFACE CONDITIONS:	Unpaved
REVIEWED BY:	Greg Buensuceso		

Depth in Feet	Sample Type†	LITHOLOGIC DESCRIPTION	USCS Code	PID Reading (ppmv)
0	SD	Start drilling at 11:30 am - unpaved		
3	SD	at 3 feet **Silty Sand,** brown, moist, medium dense. with concrete fragments, native at 5 feet, becomes silty at 7-9 feet. Silty sand, red brown (5YR4/3) at 10 feet.		
10	SD		SM	0.0
12	SD		ML	
14	SD		SM	
16	SD		SM	0.0
18	SD	at 18 feet grades to silty light olive (5Y6/2)	SM/ML	
20	SD	at 23-34 feet **Silty Sand**, light olive gray (5Y6/2), moist , dense. Slight hydrocarbon odor at 23 feet.	SM	0.0
22	SD		SM	10 at 23 feet
24	SD		SM	0.0
26	SD		SM	
28	SD		SM	0.0
30	SD		SM	
32	SD		SM	**25 at 32/35 feet**
34	SD	at 35-38 feet **Silt, with fine sand**, olive gray (5Y5/2), very moist, strong hydrocarbon odor.	ML	**780 at 35 feet**
36	SD		ML/SM	
38	SD		ML	434 at 38 feet
40	SD	38-42.5 feet grades to **Clay with Clayey Silt,** mottled light brown/light gray, moist, firm, finely disseminated organic debris, no hydrocarbon odor.	CL/ML	<1.0
42	SD		ML	
44	SD	at 42.5 feet **Silty Sand,** fine-medium sand, gray, **wet**, dense, no HC odor	SM	0.0
46	SD	at 43-48 feet grades to **Silty Sand** light gray (5Y7/2) wet, dense. No hydrocarbon odor.	SM	
48	SD		SM	0.0
		END AT 48 FEET, SET TEMPORARY 3/4-INCH PVC CASING SCREEN FROM 37-42 FEET; HOLE COLLAPSED to 34 FEET THEN RE-OPENED TO 43 FEET. SAMPLED WELL THEN ABANDONED BY REMOVING CASING AND FILLING WITH NEAT CEMENT GROUT VIA TREMIE. DEPTH TO STATIC WATER LEVEL 35.98 FEET AT NOON ON JUNE 28, 2019. NO PRODUCT OBSERVED.		

Graphic Log / Well Diagram

†Sample Type: S=Soil W=Water V=Vapor D=Drive G=Grab N=No Recovery

PLATE 4

CALIFORNIA ENVIRONMENTAL - LOG OF BORING CESB13

JOB NUMBER:	3029	**DATE:**	6/27/2019
CLIENT NAME:	Oil Operators Inc.	**DRILL RIG:**	GeoProbe 8040DT
SITE ADDRESS:	712 N Baker St. Long Beach, CA	**SAMPLING METHOD:**	1-inch wide x 5 ft long plastic liner
LOGGED BY:	Charles I. Buckley, CHG No. 55	**BORING DIAMETER:**	2.75- inches
		SURFACE CONDITIONS:	Unpaved
REVIEWED BY:	Greg Buensuceso		

Depth in Feet	Sample Type†	LITHOLOGIC DESCRIPTION	USCS Code	PID Reading (ppmv)
0	SD	Start drilling at 7:30 am - unpaved - gravel path of travel		
3	SD	at 3 to 6 feet **Silty Sand,** brown, slightly moist, medium dense. with concrete fragments/debris at 3 feet. At 6.5-8 feet Silt with fine sand, mottled red brown-brown,		
10	SD	moist firm. No odor	SM/ML	0.0
12	SD	8-13 feet **Silt**, brown to dark gray, moist firm, slight petroleum odor at 9.5 feet	ML	
14	SD	at 13-18 feet **Silt** with sand, no odor at 13 feet.	ML	0.0
16	SD		ML	0.0
18	SD	at 18-23 feet **Silt** with sand	SM/ML	
20	SD	at 23-28 feet **Silt** with sand, light olive gray (5Y6/2), moist , dense. Slight hydrocarbon odor at 23 feet. **Fine sand** 24-26 feet. Occasional sub-angular granule gravels at 26.5	SM	0.0
22	SD	feet.	ML	5.0 at 23 feet
24	SD		ML	0.0
26	SD		SM	
28	SD	28-31 feet, **Silt**	ML	0.0
30	SD		ML	
32	SD	32-33 feet **Silty Sand,** light olive gray (5Y6/2), moist, dense. Fine sand	SM	**25 at 32 feet**
34	SD		ML	**107 at 34 feet**
36	SD	33-38.5 feet, **Sandy Sil**t, light gray (5Y7/1), moist, firm.	ML	**34 at 36 feet**
38	SD	wet at 38.5 feet, S**andy**	ML	115 at 39 feet
40	SD	40.5 to 44 **Silt** and **Clayey Sil**t, light olive gray (5Y6/2)- brown, moist, very firm,	CL/ML	<1 at 41 feet
42	SD	becomes clayey at 43 feet.	ML	
44	SD		ML	0.0
46	SD	at 44-48 feet grades to **Silty Sand,** mottled brown to light gray (5Y7/2) wet, dense. No hydrocarbon odor.	SM	
48	SD		SM	0.0
		END AT 48 FEET, SET TEMPORARY 3/4-INCH PVC CASING SCREEN FROM 33-48 FEET; SAMPLED WELL THEN ABANDONED BY REMOVING CASING AND FILLING WITH NEAT CEMENT GROUT VIA TREMIE. DEPTH TO STATIC WATER LEVEL 38.75 FEET AT12:17 PM ON JUNE 28, 2019. NO PRODUCT OBSERVED.		

†Sample Type: S=Soil W=Water V=Vapor D=Drive G=Grab N=No Recovery

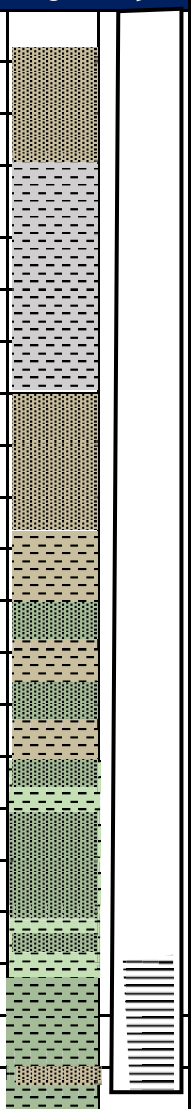
PLATE 5

CALIFORNIA ENVIRONMENTAL - LOG OF BORING CESB14

JOB NUMBER:	3029	**DATE:**	6/27/2019
CLIENT NAME:	Oil Operators Inc.	**DRILL RIG:**	GeoProbe 8040DT
SITE ADDRESS:	712 N Baker St. Long Beach, CA	**SAMPLING METHOD:**	1-inch wide x 5 ft long plastic liner
LOGGED BY:	Charles I. Buckley, CHG No. 55	**BORING DIAMETER:**	2.75- inches
		SURFACE CONDITIONS:	Unpaved
REVIEWED BY:	Greg Buensuceso		

Depth in Feet	Sample Type†	LITHOLOGIC DESCRIPTION	USCS Code	PID Reading (ppmv)
0	SD	Start drilling at 11:15 am - unpaved		
3	SD	2 to 13 feet **Silty Sand,** mottled brown/light brown, slightly moist, medium dense, with asphalt fragments at 2 feet. No odor	SM	
10	SD		SM	0.0
12	SD	8-13 feet **Silt**, grades to gray/brown (2.5Y5/2), moist, dense.	ML	
14	SD		ML	0.0
16	SD		ML	0.0
18	SD	at 18-23 feet **Silty Sand,** light brown (2.5Y6/4), moist, dense	SM	
20	SD		SM	0.0
22	SD		SM	0.0 at 23 feet
24	SD	at 23 feet **Silt**, brown, moist, firm	ML/SM	0.0
26	SD		ML	
28	SD	at 27 feet grades to **sandy**, at 28 to 34 feet zone of interbedded sands and silts, mottled brown to light olive (5Y6/2), moist, firm/dense. No odor.	SM/ML	2.8
30	SD		ML	**<10 at 31 feet**
32	SD		ML	
34	SD		SM	**148 at 33 feet**
36	SD	at 34 to 38 **Sandy**, very moist to wet at 36-38 feet, strong hydrocarbon odor	SM	**252 at 34.5**
38	SD	wet at 38-39 feet, S**andy,** strong odor	SM	**340 at 36**
40	SD		ML	**125 at 38 feet**
42	SD	41 to 48 feet **Silt and Clayey Silt**, mottled light brown (2.5Y6/4) to light olive gray (5Y6/2), moist, very firm; no odor, 6-inch sandy zone 47.5 to 48.	ML	
44	SD		ML/CL	0.0
46	SD		ML	
48	SD	48.5 to 50 feet **Silty** S**and,** mottled light brown (2.5Y6/4) wet, dense. No hydrocarbon odor.	SM	0.0
50		**END AT 50 FEET, SET TEMPORARY 3/4-INCH PVC CASING SCREEN FROM 40-45 FEET; HOLE SLOUGHED TO 45 FEET. SAMPLED WELL THEN ABANDONED BY REMOVING CASING AND FILLING WITH NEAT CEMENT GROUT VIA TREMIE. DEPTH TO STATIC WATER LEVEL 37.40 FEET AT 1 PM ON JUNE 28, 2019. NO PRODUCT OBSERVED.**		

Graphic Log / Well Diagram



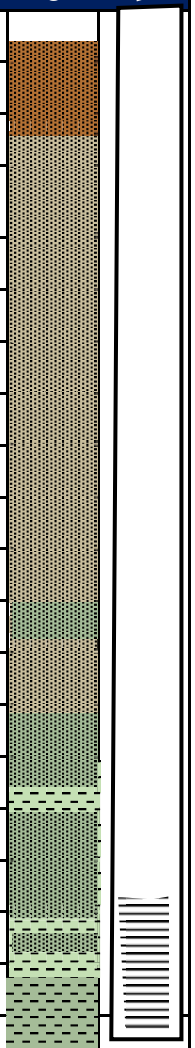
†Sample Type: S=Soil W=Water V=Vapor D=Drive G=Grab N=No Recovery

PLATE 6

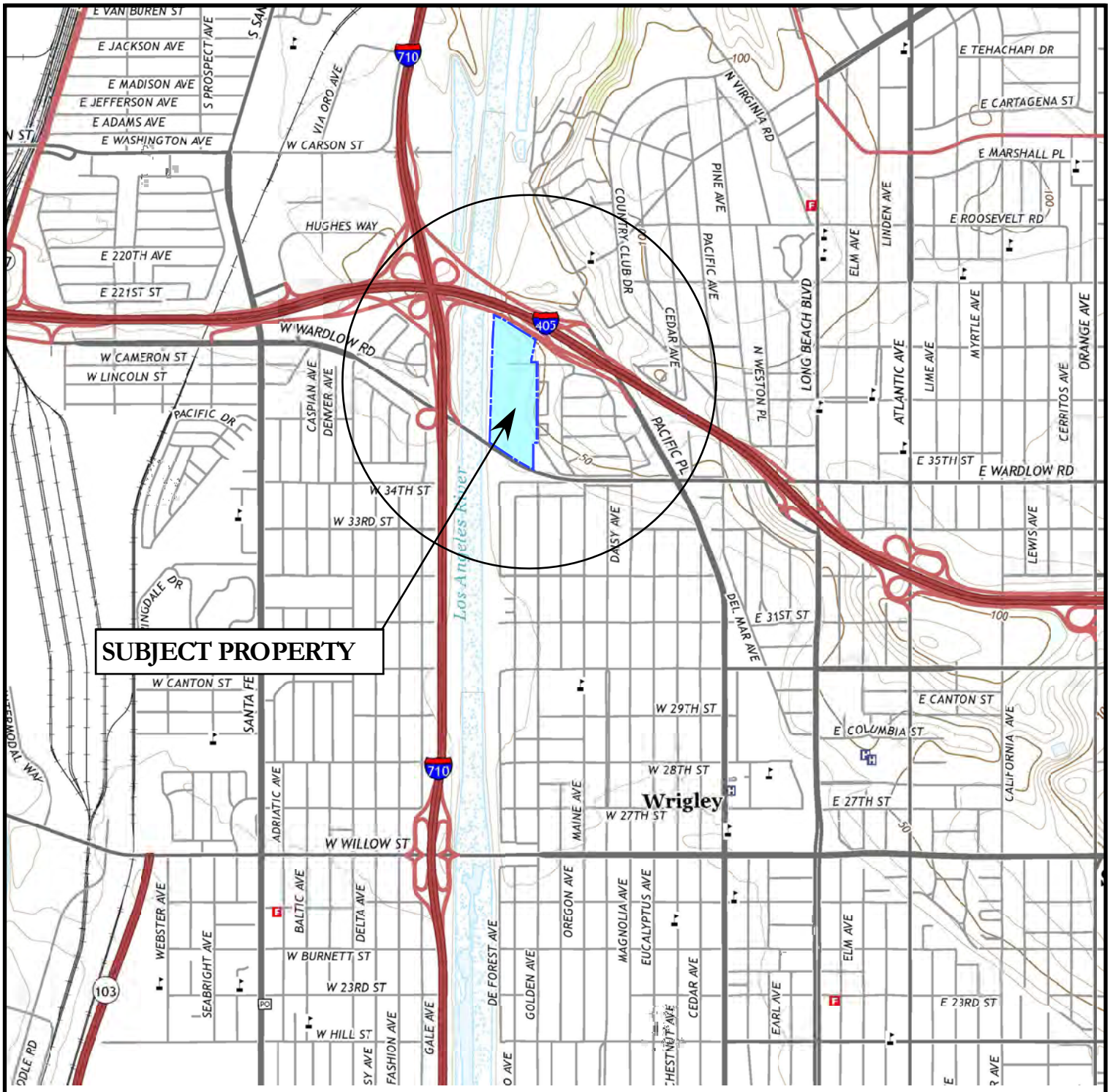
CALIFORNIA ENVIRONMENTAL - LOG OF BORING CESB15

JOB NUMBER:	3029	**DATE:**	6/28/2019
CLIENT NAME:	Oil Operators Inc.	**DRILL RIG:**	GeoProbe 8040DT
SITE ADDRESS:	712 N Baker St. Long Beach, CA	**SAMPLING METHOD:**	1-inch wide x 5 ft long plastic liner
LOGGED BY:	Charles I. Buckley, CHG No. 55	**BORING DIAMETER:**	2.75- inches
		SURFACE CONDITIONS:	Unpaved
REVIEWED BY:	Greg Buensuceso		

Depth in Feet	Sample Type†	LITHOLOGIC DESCRIPTION	USCS Code	PID Reading (ppmv)
0	SD	Start drilling at 7:27 am - unpaved		
3	SD	2 to 8 feet **Silty Sand,** brown/red brown, (5YR4/3) slightly moist, medium dense. No odor. Grades to light brown at 7.5 feet. No odor	SM	
10	SD		SM	0.0
12	SD	8-12 feet Fine **Sand**, to gray/brown (2.5Y5/2), moist, dense. 12-13 feet Silt light gray slightly moist, soft.	SP	
14	SD	13-18 feet, **Silty Sand/with Silt** layers, light brown/pale yellow (2.5Y8/4), slightly moist, medium dense. No odor.	ML	0.0
16	SD		ML	0.0
18	SD		SM	
20	SD		SM	0.0
22	SD	18-31 feet **Fine Sand,** light brown (2.5Y6/4), moist, dense, no odor.	SM	0.0 at 23 feet
24	SD		SM	0.0
26	SD		SM	
28	SD		SM	2.8
30	SD		SM	**<10 at 31 feet**
32	SD	at 31.5 feet **Clayey Silt,** dark gray (2.5Y4), very moist, firm, strong HC odor.	ML	**<10 at 33 feet**
34	SD	at 34 to 38.5 **Sandy**, olive gray (5Y5/2) very moist to wet at 36-38 feet, strong hydrocarbon odor.	SM	**903 at 34 feet**
36	SD		ML	**584 at 36 feet**
38	SD		ML	**784 at 38 feet**
40	SD	38.5-45 feet, **Clayey Silt/Silty Clay**, mottled light gray/brown, moist, very firm/stiff. No odor.	ML	
42	SD		ML/CL	
44	SD	45-46 feet **Silty Sand**, mottled light brown (2.5Y6/4) wet, dense. No hydrocarbon odor.		0.0
46	SD		SM	<10
		END AT 46 FEET, SET TEMPORARY 3/4-INCH PVC CASING SCREEN FROM 38-43 FEET; HOLE SLOUGHED TO 43 FEET. SAMPLED WELL THEN ABANDONED BY REMOVING CASING AND FILLING WITH NEAT CEMENT GROUT VIA TREMIE. DEPTH TO STATIC WATER LEVEL 41.33 FEET AT 1:45 PM ON JUNE 28, 2019. NO PRODUCT OBSERVED.		



†Sample Type: S=Soil W=Water V=Vapor D=Drive G=Grab N=No Recovery



Scale

0 1,000 2,000 ft.

1 inch = 2,000 feet

N W E S

References: USGS 7.5' Long Beach Topographic Quadrangle, 2015.

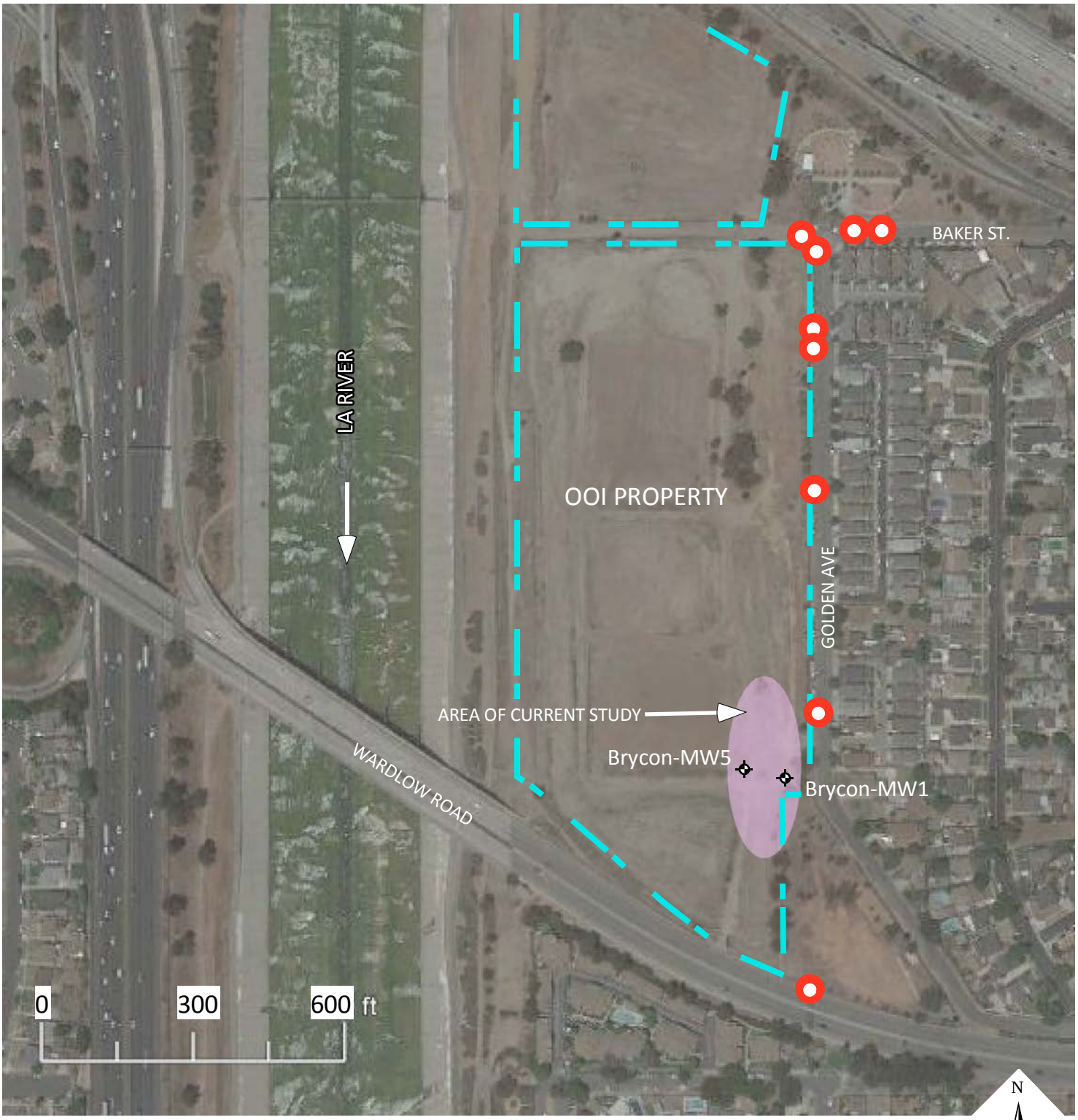
FIGURE 1 - VICINITY MAP

712 W. Baker Street
Long Beach, California

Drawn By:	**GHB**	**Job #**	**EV610-3029**
Checked By:	**CIB**	**Date:**	**July 2019**

California Environmental

3029 Vicinity Map



Approximate Locations of Pipeline Leaks/Repairs 1945 - 2018 - Per AECOM Figure 1, Addendum to January 25, 2019 Pipeline Update Report, dated April 11, 2019.

Reference: Google Earth Image

FIGURE 2 - SITE PLAN

712 W. Baker Street
Long Beach, California

Drawn By:	RTB	Job #	EV610-3029
Checked By:	CIB	Date:	July 2019

California Environmental

EXPLANATION

MW5 — Byrcon groundwater monitoring well

CPT4 — CE CPT/UVOST boring location, April 2019

CESB15 — CE hydraulic push boring location, June 2019 showing TPHg and benzene concentrations in soil, rounded to nearest ppm and ppb, respectively.

Basin 2

CESB12

DEPTH feet	TPHg mg/kg	BENZENE ug/kg
5	<1	<1
10	<1	<1
15	<1	<1
20	0.11	<1
25	1.2	<1
30	13	<1
38	4,100	1,900
39.5	0.83	30
42.5	1.1	67
46	0.3	<1

CESB13

DEPTH feet	TPHg mg/kg	BENZENE ug/kg
7	<1	<1
11	<1	<1
15	<1	<1
20	0.1	<1
25	1.0	<1
30	2.0	<1
32	<4.7	<1
36	4.3	2.1
40	34	15
42	0.2	2.6
47	0.2	<1

CESB11

DEPTH feet	TPHg mg/kg	BENZENE ug/kg
6.5	<1	<1
11.5	<1	<1.4
15.5	<1	<1
20.5	<1	<1
25.5	<1	<1
30	2.8	1.3
35.5	220	<87
40	0.7	3.9
53	0.1	<1

CESB15

DEPTH feet	TPHg mg/kg	BENZENE ug/kg
5	<1	<1
10	<1	<1
15	<1	<1
20	<1	<1
25	<1	<1
30	<1	<1
31.8	250	<54
37	4,700	<1,100
40	<1	1.3
44	2.5	1.2

CESB14

DEPTH feet	TPHg mg/kg	BENZENE ug/kg
11	<1	<1
16	<1	<1
20	<1	<1
26	0.15	<1
31	7.3	<1
36	43	<43
42	1.3	<1
46	0.2	20
49.5	<1	<1

CESB10

DEPTH feet	TPHg mg/kg	BENZENE ug/kg
3	<1	<1
10.5	<1	<1
15.5	<1	<1
20.5	<1	<1
25.5	<1	<1
30	310	<140
33	16,000	<6,400
35	6,000	<1,600
41	420	260
43	1.3	<1
45	0.87	<1

CESB9

DEPTH feet	TPHg mg/kg	BENZENE ug/kg
5.5	<1	<1
10.5	<1	<1
15.5	<1	<1
20.5	<1	<1
25.5	<1	1.6
32	1,100	<500
35.5	1,400	<410
37	1.5	22

MW5, MW1, CPT1, CPT2, CPT3, CPT4, CPT5, CPT6, CPT7, CPT8, CESB9, CESB10, CESB11, CESB12, CESB13, CESB14, CESB15, A, A’, B, B’, SUMP, DOG PARK, GOLDEN AVE., PETROLEUM PIPELINES, (30), (35), (40), (50)

AREA OF GEOPHYSICAL SURVEY

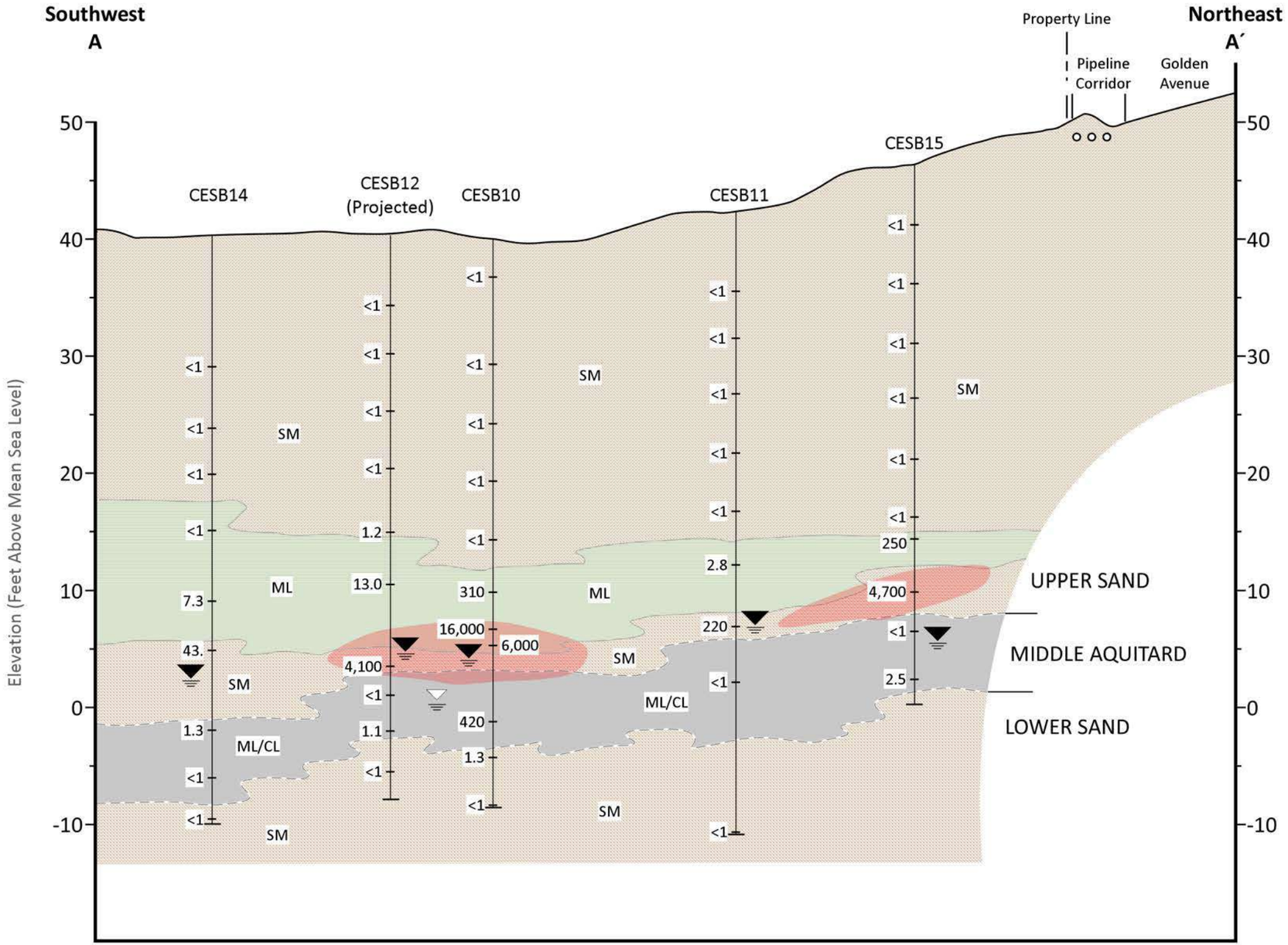
Scale: 0 15 30 ft. — 1 inch = 30 feet

References: KHR Engineers Topographic Map, 6/24/2019

FIGURE 3 - LNAPL ASSESSMENT PLAN

California Environmental

Client	OOI/Integral Partners	Job #	EV610-3029
Location	712 W. Baker Street, Long Beach	By	GHB
Date:	July 2019	Checked By	CIB



EXPLANATION

CESB11 <1 220 — Location and number of CE boring with TPH-g concentration in mg/kg, July 2019

Groundwater level from temporary casing, July 2019

Groundwater level from monitor well Brycon MW1, July 25, 2019

Approximate area of LNAPL accumulation and migration pathway

Cross Section A - A' (3x Vertical Exaggeration)

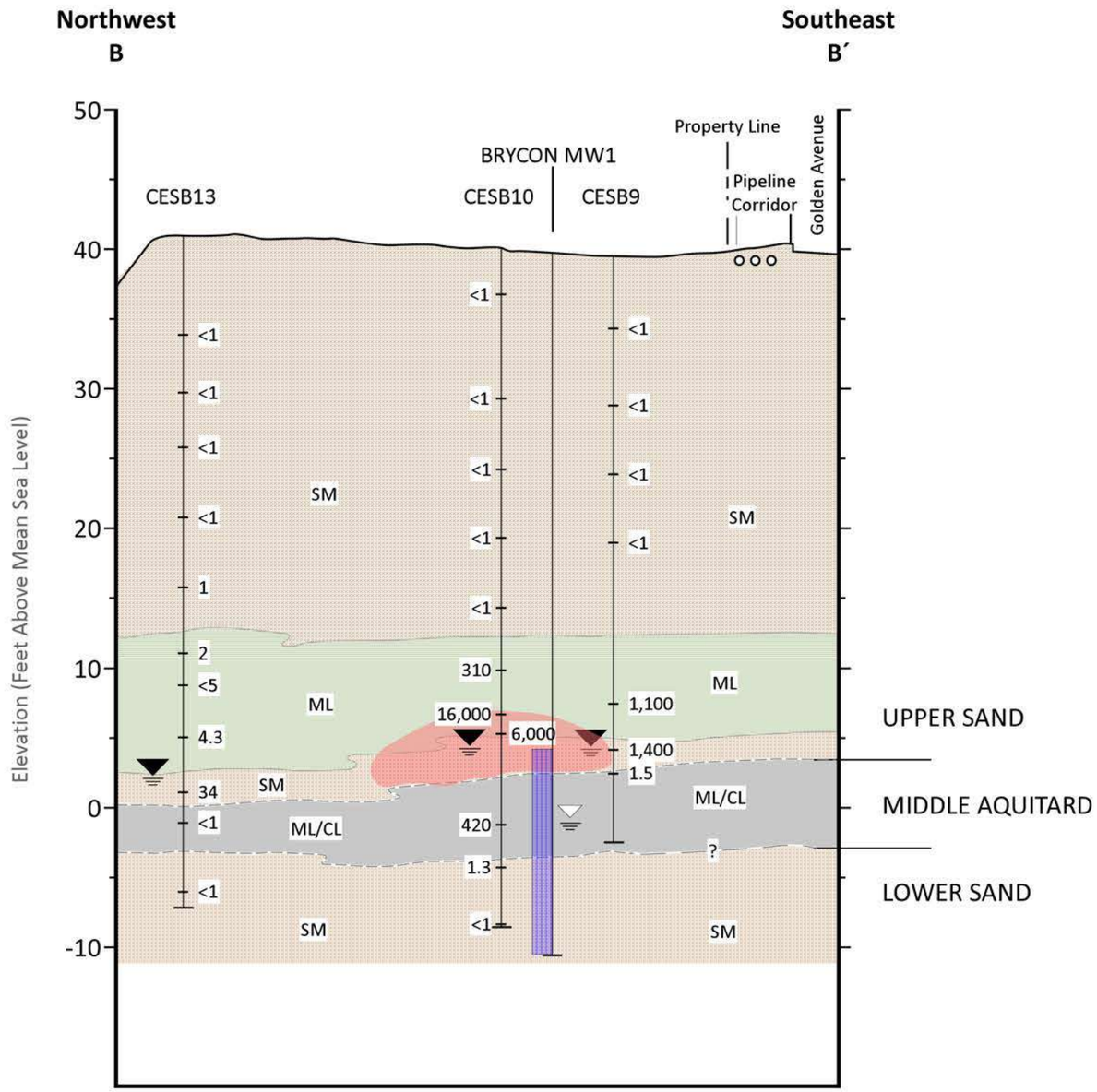
Horizontal Scale: 0 15 30 ft. — 1 inch = 30 feet

Vertical Scale: 0 5 10 ft. — 1 inch = 10 feet

FIGURE 4 - CROSS SECTION A - A'

California Environmental

Client	Oil Operators / Integral	Job #	EP610-3029
Location	712 Baker Street, Long Beach	By	GHB
Date:	July 2019	Checked By	CIB



Cross Section B - B' (3x Vertical Exaggeration)

Horizontal Scale
0 15 30 ft.
1 inch = 30 feet

Vertical Scale
0 5 10 ft.
1 inch = 10 feet

EXPLANATION

CESB11
<1
220
Location and number of CE boring with TPH-g concentration in mg/kg, July 2019

Groundwater level from temporary casing, July 25-29, 2019

Groundwater level from monitor well Brycon MW1, July 25, 2019

Approximate area of LNAPL accumulation and migration pathway

FIGURE 5 - CROSS SECTION B - B'

California Environmental			
Client	Oil Operators / Integral	Job #	EP610-3029
Location	712 Baker Street, Long Beach	By	GHB
Date:	July 2019	Checked By	CIB

APPENDIX I

Data Tables

Table I – Soil VOCs/TPH

Table II – Soil Arsenic/Lead

Table III – Groundwater VOCs/TPH

TABLE I

Laboratory Analysis of Soil - TPH & VOCs

712 West Baker Street,

Long Beach California

Sample ID	Date	EPA Method 8015M (mg/kg)			EPA Method 8260B/5035 (µg/kg)														
		TPH (C6-C12)	TPH (C13-C24)	TPH (C25-C44)	TPPH	GRO	B	T	E	X	MTBE	Naphthalene	Butylbenzene	Isopropylbenzene	Isopropyltoluene	Propylbenzene	Dichloroethane	Trimethylbenzene	All Other Analytes
CESB9-5.5'	6/25/2019	<4.8	<4.8	<4.8	<40	<40	<0.81	<0.81	<0.81	<1.6	<1.6	<8.1	<0.81	<0.81	<0.81	<1.6	<0.81	<1.6	ND
CESB9-10.5'	6/25/2019	<5.1	<5.1	**38.9**	<40	<40	<0.79	<0.79	<0.79	<1.6	<1.6	<7.9	<0.79	<0.79	<0.79	<1.6	<0.79	<1.6	ND
CESB9-15.5'	6/25/2019	<5.2	<5.2	<5.2	<43	<43	<0.86	<0.86	<0.86	<1.7	<1.7	<8.6	<0.86	<0.86	<0.86	<1.7	<0.86	<1.7	ND
CESB9-20.5'	6/25/2019	<4.8	<4.8	<4.8	<47	<47	<0.95	<0.95	<0.95	<1.9	<1.9	<9.5	<0.95	<0.95	<0.95	<1.9	<0.95	<1.9	ND
CESB9-25.5'	6/25/2019	<5.1	<5.1	<5.1	<51	<51	**1.6**	<1.0	<1.0	<2.0	<2.0	<10	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	ND
CESB9-32'	6/25/2019	**704**	**10.1**	<4.8	**1300000**	**1,100,000**	<500	<500	**3,000**	**2,500**	<1000	<5000	**3,020**	**2,000**	**2,600**	**2,600**	<500	**13,000**	ND
CESB9-35.5'	6/25/2019	--	--	--	**1,600,000**	**1,400,000**	<410	<410	**5,900**	**3,420**	<820	<4100	**3,700**	**3,500**	**3,400**	**4,100**	<410	**12,000**	ND
CESB9-37'	6/25/2019	<5.0	<5.0	<5.0	**1700**	**1,500**	**22**	<0.74	**52**	**43.5**	<1.5	**11**	**3.6**	**13**	**3.5**	**12**	<0.74	**41**	ND
CESB10-3'	6/25/2019	<5.2	<5.2	<5.2	<49	<49	<0.98	<0.98	<0.98	<2.0	<2.0	<9.8	<0.98	<0.98	<0.98	<2.0	<0.98	<2.0	ND
CESB10-10.5'	6/25/2019	<4.9	<4.9	**152**	<41	<41	<0.82	<0.82	<0.82	<1.6	<1.6	<8.2	<0.82	<0.82	<0.82	<1.6	<0.82	<1.6	**
CESB10-15.5'	6/25/2019	<5.0	**14.8**	**264**	<39	<39	<0.78	<0.78	<0.78	<1.6	<1.6	<7.8	<0.78	<0.78	<0.78	<1.6	<0.78	<1.6	*
CESB10-20.5'	6/25/2019	<5.0	<5.0	<5.0	<50	<50	<1.0	<1.0	<1.0	<2.0	<2.0	<10	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	ND
CESB10-25.5'	6/25/2019	<4.8	<4.8	<4.8	<46	<46	<0.93	<0.93	<0.93	<1.9	<1.9	<9.3	<0.93	<0.93	<0.93	<1.9	<0.93	<1.9	ND
CESB10-30'	6/25/2019	--	--	--	**360,000**	**310,000**	<140	<140	**1,400**	**4,500**	<270	<1400	**1,260**	**750**	**860**	**1,000**	<140	**8,600**	ND
CESB10-33'	6/25/2019	--	--	--	**19,000,000**	**16,000,000**	<6400	<6400	**54,000**	**198,000**	<13000	<64000	**48,000**	**28,000**	**32,000**	**40,000**	<6400	**339,000**	ND
CESB10-35'	6/25/2019	--	--	--	**7,300,000**	**6,000,000**	<1600	<1600	**33,000**	**99,000**	<3200	**16,000**	**15,500**	**13,000**	**12,000**	**18,000**	<1600	**134,000**	ND
CESB10-41'	6/25/2019	--	--	--	**500,000**	**420,000**	**260**	<150	**1,100**	<290	<290	<1500	**1,100**	**870**	**890**	**990**	<150	**1,400**	ND
CESB10-43'	6/25/2019	--	--	--	**1,600**	**1,300**	<0.75	<0.75	<0.75	<1.5	<1.5	<7.5	**0.77**	**0.76**	<0.75	<1.5	**4.3**	<1.5	ND
CESB10-45'	6/25/2019	--	--	--	**930**	**870**	<0.78	<0.78	<0.78	<1.6	<1.6	<7.8	<0.78	<0.78	<0.78	<1.6	<0.78	<1.6	ND
CESB11-6.5'	6/26/2019	<4.9	<4.9	<4.9	<46	<46	<0.91	<0.91	<0.91	<1.8	<1.8	<9.1	<0.91	<0.91	<0.91	<1.8	<0.91	<1.8	ND
CESB11-11.5'	6/26/2019	<4.9	<4.9	<4.9	<68	<68	<1.4	<1.4	<1.4	<2.7	<2.7	<14	<1.4	<1.4	<1.4	<2.7	<1.4	<2.7	ND
CESB11-15.5'	6/26/2019	<5.0	<5.0	<5.0	<42	<42	<0.84	<0.84	<0.84	<1.7	<1.7	<8.4	<0.84	<0.84	<0.84	<1.7	<0.84	<1.7	ND
CESB11-20.5'	6/26/2019	<5.1	<5.1	<5.1	<48	<48	<0.97	<0.97	<0.97	<1.9	<1.9	<9.7	<0.97	<0.97	<0.97	<1.9	<0.97	<1.9	ND
CESB11-25.5'	6/26/2019	<4.9	<4.9	<4.9	<48	<48	<0.96	<0.96	<0.96	<1.9	<1.9	<9.6	<0.96	<0.96	<0.96	<1.9	<0.96	<1.9	ND
CESB11-30'	6/26/2019	**123**	<5.0	<5.0	**3,200**	**2,800**	**1.3**	<0.88	**17**	**19**	<1.8	<8.8	**1.9**	**5.3**	**4.8**	**6**	<0.88	**54**	ND
CESB11-35.5'	6/26/2019	**46**	<5.1	<5.1	**270,00**	**220,000**	<87	<87	**950**	**770**	<170	<870	**470**	**450**	**360**	**520**	<87	**2,010**	ND
CESB11-40'	6/26/2019	--	--	--	**720**	**690**	**3.9**	<0.81	<0.81	<1.6	<1.6	<8.1	**0.86**	**5.2**	**2.2**	<1.6	<0.81	<1.6	ND
CESB11-53'	6/26/2019	--	--	--	**110**	**100**	<0.79	<0.79	<0.79	<1.6	<1.6	<7.9	<0.79	<0.79	<0.79	<1.6	<0.79	<1.6	ND
CESB12-6'	6/26/2019	<5.0	<5.0	<5.0	<37	<37	<0.74	<0.74	<0.74	<1.5	<1.5	<7.4	<0.74	<0.74	<0.74	<1.5	<0.74	<1.5	ND
CESB12-10'	6/26/2019	<5.1	<5.1	<5.1	<35	<35	<0.70	<0.70	<0.70	<1.4	<1.4	<7.0	<0.70	<0.70	<0.70	<1.4	<0.70	<1.4	ND
CESB12-15'	6/26/2019	<5.0	<5.0	<5.0	<35	<35	<0.71	<0.71	<0.71	<1.4	<1.4	<7.1	<0.71	<0.71	<0.71	<1.4	<0.71	<1.4	ND
CESB12-20'	6/26/2019	<4.9	<4.9	<4.9	**150**	**110**	<0.86	<0.86	<0.86	<1.7	<1.7	<8.6	<0.86	<0.86	<0.86	<1.7	<0.86	<1.7	ND
CESB12-25'	6/26/2019	<5.1	<5.1	<5.1	**1,700**	**1,200**	<1.0	<1.0	<1.0	<2.0	<2.0	<10	**2.5**	<1.0	**1.7**	<2.0	<1.0	<2.0	ND
CESB12-30'	6/26/2019	--	--	--	**19,000**	**13,000**	<0.87	<0.87	**1.8**	<1.7	<1.7	<8.7	**12.5**	**2.6**	**9.3**	**2.9**	<0.87	**5.4**	ND
CESB12-38'	6/26/2019	--	--	--	**4,400,000**	**4,100,000**	**1,900**	**6,500**	**45,000**	**166,000**	<3400	<17000	**21,600**	**17,000**	**15,000**	**22,000**	<1700	**175,000**	ND
CESB12-39.5'	6/26/2019	--	--	--	**880**	**830**	**30**	**1.4**	**0.93**	**2.65**	<1.5	<7.5	**2.28**	**3.4**	**2.8**	<1.5	<0.75	<1.5	ND
CESB12-42.5'	6/26/2019	--	--	--	**1,100**	**1,100**	**67**	**0.83**	**9.4**	<1.4	<1.4	<6.9	**1.63**	**6.3**	**1.7**	**3.2**	<0.69	<1.4	ND
CESB12-46'	6/26/2019	--	--	--	**340**	**310**	<0.78	<0.78	<0.78	<1.6	<1.6	<7.8	<0.78	<0.78	<0.78	<1.6	**5.4**	<1.6	ND
CESB13-7'	6/27/2019	<5.0	<5.0	<5.0	<34	<34	<0.68	<0.68	<0.68	<1.4	<1.4	<6.8	<0.68	<0.68	<0.68	<1.4	<0.68	<1.4	ND
CESB13-11'	6/27/2019	<5.0	<5.0	<5.0	**47**	**42**	<0.70	<0.70	<0.70	<1.4	<1.4	<7.0	<0.70	<0.70	<0.70	<1.4	<0.70	<1.4	ND
CESB13-15'	6/27/2019	<4.9	<4.9	<4.9	**41**	**56**	<0.67	<0.67	<0.67	<1.3	<1.3	<6.7	<0.67	<0.67	<0.67	<1.3	<0.67	<1.3	ND
CESB13-20'	6/27/2019	<4.9	<4.9	<4.9	**150**	**110**	<0.77	<0.77	<0.77	<1.5	<1.5	<7.7	<0.77	<0.77	<0.77	<1.5	<0.77	<1.5	ND
CESB13-25'	6/27/2019	<5.0	<5.0	<5.0	**1,500**	**1,000**	<1.2	<1.2	<1.2	<2.3	<2.3	<12	<1.2	<1.2	<1.2	<2.3	<1.2	<2.3	ND
CESB13-30'	6/27/2019	<4.9	<4.9	<4.9	**3,000**	**2,000**	<0.94	<0.94	<0.94	<1.9	<1.9	<9.4	**1.8**	<0.94	<0.94	<1.9	<0.94	<1.9	ND
CESB13-32'	6/27/2019	<5.0	<5.0	<5.0	**6,400**	<4700	<0.88	<0.88	<0.88	<1.8	<1.8	<8.8	**13.5**	**2.5**	**5.7**	**2**	<0.88	<1.8	ND
CESB13-36'	6/27/2019	<5.0	<5.0	<5.0	**5,900**	**4,300**	**2.1**	<1.2	**1.9**	<2.3	<2.3	<12	**17.6**	**5.2**	**8.7**	**2.6**	<1.2	**6.7**	ND
CESB13-40'	6/27/2019	<5.0	<5.0	<5.0	**39,000**	**34,000**	**15**	**1.5**	**45**	**16.5**	<1.7	**15**	**13.6**	**15**	**11**	**15**	<0.86	**99**	ND
CESB13-42'	6/27/2019	--	--	--	**230**	**220**	**2.6**	<0.74	<0.74	<1.5	<1.5	<7.4	<0.74	<0.74	<0.74	<1.5	**2.1**	<1.5	ND
CESB13-47'	6/27/2019	--	--	--	**220**	**210**	<0.80	<0.80	<0.80	<1.6	<1.6	<8.0	<0.80	<0.80	<0.80	<1.6	**6.2**	<1.6	ND
CESB14-11'	6/27/2019	<5.0	<5.0	<5.0	<37	<37	<0.74	<0.74	<0.74	<1.5	<1.5	<7.4	<0.74	<0.74	<0.74	<1.5	<0.74	<1.5	ND
CESB14-16'	6/27/2019	<4.9	<4.9	<4.9	<38	<38	<0.76	<0.76	<0.76	<1.5	<1.5	<7.6	<0.76	<0.76	<0.76	<1.5	<0.76	<1.5	ND
CESB14-20'	6/27/2019	<5.0	<5.0	<5.0	**93**	**93**	<0.73	<0.73	<0.73	<1.5	<1.5	<7.3	<0.73	<0.73	<0.73	<1.5	<0.73	<1.5	ND
CESB14-26'	6/27/2019	<5.0	<5.0	<5.0	**240**	**150**	<0.80	<0.80	<0.80	<1.6	<1.6	<8.0	<0.80	<0.80	<0.80	<1.6	<0.80	<1.6	ND
CESB14-31'	6/27/2019	<5.0	<5.0	<5.0	**11,000**	**7,300**	<1.2	<1.2	**3.8**	<2.3	<2.3	<12	**26.1**	**8**	**19**	**7.8**	<1.2	<2.3	ND
CESB14-36'	6/27/2019	<5.0	<5.0	<5.0	**56,000**	**43,000**	<43	<43	**150**	<85	<85	<430	**172**	**110**	**74**	**140**	<43	<85	ND
CESB14-42'	6/27/2019	--	--	--	**1,500**	**1,300**	**0.98**	<0.79	<0.79	<1.6	<1.6	<7.9	**3.2**	**0.9**	**1.6**	<1.6	<0.79	<1.6	ND
CESB14-46'	6/27/2019	--	--	--	**270**	**250**	**20**	<0.79	<0.79	<1.6	<1.6	<7.9	**0.83**	<0.79	<1.6	<0.79	<1.6	ND	
CESB14-49.5'	6/27/2019	--	--	--	**78**	**71**	<0.77	<0.77	<0.77	<1.5	<1.5	<7.7	<0.77	<0.77	<0.77	<1.5	**3.8**	<1.5	ND
CESB15-5'	6/28/2019	<5.0	<5.0	<5.0	<42	<42	<0.83	<0.83	<0.83	<1.7	<1.7	<8.3	<0.83	<0.83	<0.83	<1.7	<0.83	<1.7	ND
CESB15-10'	6/28/2019	<5.0	<5.0	<5.0	<47	<47	<0.93	<0.93	<0.93	<1.9	<1.9	<9.3	<0.93	<0.93	<0.93	<1.9	<0.93	<1.9	ND
CESB15-15'	6/28/2019	<4.9	<4.9	<4.9	**84**	**80**	<1.5	<1.5	<1.5	<3.1	<3.1	<15	<1.5	<1.5	<1.5	<3.1	<1.5	<3.1	ND
CESB15-20'	6/28/2019	<5.0	<5.0	<5.0	<49	<49	<0.97	<0.97	<0.97	<1.9	<1.9	<9.7	<0.97	<0.97	<0.97	<1.9	<0.97	<1.9	ND
CESB15-25'	6/28/2019	<5.0	<5.0	<5.0	<51	<51	<1.0	<1.0	<1.0	<2.0	<2.0	<10	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	ND
CESB15-30'	6/28/2019	<5.0	<5.0	<5.0	<51	<51	<1.0	<1.0	<1.0	<2.1	<2.1	<10	<1.0	<1.0	<1.0	<2.1	<1.0	<2.1	ND
CESB15-31.8'	6/28/2019	**14.7**	<5.0	<5.0	**320,000**	**250,000**	<54	<54	**130**	<110	<110	<540	**230**	**190**	**1,000**	**240**	<54	**1,960**	ND
CESB15-37'	6/28/2019	**2,233**	<50	<50	**2,000,000**	**1,700,000**	<1100	<1100	**3,700**	**3,800**	<2100	<11000	**2,100**	**3,500**	**2,600**	**3,900**	<1100	**16,900**	ND
CESB15-40'	6/28/2019	<5.0	<5.0	<5.0	**320**	**320**	**3.2**	<0.82	**1.3**	<1.6	<1.6	**9.5**	<0.82	<0.82	<0.82	<1.6	<0.82	<1.6	ND
CESB15-44'	6/28/2019	<5.0	<5.0	<5.0	**2,700**	**2,500**	**2.1**	<0.81	**1.2**	<1.6	<1.6	<8.1	**1.3**	**5.8**	**2.3**	<1.6	<0.81	**1.8**	ND
DUP 1-B11-53	6/26/2019	--	--	--	**87**	**92**	<0.83	<0.83	<0.83	<1.7	<1.7	<8.3	<0.83	<0.83	<0.83	<1.7	<0.83	<1.7	ND
DUP2-B14-36	6/27/2019	<5.0	<5.0	<5.0	**65,000**	**44,000**	<160	<160	<160	<330	<330	<1600	<160	<160	<160	<330	<160	<330	ND
DUP3-B15-37	6/28/2019	--	--	--	**5,200,000**	**4,700,000**	<1100	<1100	**30,000**	**29,000**	<2300	**17,000**	**13,600**	**16,000**	**11,000**	**18,000**	<1100	**98,000**	ND

TPPH - Total Petroleum Hydrocarbons; GRO - Gas Range Organics (C4-C12); ND = Not Detected

B – Benzene; T – Toluene; E – Ethylbenzene; X – Xylene; MTBE - Methyl tert-Butyl Ether

* - (Bromoform - 19 µg/kg)

TABLE II

Laboratory Analysis of Soil - Metals

712 West Baker Street,

Long Beach, California

Sample I.D.	Date	CAM Metals - EPA 6010B/7000 (mg/kg)	
		Arsenic	Lead
CESB9-5.5'	6/25/2019	**5.57**	**1.97**
CESB9-10.5'	6/25/2019	**8.47**	**3.91**
CESB9-15.5'	6/25/2019	**1.78**	**2.16**
CESB9-20.5'	6/25/2019	**2.04**	**3.79**
CESB9-25.5'	6/25/2019	**3.00**	**1.14**
CESB9-32'	6/25/2019	**5.32**	**2.54**
CESB9-37'	6/25/2019	**11.5**	**3.57**
CESB10-3'	6/25/2019	<0.743	**3.02**
CESB10-10.5'	6/25/2019	<0.739	**2.11**
CESB10-15.5'	6/25/2019	**2.71**	**1.82**
CESB10-20.5'	6/25/2019	**3.33**	**1.20**
CESB10-25.5'	6/25/2019	**0.948**	**0.827**
CESB11-6.5'	6/26/2019	**9.37**	**1.72**
CESB11-11.5'	6/26/2019	**14.1**	**2.06**
CESB11-15.5'	6/26/2019	**17.8**	**1.76**
CESB11-20.5'	6/26/2019	**3.98**	<0.498
CESB11-25.5'	6/26/2019	**1.37**	**0.795**
CESB11-30'	6/26/2019	**5.18**	**1.25**
CESB11-35.5'	6/26/2019	**14.7**	**0.956**
CESB12-6'	6/26/2019	**28.1**	**1.26**
CESB12-10'	6/26/2019	<0.728	<0.485
CESB12-15'	6/26/2019	**2.17**	**1.08**
CESB12-20'	6/26/2019	**2.88**	**0.842**
CESB12-25'	6/26/2019	**2.63**	<0.485
CESB13-7'	6/27/2019	<0.735	**1.96**
CESB13-11'	6/27/2019	<0.718	**1.01**
CESB13-15'	6/27/2019	<0.735	**1.50**
CESB13-20'	6/27/2019	<0.750	**1.08**
CESB13-25'	6/27/2019	**12.7**	<0.498
CESB13-30'	6/27/2019	**1.48**	<0.498
CESB13-32'	6/27/2019	<0.750	**0.525**
CESB13-36'	6/27/2019	<0.746	**0.853**
CESB13-40'	6/27/2019	<0.743	**0.516**
CESB14-11'	6/27/2019	<0.743	**1.03**
CESB14-16'	6/27/2019	**2.99**	**3.29**
CESB14-20'	6/27/2019	<0.743	**1.43**
CESB14-26'	6/27/2019	**6.21**	**1.31**
CESB14-31'	6/27/2019	**5.45**	**0.694**
CESB14-36'	6/27/2019	**0.835**	**0.818**
CESB15-5'	6/28/2019	**2.12**	**1.68**
CESB15-10'	6/28/2019	**2.29**	**1.94**
CESB15-15'	6/28/2019	**4.40**	**1.70**
CESB15-20'	6/28/2019	<0.765	**4.23**
CESB15-25'	6/28/2019	**3.15**	**0.998**
CESB15-30'	6/28/2019	**1.32**	**4.61**
CESB15-31.8'	6/28/2019	**13.3**	**7.11**
CESB15-37'	6/28/2019	**4.47**	**1.74**
CESB15-40'	6/28/2019	**24.2**	**3.8**
CESB15-44'	6/28/2019	**3.45**	**2.13**
CE DUP 2	6/27/2019	<0.773	<0.515

* - Arsenic concentration compared to background levels - in SoCal 3-15 mg/kg

TABLE III

Laboratory Analysis of Groundwater - TPH & VOCs

712 West Baker Street,

Long Beach California

Sample ID	Date	EPA Method 8260B/5030C (µg/L)													
		TPPH	GRO	B	T	E	X	MTBE	Naphthalene	Butylbenzene	Isopropylbenzene	Isopropyltoluene	Propylbenzene	Trimethylbezene	All Other Analytes
CESB9-GW	6/25/2019	**16,000**	**15,000**	**200**	**13**	**720**	**450**	<5.0	**84**	**40**	**150**	**45**	**140**	**402**	ND
	6/27/2019	**15,000**	**14,000**	**190**	**13**	**610**	**361**	<5.0	**60**	**37**	**130**	**42**	**130**	**357**	*
CESB10-GW	6/27/2019	**92,000**	**79,000**	**390**	**120**	**1,500**	**5,000**	<50	**830**	**81**	**290**	**220**	**370**	**3,480**	ND
CESB11-GW	6/27/2019	**8,900**	**8,600**	**93**	**17**	**520**	**468**	<1.0	**91**	**16.6**	**77**	**17**	**71**	**358**	ND
CESB12-GW	6/28/2019	**38,000**	**36,000**	**520**	**430**	**1,200**	**4,200**	<10	**260**	**36**	**220**	**97**	**240**	**1,770**	ND
CESB13-GW	6/28/2019	**11,000**	**10,000**	**220**	**26**	**530**	**199**	<5.0	**130**	**8.7**	**86**	**21**	**73**	**520**	ND
CESB14-GW	6/28/2019	**7,200**	**6,500**	**94**	**6.5**	**240**	**49**	<2.0	**91**	**29**	**94**	**19**	**84**	**5.9**	**
CESB15-GW	6/28/2019	**44,000**	**41,000**	**7.2**	<10	**610**	**592**	<10	**430**	**124**	**300**	**110**	**300**	**1,380**	ND

TPPH - Total Petroleum Hydrocarbons; GRO - Total Gas Range Organics; ND = Not Detected

B – Benzene; T – Toluene; E – Ethylbenzene; X – Xylene; MTBE - Methyl tert-Butyl Ether

* - (Tert-Butyl Alcohol (TBA) - 54 µg/L)

** - (1,2-Dichloroethane - 12 µg/L)

APPENDIX II

Geophysical Report

GEOPHYSICAL EVALUATION
OOI
LONG BEACH, CALIFORNIA

PREPARED FOR:
California Environmental - Engineering
30423 Canwood Street, Suite 208
Agoura Hills, CA 91301

PREPARED BY:
Southwest Geophysics, LLC
6280 Riverdale Street, Suite 200
San Diego, CA 92120

April 24, 2019
Project No. 119191

SOUTHWEST GEOPHYSICS LLC
YOUR SUBSURFACE SOLUTION

April 24, 2019
Project No. 119191

Mr. Charles I. Buckley
California Environmental - Engineering
30423 Canwood Street, Suite 208
Agoura Hills, CA 91301

Subject: Geophysical Evaluation
OOI
Long Beach, California

Dear Mr. Buckley:

In accordance with your authorization, we are pleased to submit this report pertaining to our geophysical evaluation for the OOI project in Long Beach, California. The purpose of our evaluation was to assess the presence of buried underground storage tanks (USTs) and/or backfilled excavations associated with UST removal. In addition, the presence of detectable underground utilities was evaluated in the study area. Our services were conducted on April 8, 2019. This report presents the survey methodology, equipment used, analysis, and results from our study.

We appreciate the opportunity to be of service on this project. Should you have any questions please contact the undersigned at your convenience.

Sincerely,
SOUTHWEST GEOPHYSICS, LLC

Eric Carlson
Project Geologist/Geophysicist

Hans van de Vrugt, C.E.G., P.Gp.
Principal Geologist/Geophysicist

ECA/ERC/HV/hv

Distribution: Addressee (electronic)

REGISTERED GEOPHYSICIST
Hans van de Vrugt
No. 1012
Exp. 2/29/20
STATE OF CALIFORNIA

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Figure 1 – Site Location Map
Figure 2 – Site Data Map
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1. INTRODUCTION

In accordance with your authorization, we are pleased to submit this report pertaining to our geophysical evaluation for the OOI project in Long Beach, California (Figure 1). The purpose of our evaluation was to assess the presence of buried underground storage tanks (USTs) and/or backfilled excavations associated with UST removal. In addition, the presence of detectable underground utilities was evaluated in the study area. Our services were conducted on April 8, 2019. This report presents the survey methodology, equipment used, analysis, and results from our study.

2. SCOPE OF SERVICES

Our scope of services included:

- Performance of a geophysical survey at the subject site. Our survey included the use of a Geonics model EM61 MK2 time domain instrument, GSSI SIR 3000 Ground Penetrating Radar (GPR) unit using a 400 MHz transducer, Schonstedt GA-52 magnetic gradiometer, Fisher M-Scope TW-6 pipe and cable locator, and RD8000 line tracer.
- Site reconnaissance including field mapping of surface structures at and near the survey area.
- Compilation and analysis of the data collected.
- Preparation of this report presenting our findings, conclusions and recommendations.

3. SITE DESCRIPTION

The project site is located at 712 Baker Street in Long Beach, California (Figure 1). The study area, which was defined by you, lies within a vacant lot, east of the Los Angeles River and west of Golden Avenue in Long Beach, California. An old draining pit lies to the west and an old concrete wall and slab are in the southwest corner of the study area. Based on our discussions with you, it is our understanding that USTs may have been utilized onsite. Details regarding their location and possible removal were reportedly not available.

4. GEOPHYSICAL INSTRUMENTATION AND APPLICATIONS

Our evaluation included the use of a Geonics model EM61 MK2, GSSI SIR 3000 GPR, Schonstedt, model GA-52C magnetic gradiometer, Fisher M-Scope TW-6 pipe and cable locator,

and RD8000 line tracer. These instruments provide real-time results and facilitate the delineation of subsurface features.

The EM61 instrument is a high resolution, electromagnetic (EM) time-domain device for detecting buried conductive objects. It consists of a powerful transmitter that generates a pulsed primary magnetic field when its coils are energized, which induces eddy currents in nearby conductive objects. The decay of the eddy currents, following the input pulse, is measured by the coils, which in turn serve as receiver coils. The decay rate is measured for two coils, mounted concentrically, one above the other. By making the measurements at a relatively long time interval (measured in milliseconds) after termination of the primary pulse, the response is nearly independent of the electrical conductivity of the ground. Thus, the instrument is a super-sensitive metal detector. Due to its unique coil arrangement, the response curve is a single well-defined positive peak directly over a buried conductive object. This facilitates quick and accurate location of targets. Conductive objects to a depth of approximately 11 feet generally can be detected.

The GPR instrument beams energy into the ground from its transducer/antenna, in the form of electromagnetic waves. A portion of this energy is reflected back to the antenna at boundaries in the subsurface across which there are an electrical contrast. The recorder continuously makes a record of the reflected energy as the antenna is moved across the ground surface. The greater the electrical contrast, the higher the amplitude of the returned energy. The EM wave travels at a velocity unique to the material properties of the ground being studied, and when these velocities are known, or closely estimated from ground conductivity values and other information, two-way travel times can be converted to depth. Penetration into the ground and resolution of the GPR images produced are a function of ground electrical conductivity and dielectric constant. Images tend to be graphic, even at considerable depth, in sandy soils, but penetration and resolution may be limited in more conductive clayey moist ground.

The magnetic gradiometer has two fluxgate magnetic fixed sensors that are passed closely to and over the ground. When not in close proximity to a magnetic object, that is, only in the earth's field, the instrument emits an audible signal at a low frequency. When the instrument passes over

buried iron or steel objects (so that the field is significantly different at the two sensors) the frequency of the emitted sound increases. Frequency is a function of the gradient between the two sensors.

The M-Scope TW-6 device energizes the ground by producing an alternating primary magnetic field with alternating current (AC) in the transmitting coil. If conducting materials (including soils) are within the area of influence of the primary field, AC eddy currents are induced to flow in the conductors. A receiving coil senses the secondary magnetic field produced by these eddy currents, and outputs an audio response. The strength of the secondary field is a function of the conductivity of the object, its size, and its depth and position relative to the instrument's two coils. Conductive objects to a depth of approximately 10 feet are sensed. Also, the device is somewhat focused, that is, it is more sensitive to conductors below (and above) the instrument, than to conductors off to the side.

Where risers are present, the RD8000 utility locator transmitter can be connected to the object, and a current is impressed on the conductor pipe or cable. The receiver unit is tuned to this same frequency, and it is used to trace the pipe's surface projection away from the riser. The transmitter and receiver can also be used in a non-connect (induction) mode, whereby the transmitter is positioned on the ground and an electromagnetic signal is emitted. In the presence of buried metal pipes and wires, a discrete signal will be induced on the conductor which can be sensed by the receiver. In addition, the instrument may be used in the passive mode, whereby radio and 60 Hz electromagnetic signals produced by communication and live electric lines are detected.

5. SURVEY METHODOLOGY

In order to facilitate the collection of EM61 data a Trimble Pro XRS Global Positioning System (GPS) was used for spatial control. Measurements were made at 0.5-second intervals along traverses spaced roughly 3 to 5 feet apart across accessible portions of the study area. GPR traverses were conducted along roughly north-south and east-west profiles spaced approximately 5 feet apart. GPR traverses were also performed along random profiles across and near detected features. Traverses with the M-Scope and gradiometer were conducted along traverses spaced

approximately 5 feet apart. The line tracer was used in both passive, direct connect and inductive modes to delineate the presence of underground utilities. The recorded EM61 data were downloaded to a portable computer in the field for preliminary analysis and significant anomalies as well as detectable underground utilities were marked on the ground surface with paint, mapped, and reported to you.

6. RESULTS, CONCLUSIONS AND RECOMMENDATIONS

As previously discussed, the purpose of our evaluation was to assess the presence of buried underground storage tanks (USTs) and/or backfilled excavations associated with UST removal in the study area. The results of our study revealed the presence of six relatively significant anomalies, which are labelled A through F on Figure 2. In addition, a buried reinforce concrete pad extending outside the block wall in the southwestern portion of the study area was observed, and several unidentified lines and a sewer line were detected. Some of the unidentified lines could represent buried foundations/footings. The following is a description of Anomalies A through F:

Anomaly A: This feature is located to the north of the concrete pad. It produced a relatively high EM and magnetic response. Traverses with GPR across this feature were inconclusive. The specific nature of this feature is unknown; however, it should be considered a possible candidate UST due to its size and EM/magnetic response.

Anomaly B: Anomaly B is located to the west of the concrete pad. It produced a relatively small EM and magnetic response. GPR traverses conducted across the feature revealed areas of soil disturbance and, therefore, could be a possible backfilled excavation containing small or deteriorated metal debris.

Anomalies C, D: Anomalies C and D are located adjacent to the concrete pad. Both anomalies produced relatively high EM and magnetic responses separate from that of the reinforced concrete. GPR traverses conducted across these features were inconclusive. Due to the size and instrument response of these features, they could potentially be related to USTs.

Anomaly E: This feature is located south of the sewer manhole that is in the northern portion of the study area. It produced a relatively high EM and magnetic response. GPR traverses conducted across this feature were inconclusive. The specific cause of this feature is unknown, but it may be related to a small UST.

Anomaly F: This feature is located in the southeastern portion of the study area just south of two intersecting unidentified lines. It produced a relatively high EM and magnetic re-

sponse. GPR traverses conducted across this feature were inconclusive. The specific cause of this feature is unknown. It should be noted that the adjacent unidentified lines could be buried foundations and Anomaly F may be related to a former foundation. However, it could also be related to a UST.

Several additional relatively small EM anomalies were detected but based on their size and response they are likely related to small pieces of buried metal debris. Other high EM responses encountered appear to be related to building elements, posts, underground lines and metal fencing.

In order to further assess the features described above, we recommend that more direct methods be used. Such methods may include the excavation of exploratory trenches/test pits or borings.

Our survey utilized industry standard equipment (i.e., GPR, electromagnetic, and magnetic instruments) and was conducted in general accordance with current practice. It should be noted, however, that the presence of existing structures and surface objects (i.e., metal fencing, posts, reinforced concrete, etc.) potentially limited the survey. Where obstructions were present subsurface data could not be collected. Moreover, EM/magnetic responses produced by metal surface objects and underground lines can potentially obscure subsurface features. Figures 2 and 3 present the general site conditions and some of the obstructions encountered. Radar penetration at the site was on the order of 2 to 3 feet below the ground surface; therefore, objects below this depth would not have been detected with GPR.

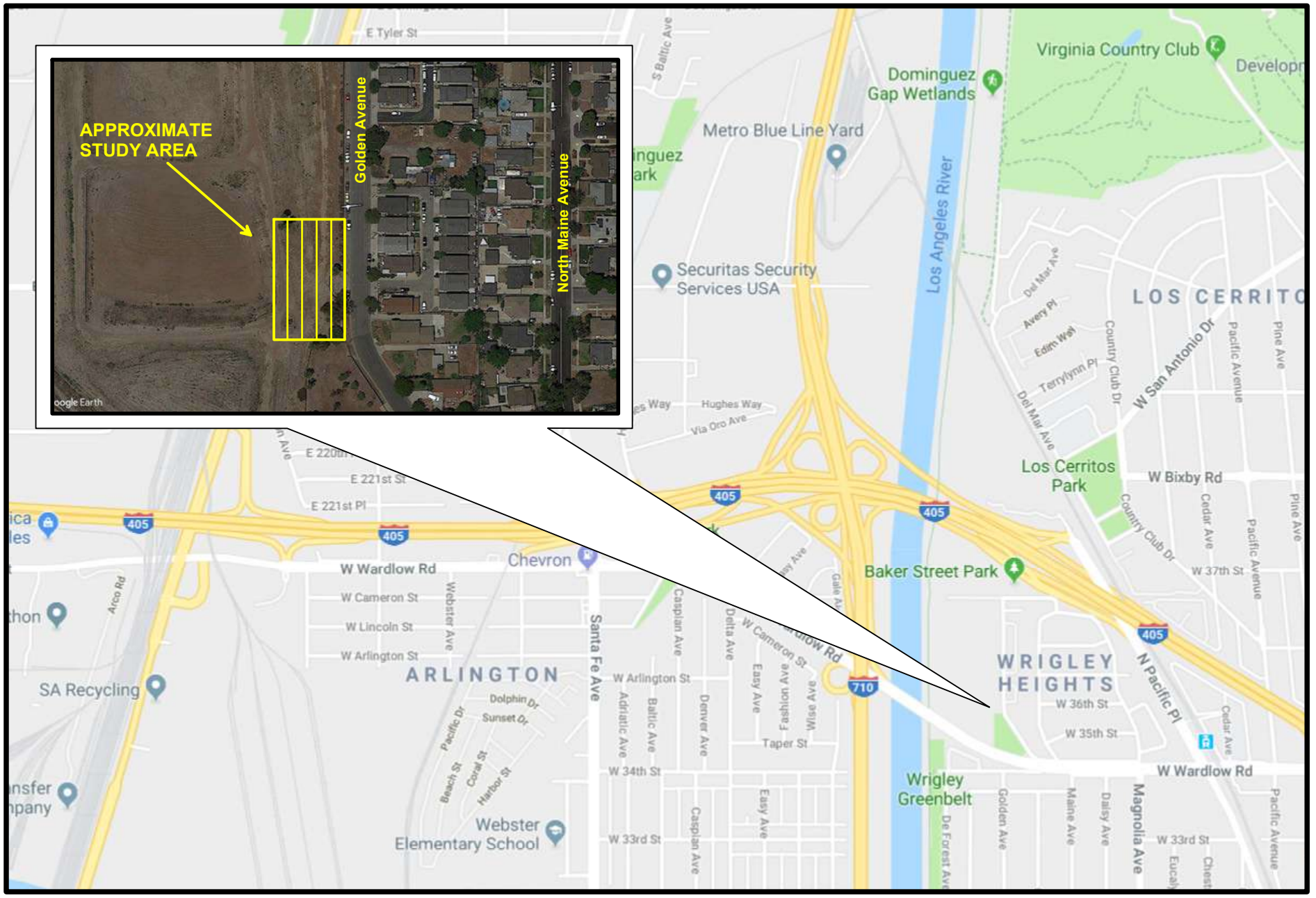
7. LIMITATIONS

The field evaluation and geophysical analyses presented in this report have been conducted in general accordance with current practice and the standard of care exercised by consultants performing similar tasks in the project area. No warranty, express or implied, is made regarding the conclusions and opinions presented in this report. There is no evaluation detailed enough to reveal every subsurface condition. Variations may exist and conditions not observed or described in this report may be present. Uncertainties relative to subsurface conditions can be reduced

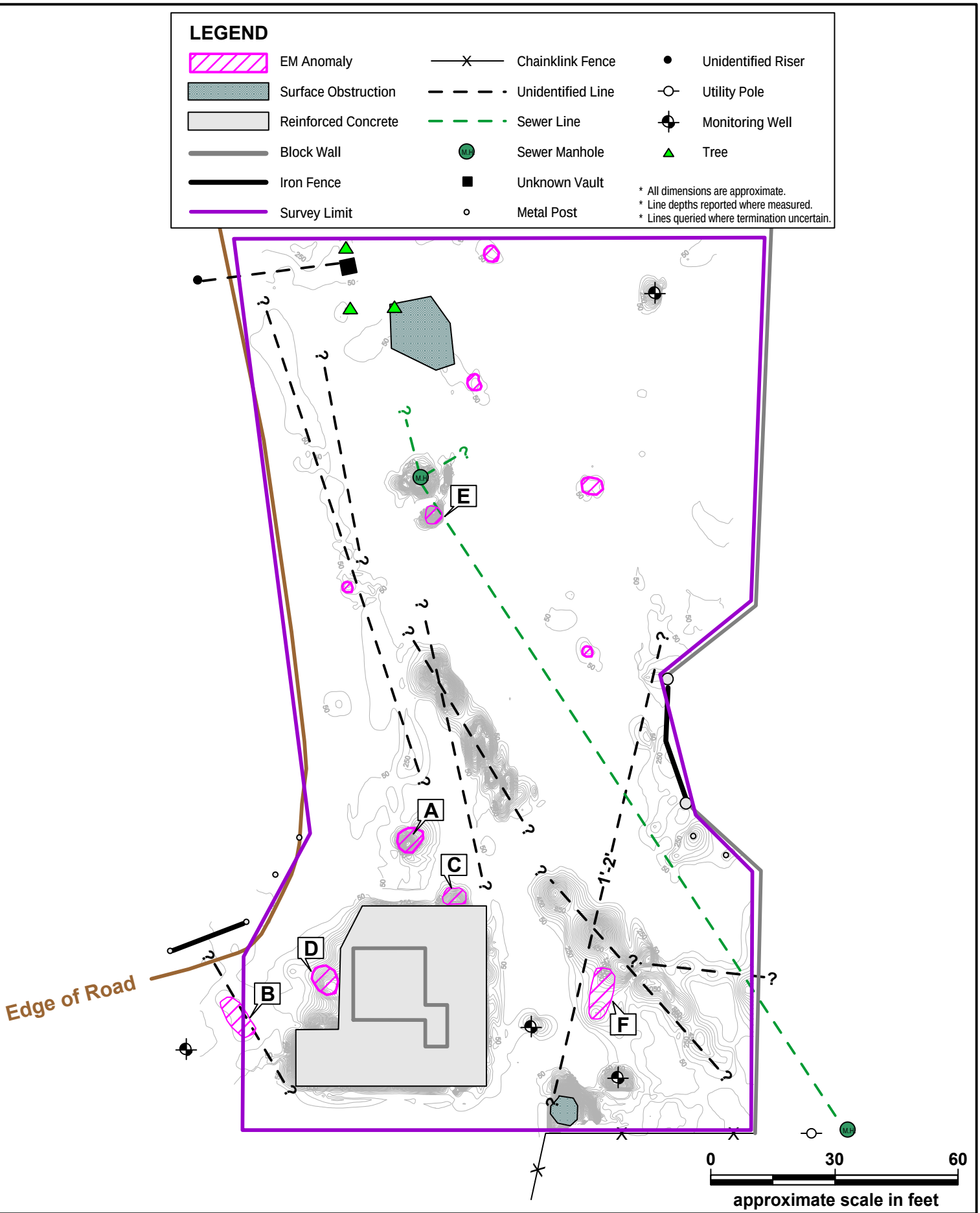
through additional subsurface surveying and/or exploration. Additional subsurface surveying can be performed upon request.

Please also note that our evaluation was limited to the detection of USTs and/or backfilled tank excavations. “USA” or “Dig Alert” should also be contacted prior to conducting subsurface exploration activities. In addition, we recommend that available utility plans/drawings of the project site be reviewed as appropriate.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Southwest Geophysics, LLC should be contacted if the reader requires additional information or has questions regarding the content, interpretations presented, or completeness of this document. This report is intended exclusively for use by the client. Any use or reuse of this report by parties other than the client is undertaken at said parties’ sole risk.



SITE LOCATION MAP	N	OOI Long Beach, California	SOUTHWEST GEOPHYSICS
		Project No.: 119191 | Date: 04/19	Figure 1



SITE DATA MAP

EM61 Data CI= 100 mVolts

N

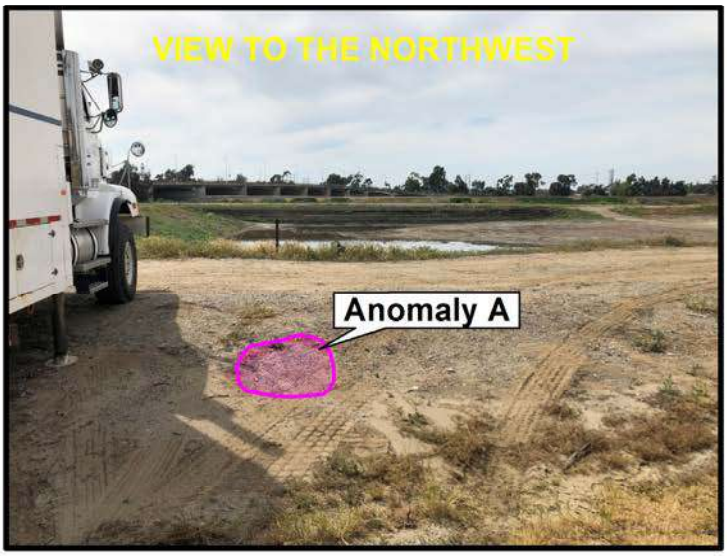
OOI
Long Beach, California

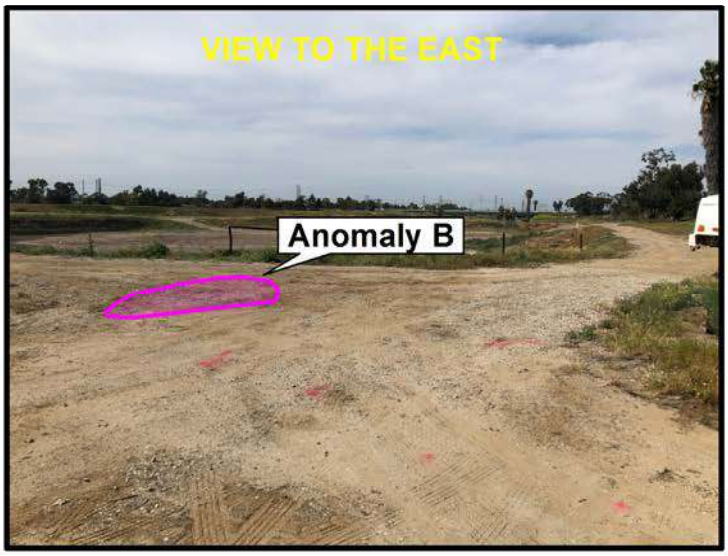
Project No.: 119191

Date: 04/19

SOUTHWEST GEOPHYSICS

Figure 2





SITE PHOTOGRAPHS

OOI
Long Beach, California

Project No.: 119191 | Date: 04/19

SOUTHWEST GEOPHYSICS

Figure 3

APPENDIX III

CPT/UVOST Report

4/11/19

California Environmental
Attn: Charles Buckley

Subject: CPT Site Investigation
712 North Baker Street
Long Beach, California
GREGG Project Number: D1190544SH

Dear Mr. Buckley:

The following report presents the results of GREGG Drilling Cone Penetration Test investigation for the above referenced site. The following testing services were performed:

1	Cone Penetration Tests	(CPTU)	☒
2	Pore Pressure Dissipation Tests	(PPD)	☒
3	Seismic Cone Penetration Tests	(SCPTU)	☐
4	UVOST Laser Induced Fluorescence	(UVOST)	☒
5	Groundwater Sampling	(GWS)	☐
6	Soil Sampling	(SS)	☐
7	Vapor Sampling	(VS)	☐
8	Pressuremeter Testing	(PMT)	☐
9	Vane Shear Testing	(VST)	☐
10	Dilatometer Testing	(DMT)	☐

A list of reference papers providing additional background on the specific tests conducted is provided in the bibliography following the text of the report. If you would like a copy of any of these publications or should you have any questions or comments regarding the contents of this report, please do not hesitate to contact our office at (925) 313-5800.

Sincerely,
GREGG Drilling & Testing, LLC.

Frank Stolfi
HRSC Division Manager, Gregg Drilling & Testing, LLC.

Cone Penetration Test Sounding Summary

-Table 1-

CPT Sounding Identification	Date	Termination Depth (feet)	Depth of Groundwater Samples (feet)	Depth of Soil Samples (feet)	Depth of Pore Pressure Dissipation Tests (feet)
CPT-01	4/8/2019	55.12	-	-	55.1
CPT-02	4/8/2019	55.12	-	-	54.2
CPT-03	4/8/2019	57.74	-	-	-
CPT-04	4/8/2019	62.99	-	-	-
CPT-05	4/8/2019	55.28	-	-	-
CPT-06	4/9/2019	52.82	-	-	-
CPT-07	4/9/2019	21.33	-	-	-
CPT-08	4/9/2019	52.82	-	-	-

Bibliography

Lunne, T., Robertson, P.K. and Powell, J.J.M., "Cone Penetration Testing in Geotechnical Practice" E & FN Spon. ISBN 0 419 23750, 1997

Roberston, P.K., "Soil Classification using the Cone Penetration Test", Canadian Geotechnical Journal, Vol. 27, 1990 pp. 151-158.

Mayne, P.W., "NHI (2002) Manual on Subsurface Investigations: Geotechnical Site Characterization", available through www.ce.gatech.edu/~geosys/Faculty/Mayne/papers/index.html, Section 5.3, pp. 107-112.

Robertson, P.K., R.G. Campanella, D. Gillespie and A. Rice, "Seismic CPT to Measure In-Situ Shear Wave Velocity", Journal of Geotechnical Engineering ASCE, Vol. 112, No. 8, 1986 pp. 791-803.

Robertson, P.K., Sully, J., Woeller, D.J., Lunne, T., Powell, J.J.M., and Gillespie, D.J., "Guidelines for Estimating Consolidation Parameters in Soils from Piezocone Tests", Canadian Geotechnical Journal, Vol. 29, No. 4, August 1992, pp. 539-550.

Robertson, P.K., T. Lunne and J.J.M. Powell, "Geo-Environmental Application of Penetration Testing", Geotechnical Site Characterization, Robertson & Mayne (editors), 1998 Balkema, Rotterdam, ISBN 90 5410 939 4 pp 35-47.

Campanella, R.G. and I. Weemees, "Development and Use of An Electrical Resistivity Cone for Groundwater Contamination Studies", Canadian Geotechnical Journal, Vol. 27 No. 5, 1990 pp. 557-567.

DeGroot, D.J. and A.J. Lutenegger, "Reliability of Soil Gas Sampling and Characterization Techniques", International Site Characterization Conference - Atlanta, 1998.

Woeller, D.J., P.K. Robertson, T.J. Boyd and Dave Thomas, "Detection of Polyaromatic Hydrocarbon Contaminants Using the UVIF-CPT", 53rd Canadian Geotechnical Conference Montreal, QC October pp. 733-739, 2000.

Zemo, D.A., T.A. Delfino, J.D. Gallinatti, V.A. Baker and L.R. Hilpert, "Field Comparison of Analytical Results from Discrete-Depth Groundwater Samplers" BAT EnviroProbe and QED HydroPunch, Sixth national Outdoor Action Conference, Las Vegas, Nevada Proceedings, 1992, pp 299-312.

Copies of ASTM Standards are available through www.astm.org

Cone Penetration Testing Procedure (CPT)

Gregg Drilling carries out all Cone Penetration Tests (CPT) using an integrated electronic cone system, *Figure CPT*.

The cone takes measurements of tip resistance (q_c), sleeve resistance (f_s), and penetration pore water pressure (u_2). Measurements are taken at either 2.5 or 5 cm intervals during penetration to provide a nearly continuous profile. CPT data reduction and basic interpretation is performed in real time facilitating on-site decision making. The CPT parameters are stored electronically for further analysis and reference. All CPT soundings are performed in accordance with revised ASTM standards (D 5778-12).

The 5mm thick porous plastic filter element is located directly behind the cone tip in the u_2 location. A new saturated filter element is used on each sounding to measure both penetration pore pressures as well as measurements during a dissipation test (*PPDT*). Prior to each test, the filter element is fully saturated with oil under vacuum pressure to improve accuracy.

When the sounding is completed, the test hole is backfilled according to client specifications. If grouting is used, the procedure generally consists of pushing a hollow tremie pipe with a "knock out" plug to the termination depth of the CPT hole. Grout is then pumped under pressure as the tremie pipe is pulled from the hole. Disruption or further contamination to the site is therefore minimized.

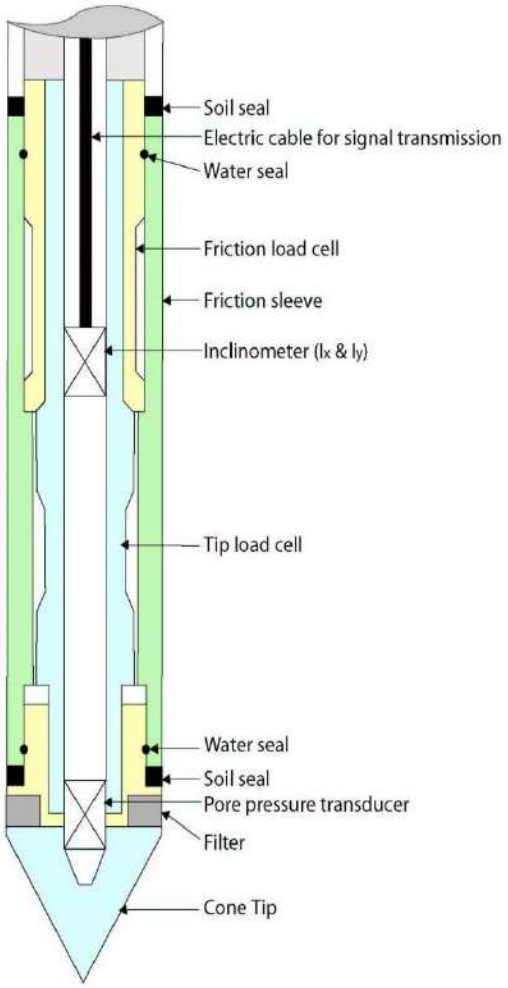


Figure CPT

Gregg 15cm^2 Standard Cone Specifications

Dimensions	
Cone base area	15 cm^2
Sleeve surface area	225 cm^2
Cone net area ratio	0.80
Specifications	
Cone load cell	
Full scale range	180 kN (20 tons)
Overload capacity	150%
Full scale tip stress	120 MPa (1,200 tsf)
Repeatability	120 kPa (1.2 tsf)
Sleeve load cell	
Full scale range	31 kN (3.5 tons)
Overload capacity	150%
Full scale sleeve stress	1,400 kPa (15 tsf)
Repeatability	1.4 kPa (0.015 tsf)
Pore pressure transducer	
Full scale range	7,000 kPa (1,000 psi)
Overload capacity	150%
Repeatability	7 kPa (1 psi)

Note: The repeatability on site will depend somewhat on ground conditions, abrasion, maintenance and zero load stability.

Cone Penetration Test Data & Interpretation

The Cone Penetration Test (CPT) data collected are presented in graphical and electronic form in the report. The plots include interpreted Soil Behavior Type (SBT) based on the charts described by Robertson (2009 & 2010). Typical plots display SBT based on the non-normalized charts of Robertson (2010). For CPT soundings deeper than 30m, we recommend the use of the normalized charts of Robertson (2009) which can be displayed as SBTn, upon request. The report can also include spreadsheet output of computer calculations of basic interpretation in terms of SBT and SBTn and various geotechnical parameters using current published correlations based on the comprehensive review by Lunne, Robertson and Powell (1997), as well as recent updates by Robertson and Cabal (Guide to Cone Penetration Testing, 2015). The interpretations are presented only as a guide for geotechnical use and should be carefully reviewed. Gregg Drilling does not warranty the correctness or the applicability of any of the geotechnical parameters interpreted by the software and does not assume any liability for use of the results in any design or review. The user should be fully aware of the techniques and limitations of any method used in the software. Some interpretation methods require input of the groundwater level to calculate vertical effective stress. An estimate of the in-situ groundwater level has been made based on field observations and/or CPT results, but should be verified by the user.

A summary of locations and depths is available in Table 1. Note that all penetration depths referenced in the data are with respect to the existing ground surface. Note that it is not always possible to clearly identify a soil type based solely on q_t, f_s, and u_2. In these situations, experience, judgment, and an assessment of the pore pressure dissipation data should be used to infer the correct soil behavior type.

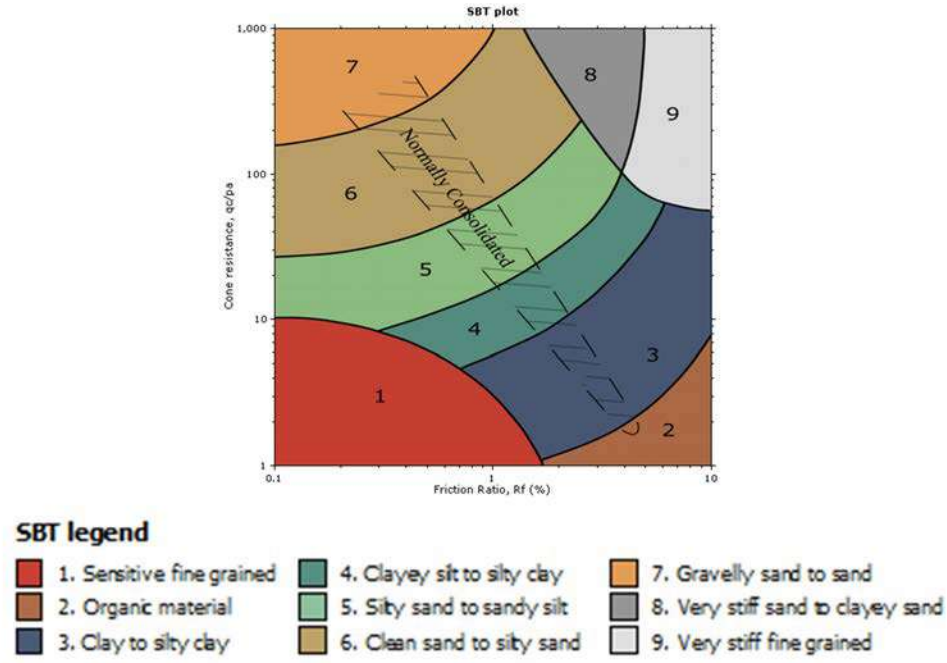


Figure SBT (After Robertson, 2010) – Note: Colors may vary slightly compared to plots

Cone Penetration Test (CPT) Interpretation

Gregg uses a commercial CPT interpretation and plotting software (CPeT-IT https://geologismiki.gr/products/cpet-it/). The software takes the CPT data and performs basic interpretation in terms of soil behavior type (SBT) and various geotechnical parameters using current published empirical correlations based on the comprehensive review by Lunne, Robertson and Powell (1997) and updated by Robertson and Cabal (2015). The interpretation is presented in tabular format. The interpretations are presented only as a guide for geotechnical use and should be carefully reviewed. Gregg does not warranty the correctness or the applicability of any of the geotechnical parameters interpreted by the software and does not assume any liability for any use of the results in any design or review. The user should be fully aware of the techniques and limitations of any method used in the software.

The following provides a summary of the methods used for the interpretation. Many of the empirical correlations to estimate geotechnical parameters have constants that have a range of values depending on soil type, geologic origin and other factors. The software uses 'default' values that have been selected to provide, in general, conservatively low estimates of the various geotechnical parameter.

Presented below is a list of formulas used for the estimation of various soil properties. The formulas are presented in SI unit system and assume that all components are expressed in the same units.

:: Unit Weight, g (kN/m³) ::

$$g = g_w \cdot \left(0.27 \cdot \log(R_f) + 0.36 \cdot \log\left(\frac{q_t}{p_a}\right) + 1.236 \right)$$

where g_w = water unit weight

:: Permeability, k (m/s) ::

$I_c < 3.27$ and $I_c > 1.00$ then $k = 10^{0.952 - 3.04 \cdot I_c}$

$I_c \leq 4.00$ and $I_c > 3.27$ then $k = 10^{-4.52 - 1.37 \cdot I_c}$

:: N_{SPT} (blows per 30 cm) ::

$$N_{60} = \left(\frac{q_c}{P_a}\right) \cdot \frac{1}{10^{1.1268 - 0.2817 \cdot I_c}}$$

$$N_{1(60)} = Q_{tn} \cdot \frac{1}{10^{1.1268 - 0.2817 \cdot I_c}}$$

:: Young's Modulus, Es (MPa) ::

$$(q_t - \sigma_v) \cdot 0.015 \cdot 10^{0.55 I_c + 1.68}$$

(applicable only to $I_c < I_{c\_cutoff}$)

:: Relative Density, Dr (%) ::

$$100 \cdot \sqrt{\frac{Q_{tn}}{k_{DR}}}$$ (applicable only to SBT_n: 5, 6, 7 and 8 or $I_c < I_{c\_cutoff}$)

:: State Parameter, ψ ::

$$\psi = 0.56 - 0.33 \cdot \log(Q_{tn,cs})$$

:: Drained Friction Angle, φ (°) ::

$$\varphi = \varphi'_{cv} + 15.94 \cdot \log(Q_{tn,cs}) - 26.88$$

(applicable only to SBT_n: 5, 6, 7 and 8 or $I_c < I_{c\_cutoff}$)

:: 1-D constrained modulus, M (MPa) ::

If $I_c > 2.20$
$\alpha = 14$ for $Q_{tn} > 14$
$\alpha = Q_{tn}$ for $Q_{tn} \leq 14$
$M_{CPT} = \alpha \cdot (q_t - \sigma_v)$

If $I_c \geq 2.20$

$$M_{CPT} = 0.03 \cdot (q_t - \sigma_v) \cdot 10^{0.55 \cdot I_c + 1.68}$$

:: Small strain shear Modulus, Go (MPa) ::

$$G_0 = (q_t - \sigma_v) \cdot 0.0188 \cdot 10^{0.55 I_c + 1.68}$$

:: Shear Wave Velocity, Vs (m/s) ::

$$V_s = \left(\frac{G_0}{\rho}\right)^{0.50}$$

:: Undrained peak shear strength, Su (kPa) ::

$N_{kt} = 10.50 + 7 \cdot \log(F_r)$ or user defined

$$S_u = \frac{(q_t - \sigma_v)}{N_{kt}}$$

(applicable only to SBT_n: 1, 2, 3, 4 and 9 or $I_c > I_{c\_cutoff}$)

:: Remolded undrained shear strength, Su(rem) (kPa) ::

$S_{u(rem)} = f_s$ (applicable only to SBT_n: 1, 2, 3, 4 and 9 or $I_c > I_{c\_cutoff}$)

:: Overconsolidation Ratio, OCR ::

$$k_{OCR} = \left[\frac{Q_{tn}^{0.20}}{0.25 \cdot (10.50 + 7 \cdot \log(F_r))} \right]^{1.25}$$ or user defined

$OCR = k_{OCR} \cdot Q_{tn}$

(applicable only to SBT_n: 1, 2, 3, 4 and 9 or $I_c > I_{c\_cutoff}$)

:: In situ Stress Ratio, Ko ::

$$K_o = (1 - \sin\varphi') \cdot OCR^{\sin\varphi'}$$

(applicable only to SBT_n: 1, 2, 3, 4 and 9 or $I_c > I_{c\_cutoff}$)

:: Soil Sensitivity, S_t ::

$$S_t = \frac{N_S}{F_r}$$

(applicable only to SBT_n: 1, 2, 3, 4 and 9 or $I_c > I_{c\_cutoff}$)

:: Peak Friction Angle, φ' (°) ::

$$\varphi' = 29.5° \cdot B_q^{0.121} \cdot (0.256 + 0.336 \cdot B_q + \log Q_t)$$

(applicable for $0.10 < B_q < 1.00$)

Pore Pressure Dissipation Tests (PPDT

Pore Pressure Dissipation Tests (PPDT's) conducted at various intervals can be used to measure equilibrium water pressure (at the time of the CPT). If conditions are hydrostatic, the equilibrium water pressure can be used to determine the approximate depth of the ground water table. A PPDT is conducted when penetration is halted at specific intervals determined by the field representative. The variation of the penetration pore pressure (*u)* with time is measured behind the tip of the cone and recorded.

Pore pressure dissipation data can be interpreted to provide estimates of:

- Equilibrium piezometric pressure
- Phreatic Surface
- In-situ horizontal coefficient of consolidation (c_h)
- In-situ horizontal coefficient of permeability (k_h)

In order to correctly interpret the equilibrium piezometric pressure and/or the phreatic surface, the pore pressure must be monitored until it reaches equilibrium, *Figure PPDT*. This time is commonly referred to as t_{100}, the point at which 100% of the excess pore pressure has dissipated.

A complete reference on pore pressure dissipation tests is presented by Robertson et al. 1992 and Lunne et al. 1997.

A summary of the pore pressure dissipation tests is summarized in Table 1.

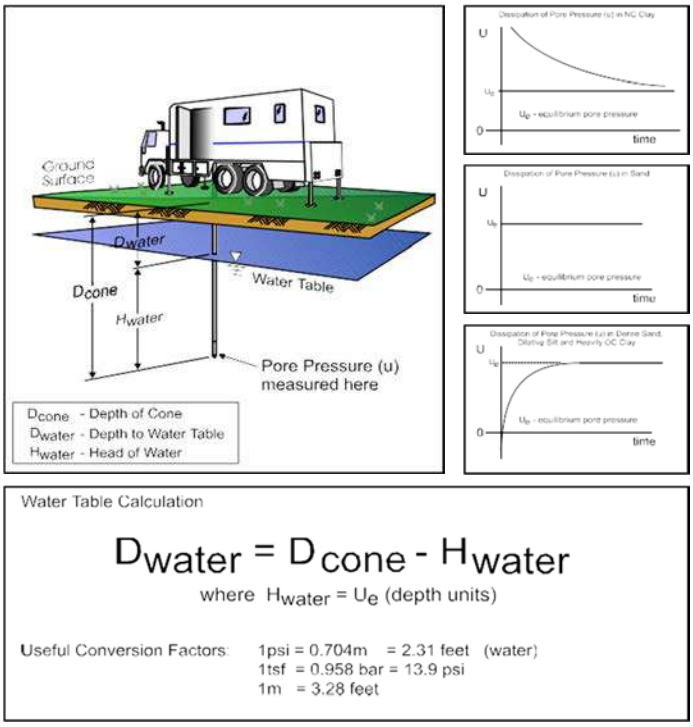


Figure PPDT

Seismic Cone Penetration Testing (SCPT)

Seismic Cone Penetration Testing (SCPT) can be conducted at various intervals during the Cone Penetration Test. Shear wave velocity (Vs) can then be calculated over a specified interval with depth. A small interval for seismic testing, such as 1-1.5m (3-5ft) allows for a detailed look at the shear wave profile with depth. Conversely, a larger interval such as 3-6m (10-20ft) allows for a more average shear wave velocity to be calculated. Gregg's cones have a horizontally active geophone located 0.2m (0.66ft) behind the tip.

To conduct the seismic shear wave test, the penetration of the cone is stopped and the rods are decoupled from the rig. An automatic hammer is triggered to send a shear wave into the soil. The distance from the source to the cone is calculated knowing the total depth of the cone and the horizontal offset distance between the source and the cone. To calculate an interval velocity, a minimum of two tests must be performed at two different depths. The arrival times between the two wave traces are compared to obtain the difference in time (Δt). The difference in depth is calculated (Δd) and velocity can be determined using the simple equation: $v = \Delta d/\Delta t$

Multiple wave traces can be recorded at the same depth to improve quality of the data.

A complete reference on seismic cone penetration tests is presented by Robertson et al. 1986 and Lunne et al. 1997.

A summary the shear wave velocities, arrival times and wave traces are provided with the report.

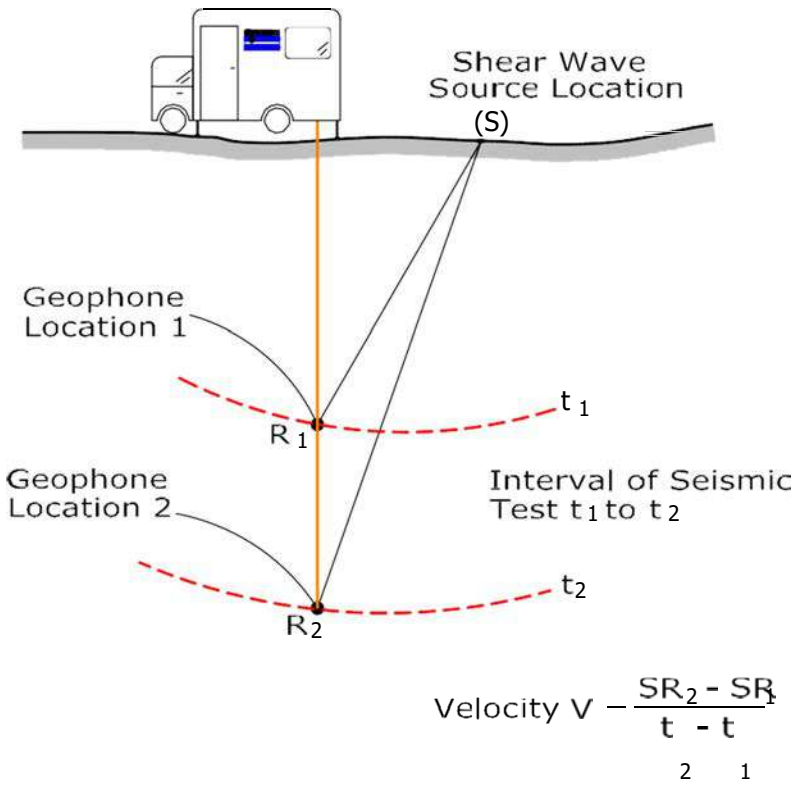


Figure SCPT

Groundwater Sampling

Gregg Drilling & Testing, Inc. conducts groundwater sampling using a sampler as shown in *Figure GWS*. The groundwater sampler has a retrievable stainless steel or disposable PVC screen with steel drop off tip. This allows for samples to be taken at multiple depth intervals within the same sounding location. In areas of slower water recharge, provisions may be made to set temporary PVC well screens during sampling to allow the pushing equipment to advance to the next sample location while the groundwater is allowed to infiltrate.

The groundwater sampler operates by advancing 44.5mm (1¾ inch) hollow push rods with the filter tip in a closed configuration to the base of the desired sampling interval. Once at the desired sample depth, the push rods are retracted; exposing the encased filter screen and allowing groundwater to infiltrate hydrostatically from the formation into the inlet screen. A small diameter bailer (approximately ½ or ¾ inch) is lowered through the push rods into the screen section for sample collection. The number of downhole trips with the bailer and time necessary to complete the sample collection at each depth interval is a function of sampling protocols, volume requirements, and the yield characteristics and storage capacity of the formation. Upon completion of sample collection, the push rods and sampler, with the exception of the PVC screen and steel drop off tip are retrieved to the ground surface, decontaminated and prepared for the next sampling event.

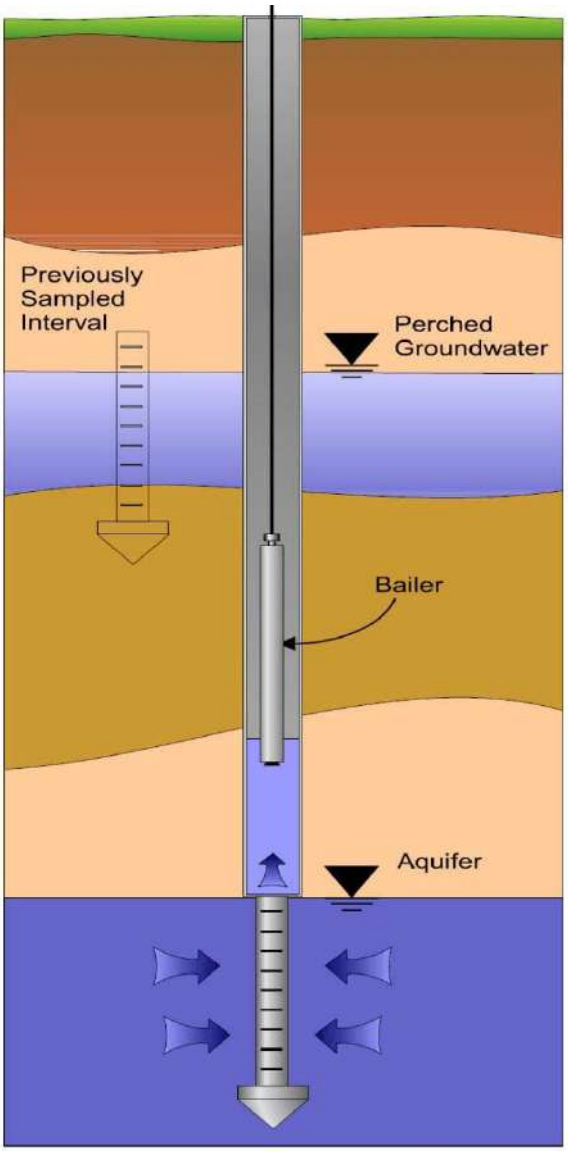


Figure GWS

Soil Sampling

Gregg Drilling & Testing, Inc. uses a piston-type push-in sampler to obtain small soil samples without generating any soil cuttings, *Figure SS*. Two different types of samplers (12 and 18 inch) are used depending on the soil type and density. The soil sampler is initially pushed in a "closed" position to the desired sampling interval using the CPT pushing equipment. Keeping the sampler closed minimizes the potential of cross contamination. The inner tip of the sampler is then retracted leaving a hollow soil sampler with inner 1¼" diameter sample tubes. The hollow sampler is then pushed in a locked "open" position to collect a soil sample. The filled sampler and push rods are then retrieved to the ground surface. Because the soil enters the sampler at a constant rate, the opportunity for 100% recovery is increased. For environmental analysis, the soil sample tube ends are sealed with Teflon and plastic caps. Often, a longer "split tube" can be used for geotechnical sampling.

For a detailed reference on direct push soil sampling, refer to Lunne et al, 1997.

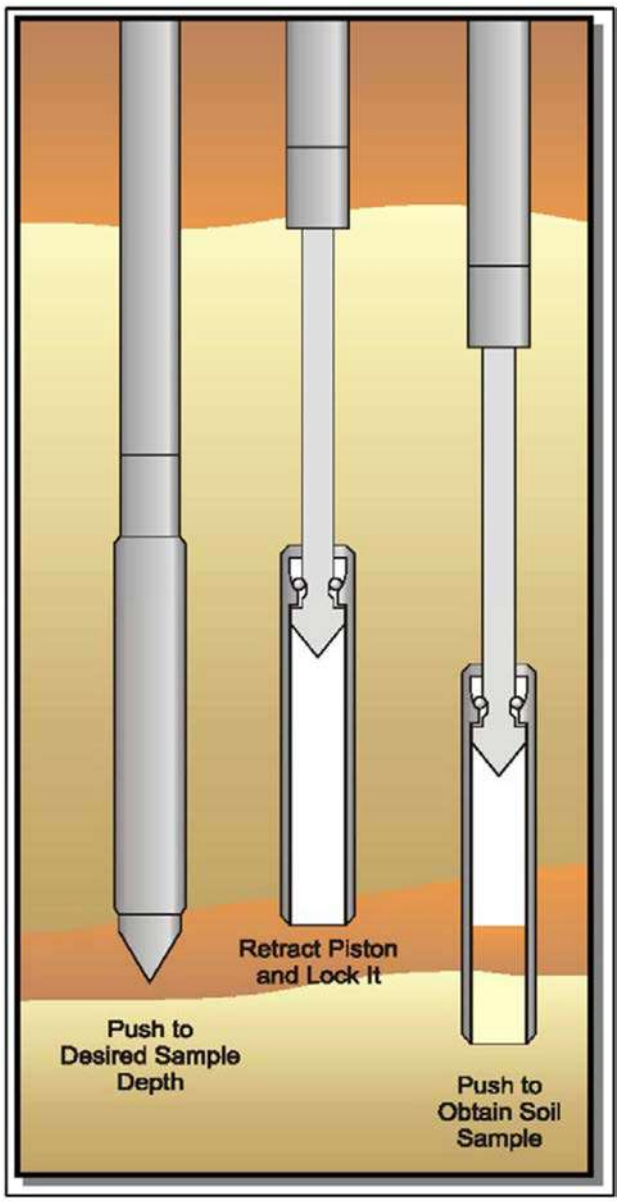


Figure SS

References

ASTM D5778-12, 2012, Standard Test Method for Performing Electronic Friction Cone and Piezocone Penetration Testing of Soils. ASTM West Conshohocken, USA

Lunne, T., Robertson, P.K. and Powell, J.J.M., 1997. Cone Penetration Testing in Geotechnical Practice.

Robertson, P.K., 1990. Soil Classification using the Cone Penetration Test. Canadian Geotechnical Journal, Volume 27: 151-158

Robertson, P.K., 2009. Interpretation of Cone Penetration Tests – a unified approach. Canadian Geotechnical Journal, Volume 46: 1337-1355

Robertson, P.K., 2010, "Soil Behavior type from the CPT: an update", 2nd International Symposium on Cone Penetration Testing, Huntington Beach, CA, Vol.2. pp 575-583

Robertson, P.K. and Cabal, K.L., "Guide to Cone Penetration Testing for Geotechnical Engineering", 6th Edition, 2015, 145 p. Free online, http://www.greggdrilling.com/technical-guides.

Robertson, P.K., R.G. Campanella, D. Gillespie and A. Rice, "Seismic CPT to Measure In-situ Shear Wave Velocity", Journal of Geotechnical Engineering, ASCE, Vol. 112, No. 8, pp. 791-803, 1986.

Robertson, P.K., Sully, J., Woeller, D.J., Lunne, T., Powell, J.J.M., and Gillespie, D.J., "Guidelines for Estimating Consolidation Parameters in Soils from Piezocone Tests", Canadian Geotechnical Journal, Vol. 29, No. 4, August 1992, pp. 539-550.

Ultra-Violet Induced Fluorescence (UVOST)

Gregg Drilling conducts Laser Induced Fluorescence (LIF) Cone Penetration Tests using a UVOST module that is located behind the standard piezocone, *Figure UVOST*. The laser induced fluorescence cone works on the principle that polycyclic aromatic hydrocarbons (PAH's), mixed with soil and/or groundwater, fluoresce when irradiated by ultra violet light. Therefore, by measuring the intensity of fluorescence, the lateral and vertical extent of hydrocarbon contamination in the ground can be estimated.

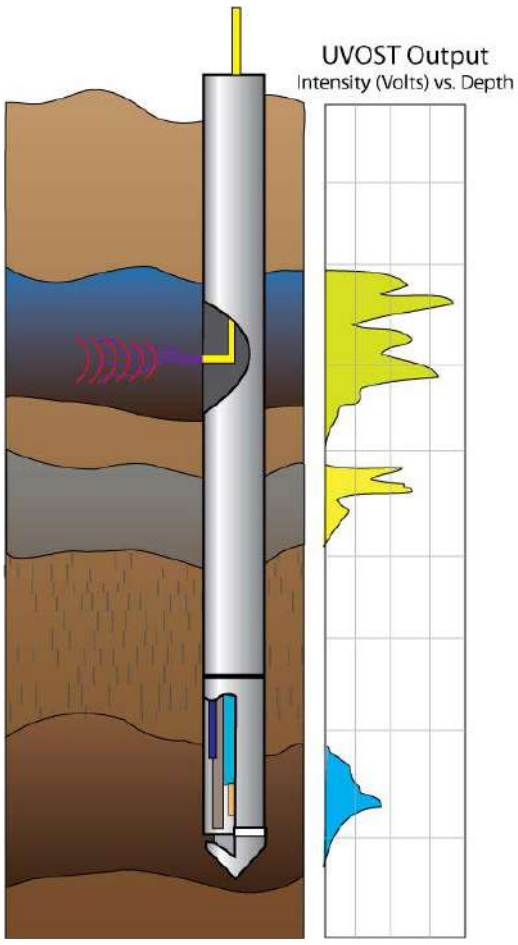


Figure UVOST

The UVOST module uses principles of fluorescence spectrometry by irradiating the soil with ultra violet light produced by a laser and transmitted to the cone through fiber optic cables. The UV light passes through a small window in the side of the cone into the soil. Any hydrocarbon molecules present in the soil absorb the light energy during radiation and immediately re-emit the light at a longer wavelength. This re-emission is termed fluorescence. The UVOST system also measures the emission decay with time at four different wavelengths (350nm, 400nm, 450nm, and 500nm). This allows the software to determine a product "signature" at each data point. This process provides a method to evaluate the type of contaminant. A sample output from the UVOST system is shown in *Figure Output*. In general, the typical detection limit for the UVOST system is <100 ppm and it will operate effectively above and below the saturated zone.

With the capability to push up to 200m (600ft) per day, laser induced fluorescence offers a fast and efficient means for delineating PAH contaminant plumes. Color coded logs offer qualitative information in a quick glance and can be produced in the field for real-time decision making. Coupled with the data provided by the CPT, a complete site assessment can be completed with no samples or cuttings, saving laboratory costs as well as site and environmental impact.

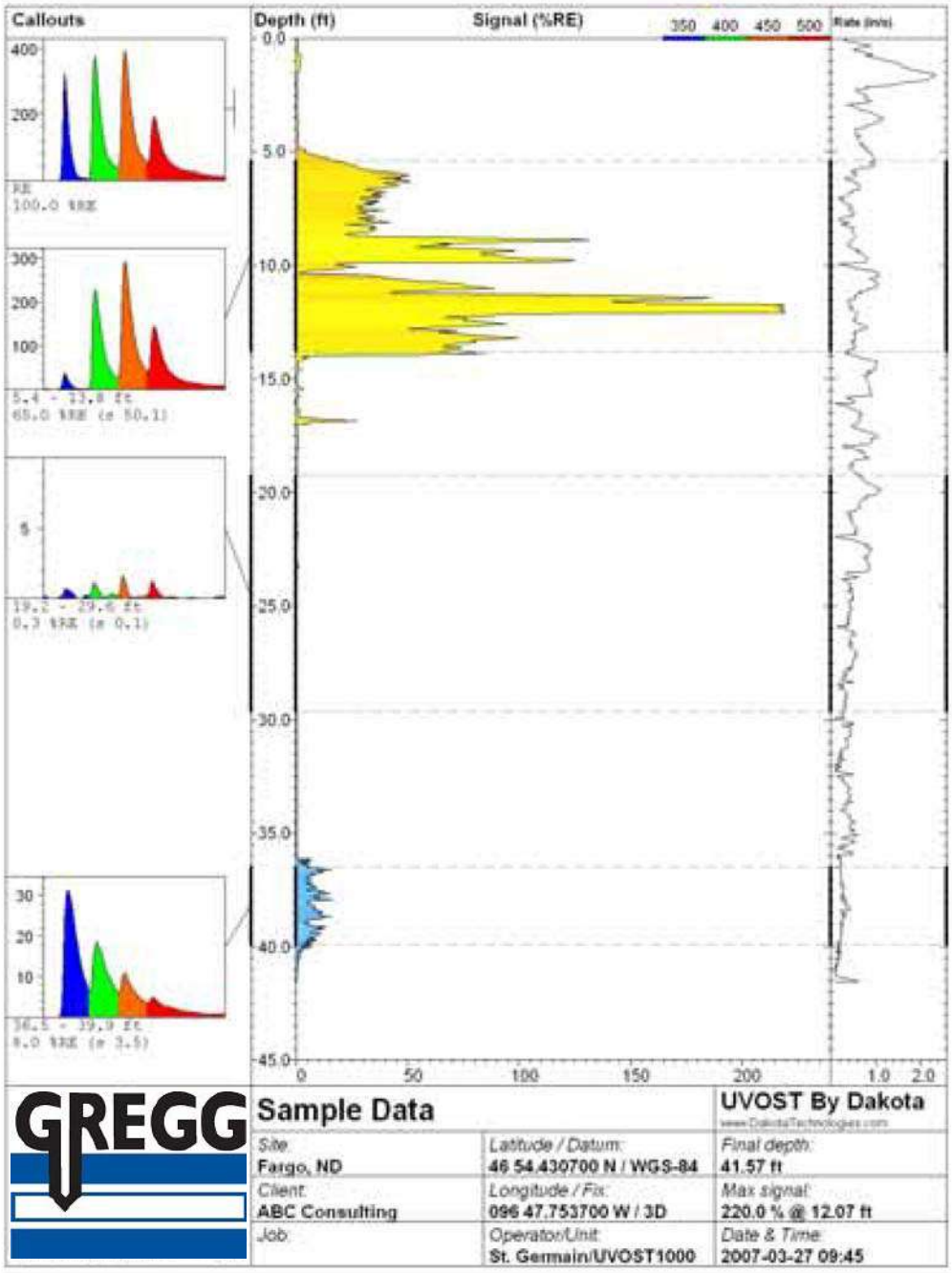


Figure Output

Hydrocarbons detected with UVOST

- Gasoline
- Diesel
- Jet (Kerasene)
- Motor Oil
- Cutting fluids
- Hydraulic fluids
- Crude Oil

Hydrocarbons rarely detected using UVOST

- Extremely weathered gasoline
- Coal tar
- Creosote
- Bunker Oil
- Polychlorinated bi-phenols (PCB's)
- Chlorinated solvent DNAPL
- Dissolved phase (aqueous) PAH's

Potential False Positives (fluorescence observed)

- Sea-shells (weak-medium)
- Paper (medium-strong depending on color)
- Peat/meadow mat (weak)
- Calcite/calcareous sands (weak)
- Tree roots (weak-medium)
- Sewer lines (medium-strong)

Potential False Negatives (do not fluoresce)

- Extremely weathered fuels (especially gasoline)
- Aviation gasoline (weak)
- "Dry" PAHs such as aqueous phase, lamp black, purifier chips
- Creosotes (most)
- Coal tars (most) gasoline (weak)
- Most chlorinated solvents
- Benzene, toluene, zylenes (relatively pure)

Dakota Technologies
UVOST Log Reference

2008-12-12

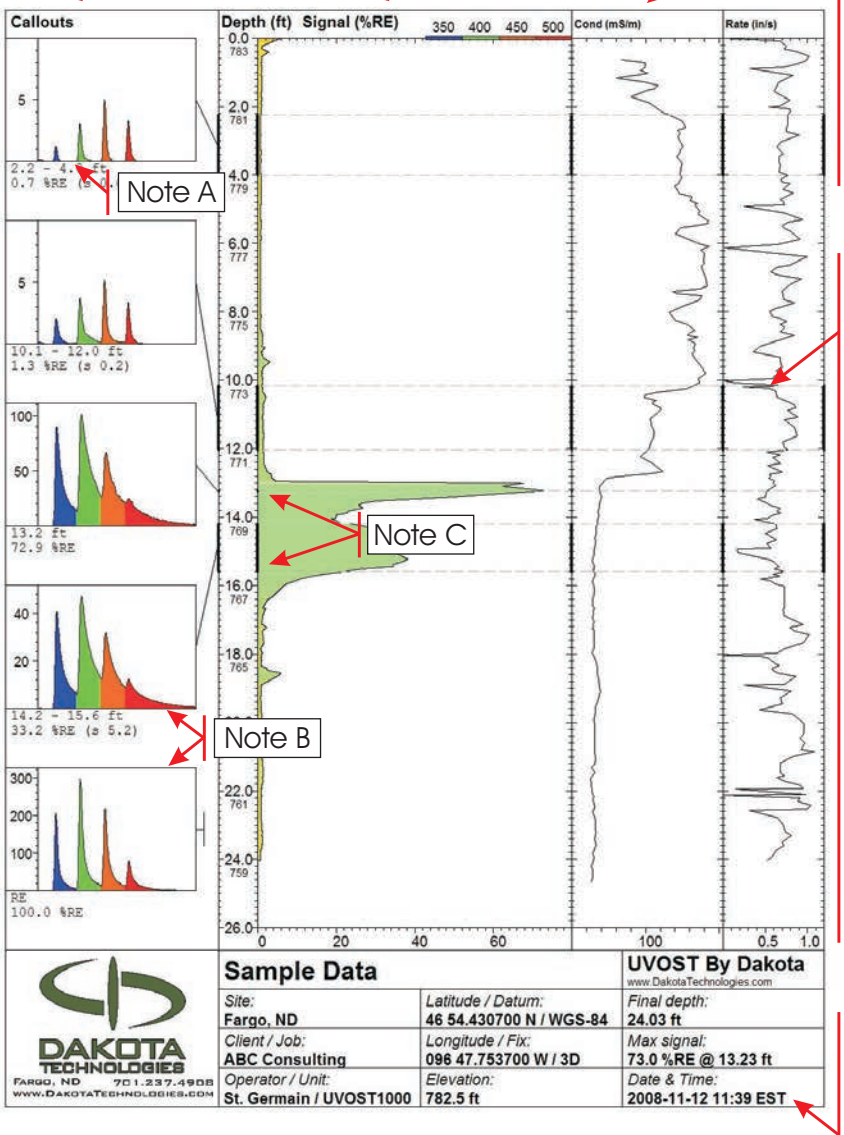
Main Plot :
Signal (total fluorescence) versus depth where signal is relative to the Reference Emitter (RE). The total area of the waveform is divided by the total area of the Reference Emitter yielding the %RE. This %RE scales with the NAPL fluorescence. The fill color is based on relative contribution of each channel's area to the total waveform area (see callout waveform). The channel-to-color relationship and corresponding wavelengths are given in the upper right corner of the main plot.

Callouts :
Waveforms from selected depths or depth ranges showing the multi-wavelength waveform for that depth.

The four peaks are due to fluorescence at four wavelengths and referred to as “channels”. Each channel is assigned a color.

Various NAPLs will have a unique waveform "fingerprint" due to the relative amplitude of the four channels and/or broadening of one or more channels.

Basic waveform statistics and any operator notes are given below the callout.



Conductivity Plot :
The Electrical Conductivity (EC) of the soil can be logged simultaneously with the UVOST data. EC often provides insight into the stratigraphy.
Note the drop in EC from 10 - 13 ft, indicating a shift from consolidated to unconsolidated stratigraphy. This correlates with the observed NAPL distribution.

Rate Plot :
The rate of probe advancement. ~ 0.8in (2cm) per second is preferred.

A noticeable decrease in the rate of advancement may be indicative of difficult probing conditions (gravel, angular sands, etc.) such as that seen here at ~5 ft.

Notice that this log was terminated arbitrarily, not due to "refusal", which would have been indicated by a sudden rate drop at final depth.

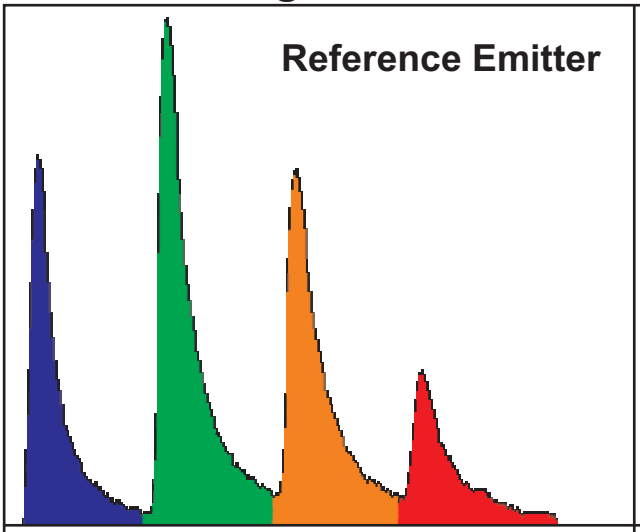
Info Box :
Contains pertinent log info including name and location.

Note A :
Time is along the x axis. No scale is given, but it is a consistent 320ns wide.
The y axis is in mV and directly corresponds to the amount of light striking the photodetector.

Note B :
These two waveforms are clearly different. The first is weathered diesel from the log itself while the second is the Reference Emitter (a blend of NAPLs) always taken before each log for calibration.

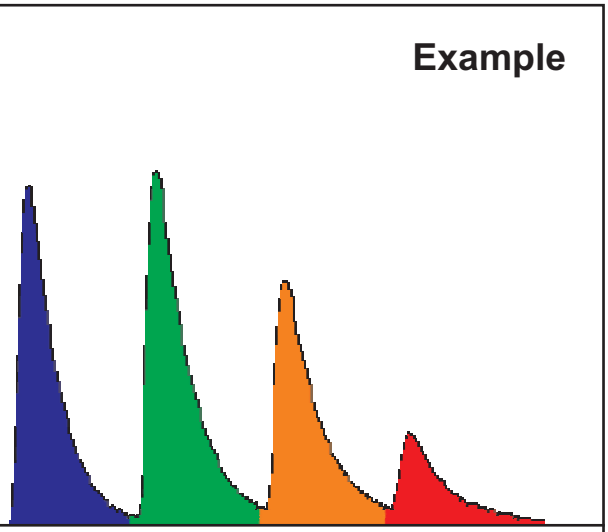
Note C :
Callouts can be a single depth (see 3rd callout) or a range (see 4th callout). The range is noted on the depth axis by a bold line. When the callout is a range, the average and standard deviation in %RE is given below the callout.

Waveform Signal Calculation



CH1		CH2		CH3		CH4		Total
4820	+	8108	+	6249	+	2984	=	**22161**
21.7		36.6		28.2		13.5		**100%**

Channel Area (pVs) Percent RE

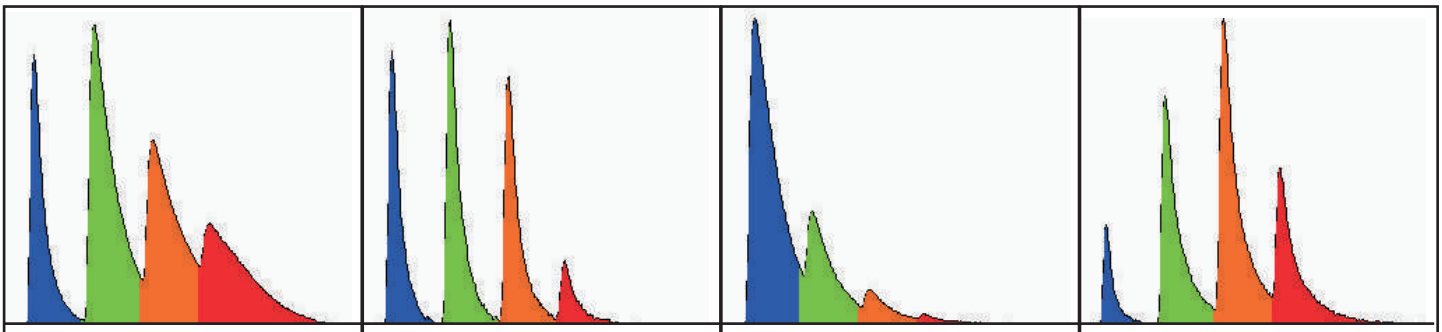


CH1		CH2		CH3		CH4		Total
4923	+	5743	+	4166	+	1735	=	**16587**
22.3		25.9		18.8		7.8		**75%**

Data Files

***.lif.raw.bin**	Raw data file. Header is ASCII format and contains information stored when the file was initially written (e.g. date, total depth, max signal, gps, etc., and any information entered by the operator). All raw waveforms are appended to the bottom of the file in a binary format.
***.lif.plt**	Stores the plot scheme history (e.g. callout depths) for associated Raw file. Transfer along with the Raw file in order to recall previous plots.
***.lif.jpg**	A jpg image of the OST log including the main signal vs. depth plot, callouts, information, etc.
***.lif.dat.txt**	Data export of a single Raw file. ASCII tab delimited format. No string header is provided for the columns (to make importing into other programs easier). Each row is a unique depth reading. The columns are: Depth, Total Signal (%RE), Ch1%, Ch2%, Ch3%, Ch4%, Rate, Conductivity Depth, Conductivity Signal, Hammer Rate. Summing channels 1 to 4 yields the Total Signal.
***.lif.sum.txt**	A summary file for a number of Raw files. ASCII tab delimited format. The file contains a string header. The summary includes one row for each Raw file and contains information for each file including: the file name, gps coordinates, max depth, max signal, and depth at which the max signal occured.
***.lif.log.txt**	An activity log generated automatically located in the OST application directory in the 'log' subfolder. Each OST unit the computer operates will generate a separate log file per month. A log file contains much of the header information contained within each separate Raw file, including: date, total depth, max signal, etc.

Common Waveforms (highly dependent on soil, weathering, etc.)



Diesel	Gas	Kerosene	Motor Oil

CONE PENETRATION TEST (CPT)

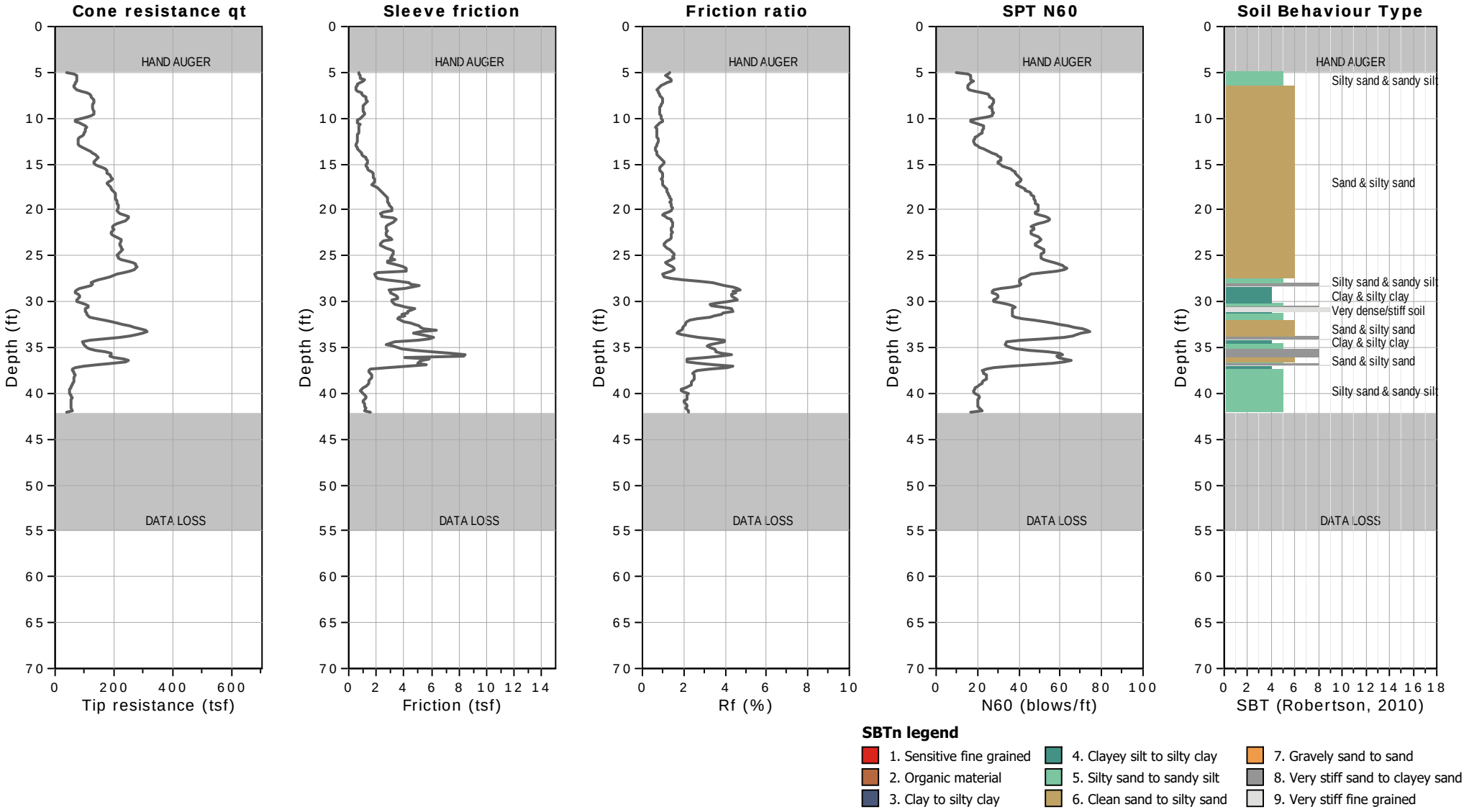
BORINGS

GREGG DRILLING, INC.
www.greggdrilling.com

CPT: CPT-01

CLIENT: CALIFORNIA ENVIRONMENTAL
SITE: 712 NORTH BAKER STREET, LONG BEACH, CA

Field Rep: CHARLES B.
Total depth: 55.12 ft, Date: 4/8/2019

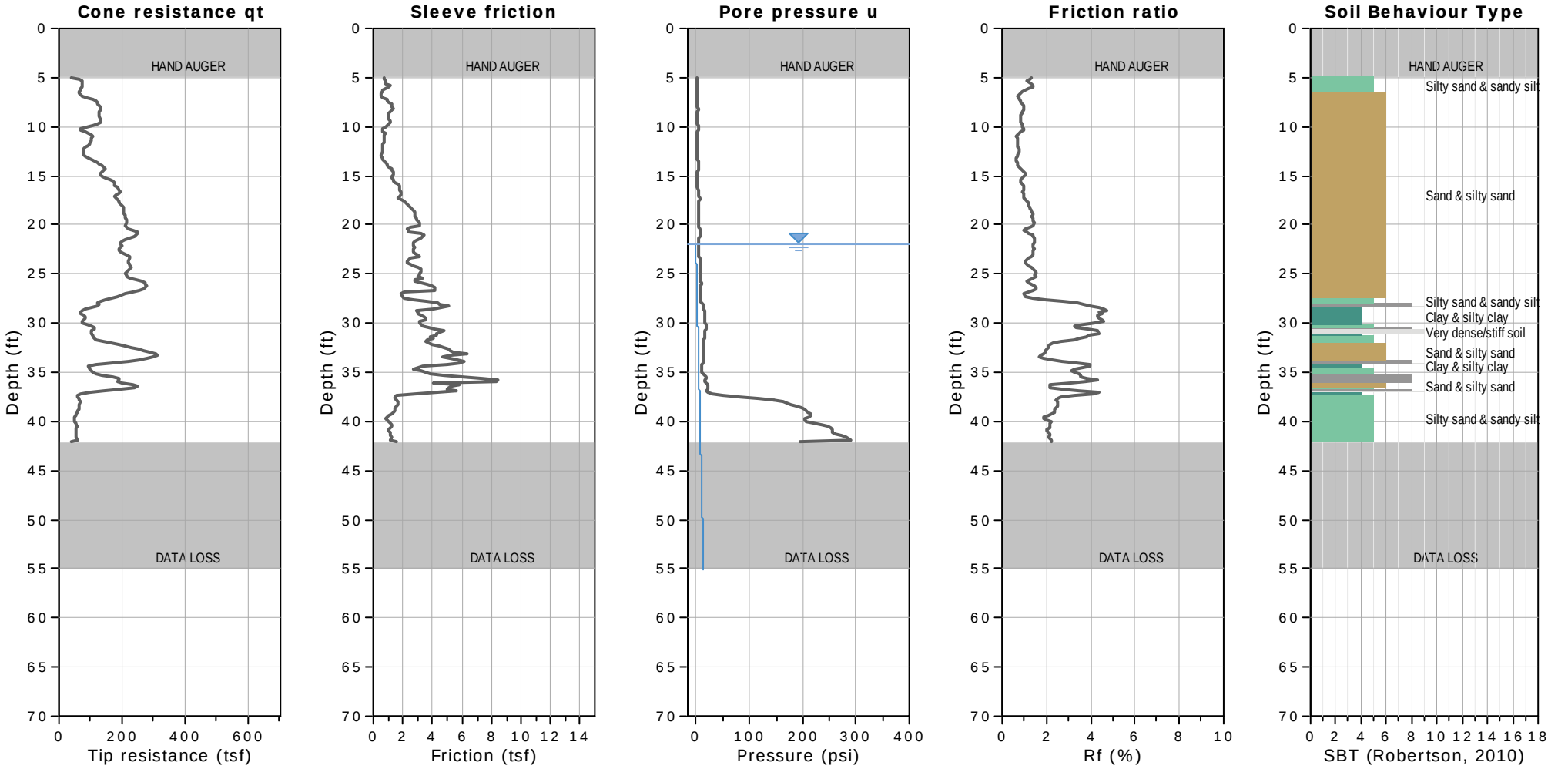


CLIENT: CALIFORNIA ENVIRONMENTAL

SITE: 712 NORTH BAKER STREET, LONG BEACH, CA

Field Rep: CHARLES B.

Total depth: 55.12 ft, Date: 4/8/2019



WATER TABLE FOR ESTIMATING PURPOSES ONLY

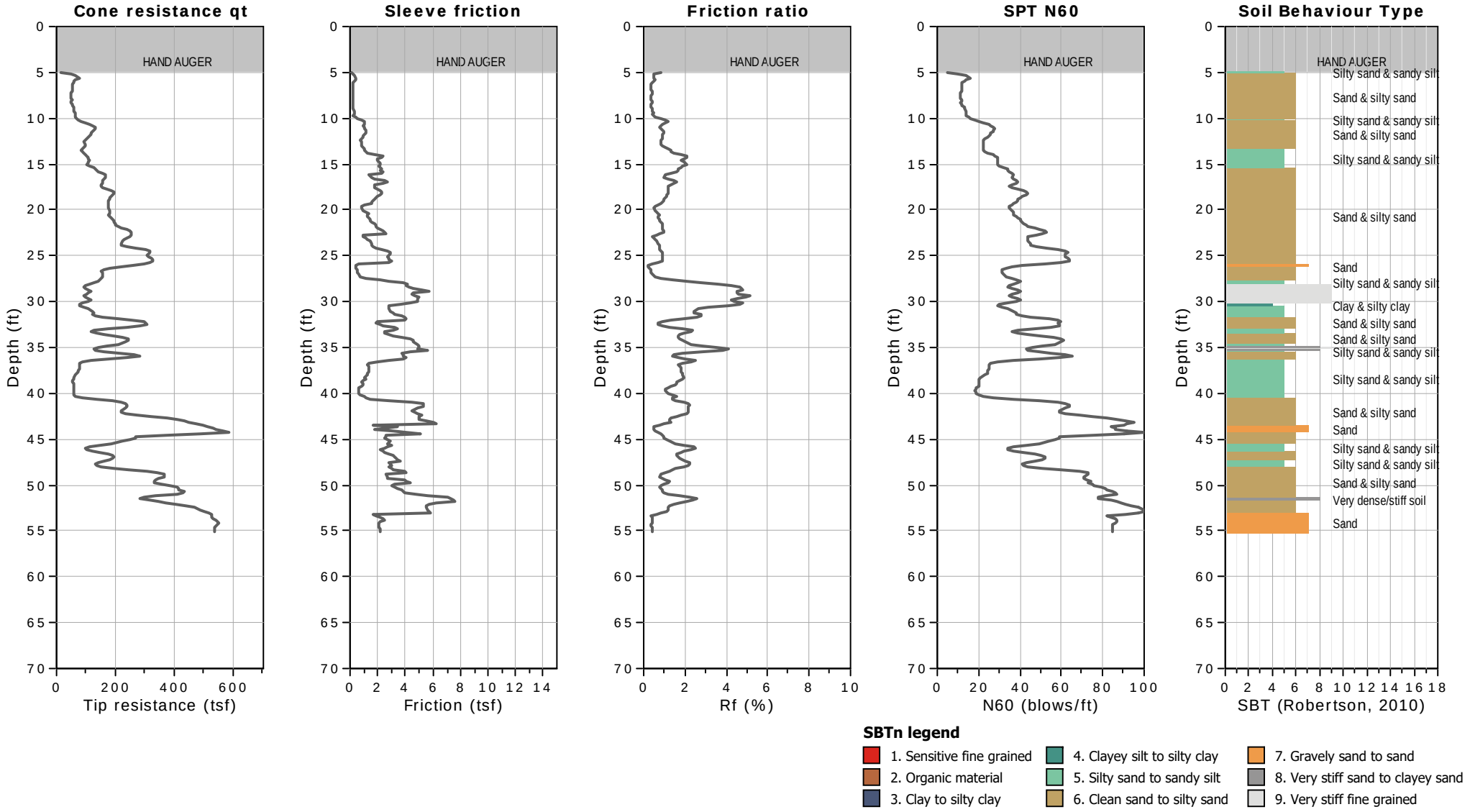
CPT: CPT-02

CLIENT: CALIFORNIA ENVIRONMENTAL

SITE: 712 NORTH BAKER STREET, LONG BEACH, CA

Field Rep: CHARLES B.

Total depth: 55.12 ft, Date: 4/8/2019

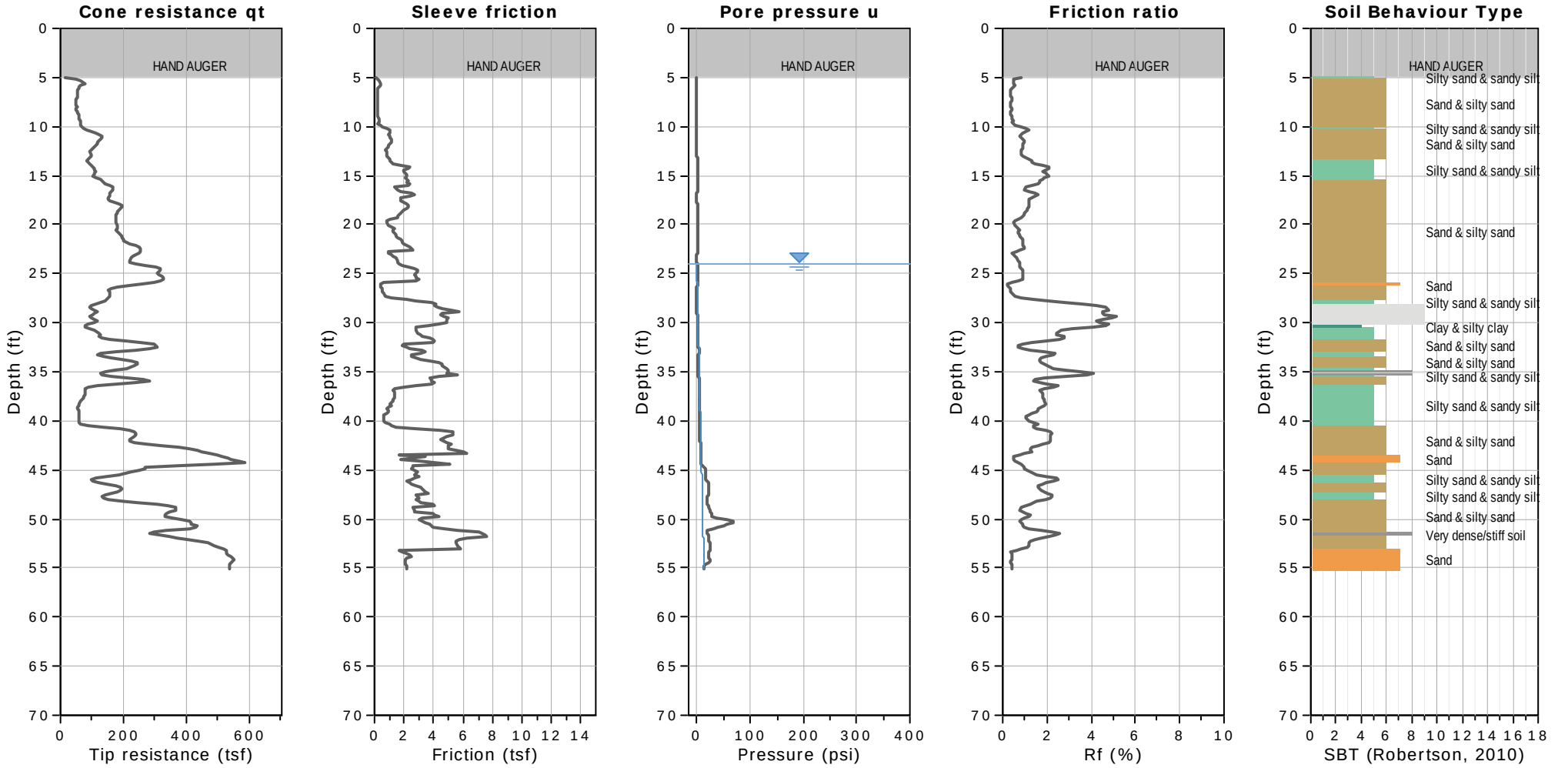


CLIENT: CALIFORNIA ENVIRONMENTAL

SITE: 712 NORTH BAKER STREET, LONG BEACH, CA

Field Rep: CHARLES B.

Total depth: 55.12 ft, Date: 4/8/2019



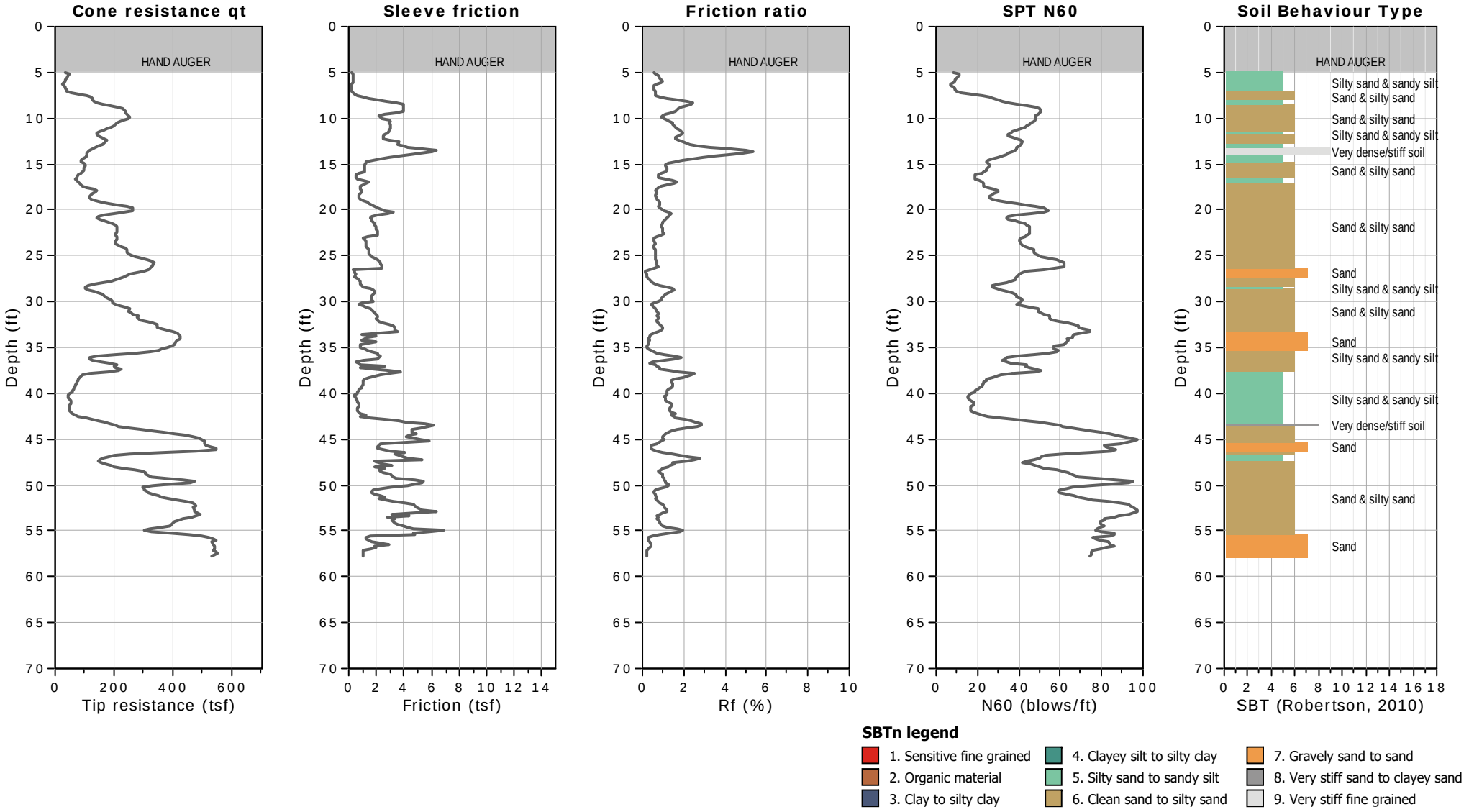
WATER TABLE FOR ESTIMATING PURPOSES ONLY

CLIENT: CALIFORNIA ENVIRONMENTAL

SITE: 712 NORTH BAKER STREET, LONG BEACH, CA

Field Rep: CHARLES B.

Total depth: 57.74 ft, Date: 4/8/2019

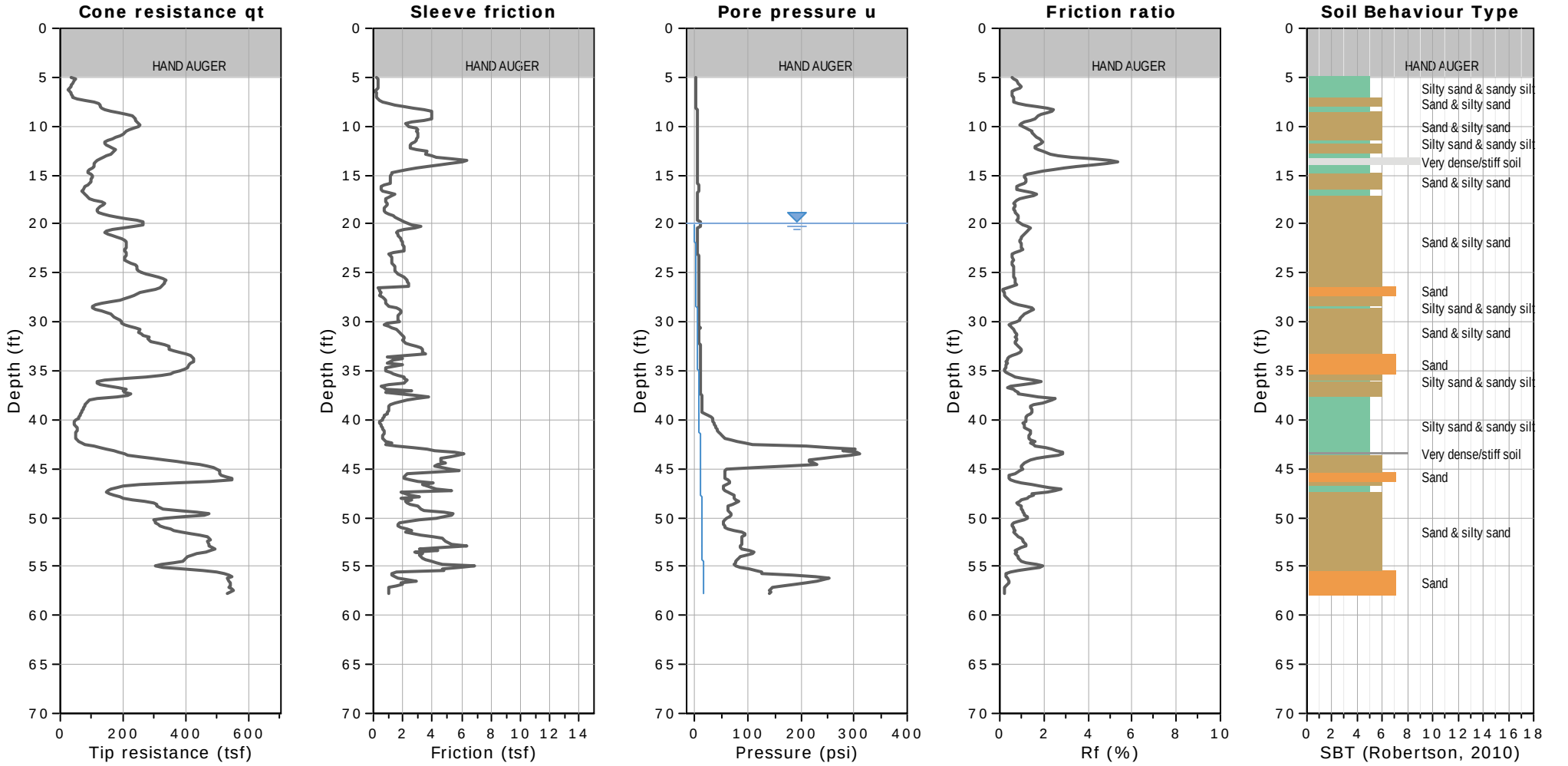


CLIENT: CALIFORNIA ENVIRONMENTAL

SITE: 712 NORTH BAKER STREET, LONG BEACH, CA

Field Rep: CHARLES B.

Total depth: 57.74 ft, Date: 4/8/2019



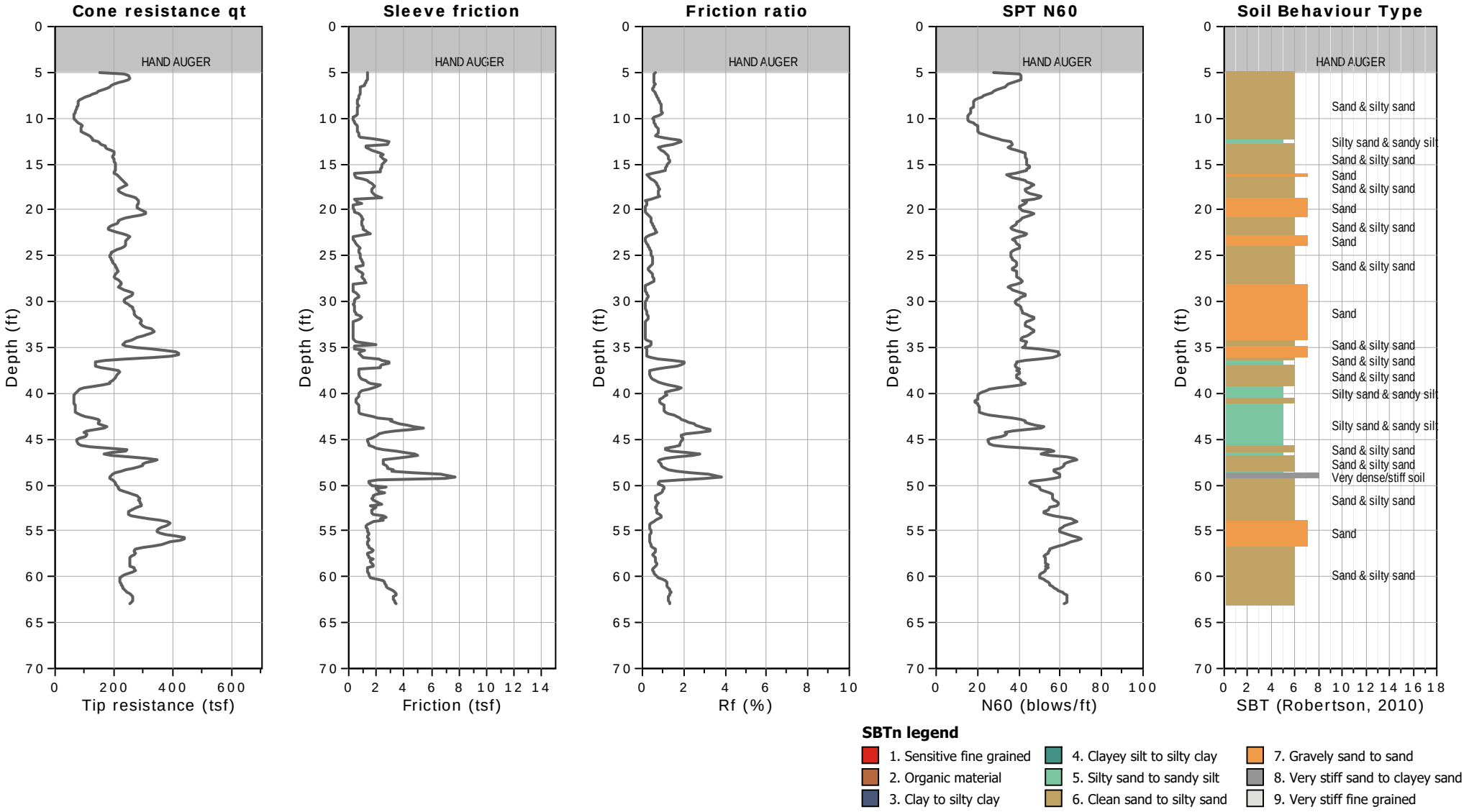
WATER TABLE FOR ESTIMATING PURPOSES ONLY

CLIENT: CALIFORNIA ENVIRONMENTAL

SITE: 712 NORTH BAKER STREET, LONG BEACH, CA

Field Rep: CHARLES B.

Total depth: 62.99 ft, Date: 4/8/2019

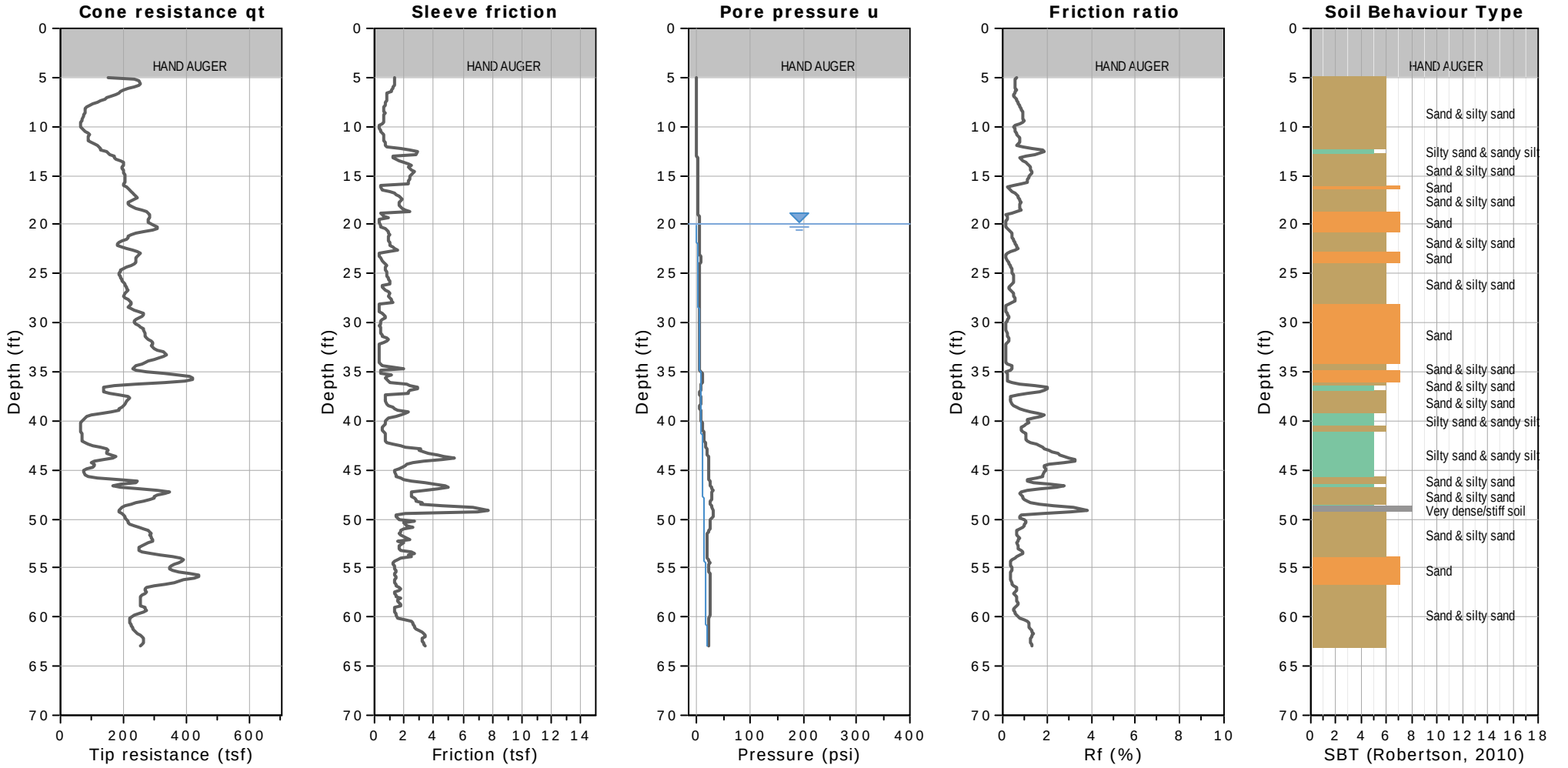


CLIENT: CALIFORNIA ENVIRONMENTAL

SITE: 712 NORTH BAKER STREET, LONG BEACH, CA

Field Rep: CHARLES B.

Total depth: 62.99 ft, Date: 4/8/2019



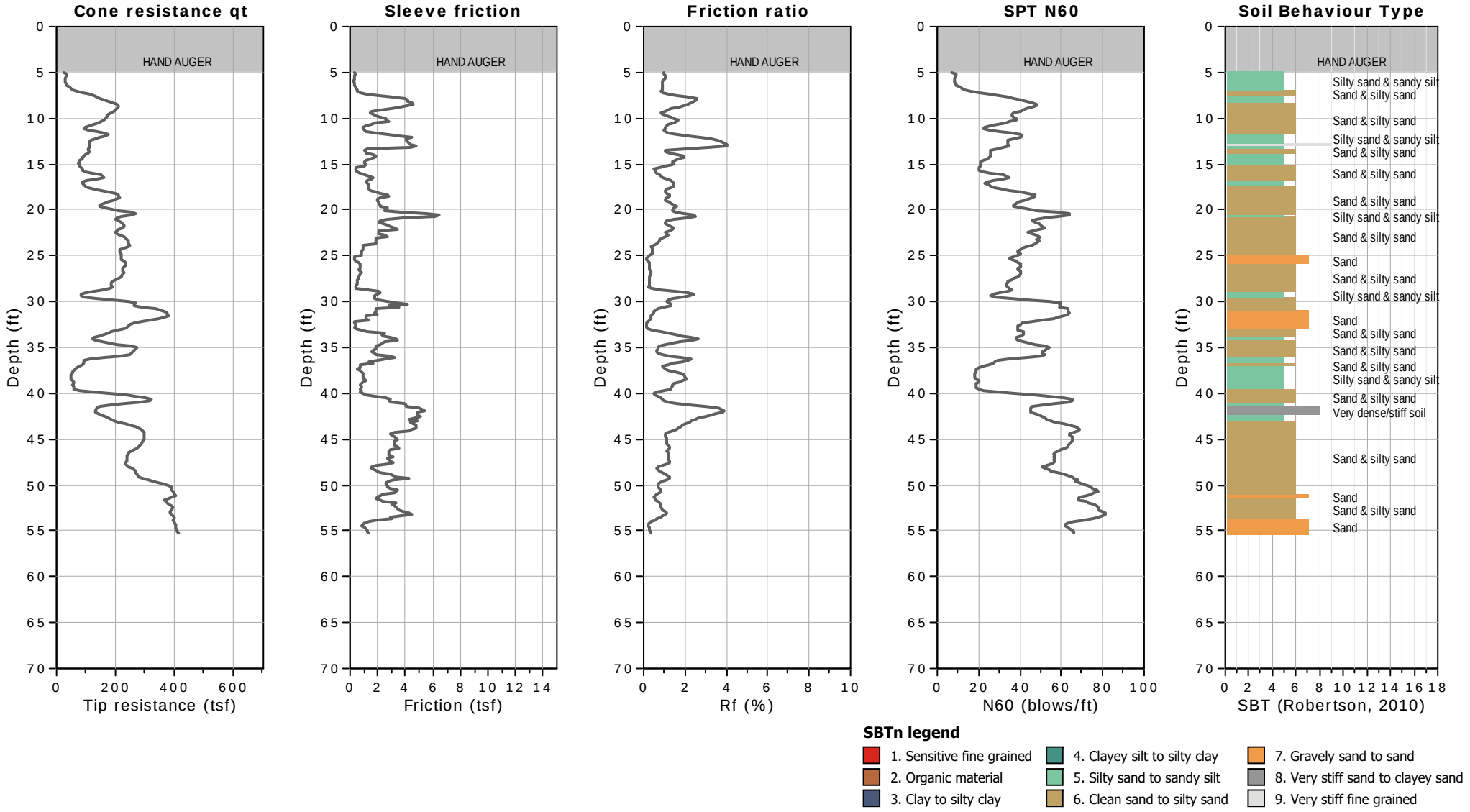
WATER TABLE FOR ESTIMATING PURPOSES ONLY

CLIENT: CALIFORNIA ENVIRONMENTAL

SITE: 712 NORTH BAKER STREET, LONG BEACH, CA

Field Rep: CHARLES B.

Total depth: 55.28 ft, Date: 4/8/2019



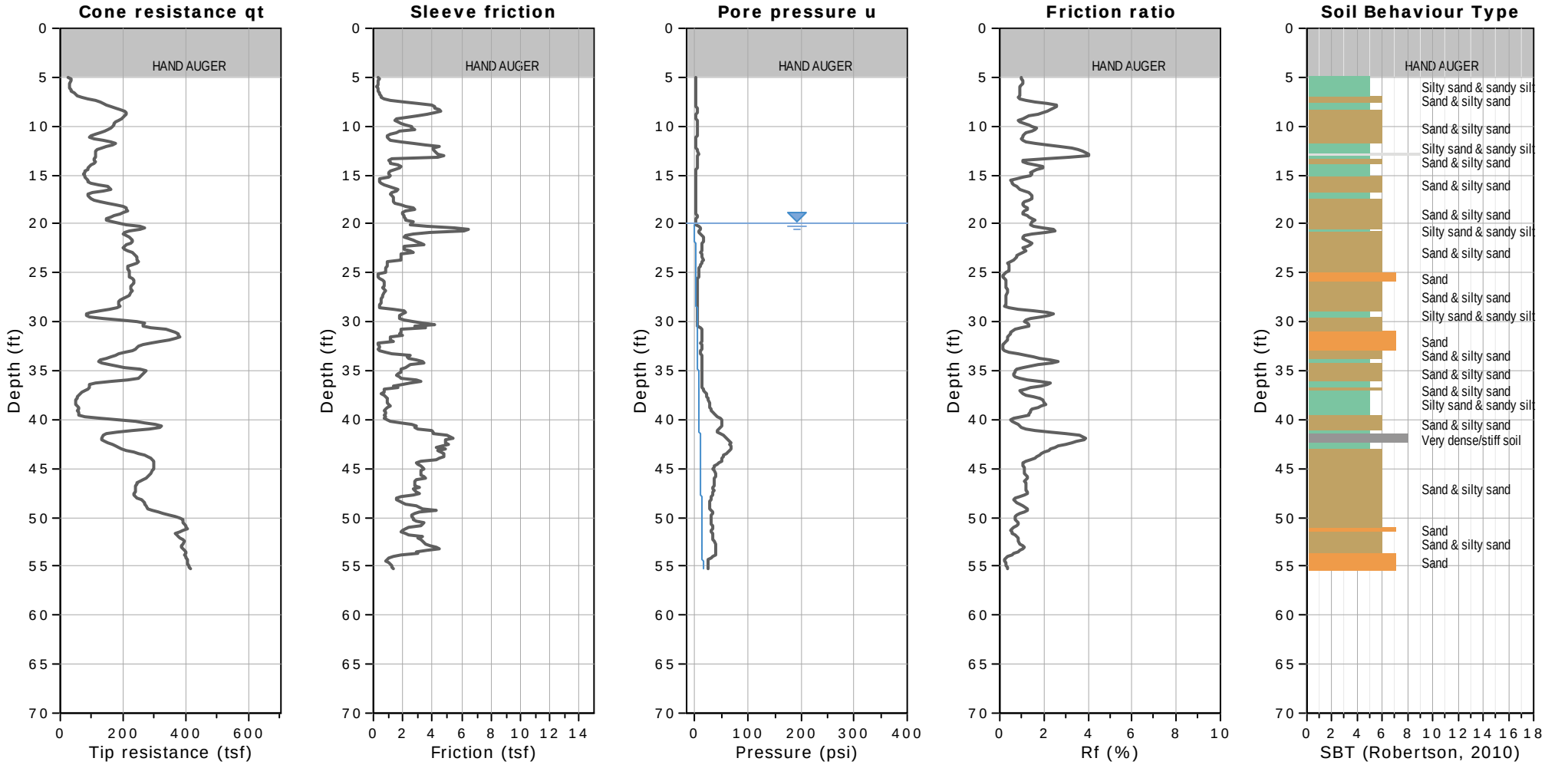
CPT: CPT-05

CLIENT: CALIFORNIA ENVIRONMENTAL

SITE: 712 NORTH BAKER STREET, LONG BEACH, CA

Field Rep: CHARLES B.

Total depth: 55.28 ft, Date: 4/8/2019



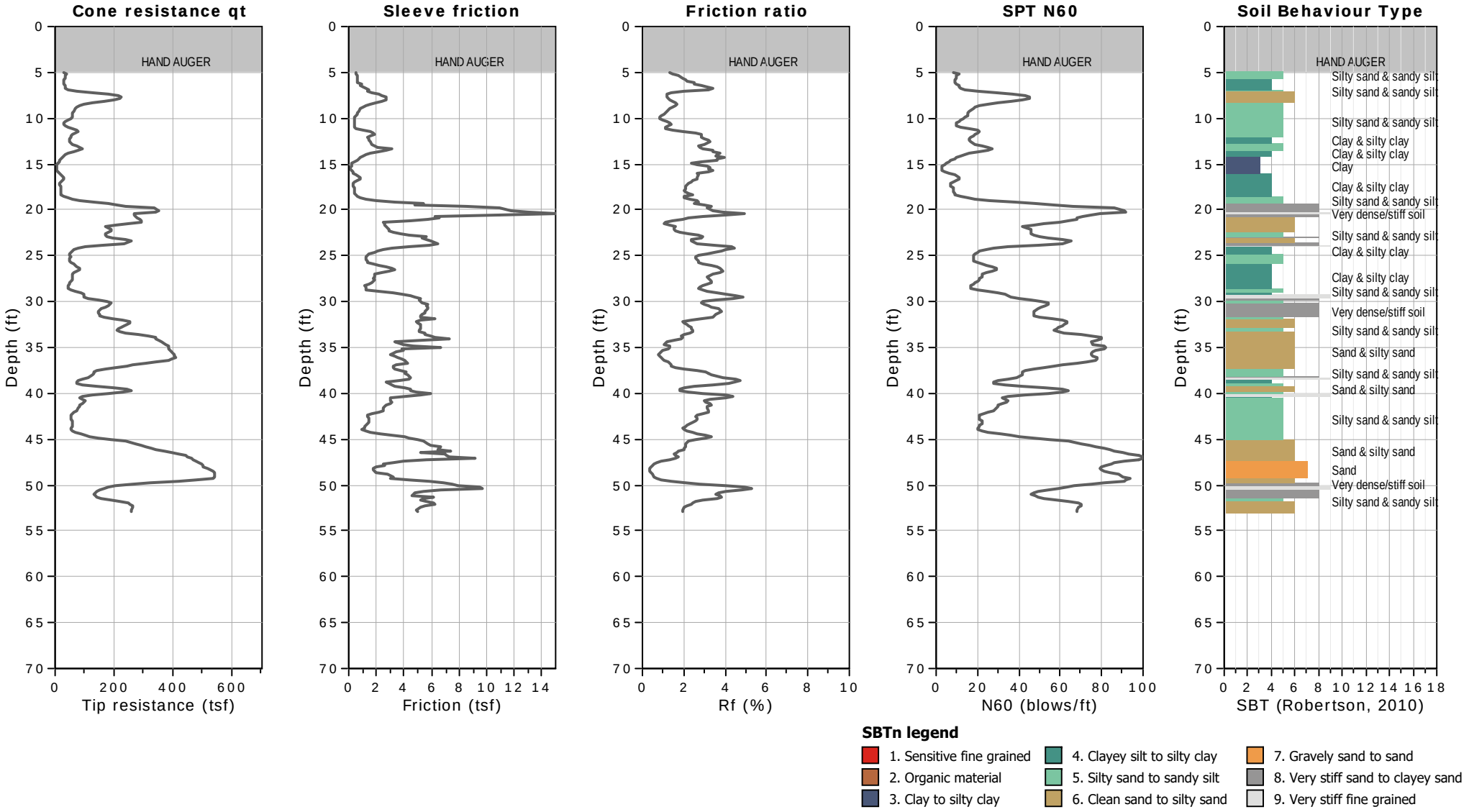
WATER TABLE FOR ESTIMATING PURPOSES ONLY

CLIENT: CALIFORNIA ENVIRONMENTAL

SITE: 712 NORTH BAKER STREET, LONG BEACH, CA

Field Rep: CHARLES B.

Total depth: 52.82 ft, Date: 4/9/2019

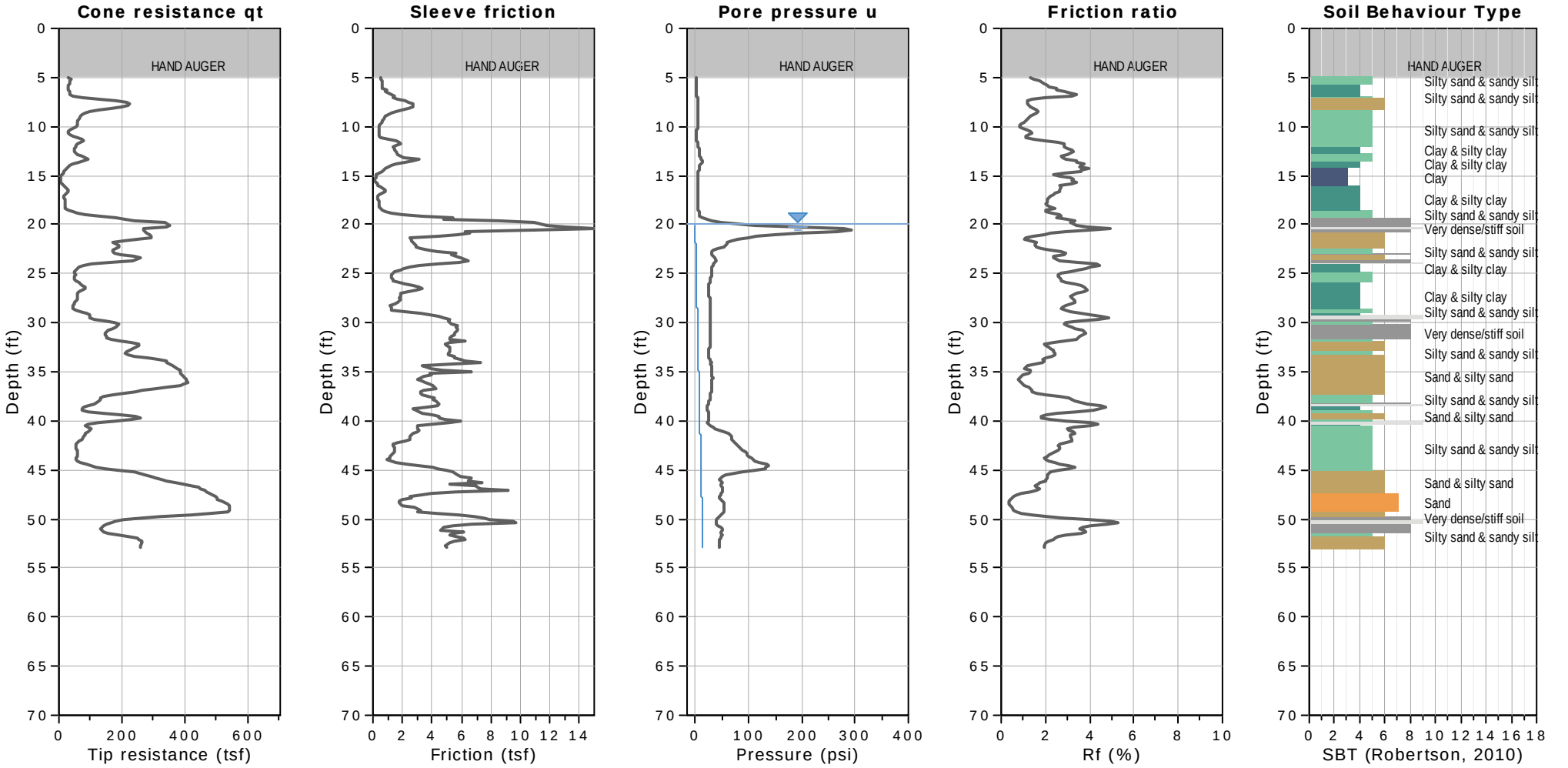


CLIENT: CALIFORNIA ENVIRONMENTAL

SITE: 712 NORTH BAKER STREET, LONG BEACH, CA

Field Rep: CHARLES B.

Total depth: 52.82 ft, Date: 4/9/2019



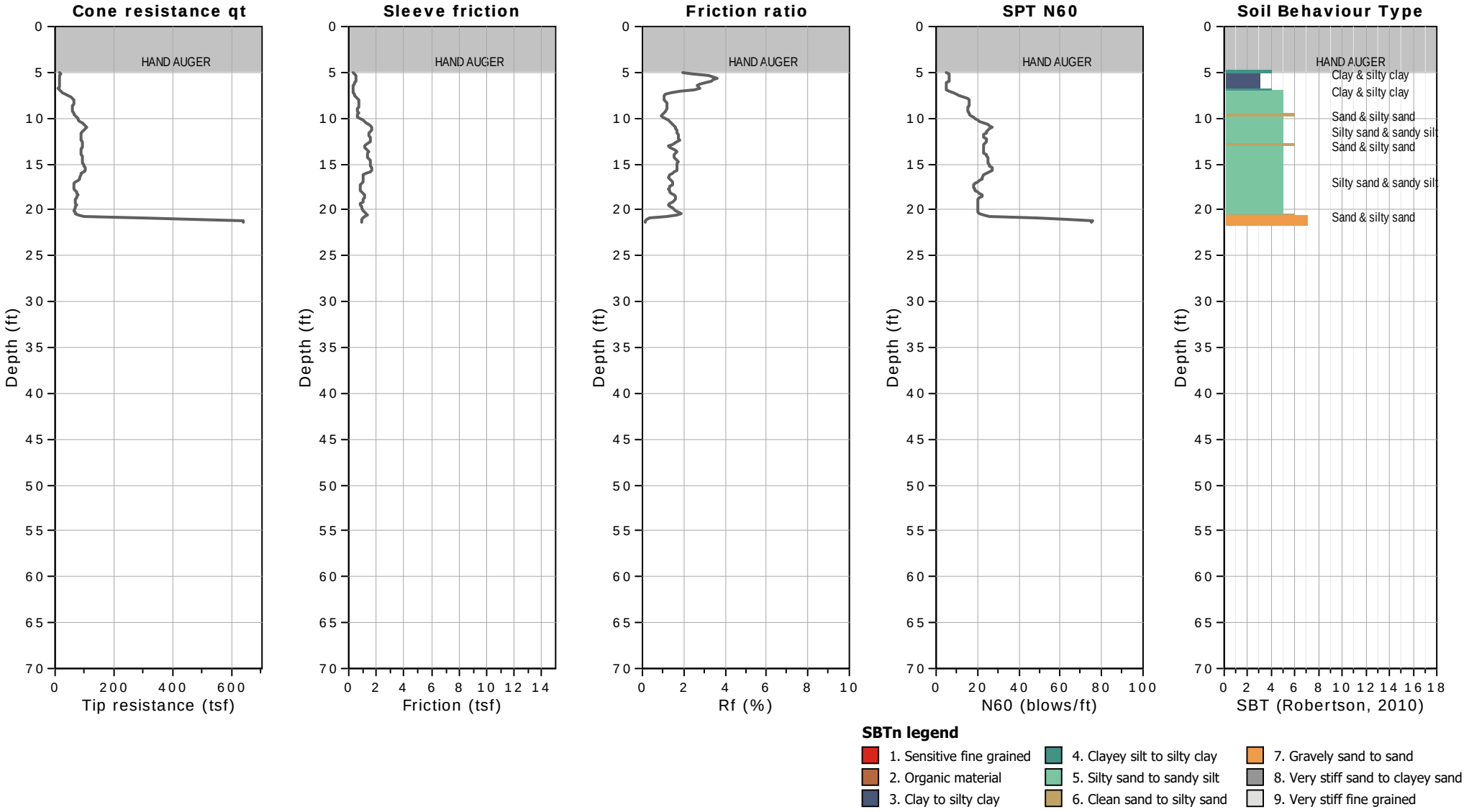
WATER TABLE FOR ESTIMATING PURPOSES ONLY

CLIENT: CALIFORNIA ENVIRONMENTAL

SITE: 712 NORTH BAKER STREET, LONG BEACH, CA

Field Rep: CHARLES B.

Total depth: 21.33 ft, Date: 4/9/2019

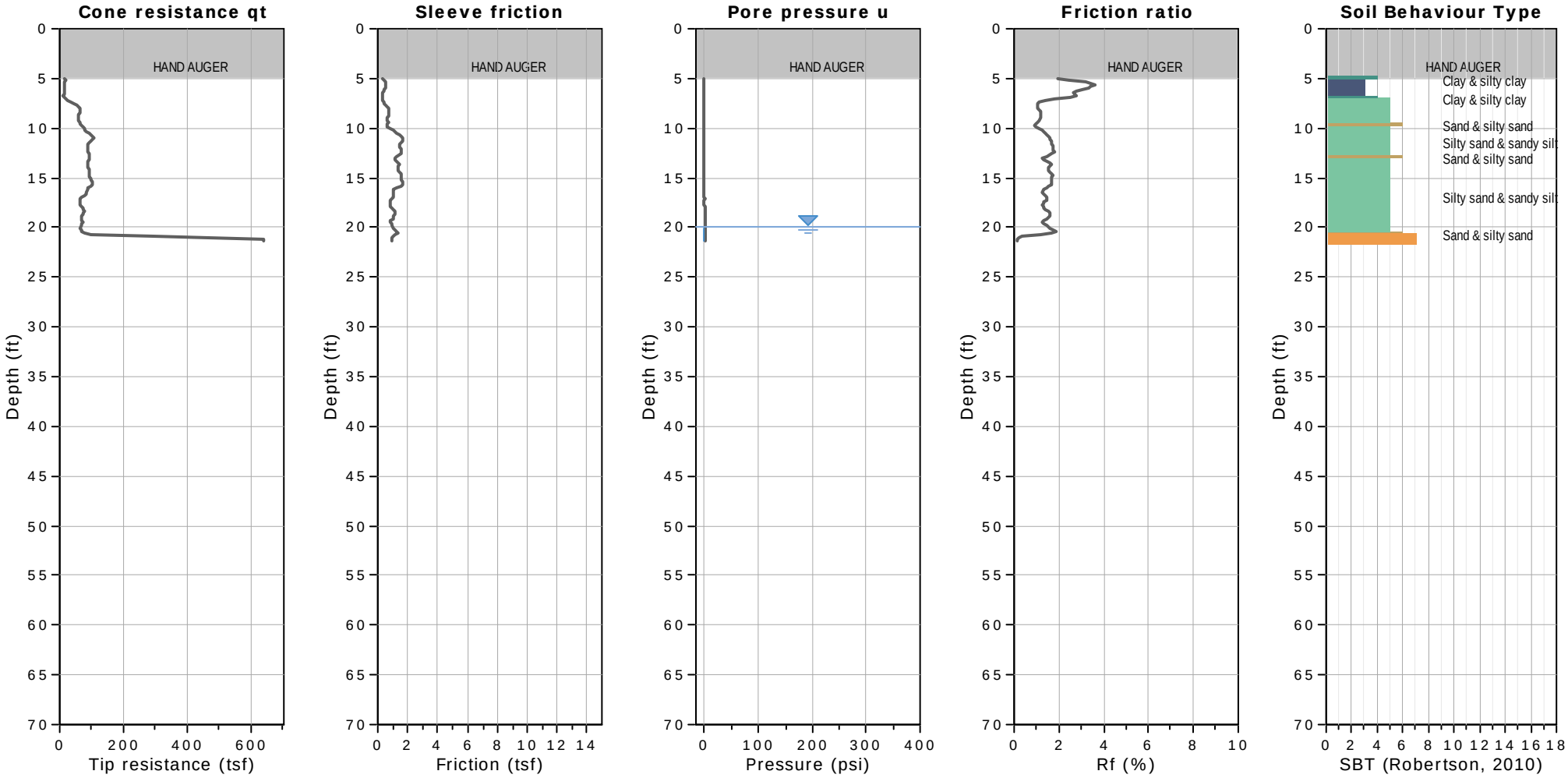


CLIENT: CALIFORNIA ENVIRONMENTAL

SITE: 712 NORTH BAKER STREET, LONG BEACH, CA

Field Rep: CHARLES B.

Total depth: 21.33 ft, Date: 4/9/2019



WATER TABLE FOR ESTIMATING PURPOSES ONLY

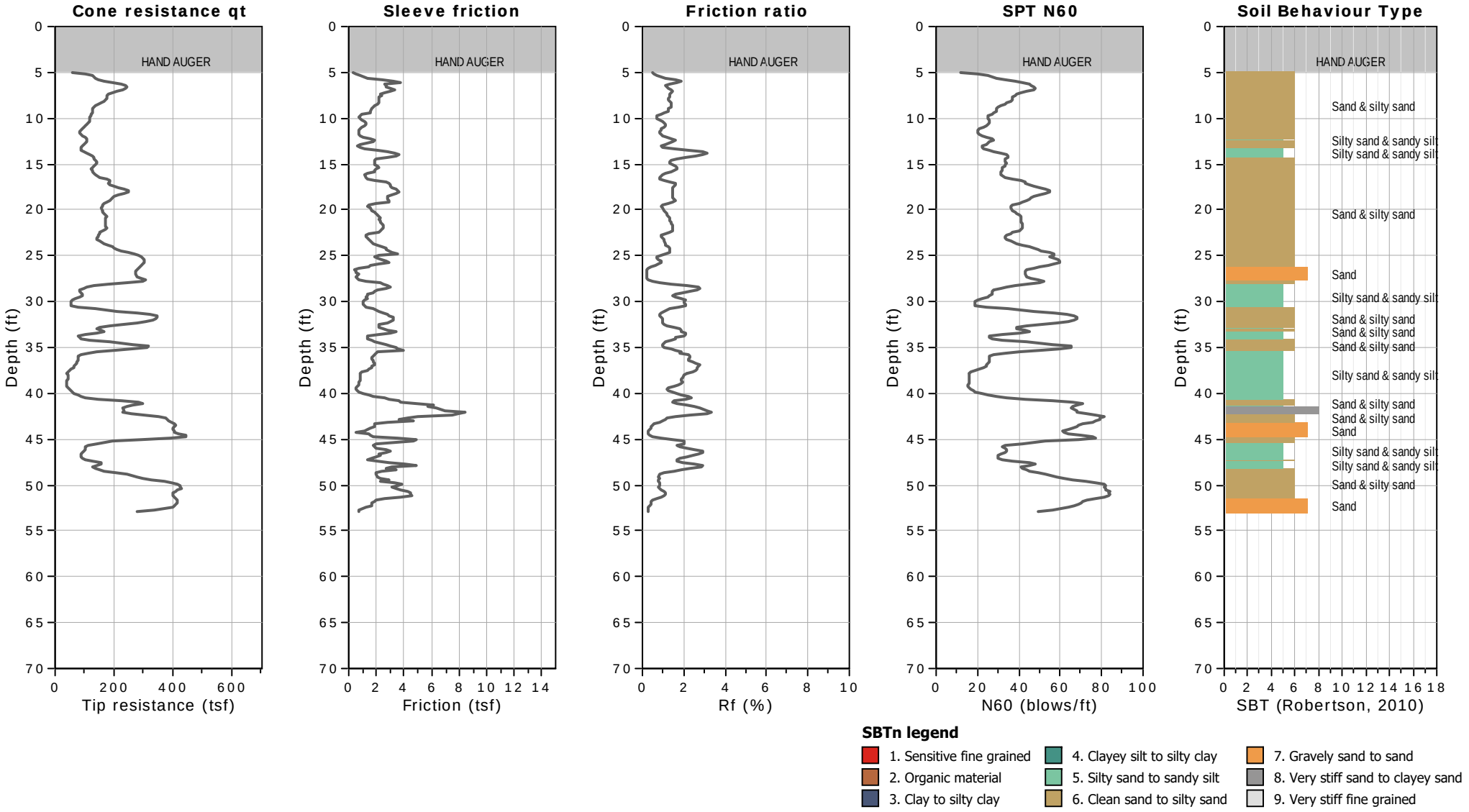
CPT: CPT-08

CLIENT: CALIFORNIA ENVIRONMENTAL

SITE: 712 NORTH BAKER STREET, LONG BEACH, CA

Field Rep: CHARLES B.

Total depth: 52.82 ft, Date: 4/9/2019

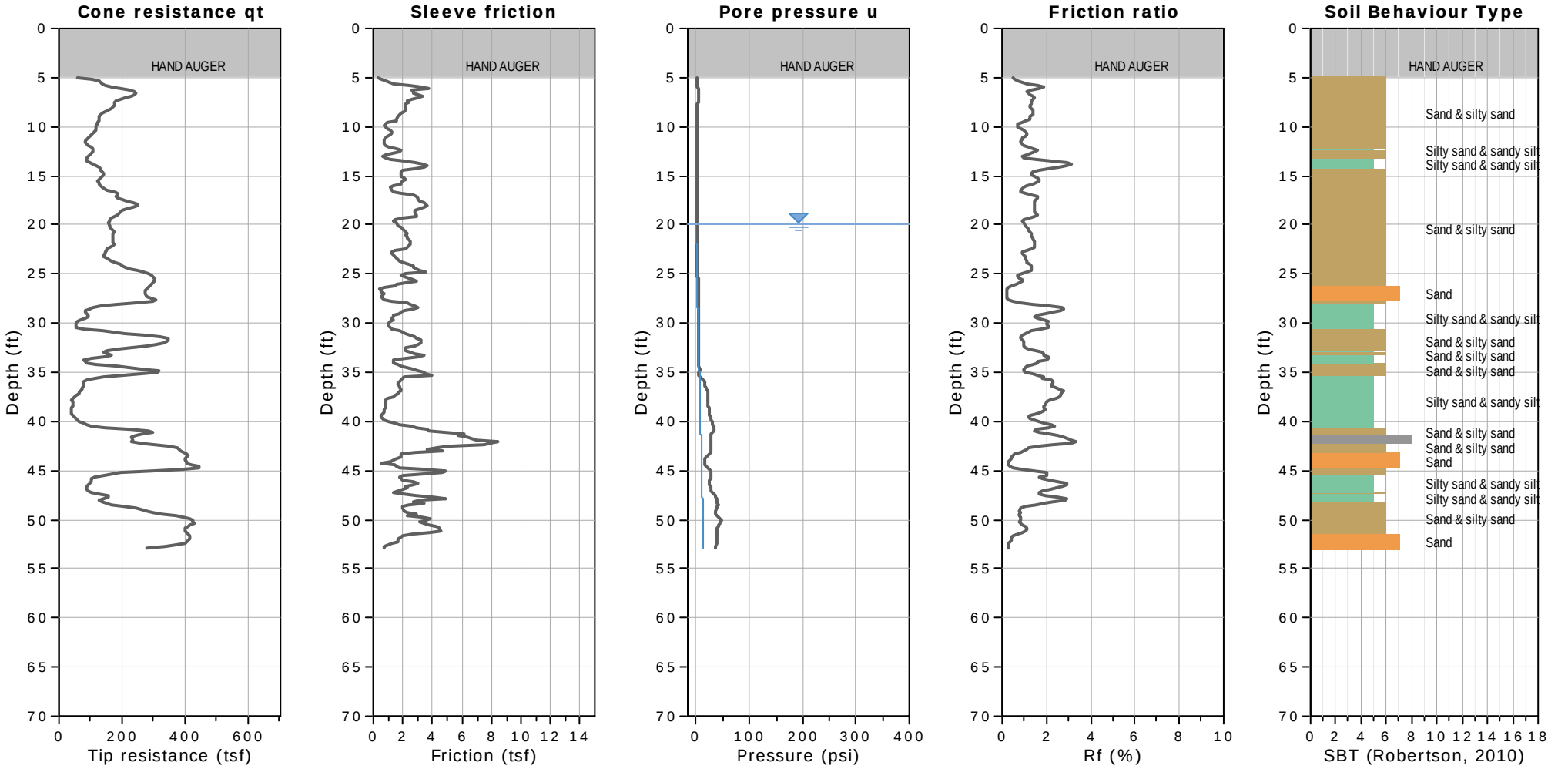


CLIENT: CALIFORNIA ENVIRONMENTAL

SITE: 712 NORTH BAKER STREET, LONG BEACH, CA

Field Rep: CHARLES B.

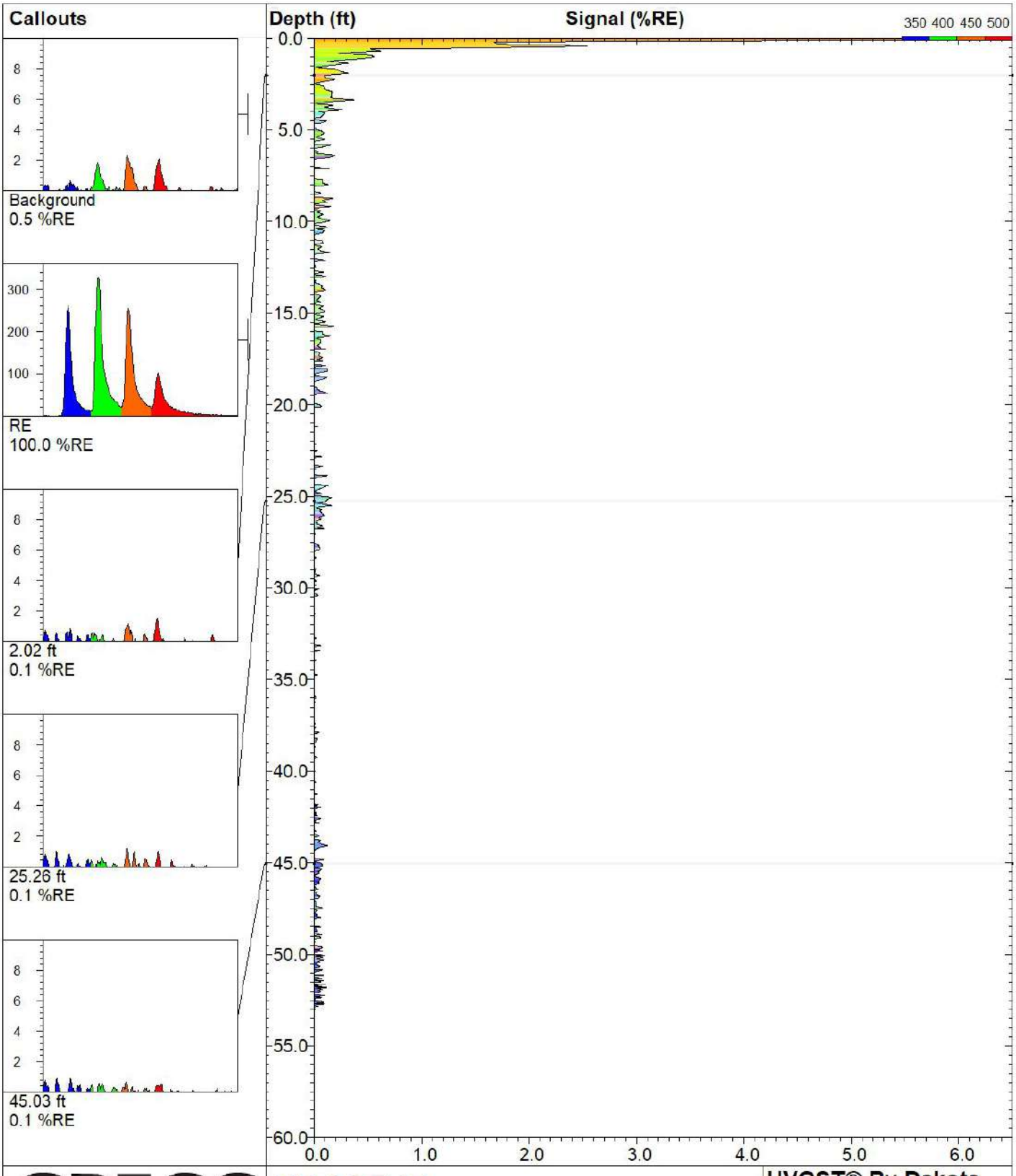
Total depth: 52.82 ft, Date: 4/9/2019



WATER TABLE FOR ESTIMATING PURPOSES ONLY

UVOST BORINGS

(AUTO SCALE)

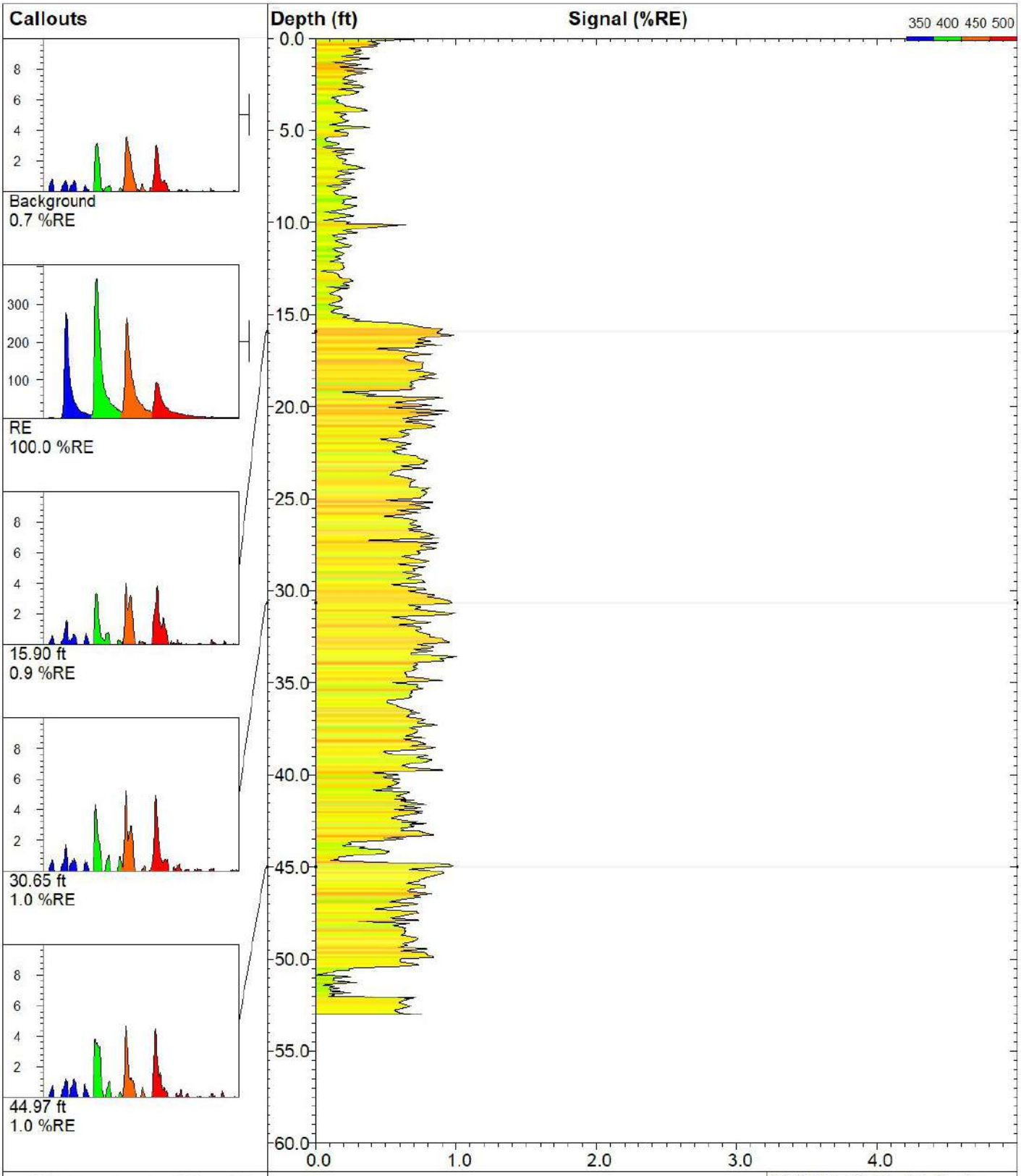


GREGG

UV-CPT-01

UVOST® By Dakota
www.DakotaTechnologies.com

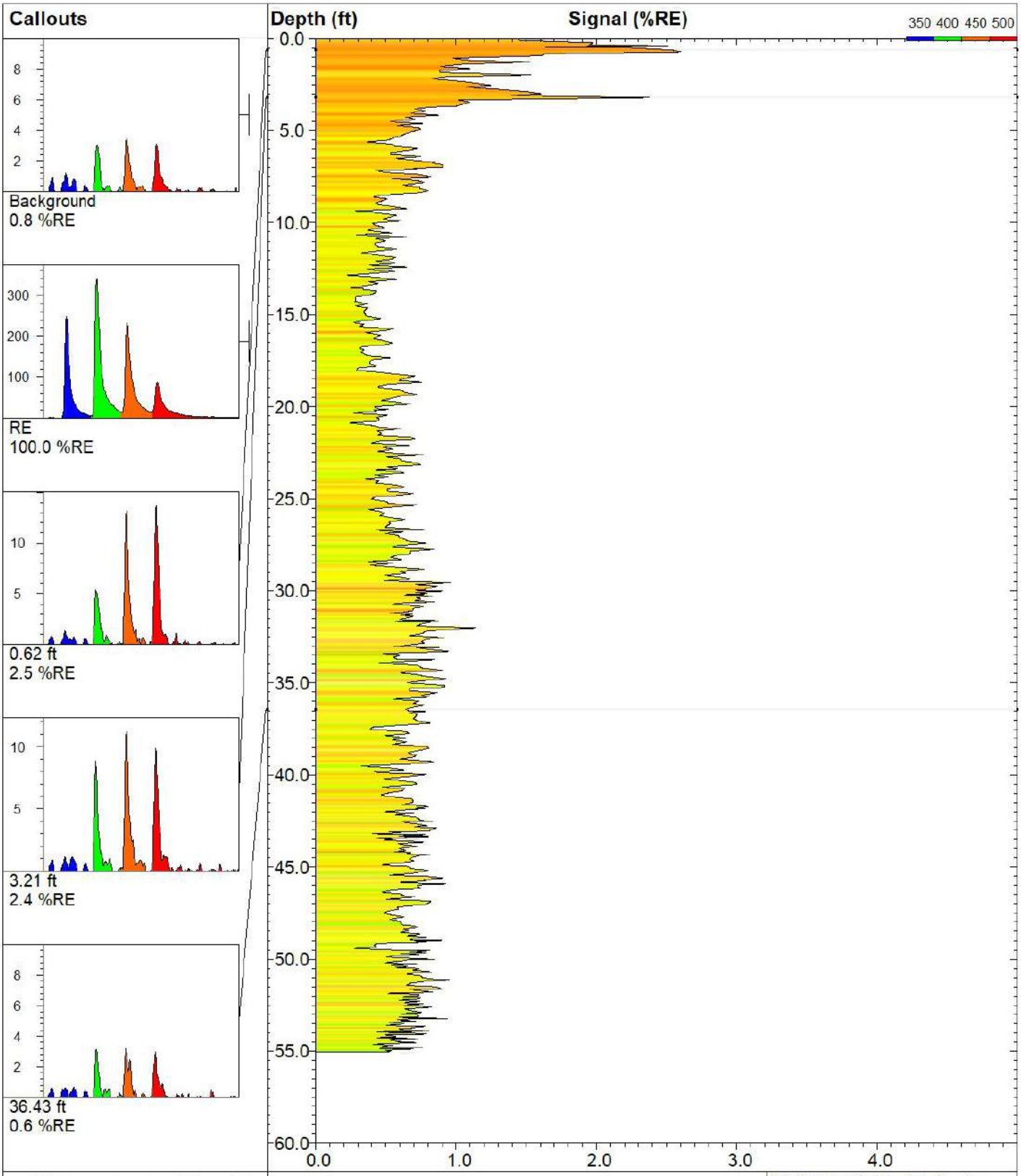
Site: **OIL OPERATORS**	*Y Coord.(Lat-N) / System:* **Unavailable / NA**	*Final depth:* **53.01 ft**
Client / Job: **CALIFORNIA ENV. / UV-D1**	*X Coord.(Lng-E) / Fix:* **Unavailable / NA**	*Max signal:* **5.9 %RE @ 0.09 ft**
Operator / Unit: **ALEX S. / UVOST1007**	*Elevation:* **Unavailable**	*Date & Time:* **2019-04-08 07:37 PDT**



UV-CPT-02

UVOST® By Dakota
www.DakotaTechnologies.com

Site: **OIL OPERATORS**	*Y Coord.(Lat-N) / System:* **Unavailable / NA**	*Final depth:* **53.02 ft**
Client / Job: **CALIFORNIA ENV. / UV-D1**	*X Coord.(Lng-E) / Fix:* **Unavailable / NA**	*Max signal:* **1.0 %RE @ 33.58 ft**
Operator / Unit: **ALEX S. / UVOST1007**	*Elevation:* **Unavailable**	*Date & Time:* **2019-04-08 09:31 PDT**

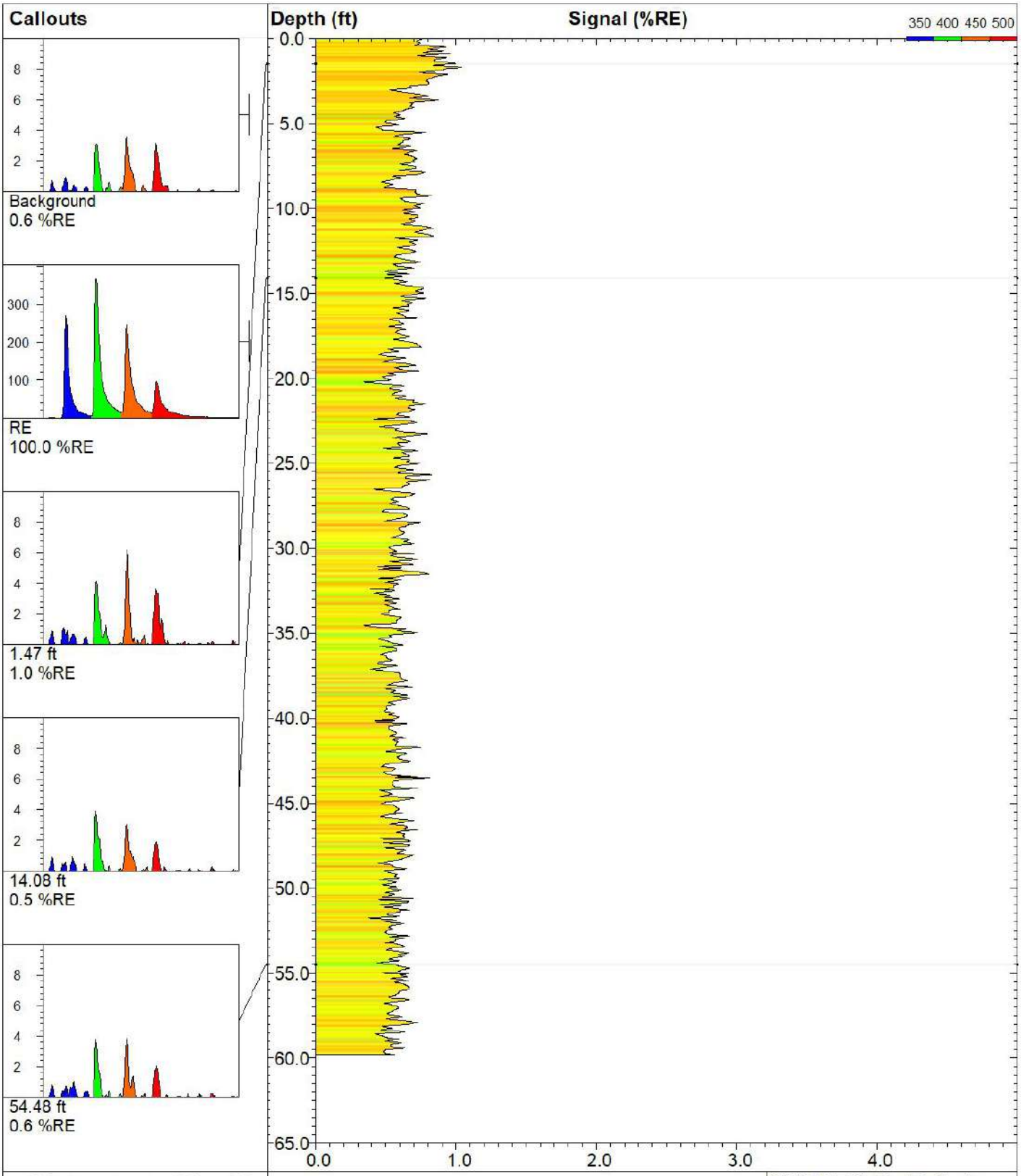


GREGG

UV-CPT-03

UVOST® By Dakota
www.DakotaTechnologies.com

Site: **OIL OPERATORS**	*Y Coord.(Lat-N) / System:* **Unavailable / NA**	*Final depth:* **55.06 ft**
Client / Job: **CALIFORNIA ENV. / UV-D1**	*X Coord.(Lng-E) / Fix:* **Unavailable / NA**	*Max signal:* **2.6 %RE @ 0.72 ft**
Operator / Unit: **ALEX S. / UVOST1007**	*Elevation:* **Unavailable**	*Date & Time:* **2019-04-08 10:52 PDT**

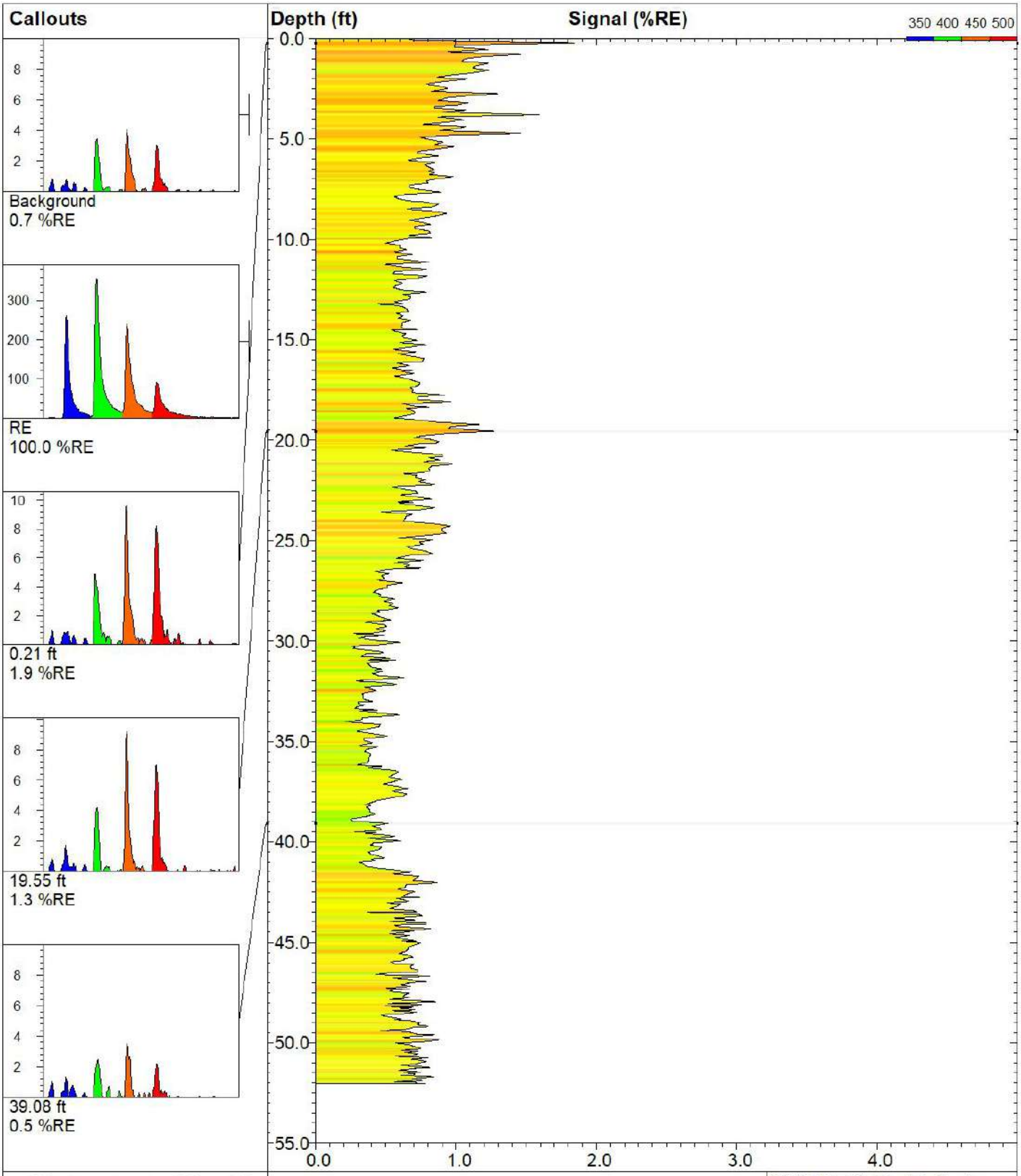


GREGG

UV-CPT-04

UVOST® By Dakota
www.DakotaTechnologies.com

Site: **OIL OPERATORS**	*Y Coord.(Lat-N) / System:* **Unavailable / NA**	*Final depth:* **59.80 ft**
Client / Job: **CALIFORNIA ENV. / UV-D1**	*X Coord.(Lng-E) / Fix:* **Unavailable / NA**	*Max signal:* **1.0 %RE @ 1.70 ft**
Operator / Unit: **ALEX S. / UVOST1007**	*Elevation:* **Unavailable**	*Date & Time:* **2019-04-08 13:01 PDT**



GREGG

UV-CPT-05

UVOST® By Dakota
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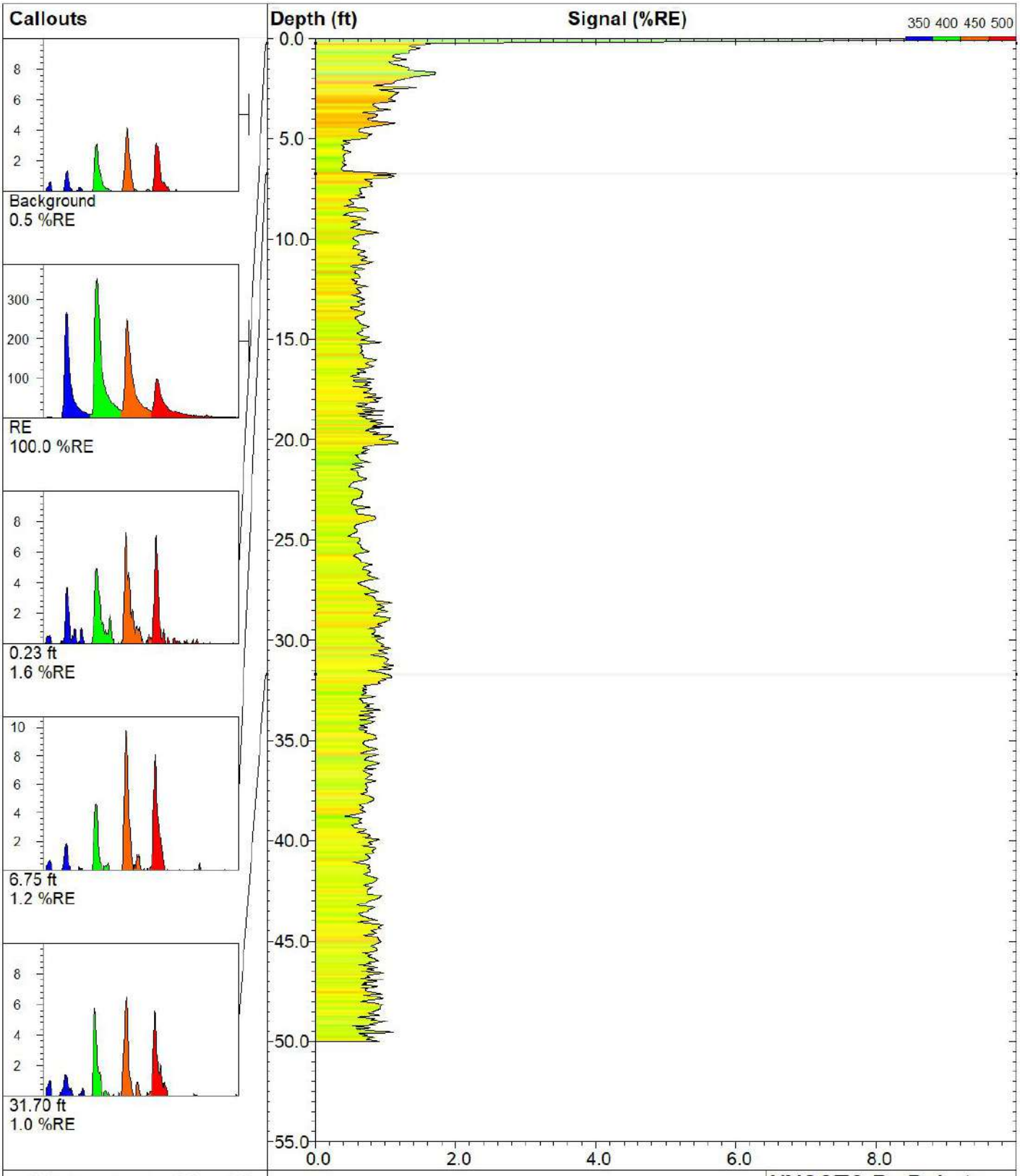
Site: **OIL OPERATORS**	*Y Coord.(Lat-N) / System:* **Unavailable / NA**	*Final depth:* **52.05 ft**
Client / Job: **CALIFORNIA ENV. / UV-D1**	*X Coord.(Lng-E) / Fix:* **Unavailable / NA**	*Max signal:* **1.9 %RE @ 0.21 ft**
Operator / Unit: **ALEX S. / UVOST1007**	*Elevation:* **Unavailable**	*Date & Time:* **2019-04-08 14:39 PDT**

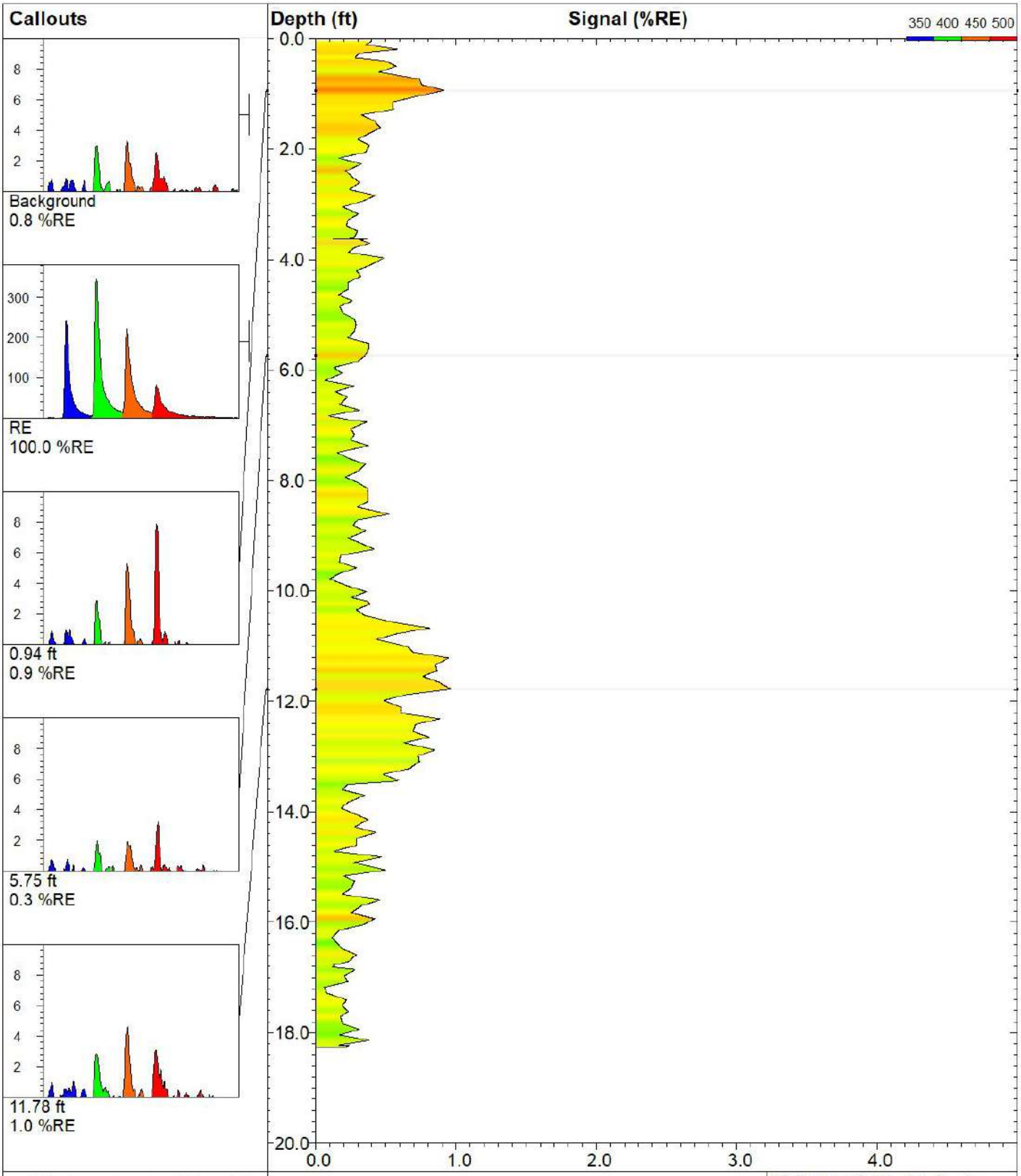


GREGG

UV-CPT-06

UVOST® By Dakota
www.DakotaTechnologies.com

Site: **OIL OPERATORS**	*Y Coord.(Lat-N) / System:* **Unavailable / NA**	*Final depth:* **50.00 ft**
Client / Job: **CALIFORNIA ENV. / UV-D1**	*X Coord.(Lng-E) / Fix:* **Unavailable / NA**	*Max signal:* **8.6 %RE @ 0.10 ft**
Operator / Unit: **ALEX S. / UVOST1007**	*Elevation:* **Unavailable**	*Date & Time:* **2019-04-09 07:27 PDT**

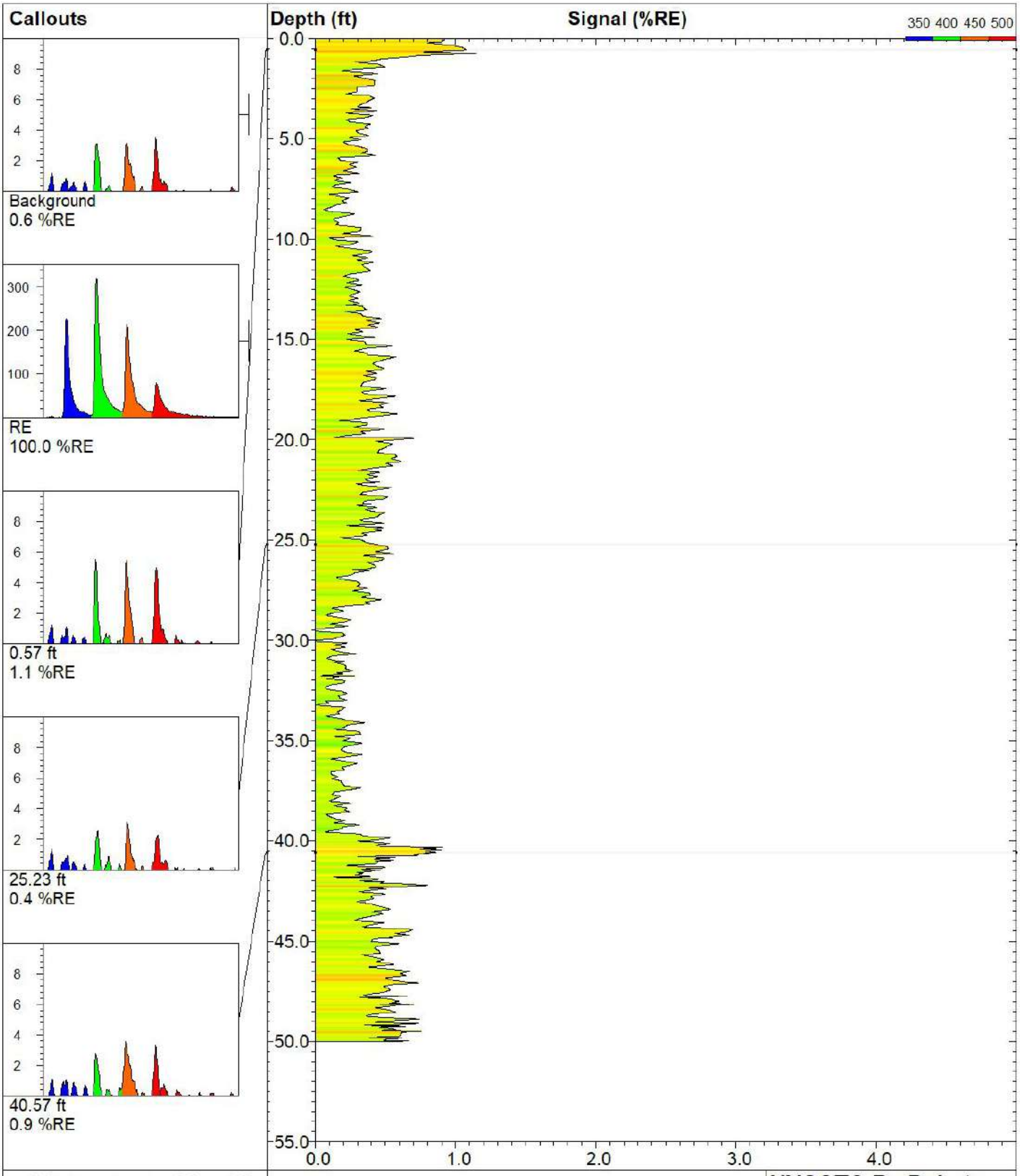


GREGG

UV-CPT-07

UVOST® By Dakota
www.DakotaTechnologies.com

Site: **OIL OPERATORS**	*Y Coord.(Lat-N) / System:* **Unavailable / NA**	*Final depth:* **18.26 ft**
Client / Job: **CALIFORNIA ENV. / UV-D1**	*X Coord.(Lng-E) / Fix:* **Unavailable / NA**	*Max signal:* **1.0 %RE @ 11.78 ft**
Operator / Unit: **ALEX S. / UVOST1007**	*Elevation:* **Unavailable**	*Date & Time:* **2019-04-09 08:57 PDT**



GREGG

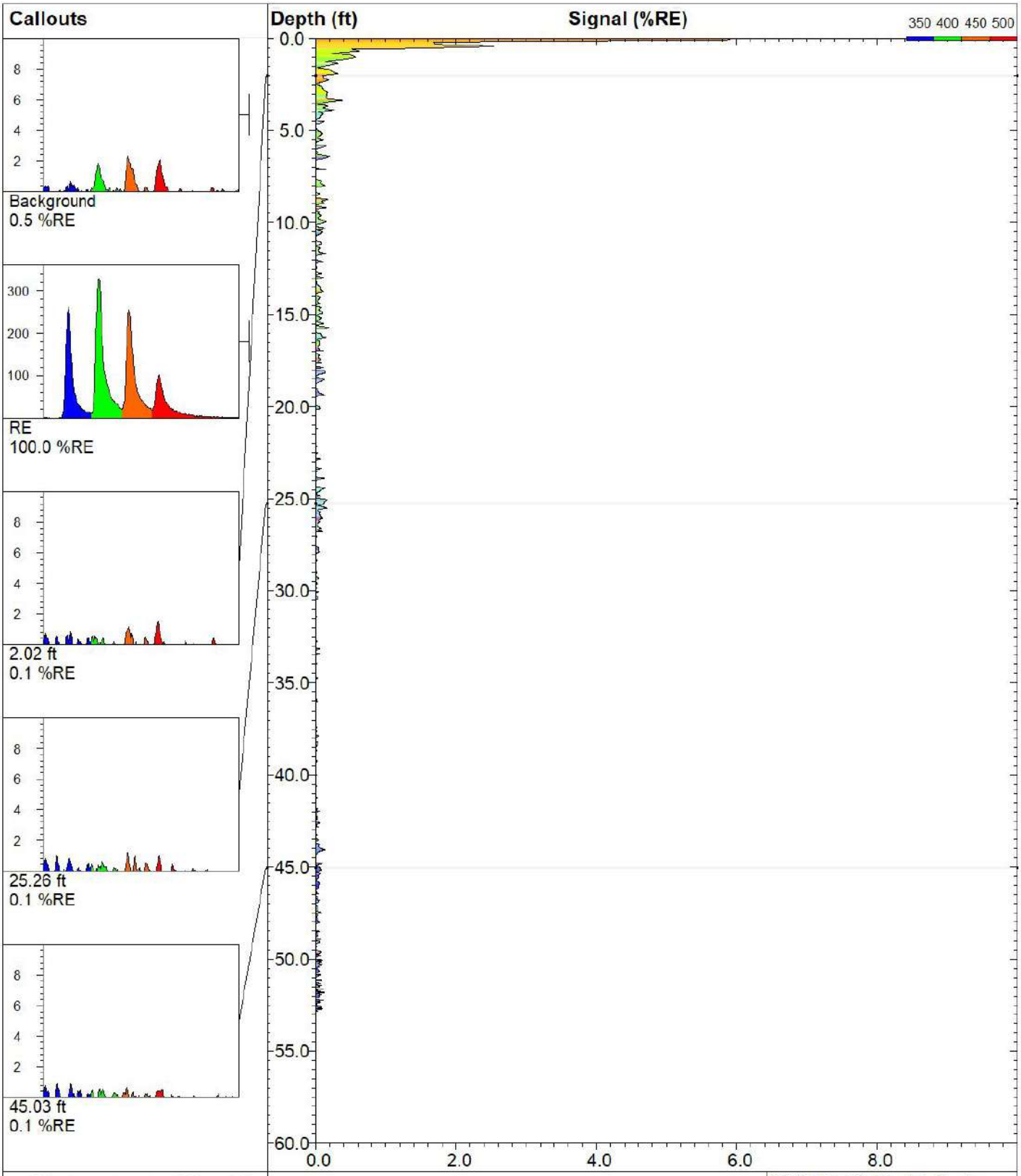
UV-CPT-08

UVOST® By Dakota
www.DakotaTechnologies.com

Site: **OIL OPERATORS**	*Y Coord.(Lat-N) / System:* **Unavailable / NA**	*Final depth:* **50.00 ft**
Client / Job: **CALIFORNIA ENV. / UV-D1**	*X Coord.(Lng-E) / Fix:* **Unavailable / NA**	*Max signal:* **1.2 %RE @ 0.74 ft**
Operator / Unit: **ALEX S. / UVOST1007**	*Elevation:* **Unavailable**	*Date & Time:* **2019-04-09 09:46 PDT**

UVOST BORINGS

(NORMALIZED SCALE)

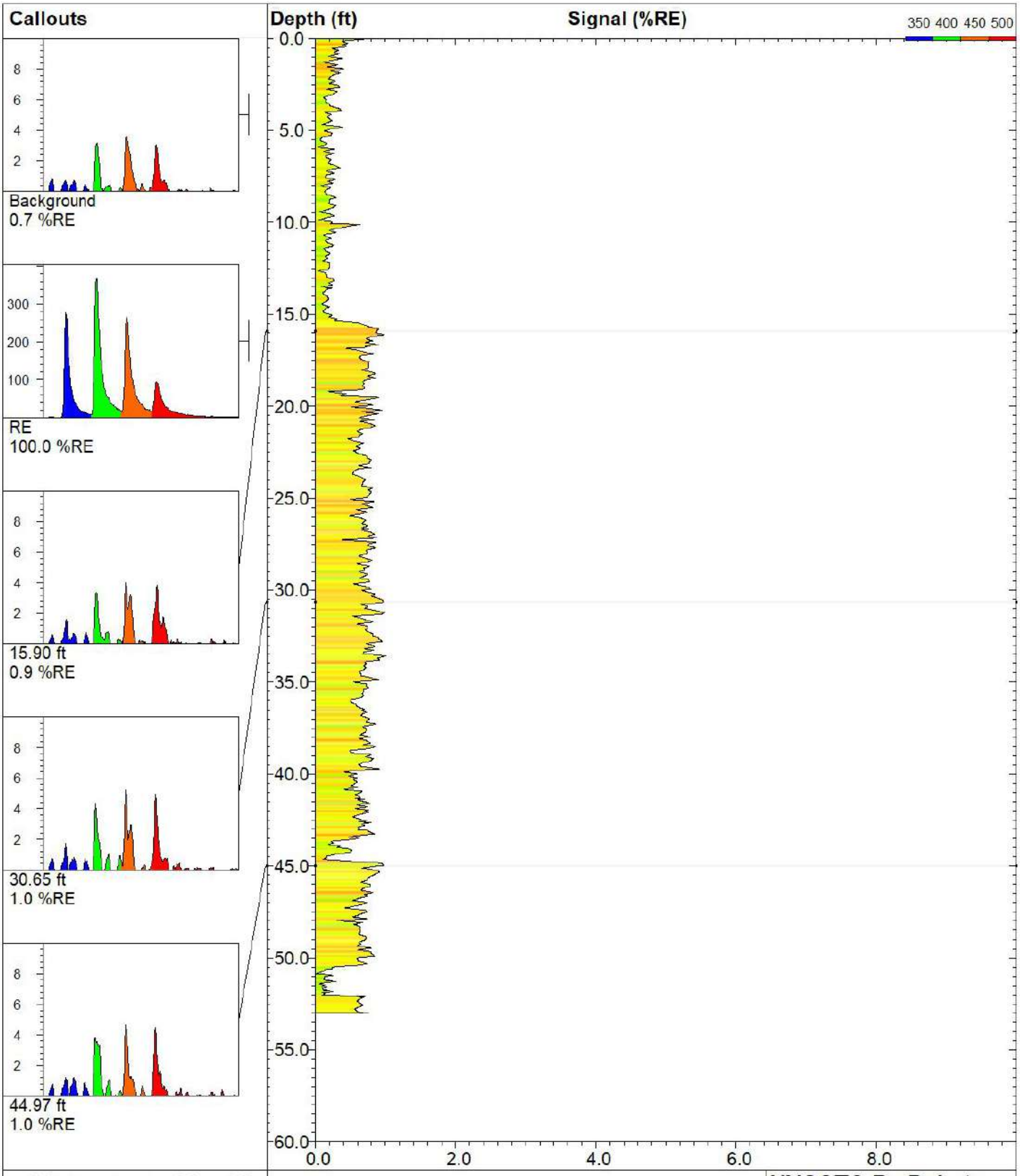


GREGG

UV-CPT-01

UVOST® By Dakota
www.DakotaTechnologies.com

Site: **OIL OPERATORS**	*Y Coord.(Lat-N) / System:* **Unavailable / NA**	*Final depth:* **53.01 ft**
Client / Job: **CALIFORNIA ENV. / UV-D1**	*X Coord.(Lng-E) / Fix:* **Unavailable / NA**	*Max signal:* **5.9 %RE @ 0.09 ft**
Operator / Unit: **ALEX S. / UVOST1007**	*Elevation:* **Unavailable**	*Date & Time:* **2019-04-08 07:37 PDT**

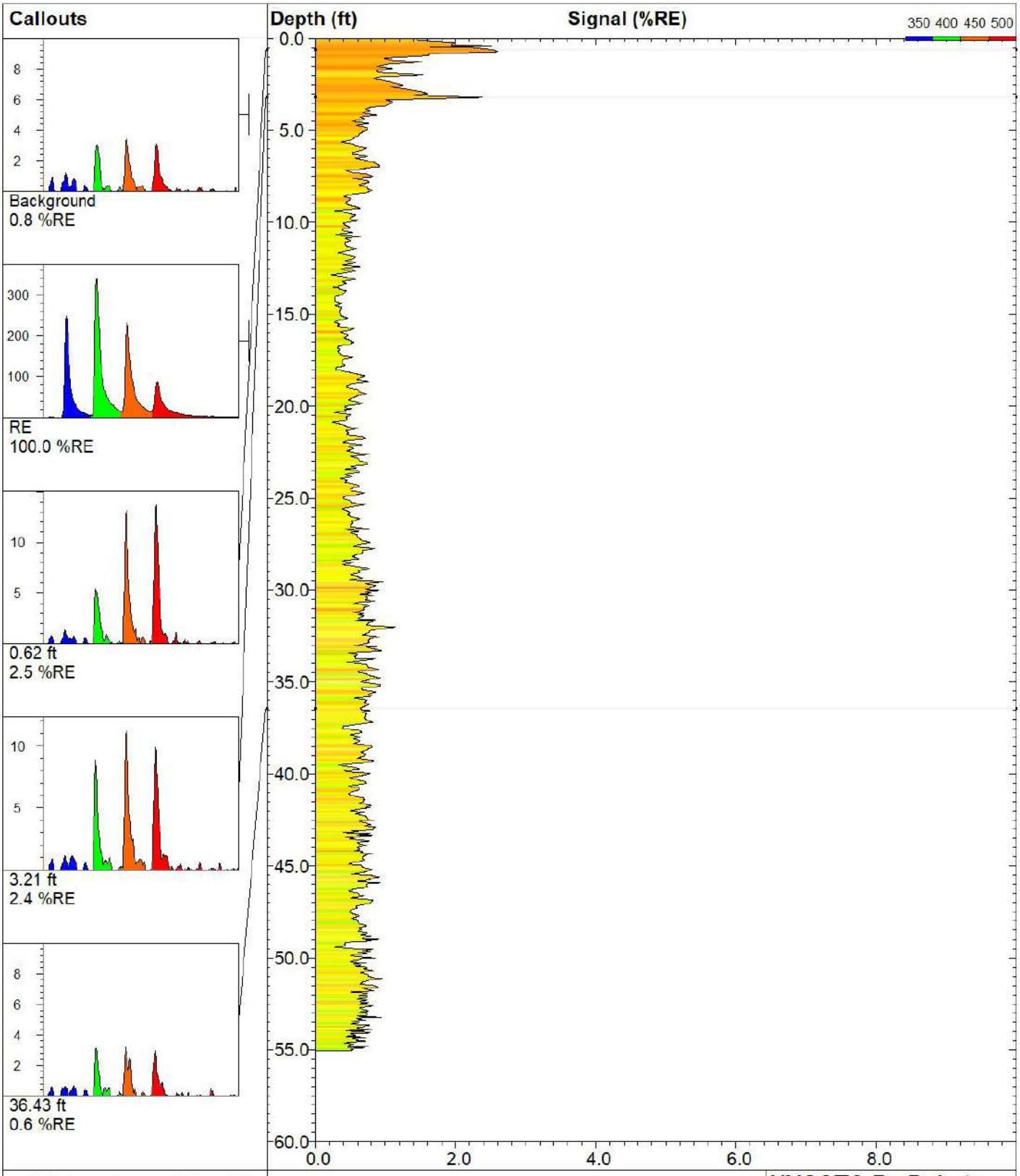


GREGG

UV-CPT-02

UVOST® By Dakota
www.DakotaTechnologies.com

Site: **OIL OPERATORS**	*Y Coord.(Lat-N) / System:* **Unavailable / NA**	*Final depth:* **53.02 ft**
Client / Job: **CALIFORNIA ENV. / UV-D1**	*X Coord.(Lng-E) / Fix:* **Unavailable / NA**	*Max signal:* **1.0 %RE @ 33.58 ft**
Operator / Unit: **ALEX S. / UVOST1007**	*Elevation:* **Unavailable**	*Date & Time:* **2019-04-08 09:31 PDT**

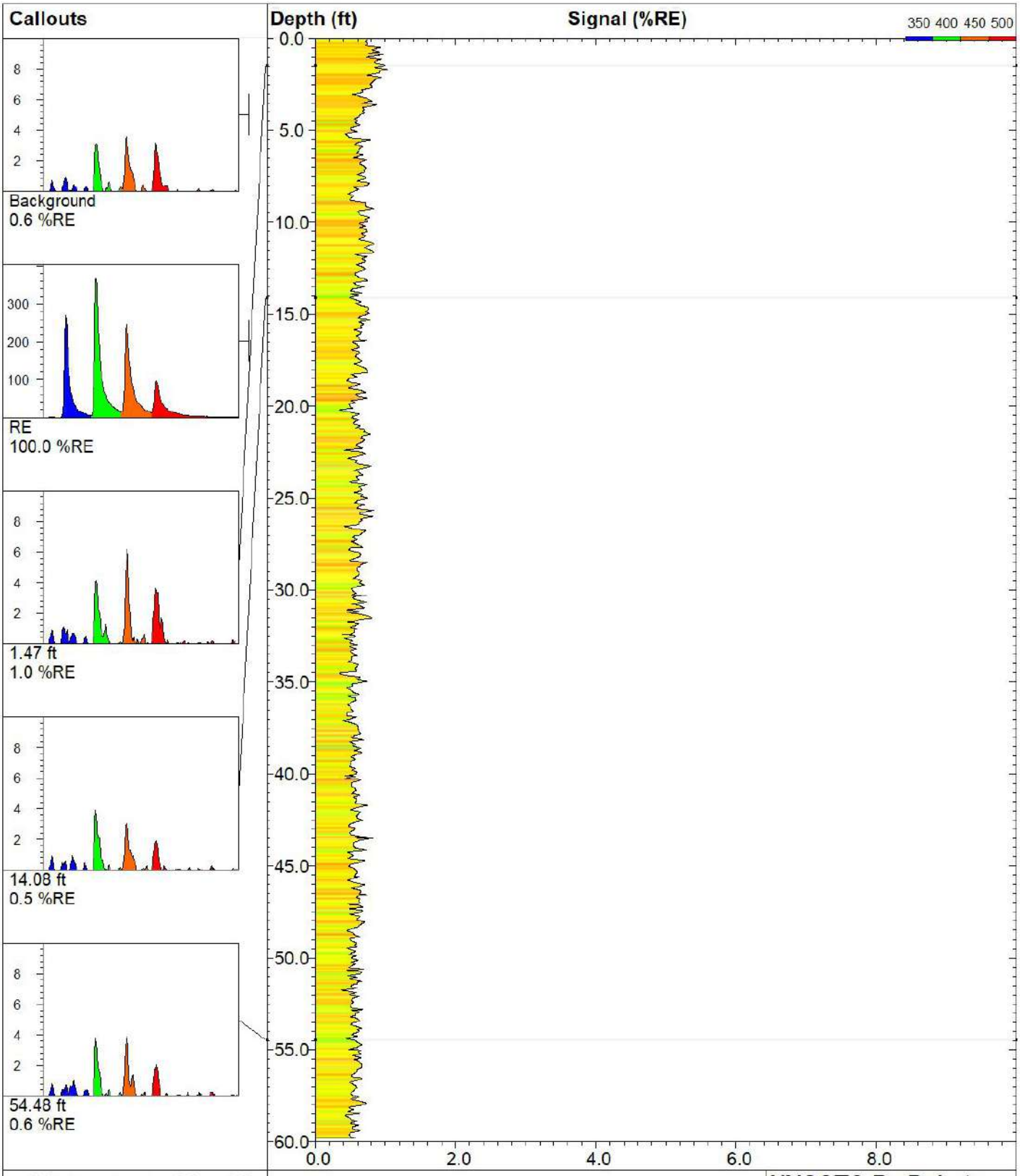


GREGG

UV-CPT-03

UVOST® By Dakota
www.DakotaTechnologies.com

Site: **OIL OPERATORS**	*Y Coord.(Lat-N) / System:* **Unavailable / NA**	*Final depth:* **55.06 ft**
Client / Job: **CALIFORNIA ENV. / UV-D1**	*X Coord.(Lng-E) / Fix:* **Unavailable / NA**	*Max signal:* **2.6 %RE @ 0.72 ft**
Operator / Unit: **ALEX S. / UVOST1007**	*Elevation:* **Unavailable**	*Date & Time:* **2019-04-08 10:52 PDT**

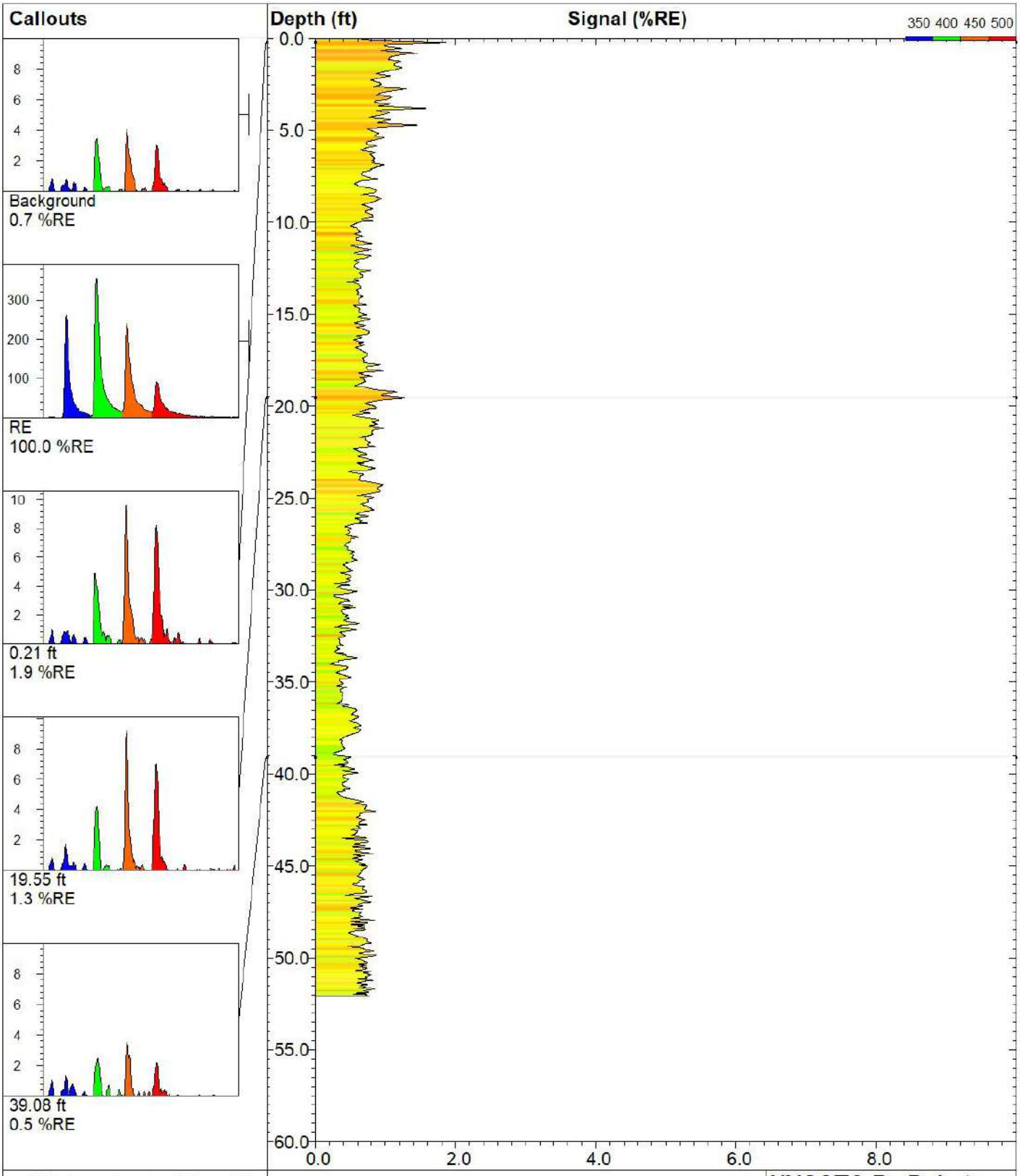


GREGG

UV-CPT-04

UVOST® By Dakota
www.DakotaTechnologies.com

Site: **OIL OPERATORS**	*Y Coord.(Lat-N) / System:* **Unavailable / NA**	*Final depth:* **59.80 ft**
Client / Job: **CALIFORNIA ENV. / UV-D1**	*X Coord.(Lng-E) / Fix:* **Unavailable / NA**	*Max signal:* **1.0 %RE @ 1.70 ft**
Operator / Unit: **ALEX S. / UVOST1007**	*Elevation:* **Unavailable**	*Date & Time:* **2019-04-08 13:01 PDT**



GREGG

UV-CPT-05

UVOST® By Dakota
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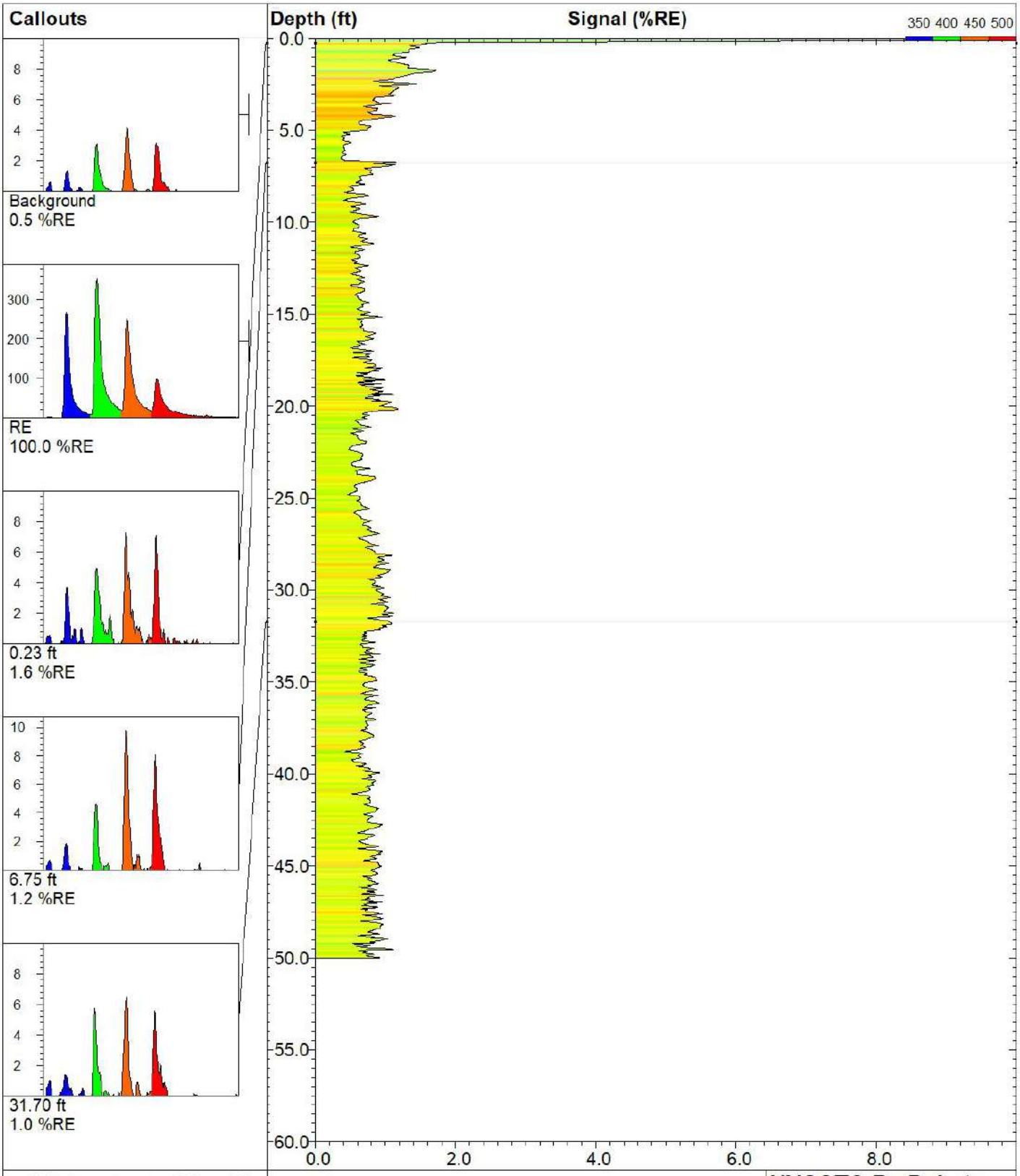
Site: **OIL OPERATORS**	*Y Coord.(Lat-N) / System:* **Unavailable / NA**	*Final depth:* **52.05 ft**
Client / Job: **CALIFORNIA ENV. / UV-D1**	*X Coord.(Lng-E) / Fix:* **Unavailable / NA**	*Max signal:* **1.9 %RE @ 0.21 ft**
Operator / Unit: **ALEX S. / UVOST1007**	*Elevation:* **Unavailable**	*Date & Time:* **2019-04-08 14:39 PDT**

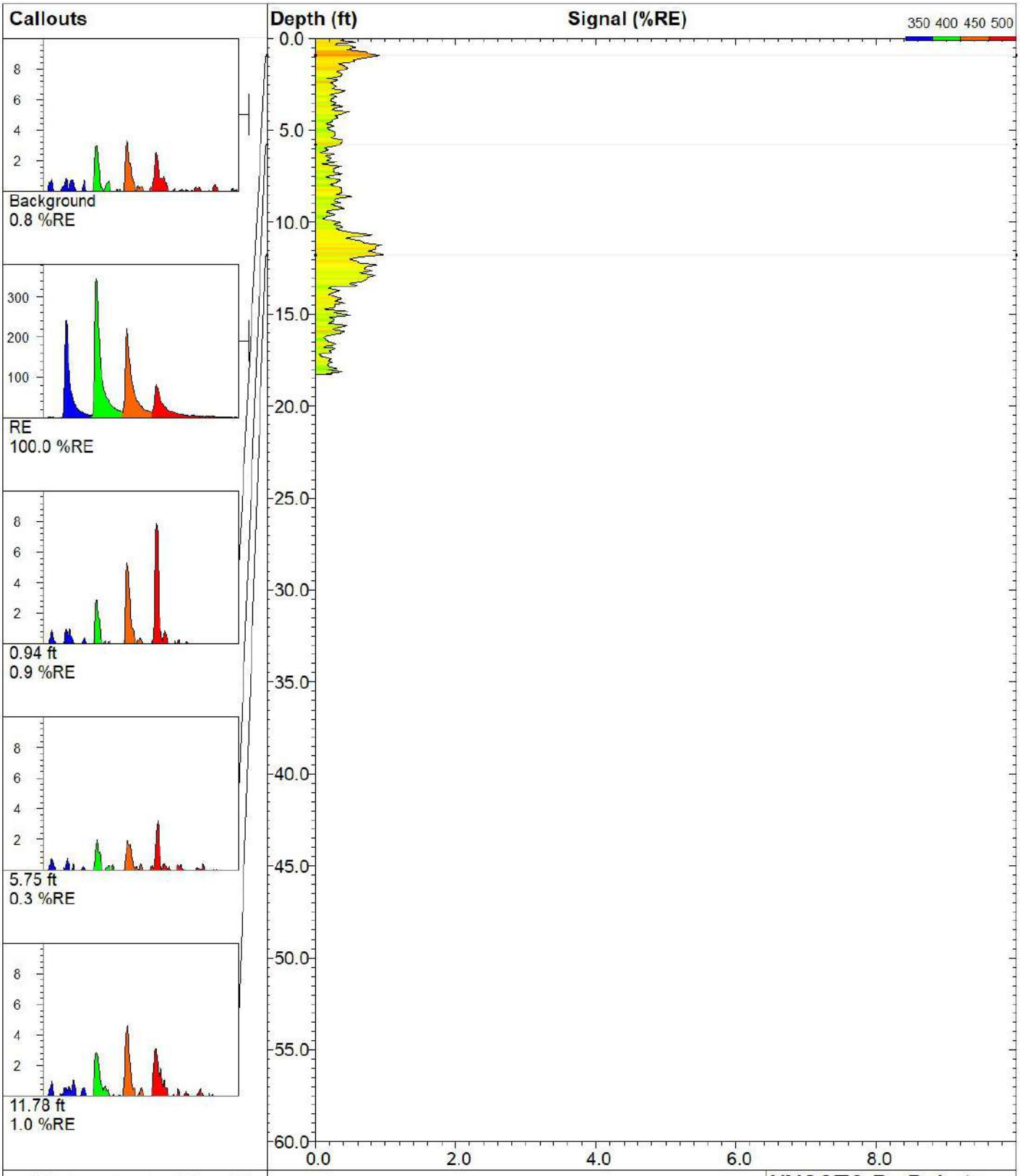


GREGG

UV-CPT-06

UVOST® By Dakota
www.DakotaTechnologies.com

Site: **OIL OPERATORS**	*Y Coord.(Lat-N) / System:* **Unavailable / NA**	*Final depth:* **50.00 ft**
Client / Job: **CALIFORNIA ENV. / UV-D1**	*X Coord.(Lng-E) / Fix:* **Unavailable / NA**	*Max signal:* **8.6 %RE @ 0.10 ft**
Operator / Unit: **ALEX S. / UVOST1007**	*Elevation:* **Unavailable**	*Date & Time:* **2019-04-09 07:27 PDT**

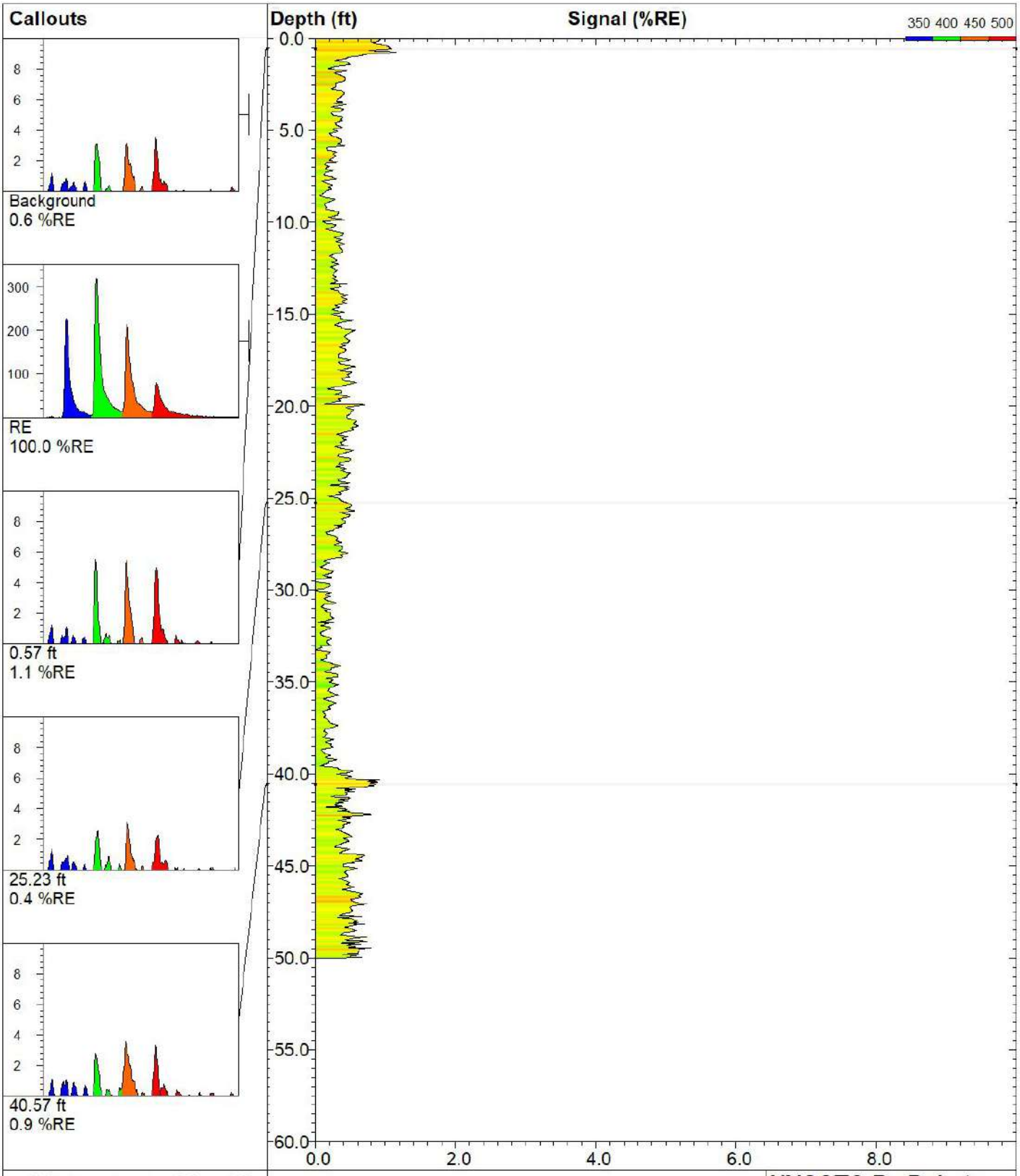


GREGG

UV-CPT-07

UVOST® By Dakota
www.DakotaTechnologies.com

Site: **OIL OPERATORS**	*Y Coord.(Lat-N) / System:* **Unavailable / NA**	*Final depth:* **18.26 ft**
Client / Job: **CALIFORNIA ENV. / UV-D1**	*X Coord.(Lng-E) / Fix:* **Unavailable / NA**	*Max signal:* **1.0 %RE @ 11.78 ft**
Operator / Unit: **ALEX S. / UVOST1007**	*Elevation:* **Unavailable**	*Date & Time:* **2019-04-09 08:57 PDT**



GREGG

UV-CPT-08

UVOST® By Dakota
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Site: **OIL OPERATORS**	*Y Coord.(Lat-N) / System:* **Unavailable / NA**	*Final depth:* **50.00 ft**
Client / Job: **CALIFORNIA ENV. / UV-D1**	*X Coord.(Lng-E) / Fix:* **Unavailable / NA**	*Max signal:* **1.2 %RE @ 0.74 ft**
Operator / Unit: **ALEX S. / UVOST1007**	*Elevation:* **Unavailable**	*Date & Time:* **2019-04-09 09:46 PDT**

APPENDIX IV

Laboratory Test Report

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Supplemental Report 1

The original report has been revised/corrected.

WORK ORDER NUMBER: 19-06-1669

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: California Environmental

Client Project Name: OOI

Attention: Charles Buckley
30423 Canwood St.
Suite 208
Agoura Hills, CA 91301-4316

Approved for release on 07/08/2019 by:
Don Burley
Project Manager

ResultLink

Email your PM

eurofins | Calscience

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Work Order Number: 19-06-1669

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Work Order Narrative

Work Order: 19-06-1669 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 06/25/19. They were assigned to Work Order 19-06-1669.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-13A): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

The report has been revised to correct the sample IDs.

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Sample Summary

Client:	California Environmental	Work Order:	19-06-1669
	30423 Canwood St., Suite 208	Project Name:	OOI
	Agoura Hills, CA 91301-4316	PO Number:	3029
		Date/Time Received:	06/25/19 17:30
		Number of Containers:	87
Attn:	Charles Buckley		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
CESB9-5.5'	19-06-1669-1	06/25/19 08:35	5	Solid
CESB9-10.5'	19-06-1669-2	06/25/19 08:43	5	Solid
CESB9-15.5'	19-06-1669-3	06/25/19 08:52	5	Solid
CESB9-20.5'	19-06-1669-4	06/25/19 09:04	5	Solid
CESB9-25.5'	19-06-1669-5	06/25/19 09:14	5	Solid
CESB9-32'	19-06-1669-6	06/25/19 09:27	5	Solid
CESB9-37.0'	19-06-1669-7	06/25/19 10:08	5	Solid
CESB9-35.5'	19-06-1669-8	06/25/19 10:18	4	Solid
CESB10-3'	19-06-1669-9	06/25/19 11:20	5	Solid
CESB10-10.5'	19-06-1669-10	06/25/19 11:40	5	Solid
CESB10-15.5'	19-06-1669-11	06/25/19 12:20	5	Solid
CESB10-20.5'	19-06-1669-12	06/25/19 12:38	5	Solid
CESB10-25.5'	19-06-1669-13	06/25/19 12:51	5	Solid
CESB10-30'	19-06-1669-14	06/25/19 13:01	4	Solid
CESB10-33'	19-06-1669-15	06/25/19 13:15	4	Solid
CESB10-35'	19-06-1669-16	06/25/19 13:40	3	Solid
CESB10-41'	19-06-1669-17	06/25/19 13:56	3	Solid
CESB10-43'	19-06-1669-18	06/25/19 14:06	3	Solid
CESB10-45'	19-06-1669-19	06/25/19 14:35	3	Solid
CESB9-GW	19-06-1669-20	06/25/19 15:20	3	Aqueous

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 1 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-5.5'	**19-06-1669-1-A**	**06/25/19 08:35**	**Solid**	**GC 49**	**06/26/19**	**06/27/19 19:26**	**190626B02**

Comment(s): - The total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qualifiers
C6	ND	4.8	1.00	
C7	ND	4.8	1.00	
C8	ND	4.8	1.00	
C9-C10	ND	4.8	1.00	
C11-C12	ND	4.8	1.00	
C13-C14	ND	4.8	1.00	
C15-C16	ND	4.8	1.00	
C17-C18	ND	4.8	1.00	
C19-C20	ND	4.8	1.00	
C21-C22	ND	4.8	1.00	
C23-C24	ND	4.8	1.00	
C25-C28	ND	4.8	1.00	
C29-C32	ND	4.8	1.00	
C33-C36	ND	4.8	1.00	
C37-C40	ND	4.8	1.00	
C41-C44	ND	4.8	1.00	
C6-C44 Total	6.6	4.8	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	97	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 2 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-10.5'	**19-06-1669-2-A**	**06/25/19 08:43**	**Solid**	**GC 49**	**06/26/19**	**06/27/19 19:48**	**190626B02**

Comment(s): - The total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.1	1.00	
C7	ND	5.1	1.00	
C8	ND	5.1	1.00	
C9-C10	ND	5.1	1.00	
C11-C12	ND	5.1	1.00	
C13-C14	ND	5.1	1.00	
C15-C16	ND	5.1	1.00	
C17-C18	ND	5.1	1.00	
C19-C20	ND	5.1	1.00	
C21-C22	ND	5.1	1.00	
C23-C24	ND	5.1	1.00	
C25-C28	9.4	5.1	1.00	
C29-C32	13	5.1	1.00	
C33-C36	8.6	5.1	1.00	
C37-C40	7.9	5.1	1.00	
C41-C44	ND	5.1	1.00	
C6-C44 Total	55	5.1	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	96	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 3 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-15.5'	**19-06-1669-3-A**	**06/25/19 08:52**	**Solid**	**GC 49**	**06/26/19**	**06/27/19 20:08**	**190626B02**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.2	1.00	
C7	ND	5.2	1.00	
C8	ND	5.2	1.00	
C9-C10	ND	5.2	1.00	
C11-C12	ND	5.2	1.00	
C13-C14	ND	5.2	1.00	
C15-C16	ND	5.2	1.00	
C17-C18	ND	5.2	1.00	
C19-C20	ND	5.2	1.00	
C21-C22	ND	5.2	1.00	
C23-C24	ND	5.2	1.00	
C25-C28	ND	5.2	1.00	
C29-C32	ND	5.2	1.00	
C33-C36	ND	5.2	1.00	
C37-C40	ND	5.2	1.00	
C41-C44	ND	5.2	1.00	
C6-C44 Total	ND	5.2	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	106	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 4 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-20.5'	**19-06-1669-4-A**	**06/25/19 09:04**	**Solid**	**GC 49**	**06/26/19**	**06/27/19 20:30**	**190626B02**

Comment(s): - The total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qualifiers
C6	ND	4.8	1.00	
C7	ND	4.8	1.00	
C8	ND	4.8	1.00	
C9-C10	ND	4.8	1.00	
C11-C12	ND	4.8	1.00	
C13-C14	ND	4.8	1.00	
C15-C16	ND	4.8	1.00	
C17-C18	ND	4.8	1.00	
C19-C20	ND	4.8	1.00	
C21-C22	ND	4.8	1.00	
C23-C24	ND	4.8	1.00	
C25-C28	ND	4.8	1.00	
C29-C32	ND	4.8	1.00	
C33-C36	ND	4.8	1.00	
C37-C40	ND	4.8	1.00	
C41-C44	ND	4.8	1.00	
C6-C44 Total	11	4.8	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	97	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 5 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-25.5'	**19-06-1669-5-A**	**06/25/19 09:14**	**Solid**	**GC 49**	**06/26/19**	**06/27/19 20:50**	**190626B02**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.1	1.00	
C7	ND	5.1	1.00	
C8	ND	5.1	1.00	
C9-C10	ND	5.1	1.00	
C11-C12	ND	5.1	1.00	
C13-C14	ND	5.1	1.00	
C15-C16	ND	5.1	1.00	
C17-C18	ND	5.1	1.00	
C19-C20	ND	5.1	1.00	
C21-C22	ND	5.1	1.00	
C23-C24	ND	5.1	1.00	
C25-C28	ND	5.1	1.00	
C29-C32	ND	5.1	1.00	
C33-C36	ND	5.1	1.00	
C37-C40	ND	5.1	1.00	
C41-C44	ND	5.1	1.00	
C6-C44 Total	ND	5.1	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	100	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 6 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-32'	**19-06-1669-6-A**	**06/25/19 09:27**	**Solid**	**GC 49**	**06/26/19**	**06/27/19 21:12**	**190626B02**

Comment(s): - The total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qualifiers
C6	ND	4.8	1.00	
C7	24	4.8	1.00	
C8	110	4.8	1.00	
C9-C10	420	4.8	1.00	
C11-C12	150	4.8	1.00	
C13-C14	ND	4.8	1.00	
C15-C16	ND	4.8	1.00	
C17-C18	ND	4.8	1.00	
C19-C20	4.9	4.8	1.00	
C21-C22	5.2	4.8	1.00	
C23-C24	ND	4.8	1.00	
C25-C28	ND	4.8	1.00	
C29-C32	ND	4.8	1.00	
C33-C36	ND	4.8	1.00	
C37-C40	ND	4.8	1.00	
C41-C44	ND	4.8	1.00	
C6-C44 Total	730	4.8	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	98	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 7 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-37.0'	**19-06-1669-7-A**	**06/25/19 10:08**	**Solid**	**GC 49**	**06/26/19**	**06/27/19 21:32**	**190626B02**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	98	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 8 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-3'	**19-06-1669-9-B**	**06/25/19 11:20**	**Solid**	**GC 49**	**06/26/19**	**06/27/19 21:54**	**190626B02**

Comment(s): - The total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.2	1.00	
C7	ND	5.2	1.00	
C8	ND	5.2	1.00	
C9-C10	ND	5.2	1.00	
C11-C12	ND	5.2	1.00	
C13-C14	ND	5.2	1.00	
C15-C16	ND	5.2	1.00	
C17-C18	ND	5.2	1.00	
C19-C20	ND	5.2	1.00	
C21-C22	ND	5.2	1.00	
C23-C24	ND	5.2	1.00	
C25-C28	ND	5.2	1.00	
C29-C32	ND	5.2	1.00	
C33-C36	ND	5.2	1.00	
C37-C40	ND	5.2	1.00	
C41-C44	ND	5.2	1.00	
C6-C44 Total	7.8	5.2	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	95	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 9 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-10.5'	**19-06-1669-10-A**	**06/25/19 11:40**	**Solid**	**GC 49**	**06/26/19**	**06/28/19 09:58**	**190626B02**

Comment(s): - The total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qualifiers
C6	ND	4.9	1.00	
C7	ND	4.9	1.00	
C8	ND	4.9	1.00	
C9-C10	ND	4.9	1.00	
C11-C12	ND	4.9	1.00	
C13-C14	ND	4.9	1.00	
C15-C16	ND	4.9	1.00	
C17-C18	ND	4.9	1.00	
C19-C20	ND	4.9	1.00	
C21-C22	ND	4.9	1.00	
C23-C24	ND	4.9	1.00	
C25-C28	24	4.9	1.00	
C29-C32	47	4.9	1.00	
C33-C36	38	4.9	1.00	
C37-C40	27	4.9	1.00	
C41-C44	16	4.9	1.00	
C6-C44 Total	160	4.9	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	90	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 10 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-15.5'	**19-06-1669-11-A**	**06/25/19 12:20**	**Solid**	**GC 49**	**06/26/19**	**06/28/19 10:20**	**190626B02**

Comment(s): - The total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	6.1	5.0	1.00	
C23-C24	8.7	5.0	1.00	
C25-C28	51	5.0	1.00	
C29-C32	87	5.0	1.00	
C33-C36	63	5.0	1.00	
C37-C40	46	5.0	1.00	
C41-C44	17	5.0	1.00	
C6-C44 Total	280	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	89	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 11 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-20.5'	**19-06-1669-12-A**	**06/25/19 12:38**	**Solid**	**GC 49**	**06/26/19**	**06/27/19 22:58**	**190626B02**

Comment(s): - The total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	9.7	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	78	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 12 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-25.5'	**19-06-1669-13-A**	**06/25/19 12:51**	**Solid**	**GC 49**	**06/26/19**	**06/27/19 23:19**	**190626B02**

Parameter	Result	RL	DF	Qualifiers
C6	ND	4.8	1.00	
C7	ND	4.8	1.00	
C8	ND	4.8	1.00	
C9-C10	ND	4.8	1.00	
C11-C12	ND	4.8	1.00	
C13-C14	ND	4.8	1.00	
C15-C16	ND	4.8	1.00	
C17-C18	ND	4.8	1.00	
C19-C20	ND	4.8	1.00	
C21-C22	ND	4.8	1.00	
C23-C24	ND	4.8	1.00	
C25-C28	ND	4.8	1.00	
C29-C32	ND	4.8	1.00	
C33-C36	ND	4.8	1.00	
C37-C40	ND	4.8	1.00	
C41-C44	ND	4.8	1.00	
C6-C44 Total	ND	4.8	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	87	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 13 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-490-3650**	**N/A**	**Solid**	**GC 49**	**06/26/19**	**06/26/19 12:28**	**190626B02**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	94	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: OOI			Page 1 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-5.5'	**19-06-1669-1-A**	**06/25/19 08:35**	**Solid**	**ICP 8300**	**06/28/19**	**06/29/19 18:29**	**190628L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	5.57	0.732	0.976	
Lead	1.97	0.488	0.976	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-10.5'	**19-06-1669-2-A**	**06/25/19 08:43**	**Solid**	**ICP 8300**	**06/28/19**	**06/29/19 18:36**	**190628L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	8.47	0.739	0.985	
Lead	3.91	0.493	0.985	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-15.5'	**19-06-1669-3-A**	**06/25/19 08:52**	**Solid**	**ICP 8300**	**06/28/19**	**06/29/19 18:38**	**190628L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	1.78	0.746	0.995	
Lead	2.16	0.498	0.995	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-20.5'	**19-06-1669-4-A**	**06/25/19 09:04**	**Solid**	**ICP 8300**	**06/28/19**	**06/29/19 18:40**	**190628L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	2.04	0.743	0.990	
Lead	3.79	0.495	0.990	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-25.5'	**19-06-1669-5-A**	**06/25/19 09:14**	**Solid**	**ICP 8300**	**06/28/19**	**06/29/19 18:42**	**190628L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	3.00	0.746	0.995	
Lead	1.14	0.498	0.995	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-32'	**19-06-1669-6-A**	**06/25/19 09:27**	**Solid**	**ICP 8300**	**06/28/19**	**06/29/19 18:43**	**190628L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	5.32	0.746	0.995	
Lead	2.54	0.498	0.995	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/25/19
Work Order: 19-06-1669
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-37.0'	**19-06-1669-7-A**	**06/25/19 10:08**	**Solid**	**ICP 8300**	**06/28/19**	**06/29/19 18:45**	**190628L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	11.5	0.746	0.995	
Lead	3.57	0.498	0.995	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-3'	**19-06-1669-9-A**	**06/25/19 11:20**	**Solid**	**ICP 8300**	**06/28/19**	**06/29/19 18:47**	**190628L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	ND	0.743	0.990	
Lead	3.02	0.495	0.990	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-10.5'	**19-06-1669-10-A**	**06/25/19 11:40**	**Solid**	**ICP 8300**	**06/28/19**	**06/29/19 18:49**	**190628L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	ND	0.739	0.985	
Lead	2.11	0.493	0.985	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-15.5'	**19-06-1669-11-A**	**06/25/19 12:20**	**Solid**	**ICP 8300**	**06/28/19**	**06/29/19 18:51**	**190628L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	2.71	0.739	0.985	
Lead	1.82	0.493	0.985	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-20.5'	**19-06-1669-12-A**	**06/25/19 12:38**	**Solid**	**ICP 8300**	**06/28/19**	**06/29/19 18:52**	**190628L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	3.33	0.739	0.985	
Lead	1.20	0.493	0.985	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-25.5'	**19-06-1669-13-A**	**06/25/19 12:51**	**Solid**	**ICP 8300**	**06/28/19**	**06/29/19 18:58**	**190628L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	0.948	0.739	0.985	
Lead	0.827	0.493	0.985	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: OOI			Page 3 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-28068**	**N/A**	**Solid**	**ICP 8300**	**06/28/19**	**07/01/19 21:31**	**190628L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	ND	0.746	0.995	
Lead	ND	0.498	0.995	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/25/19
Work Order: 19-06-1669
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Units: ug/L

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-GW	**19-06-1669-20-C**	**06/25/19 15:20**	**Aqueous**	**GC/MS PP**	**07/01/19**	**07/02/19 02:55**	**190701L020**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	100	5.00	
Benzene	200	2.5	5.00	
Bromobenzene	ND	5.0	5.00	
Bromochloromethane	ND	5.0	5.00	
Bromodichloromethane	ND	5.0	5.00	
Bromoform	ND	25	5.00	
Bromomethane	ND	250	5.00	
2-Butanone	ND	50	5.00	
n-Butylbenzene	23	5.0	5.00	
sec-Butylbenzene	17	5.0	5.00	
tert-Butylbenzene	ND	5.0	5.00	
Carbon Disulfide	ND	50	5.00	
Carbon Tetrachloride	ND	2.5	5.00	
Chlorobenzene	ND	5.0	5.00	
Chloroethane	ND	25	5.00	
Chloroform	ND	5.0	5.00	
Chloromethane	ND	50	5.00	
2-Chlorotoluene	ND	5.0	5.00	
4-Chlorotoluene	ND	5.0	5.00	
Dibromochloromethane	ND	5.0	5.00	
1,2-Dibromo-3-Chloropropane	ND	50	5.00	
1,2-Dibromoethane	ND	5.0	5.00	
Dibromomethane	ND	5.0	5.00	
1,2-Dichlorobenzene	ND	5.0	5.00	
1,3-Dichlorobenzene	ND	5.0	5.00	
1,4-Dichlorobenzene	ND	5.0	5.00	
Dichlorodifluoromethane	ND	5.0	5.00	
1,1-Dichloroethane	ND	5.0	5.00	
1,2-Dichloroethane	ND	2.5	5.00	
1,1-Dichloroethene	ND	5.0	5.00	
c-1,2-Dichloroethene	ND	5.0	5.00	
t-1,2-Dichloroethene	ND	5.0	5.00	
1,2-Dichloropropane	ND	5.0	5.00	
1,3-Dichloropropane	ND	5.0	5.00	
2,2-Dichloropropane	ND	5.0	5.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5030C
	Method:	GC/MS / EPA 8260B
	Units:	ug/L
Project: OOI		Page 2 of 6

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	5.0	5.00	
c-1,3-Dichloropropene	ND	2.5	5.00	
t-1,3-Dichloropropene	ND	2.5	5.00	
Ethylbenzene	720	5.0	5.00	
2-Hexanone	ND	50	5.00	
Isopropylbenzene	150	5.0	5.00	
p-Isopropyltoluene	45	5.0	5.00	
Methylene Chloride	ND	50	5.00	
4-Methyl-2-Pentanone	ND	50	5.00	
Naphthalene	84	50	5.00	
n-Propylbenzene	140	5.0	5.00	
Styrene	ND	5.0	5.00	
1,1,1,2-Tetrachloroethane	ND	5.0	5.00	
1,1,2,2-Tetrachloroethane	ND	5.0	5.00	
Tetrachloroethene	ND	5.0	5.00	
Toluene	13	5.0	5.00	
1,2,3-Trichlorobenzene	ND	5.0	5.00	
1,2,4-Trichlorobenzene	ND	5.0	5.00	
1,1,1-Trichloroethane	ND	5.0	5.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	50	5.00	
1,1,2-Trichloroethane	ND	5.0	5.00	
Trichloroethene	ND	5.0	5.00	
Trichlorofluoromethane	ND	50	5.00	
1,2,3-Trichloropropane	ND	25	5.00	
1,2,4-Trimethylbenzene	380	5.0	5.00	
1,3,5-Trimethylbenzene	22	5.0	5.00	
Vinyl Acetate	ND	50	5.00	
Vinyl Chloride	ND	2.5	5.00	
p/m-Xylene	340	5.0	5.00	
o-Xylene	110	5.0	5.00	
Methyl-t-Butyl Ether (MTBE)	ND	5.0	5.00	
Tert-Butyl Alcohol (TBA)	ND	50	5.00	
Diisopropyl Ether (DIPE)	ND	10	5.00	
Ethyl-t-Butyl Ether (ETBE)	ND	10	5.00	
Tert-Amyl-Methyl Ether (TAME)	ND	10	5.00	
Ethanol	ND	500	5.00	
TPPH	16000	250	5.00	
Gasoline Range Organics	13000	250	5.00	
Gasoline Range Organics (C4-C12)	15000	250	5.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5030C
		Method:	GC/MS / EPA 8260B
		Units:	ug/L
Project: OOI			Page 3 of 6

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	96	78-126	
1,2-Dichloroethane-d4	90	75-135	
Toluene-d8	102	80-120	
Toluene-d8-TPPH	96	80-120	
1,4-Bromofluorobenzene	104	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/25/19
Work Order: 19-06-1669
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Units: ug/L

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-767-8589**	**N/A**	**Aqueous**	**GC/MS PP**	**07/01/19**	**07/01/19 19:17**	**190701L020**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	20	1.00	
Benzene	ND	0.50	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	1.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.0	1.00	
Bromomethane	ND	50	1.00	
2-Butanone	ND	10	1.00	
n-Butylbenzene	ND	1.0	1.00	
sec-Butylbenzene	ND	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	0.50	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	5.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	10	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	1.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	10	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	1.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	0.50	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	1.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5030C
	Method:	GC/MS / EPA 8260B
	Units:	ug/L
Project: OOI		Page 5 of 6

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.0	1.00	
c-1,3-Dichloropropene	ND	0.50	1.00	
t-1,3-Dichloropropene	ND	0.50	1.00	
Ethylbenzene	ND	1.0	1.00	
2-Hexanone	ND	10	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	ND	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	10	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	1.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	1.0	1.00	
1,1,2,2-Tetrachloroethane	ND	1.0	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	1.0	1.00	
1,2,4-Trichlorobenzene	ND	1.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
Trichloroethene	ND	1.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	5.0	1.00	
1,2,4-Trimethylbenzene	ND	1.0	1.00	
1,3,5-Trimethylbenzene	ND	1.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	0.50	1.00	
p/m-Xylene	ND	1.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	1.00	
Diisopropyl Ether (DIPE)	ND	2.0	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1.00	
Ethanol	ND	100	1.00	
TPPH	ND	50	1.00	
Gasoline Range Organics	ND	50	1.00	
Gasoline Range Organics (C4-C12)	ND	50	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5030C
		Method:	GC/MS / EPA 8260B
		Units:	ug/L
Project: OOI			Page 6 of 6

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	98	78-126	
1,2-Dichloroethane-d4	98	75-135	
Toluene-d8	98	80-120	
Toluene-d8-TPPH	94	80-120	
1,4-Bromofluorobenzene	99	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 1 of 66

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-5.5'	**19-06-1669-1-D**	**06/25/19 08:35**	**Solid**	**GC/MS OO**	**06/25/19**	**07/02/19 19:56**	**190702L028**

Parameter	Result	RL	DF	Qualifiers
Acetone	47	40	1.00	
Benzene	ND	0.81	1.00	
Bromobenzene	ND	0.81	1.00	
Bromochloromethane	ND	1.6	1.00	
Bromodichloromethane	ND	0.81	1.00	
Bromoform	ND	4.0	1.00	
Bromomethane	ND	16	1.00	
2-Butanone	ND	16	1.00	
n-Butylbenzene	ND	0.81	1.00	
sec-Butylbenzene	ND	0.81	1.00	
tert-Butylbenzene	ND	0.81	1.00	
Carbon Disulfide	ND	8.1	1.00	
Carbon Tetrachloride	ND	0.81	1.00	
Chlorobenzene	ND	0.81	1.00	
Chloroethane	ND	1.6	1.00	
Chloroform	ND	0.81	1.00	
Chloromethane	ND	16	1.00	
2-Chlorotoluene	ND	0.81	1.00	
4-Chlorotoluene	ND	0.81	1.00	
Dibromochloromethane	ND	1.6	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.0	1.00	
1,2-Dibromoethane	ND	0.81	1.00	
Dibromomethane	ND	0.81	1.00	
1,2-Dichlorobenzene	ND	0.81	1.00	
1,3-Dichlorobenzene	ND	0.81	1.00	
1,4-Dichlorobenzene	ND	0.81	1.00	
Dichlorodifluoromethane	ND	1.6	1.00	
1,1-Dichloroethane	ND	0.81	1.00	
1,2-Dichloroethane	ND	0.81	1.00	
1,1-Dichloroethene	ND	0.81	1.00	
c-1,2-Dichloroethene	ND	0.81	1.00	
t-1,2-Dichloroethene	ND	0.81	1.00	
1,2-Dichloropropane	ND	0.81	1.00	
1,3-Dichloropropane	ND	0.81	1.00	
2,2-Dichloropropane	ND	4.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 2 of 66

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.6	1.00	
c-1,3-Dichloropropene	ND	0.81	1.00	
t-1,3-Dichloropropene	ND	1.6	1.00	
Ethylbenzene	ND	0.81	1.00	
2-Hexanone	ND	16	1.00	
Isopropylbenzene	ND	0.81	1.00	
p-Isopropyltoluene	ND	0.81	1.00	
Methylene Chloride	ND	8.1	1.00	
4-Methyl-2-Pentanone	ND	16	1.00	
Naphthalene	ND	8.1	1.00	
n-Propylbenzene	ND	1.6	1.00	
Styrene	ND	0.81	1.00	
1,1,1,2-Tetrachloroethane	ND	0.81	1.00	
1,1,2,2-Tetrachloroethane	ND	1.6	1.00	
Tetrachloroethene	ND	0.81	1.00	
Toluene	ND	0.81	1.00	
1,2,3-Trichlorobenzene	ND	1.6	1.00	
1,2,4-Trichlorobenzene	ND	1.6	1.00	
1,1,1-Trichloroethane	ND	0.81	1.00	
1,1,2-Trichloroethane	ND	0.81	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	8.1	1.00	
Trichloroethene	ND	1.6	1.00	
Trichlorofluoromethane	ND	8.1	1.00	
1,2,3-Trichloropropane	ND	1.6	1.00	
1,2,4-Trimethylbenzene	ND	1.6	1.00	
1,3,5-Trimethylbenzene	ND	1.6	1.00	
Vinyl Acetate	ND	8.1	1.00	
Vinyl Chloride	ND	0.81	1.00	
p/m-Xylene	ND	1.6	1.00	
o-Xylene	ND	0.81	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.6	1.00	
Tert-Butyl Alcohol (TBA)	ND	16	1.00	
Diisopropyl Ether (DIPE)	ND	0.81	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.81	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.81	1.00	
Ethanol	ND	400	1.00	
TPPH	ND	40	1.00	
Gasoline Range Organics (C4-C12)	ND	40	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 3 of 66

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	105	79-139	
1,2-Dichloroethane-d4	117	71-155	
1,4-Bromofluorobenzene	100	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	102	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 4 of 66

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-10.5'	**19-06-1669-2-D**	**06/25/19 08:43**	**Solid**	**GC/MS OO**	**06/25/19**	**07/02/19 20:26**	**190702L028**

Parameter	Result	RL	DF	Qualifiers
Acetone	58	40	1.00	
Benzene	ND	0.79	1.00	
Bromobenzene	ND	0.79	1.00	
Bromochloromethane	ND	1.6	1.00	
Bromodichloromethane	ND	0.79	1.00	
Bromoform	ND	4.0	1.00	
Bromomethane	ND	16	1.00	
2-Butanone	ND	16	1.00	
n-Butylbenzene	ND	0.79	1.00	
sec-Butylbenzene	ND	0.79	1.00	
tert-Butylbenzene	ND	0.79	1.00	
Carbon Disulfide	ND	7.9	1.00	
Carbon Tetrachloride	ND	0.79	1.00	
Chlorobenzene	ND	0.79	1.00	
Chloroethane	ND	1.6	1.00	
Chloroform	ND	0.79	1.00	
Chloromethane	ND	16	1.00	
2-Chlorotoluene	ND	0.79	1.00	
4-Chlorotoluene	ND	0.79	1.00	
Dibromochloromethane	ND	1.6	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.0	1.00	
1,2-Dibromoethane	ND	0.79	1.00	
Dibromomethane	ND	0.79	1.00	
1,2-Dichlorobenzene	ND	0.79	1.00	
1,3-Dichlorobenzene	ND	0.79	1.00	
1,4-Dichlorobenzene	ND	0.79	1.00	
Dichlorodifluoromethane	ND	1.6	1.00	
1,1-Dichloroethane	ND	0.79	1.00	
1,2-Dichloroethane	ND	0.79	1.00	
1,1-Dichloroethene	ND	0.79	1.00	
c-1,2-Dichloroethene	ND	0.79	1.00	
t-1,2-Dichloroethene	ND	0.79	1.00	
1,2-Dichloropropane	ND	0.79	1.00	
1,3-Dichloropropane	ND	0.79	1.00	
2,2-Dichloropropane	ND	4.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 5 of 66

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.6	1.00	
c-1,3-Dichloropropene	ND	0.79	1.00	
t-1,3-Dichloropropene	ND	1.6	1.00	
Ethylbenzene	ND	0.79	1.00	
2-Hexanone	ND	16	1.00	
Isopropylbenzene	ND	0.79	1.00	
p-Isopropyltoluene	ND	0.79	1.00	
Methylene Chloride	ND	7.9	1.00	
4-Methyl-2-Pentanone	ND	16	1.00	
Naphthalene	ND	7.9	1.00	
n-Propylbenzene	ND	1.6	1.00	
Styrene	ND	0.79	1.00	
1,1,1,2-Tetrachloroethane	ND	0.79	1.00	
1,1,2,2-Tetrachloroethane	ND	1.6	1.00	
Tetrachloroethene	ND	0.79	1.00	
Toluene	ND	0.79	1.00	
1,2,3-Trichlorobenzene	ND	1.6	1.00	
1,2,4-Trichlorobenzene	ND	1.6	1.00	
1,1,1-Trichloroethane	ND	0.79	1.00	
1,1,2-Trichloroethane	ND	0.79	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	7.9	1.00	
Trichloroethene	ND	1.6	1.00	
Trichlorofluoromethane	ND	7.9	1.00	
1,2,3-Trichloropropane	ND	1.6	1.00	
1,2,4-Trimethylbenzene	ND	1.6	1.00	
1,3,5-Trimethylbenzene	ND	1.6	1.00	
Vinyl Acetate	ND	7.9	1.00	
Vinyl Chloride	ND	0.79	1.00	
p/m-Xylene	ND	1.6	1.00	
o-Xylene	ND	0.79	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.6	1.00	
Tert-Butyl Alcohol (TBA)	ND	16	1.00	
Diisopropyl Ether (DIPE)	ND	0.79	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.79	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.79	1.00	
Ethanol	ND	400	1.00	
TPPH	ND	40	1.00	
Gasoline Range Organics (C4-C12)	ND	40	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 6 of 66

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	108	79-139	
1,2-Dichloroethane-d4	118	71-155	
1,4-Bromofluorobenzene	99	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	102	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/25/19
Work Order: 19-06-1669
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-15.5'	**19-06-1669-3-D**	**06/25/19 08:52**	**Solid**	**GC/MS OO**	**06/25/19**	**07/02/19 20:55**	**190702L028**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	43	1.00	
Benzene	ND	0.86	1.00	
Bromobenzene	ND	0.86	1.00	
Bromochloromethane	ND	1.7	1.00	
Bromodichloromethane	ND	0.86	1.00	
Bromoform	ND	4.3	1.00	
Bromomethane	ND	17	1.00	
2-Butanone	ND	17	1.00	
n-Butylbenzene	ND	0.86	1.00	
sec-Butylbenzene	ND	0.86	1.00	
tert-Butylbenzene	ND	0.86	1.00	
Carbon Disulfide	ND	8.6	1.00	
Carbon Tetrachloride	ND	0.86	1.00	
Chlorobenzene	ND	0.86	1.00	
Chloroethane	ND	1.7	1.00	
Chloroform	ND	0.86	1.00	
Chloromethane	ND	17	1.00	
2-Chlorotoluene	ND	0.86	1.00	
4-Chlorotoluene	ND	0.86	1.00	
Dibromochloromethane	ND	1.7	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.3	1.00	
1,2-Dibromoethane	ND	0.86	1.00	
Dibromomethane	ND	0.86	1.00	
1,2-Dichlorobenzene	ND	0.86	1.00	
1,3-Dichlorobenzene	ND	0.86	1.00	
1,4-Dichlorobenzene	ND	0.86	1.00	
Dichlorodifluoromethane	ND	1.7	1.00	
1,1-Dichloroethane	ND	0.86	1.00	
1,2-Dichloroethane	ND	0.86	1.00	
1,1-Dichloroethene	ND	0.86	1.00	
c-1,2-Dichloroethene	ND	0.86	1.00	
t-1,2-Dichloroethene	ND	0.86	1.00	
1,2-Dichloropropane	ND	0.86	1.00	
1,3-Dichloropropane	ND	0.86	1.00	
2,2-Dichloropropane	ND	4.3	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 8 of 66

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.7	1.00	
c-1,3-Dichloropropene	ND	0.86	1.00	
t-1,3-Dichloropropene	ND	1.7	1.00	
Ethylbenzene	ND	0.86	1.00	
2-Hexanone	ND	17	1.00	
Isopropylbenzene	ND	0.86	1.00	
p-Isopropyltoluene	ND	0.86	1.00	
Methylene Chloride	ND	8.6	1.00	
4-Methyl-2-Pentanone	ND	17	1.00	
Naphthalene	ND	8.6	1.00	
n-Propylbenzene	ND	1.7	1.00	
Styrene	ND	0.86	1.00	
1,1,1,2-Tetrachloroethane	ND	0.86	1.00	
1,1,2,2-Tetrachloroethane	ND	1.7	1.00	
Tetrachloroethene	ND	0.86	1.00	
Toluene	ND	0.86	1.00	
1,2,3-Trichlorobenzene	ND	1.7	1.00	
1,2,4-Trichlorobenzene	ND	1.7	1.00	
1,1,1-Trichloroethane	ND	0.86	1.00	
1,1,2-Trichloroethane	ND	0.86	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	8.6	1.00	
Trichloroethene	ND	1.7	1.00	
Trichlorofluoromethane	ND	8.6	1.00	
1,2,3-Trichloropropane	ND	1.7	1.00	
1,2,4-Trimethylbenzene	ND	1.7	1.00	
1,3,5-Trimethylbenzene	ND	1.7	1.00	
Vinyl Acetate	ND	8.6	1.00	
Vinyl Chloride	ND	0.86	1.00	
p/m-Xylene	ND	1.7	1.00	
o-Xylene	ND	0.86	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.7	1.00	
Tert-Butyl Alcohol (TBA)	ND	17	1.00	
Diisopropyl Ether (DIPE)	ND	0.86	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.86	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.86	1.00	
Ethanol	ND	430	1.00	
TPPH	ND	43	1.00	
Gasoline Range Organics (C4-C12)	ND	43	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 9 of 66

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	106	79-139	
1,2-Dichloroethane-d4	115	71-155	
1,4-Bromofluorobenzene	99	80-120	
Toluene-d8	100	80-120	
Toluene-d8-TPPH	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Project: OOI

Date Received: 06/25/19
Work Order: 19-06-1669
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-20.5'	**19-06-1669-4-D**	**06/25/19 09:04**	**Solid**	**GC/MS OO**	**06/25/19**	**07/02/19 21:25**	**190702L028**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	47	1.00	
Benzene	ND	0.95	1.00	
Bromobenzene	ND	0.95	1.00	
Bromochloromethane	ND	1.9	1.00	
Bromodichloromethane	ND	0.95	1.00	
Bromoform	ND	4.7	1.00	
Bromomethane	ND	19	1.00	
2-Butanone	ND	19	1.00	
n-Butylbenzene	ND	0.95	1.00	
sec-Butylbenzene	ND	0.95	1.00	
tert-Butylbenzene	ND	0.95	1.00	
Carbon Disulfide	ND	9.5	1.00	
Carbon Tetrachloride	ND	0.95	1.00	
Chlorobenzene	ND	0.95	1.00	
Chloroethane	ND	1.9	1.00	
Chloroform	ND	0.95	1.00	
Chloromethane	ND	19	1.00	
2-Chlorotoluene	ND	0.95	1.00	
4-Chlorotoluene	ND	0.95	1.00	
Dibromochloromethane	ND	1.9	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.7	1.00	
1,2-Dibromoethane	ND	0.95	1.00	
Dibromomethane	ND	0.95	1.00	
1,2-Dichlorobenzene	ND	0.95	1.00	
1,3-Dichlorobenzene	ND	0.95	1.00	
1,4-Dichlorobenzene	ND	0.95	1.00	
Dichlorodifluoromethane	ND	1.9	1.00	
1,1-Dichloroethane	ND	0.95	1.00	
1,2-Dichloroethane	ND	0.95	1.00	
1,1-Dichloroethene	ND	0.95	1.00	
c-1,2-Dichloroethene	ND	0.95	1.00	
t-1,2-Dichloroethene	ND	0.95	1.00	
1,2-Dichloropropane	ND	0.95	1.00	
1,3-Dichloropropane	ND	0.95	1.00	
2,2-Dichloropropane	ND	4.7	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 11 of 66

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.9	1.00	
c-1,3-Dichloropropene	ND	0.95	1.00	
t-1,3-Dichloropropene	ND	1.9	1.00	
Ethylbenzene	ND	0.95	1.00	
2-Hexanone	ND	19	1.00	
Isopropylbenzene	ND	0.95	1.00	
p-Isopropyltoluene	ND	0.95	1.00	
Methylene Chloride	ND	9.5	1.00	
4-Methyl-2-Pentanone	ND	19	1.00	
Naphthalene	ND	9.5	1.00	
n-Propylbenzene	ND	1.9	1.00	
Styrene	ND	0.95	1.00	
1,1,1,2-Tetrachloroethane	ND	0.95	1.00	
1,1,2,2-Tetrachloroethane	ND	1.9	1.00	
Tetrachloroethene	ND	0.95	1.00	
Toluene	ND	0.95	1.00	
1,2,3-Trichlorobenzene	ND	1.9	1.00	
1,2,4-Trichlorobenzene	ND	1.9	1.00	
1,1,1-Trichloroethane	ND	0.95	1.00	
1,1,2-Trichloroethane	ND	0.95	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	9.5	1.00	
Trichloroethene	ND	1.9	1.00	
Trichlorofluoromethane	ND	9.5	1.00	
1,2,3-Trichloropropane	ND	1.9	1.00	
1,2,4-Trimethylbenzene	ND	1.9	1.00	
1,3,5-Trimethylbenzene	ND	1.9	1.00	
Vinyl Acetate	ND	9.5	1.00	
Vinyl Chloride	ND	0.95	1.00	
p/m-Xylene	ND	1.9	1.00	
o-Xylene	ND	0.95	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.9	1.00	
Tert-Butyl Alcohol (TBA)	ND	19	1.00	
Diisopropyl Ether (DIPE)	ND	0.95	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.95	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.95	1.00	
Ethanol	ND	470	1.00	
TPPH	ND	47	1.00	
Gasoline Range Organics (C4-C12)	ND	47	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 12 of 66

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	104	79-139	
1,2-Dichloroethane-d4	116	71-155	
1,4-Bromofluorobenzene	98	80-120	
Toluene-d8	102	80-120	
Toluene-d8-TPPH	103	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/25/19
Work Order: 19-06-1669
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-25.5'	**19-06-1669-5-D**	**06/25/19 09:14**	**Solid**	**GC/MS OO**	**06/25/19**	**07/02/19 21:54**	**190702L028**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	51	1.00	
Benzene	1.6	1.0	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	2.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.1	1.00	
Bromomethane	ND	20	1.00	
2-Butanone	ND	20	1.00	
n-Butylbenzene	ND	1.0	1.00	
sec-Butylbenzene	ND	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	1.0	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	2.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	20	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	2.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	5.1	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	2.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	1.0	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	5.1	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 14 of 66

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2.0	1.00	
c-1,3-Dichloropropene	ND	1.0	1.00	
t-1,3-Dichloropropene	ND	2.0	1.00	
Ethylbenzene	ND	1.0	1.00	
2-Hexanone	ND	20	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	ND	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	20	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	2.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	1.0	1.00	
1,1,2,2-Tetrachloroethane	ND	2.0	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	2.0	1.00	
1,2,4-Trichlorobenzene	ND	2.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
Trichloroethene	ND	2.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	2.0	1.00	
1,2,4-Trimethylbenzene	ND	2.0	1.00	
1,3,5-Trimethylbenzene	ND	2.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	1.0	1.00	
p/m-Xylene	ND	2.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	2.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	20	1.00	
Diisopropyl Ether (DIPE)	ND	1.0	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	1.0	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	1.0	1.00	
Ethanol	ND	510	1.00	
TPPH	ND	51	1.00	
Gasoline Range Organics (C4-C12)	ND	51	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 15 of 66

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	108	79-139	
1,2-Dichloroethane-d4	116	71-155	
1,4-Bromofluorobenzene	99	80-120	
Toluene-d8	100	80-120	
Toluene-d8-TPPH	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 16 of 66

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-32'	**19-06-1669-6-F**	**06/25/19 09:27**	**Solid**	**GC/MS OO**	**06/25/19**	**07/04/19 09:04**	**190703L036**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	25000	500	
Benzene	ND	500	500	
Bromobenzene	ND	500	500	
Bromochloromethane	ND	1000	500	
Bromodichloromethane	ND	500	500	
Bromoform	ND	2500	500	
Bromomethane	ND	10000	500	
2-Butanone	ND	10000	500	
n-Butylbenzene	2100	500	500	
sec-Butylbenzene	920	500	500	
tert-Butylbenzene	ND	500	500	
Carbon Disulfide	ND	5000	500	
Carbon Tetrachloride	ND	500	500	
Chlorobenzene	ND	500	500	
Chloroethane	ND	1000	500	
Chloroform	ND	500	500	
Chloromethane	ND	10000	500	
2-Chlorotoluene	ND	500	500	
4-Chlorotoluene	ND	500	500	
Dibromochloromethane	ND	1000	500	
1,2-Dibromo-3-Chloropropane	ND	2500	500	
1,2-Dibromoethane	ND	500	500	
Dibromomethane	ND	500	500	
1,2-Dichlorobenzene	ND	500	500	
1,3-Dichlorobenzene	ND	500	500	
1,4-Dichlorobenzene	ND	500	500	
Dichlorodifluoromethane	ND	1000	500	
1,1-Dichloroethane	ND	500	500	
1,2-Dichloroethane	ND	500	500	
1,1-Dichloroethene	ND	500	500	
c-1,2-Dichloroethene	ND	500	500	
t-1,2-Dichloroethene	ND	500	500	
1,2-Dichloropropane	ND	500	500	
1,3-Dichloropropane	ND	500	500	
2,2-Dichloropropane	ND	2500	500	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 17 of 66

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1000	500	
c-1,3-Dichloropropene	ND	500	500	
t-1,3-Dichloropropene	ND	1000	500	
Ethylbenzene	3000	500	500	
2-Hexanone	ND	10000	500	
Isopropylbenzene	2000	500	500	
p-Isopropyltoluene	2600	500	500	
Methylene Chloride	ND	5000	500	
4-Methyl-2-Pentanone	ND	10000	500	
Naphthalene	ND	5000	500	
n-Propylbenzene	2600	1000	500	
Styrene	ND	500	500	
1,1,1,2-Tetrachloroethane	ND	500	500	
1,1,2,2-Tetrachloroethane	ND	1000	500	
Tetrachloroethene	ND	500	500	
Toluene	ND	500	500	
1,2,3-Trichlorobenzene	ND	1000	500	
1,2,4-Trichlorobenzene	ND	1000	500	
1,1,1-Trichloroethane	ND	500	500	
1,1,2-Trichloroethane	ND	500	500	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	5000	500	
Trichloroethene	ND	1000	500	
Trichlorofluoromethane	ND	5000	500	
1,2,3-Trichloropropane	ND	1000	500	
1,2,4-Trimethylbenzene	11000	1000	500	
1,3,5-Trimethylbenzene	2000	1000	500	
Vinyl Acetate	ND	5000	500	
Vinyl Chloride	ND	500	500	
p/m-Xylene	2500	1000	500	
o-Xylene	ND	500	500	
Methyl-t-Butyl Ether (MTBE)	ND	1000	500	
Tert-Butyl Alcohol (TBA)	ND	10000	500	
Diisopropyl Ether (DIPE)	ND	500	500	
Ethyl-t-Butyl Ether (ETBE)	ND	500	500	
Tert-Amyl-Methyl Ether (TAME)	ND	500	500	
Ethanol	ND	250000	500	
TPPH	1300000	25000	500	
Gasoline Range Organics (C4-C12)	1100000	25000	500	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 18 of 66

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	96	79-139	
1,2-Dichloroethane-d4	93	71-155	
1,4-Bromofluorobenzene	101	80-120	
Toluene-d8	102	80-120	
Toluene-d8-TPPH	100	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 19 of 66

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-37.0'	**19-06-1669-7-D**	**06/25/19 10:08**	**Solid**	**GC/MS OO**	**06/25/19**	**07/04/19 00:45**	**190703L026**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	37	1.00	
Benzene	22	0.74	1.00	
Bromobenzene	ND	0.74	1.00	
Bromochloromethane	ND	1.5	1.00	
Bromodichloromethane	ND	0.74	1.00	
Bromoform	ND	3.7	1.00	
Bromomethane	ND	15	1.00	
2-Butanone	ND	15	1.00	
n-Butylbenzene	2.0	0.74	1.00	
sec-Butylbenzene	1.6	0.74	1.00	
tert-Butylbenzene	ND	0.74	1.00	
Carbon Disulfide	ND	7.4	1.00	
Carbon Tetrachloride	ND	0.74	1.00	
Chlorobenzene	ND	0.74	1.00	
Chloroethane	ND	1.5	1.00	
Chloroform	ND	0.74	1.00	
Chloromethane	ND	15	1.00	
2-Chlorotoluene	ND	0.74	1.00	
4-Chlorotoluene	ND	0.74	1.00	
Dibromochloromethane	ND	1.5	1.00	
1,2-Dibromo-3-Chloropropane	ND	3.7	1.00	
1,2-Dibromoethane	ND	0.74	1.00	
Dibromomethane	ND	0.74	1.00	
1,2-Dichlorobenzene	ND	0.74	1.00	
1,3-Dichlorobenzene	ND	0.74	1.00	
1,4-Dichlorobenzene	ND	0.74	1.00	
Dichlorodifluoromethane	ND	1.5	1.00	
1,1-Dichloroethane	ND	0.74	1.00	
1,2-Dichloroethane	ND	0.74	1.00	
1,1-Dichloroethene	ND	0.74	1.00	
c-1,2-Dichloroethene	ND	0.74	1.00	
t-1,2-Dichloroethene	ND	0.74	1.00	
1,2-Dichloropropane	ND	0.74	1.00	
1,3-Dichloropropane	ND	0.74	1.00	
2,2-Dichloropropane	ND	3.7	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 20 of 66

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.5	1.00	
c-1,3-Dichloropropene	ND	0.74	1.00	
t-1,3-Dichloropropene	ND	1.5	1.00	
Ethylbenzene	52	0.74	1.00	
2-Hexanone	ND	15	1.00	
Isopropylbenzene	13	0.74	1.00	
p-Isopropyltoluene	3.5	0.74	1.00	
Methylene Chloride	ND	7.4	1.00	
4-Methyl-2-Pentanone	ND	15	1.00	
Naphthalene	11	7.4	1.00	
n-Propylbenzene	12	1.5	1.00	
Styrene	ND	0.74	1.00	
1,1,1,2-Tetrachloroethane	ND	0.74	1.00	
1,1,2,2-Tetrachloroethane	ND	1.5	1.00	
Tetrachloroethene	ND	0.74	1.00	
Toluene	ND	0.74	1.00	
1,2,3-Trichlorobenzene	ND	1.5	1.00	
1,2,4-Trichlorobenzene	ND	1.5	1.00	
1,1,1-Trichloroethane	ND	0.74	1.00	
1,1,2-Trichloroethane	ND	0.74	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	7.4	1.00	
Trichloroethene	ND	1.5	1.00	
Trichlorofluoromethane	ND	7.4	1.00	
1,2,3-Trichloropropane	ND	1.5	1.00	
1,2,4-Trimethylbenzene	41	1.5	1.00	
1,3,5-Trimethylbenzene	ND	1.5	1.00	
Vinyl Acetate	ND	7.4	1.00	
Vinyl Chloride	ND	0.74	1.00	
p/m-Xylene	42	1.5	1.00	
o-Xylene	1.5	0.74	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.5	1.00	
Tert-Butyl Alcohol (TBA)	ND	15	1.00	
Diisopropyl Ether (DIPE)	ND	0.74	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.74	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.74	1.00	
Ethanol	ND	370	1.00	
TPPH	1700	37	1.00	
Gasoline Range Organics (C4-C12)	1500	37	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 21 of 66

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	99	79-139	
1,2-Dichloroethane-d4	107	71-155	
1,4-Bromofluorobenzene	102	80-120	
Toluene-d8	103	80-120	
Toluene-d8-TPPH	95	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/25/19
Work Order: 19-06-1669
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-35.5'	**19-06-1669-8-E**	**06/25/19 10:18**	**Solid**	**GC/MS OO**	**06/25/19**	**07/04/19 09:34**	**190703L036**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	21000	500	
Benzene	ND	410	500	
Bromobenzene	ND	410	500	
Bromochloromethane	ND	820	500	
Bromodichloromethane	ND	410	500	
Bromoform	ND	2100	500	
Bromomethane	ND	8200	500	
2-Butanone	ND	8200	500	
n-Butylbenzene	2400	410	500	
sec-Butylbenzene	1300	410	500	
tert-Butylbenzene	ND	410	500	
Carbon Disulfide	ND	4100	500	
Carbon Tetrachloride	ND	410	500	
Chlorobenzene	ND	410	500	
Chloroethane	ND	820	500	
Chloroform	ND	410	500	
Chloromethane	ND	8200	500	
2-Chlorotoluene	ND	410	500	
4-Chlorotoluene	ND	410	500	
Dibromochloromethane	ND	820	500	
1,2-Dibromo-3-Chloropropane	ND	2100	500	
1,2-Dibromoethane	ND	410	500	
Dibromomethane	ND	410	500	
1,2-Dichlorobenzene	ND	410	500	
1,3-Dichlorobenzene	ND	410	500	
1,4-Dichlorobenzene	ND	410	500	
Dichlorodifluoromethane	ND	820	500	
1,1-Dichloroethane	ND	410	500	
1,2-Dichloroethane	ND	410	500	
1,1-Dichloroethene	ND	410	500	
c-1,2-Dichloroethene	ND	410	500	
t-1,2-Dichloroethene	ND	410	500	
1,2-Dichloropropane	ND	410	500	
1,3-Dichloropropane	ND	410	500	
2,2-Dichloropropane	ND	2100	500	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 23 of 66

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	820	500	
c-1,3-Dichloropropene	ND	410	500	
t-1,3-Dichloropropene	ND	820	500	
Ethylbenzene	5900	410	500	
2-Hexanone	ND	8200	500	
Isopropylbenzene	3500	410	500	
p-Isopropyltoluene	3400	410	500	
Methylene Chloride	ND	4100	500	
4-Methyl-2-Pentanone	ND	8200	500	
Naphthalene	ND	4100	500	
n-Propylbenzene	4100	820	500	
Styrene	ND	410	500	
1,1,1,2-Tetrachloroethane	ND	410	500	
1,1,2,2-Tetrachloroethane	ND	820	500	
Tetrachloroethene	ND	410	500	
Toluene	ND	410	500	
1,2,3-Trichlorobenzene	ND	820	500	
1,2,4-Trichlorobenzene	ND	820	500	
1,1,1-Trichloroethane	ND	410	500	
1,1,2-Trichloroethane	ND	410	500	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	4100	500	
Trichloroethene	ND	820	500	
Trichlorofluoromethane	ND	4100	500	
1,2,3-Trichloropropane	ND	820	500	
1,2,4-Trimethylbenzene	12000	820	500	
1,3,5-Trimethylbenzene	ND	820	500	
Vinyl Acetate	ND	4100	500	
Vinyl Chloride	ND	410	500	
p/m-Xylene	2800	820	500	
o-Xylene	620	410	500	
Methyl-t-Butyl Ether (MTBE)	ND	820	500	
Tert-Butyl Alcohol (TBA)	ND	8200	500	
Diisopropyl Ether (DIPE)	ND	410	500	
Ethyl-t-Butyl Ether (ETBE)	ND	410	500	
Tert-Amyl-Methyl Ether (TAME)	ND	410	500	
Ethanol	ND	210000	500	
TPPH	1600000	21000	500	
Gasoline Range Organics (C4-C12)	1400000	21000	500	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 24 of 66

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	92	79-139	
1,2-Dichloroethane-d4	92	71-155	
1,4-Bromofluorobenzene	105	80-120	
Toluene-d8	104	80-120	
Toluene-d8-TPPH	94	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/25/19
Work Order: 19-06-1669
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-3'	**19-06-1669-9-D**	**06/25/19 11:20**	**Solid**	**GC/MS OO**	**06/25/19**	**07/02/19 22:24**	**190702L028**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	49	1.00	
Benzene	ND	0.98	1.00	
Bromobenzene	ND	0.98	1.00	
Bromochloromethane	ND	2.0	1.00	
Bromodichloromethane	ND	0.98	1.00	
Bromoform	ND	4.9	1.00	
Bromomethane	ND	20	1.00	
2-Butanone	ND	20	1.00	
n-Butylbenzene	ND	0.98	1.00	
sec-Butylbenzene	ND	0.98	1.00	
tert-Butylbenzene	ND	0.98	1.00	
Carbon Disulfide	ND	9.8	1.00	
Carbon Tetrachloride	ND	0.98	1.00	
Chlorobenzene	ND	0.98	1.00	
Chloroethane	ND	2.0	1.00	
Chloroform	ND	0.98	1.00	
Chloromethane	ND	20	1.00	
2-Chlorotoluene	ND	0.98	1.00	
4-Chlorotoluene	ND	0.98	1.00	
Dibromochloromethane	ND	2.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.9	1.00	
1,2-Dibromoethane	ND	0.98	1.00	
Dibromomethane	ND	0.98	1.00	
1,2-Dichlorobenzene	ND	0.98	1.00	
1,3-Dichlorobenzene	ND	0.98	1.00	
1,4-Dichlorobenzene	ND	0.98	1.00	
Dichlorodifluoromethane	ND	2.0	1.00	
1,1-Dichloroethane	ND	0.98	1.00	
1,2-Dichloroethane	ND	0.98	1.00	
1,1-Dichloroethene	ND	0.98	1.00	
c-1,2-Dichloroethene	ND	0.98	1.00	
t-1,2-Dichloroethene	ND	0.98	1.00	
1,2-Dichloropropane	ND	0.98	1.00	
1,3-Dichloropropane	ND	0.98	1.00	
2,2-Dichloropropane	ND	4.9	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 26 of 66

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2.0	1.00	
c-1,3-Dichloropropene	ND	0.98	1.00	
t-1,3-Dichloropropene	ND	2.0	1.00	
Ethylbenzene	ND	0.98	1.00	
2-Hexanone	ND	20	1.00	
Isopropylbenzene	ND	0.98	1.00	
p-Isopropyltoluene	ND	0.98	1.00	
Methylene Chloride	ND	9.8	1.00	
4-Methyl-2-Pentanone	ND	20	1.00	
Naphthalene	ND	9.8	1.00	
n-Propylbenzene	ND	2.0	1.00	
Styrene	ND	0.98	1.00	
1,1,1,2-Tetrachloroethane	ND	0.98	1.00	
1,1,2,2-Tetrachloroethane	ND	2.0	1.00	
Tetrachloroethene	ND	0.98	1.00	
Toluene	ND	0.98	1.00	
1,2,3-Trichlorobenzene	ND	2.0	1.00	
1,2,4-Trichlorobenzene	ND	2.0	1.00	
1,1,1-Trichloroethane	ND	0.98	1.00	
1,1,2-Trichloroethane	ND	0.98	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	9.8	1.00	
Trichloroethene	ND	2.0	1.00	
Trichlorofluoromethane	ND	9.8	1.00	
1,2,3-Trichloropropane	ND	2.0	1.00	
1,2,4-Trimethylbenzene	ND	2.0	1.00	
1,3,5-Trimethylbenzene	ND	2.0	1.00	
Vinyl Acetate	ND	9.8	1.00	
Vinyl Chloride	ND	0.98	1.00	
p/m-Xylene	ND	2.0	1.00	
o-Xylene	ND	0.98	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	2.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	20	1.00	
Diisopropyl Ether (DIPE)	ND	0.98	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.98	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.98	1.00	
Ethanol	ND	490	1.00	
TPPH	ND	49	1.00	
Gasoline Range Organics (C4-C12)	ND	49	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 27 of 66

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	110	79-139	
1,2-Dichloroethane-d4	118	71-155	
1,4-Bromofluorobenzene	98	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 28 of 66

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-10.5'	**19-06-1669-10-D**	**06/25/19 11:40**	**Solid**	**GC/MS OO**	**06/25/19**	**07/02/19 22:53**	**190702L028**

Parameter	Result	RL	DF	Qualifiers
Acetone	44	41	1.00	
Benzene	ND	0.82	1.00	
Bromobenzene	ND	0.82	1.00	
Bromochloromethane	ND	1.6	1.00	
Bromodichloromethane	ND	0.82	1.00	
Bromoform	ND	4.1	1.00	
Bromomethane	ND	16	1.00	
2-Butanone	ND	16	1.00	
n-Butylbenzene	ND	0.82	1.00	
sec-Butylbenzene	ND	0.82	1.00	
tert-Butylbenzene	ND	0.82	1.00	
Carbon Disulfide	ND	8.2	1.00	
Carbon Tetrachloride	ND	0.82	1.00	
Chlorobenzene	ND	0.82	1.00	
Chloroethane	ND	1.6	1.00	
Chloroform	ND	0.82	1.00	
Chloromethane	ND	16	1.00	
2-Chlorotoluene	ND	0.82	1.00	
4-Chlorotoluene	ND	0.82	1.00	
Dibromochloromethane	ND	1.6	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.1	1.00	
1,2-Dibromoethane	ND	0.82	1.00	
Dibromomethane	ND	0.82	1.00	
1,2-Dichlorobenzene	ND	0.82	1.00	
1,3-Dichlorobenzene	ND	0.82	1.00	
1,4-Dichlorobenzene	ND	0.82	1.00	
Dichlorodifluoromethane	ND	1.6	1.00	
1,1-Dichloroethane	ND	0.82	1.00	
1,2-Dichloroethane	ND	0.82	1.00	
1,1-Dichloroethene	ND	0.82	1.00	
c-1,2-Dichloroethene	ND	0.82	1.00	
t-1,2-Dichloroethene	ND	0.82	1.00	
1,2-Dichloropropane	ND	0.82	1.00	
1,3-Dichloropropane	ND	0.82	1.00	
2,2-Dichloropropane	ND	4.1	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 29 of 66

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.6	1.00	
c-1,3-Dichloropropene	ND	0.82	1.00	
t-1,3-Dichloropropene	ND	1.6	1.00	
Ethylbenzene	ND	0.82	1.00	
2-Hexanone	ND	16	1.00	
Isopropylbenzene	ND	0.82	1.00	
p-Isopropyltoluene	ND	0.82	1.00	
Methylene Chloride	ND	8.2	1.00	
4-Methyl-2-Pentanone	ND	16	1.00	
Naphthalene	ND	8.2	1.00	
n-Propylbenzene	ND	1.6	1.00	
Styrene	ND	0.82	1.00	
1,1,1,2-Tetrachloroethane	ND	0.82	1.00	
1,1,2,2-Tetrachloroethane	ND	1.6	1.00	
Tetrachloroethene	ND	0.82	1.00	
Toluene	ND	0.82	1.00	
1,2,3-Trichlorobenzene	ND	1.6	1.00	
1,2,4-Trichlorobenzene	ND	1.6	1.00	
1,1,1-Trichloroethane	ND	0.82	1.00	
1,1,2-Trichloroethane	ND	0.82	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	8.2	1.00	
Trichloroethene	ND	1.6	1.00	
Trichlorofluoromethane	ND	8.2	1.00	
1,2,3-Trichloropropane	ND	1.6	1.00	
1,2,4-Trimethylbenzene	ND	1.6	1.00	
1,3,5-Trimethylbenzene	ND	1.6	1.00	
Vinyl Acetate	ND	8.2	1.00	
Vinyl Chloride	ND	0.82	1.00	
p/m-Xylene	ND	1.6	1.00	
o-Xylene	ND	0.82	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.6	1.00	
Tert-Butyl Alcohol (TBA)	ND	16	1.00	
Diisopropyl Ether (DIPE)	ND	0.82	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.82	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.82	1.00	
Ethanol	ND	410	1.00	
TPPH	ND	41	1.00	
Gasoline Range Organics (C4-C12)	ND	41	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 30 of 66

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	106	79-139	
1,2-Dichloroethane-d4	115	71-155	
1,4-Bromofluorobenzene	98	80-120	
Toluene-d8	100	80-120	
Toluene-d8-TPPH	100	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 31 of 66

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-15.5'	**19-06-1669-11-D**	**06/25/19 12:20**	**Solid**	**GC/MS OO**	**06/25/19**	**07/02/19 23:23**	**190702L028**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	39	1.00	
Benzene	ND	0.78	1.00	
Bromobenzene	ND	0.78	1.00	
Bromochloromethane	ND	1.6	1.00	
Bromodichloromethane	ND	0.78	1.00	
Bromoform	19	3.9	1.00	
Bromomethane	ND	16	1.00	
2-Butanone	ND	16	1.00	
n-Butylbenzene	ND	0.78	1.00	
sec-Butylbenzene	ND	0.78	1.00	
tert-Butylbenzene	ND	0.78	1.00	
Carbon Disulfide	ND	7.8	1.00	
Carbon Tetrachloride	ND	0.78	1.00	
Chlorobenzene	ND	0.78	1.00	
Chloroethane	ND	1.6	1.00	
Chloroform	ND	0.78	1.00	
Chloromethane	ND	16	1.00	
2-Chlorotoluene	ND	0.78	1.00	
4-Chlorotoluene	ND	0.78	1.00	
Dibromochloromethane	ND	1.6	1.00	
1,2-Dibromo-3-Chloropropane	ND	3.9	1.00	
1,2-Dibromoethane	ND	0.78	1.00	
Dibromomethane	ND	0.78	1.00	
1,2-Dichlorobenzene	ND	0.78	1.00	
1,3-Dichlorobenzene	ND	0.78	1.00	
1,4-Dichlorobenzene	ND	0.78	1.00	
Dichlorodifluoromethane	ND	1.6	1.00	
1,1-Dichloroethane	ND	0.78	1.00	
1,2-Dichloroethane	ND	0.78	1.00	
1,1-Dichloroethene	ND	0.78	1.00	
c-1,2-Dichloroethene	ND	0.78	1.00	
t-1,2-Dichloroethene	ND	0.78	1.00	
1,2-Dichloropropane	ND	0.78	1.00	
1,3-Dichloropropane	ND	0.78	1.00	
2,2-Dichloropropane	ND	3.9	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 32 of 66

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.6	1.00	
c-1,3-Dichloropropene	ND	0.78	1.00	
t-1,3-Dichloropropene	ND	1.6	1.00	
Ethylbenzene	ND	0.78	1.00	
2-Hexanone	ND	16	1.00	
Isopropylbenzene	ND	0.78	1.00	
p-Isopropyltoluene	ND	0.78	1.00	
Methylene Chloride	ND	7.8	1.00	
4-Methyl-2-Pentanone	ND	16	1.00	
Naphthalene	ND	7.8	1.00	
n-Propylbenzene	ND	1.6	1.00	
Styrene	ND	0.78	1.00	
1,1,1,2-Tetrachloroethane	ND	0.78	1.00	
1,1,2,2-Tetrachloroethane	ND	1.6	1.00	
Tetrachloroethene	ND	0.78	1.00	
Toluene	ND	0.78	1.00	
1,2,3-Trichlorobenzene	ND	1.6	1.00	
1,2,4-Trichlorobenzene	ND	1.6	1.00	
1,1,1-Trichloroethane	ND	0.78	1.00	
1,1,2-Trichloroethane	ND	0.78	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	7.8	1.00	
Trichloroethene	ND	1.6	1.00	
Trichlorofluoromethane	ND	7.8	1.00	
1,2,3-Trichloropropane	ND	1.6	1.00	
1,2,4-Trimethylbenzene	ND	1.6	1.00	
1,3,5-Trimethylbenzene	ND	1.6	1.00	
Vinyl Acetate	ND	7.8	1.00	
Vinyl Chloride	ND	0.78	1.00	
p/m-Xylene	ND	1.6	1.00	
o-Xylene	ND	0.78	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.6	1.00	
Tert-Butyl Alcohol (TBA)	ND	16	1.00	
Diisopropyl Ether (DIPE)	ND	0.78	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.78	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.78	1.00	
Ethanol	ND	390	1.00	
TPPH	ND	39	1.00	
Gasoline Range Organics (C4-C12)	ND	39	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 33 of 66

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	107	79-139	
1,2-Dichloroethane-d4	118	71-155	
1,4-Bromofluorobenzene	98	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 34 of 66

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-20.5'	**19-06-1669-12-D**	**06/25/19 12:38**	**Solid**	**GC/MS OO**	**06/25/19**	**07/02/19 23:52**	**190702L028**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	50	1.00	
Benzene	ND	1.0	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	2.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.0	1.00	
Bromomethane	ND	20	1.00	
2-Butanone	ND	20	1.00	
n-Butylbenzene	ND	1.0	1.00	
sec-Butylbenzene	ND	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	1.0	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	2.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	20	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	2.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	5.0	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	2.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	1.0	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	5.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 35 of 66

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2.0	1.00	
c-1,3-Dichloropropene	ND	1.0	1.00	
t-1,3-Dichloropropene	ND	2.0	1.00	
Ethylbenzene	ND	1.0	1.00	
2-Hexanone	ND	20	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	ND	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	20	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	2.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	1.0	1.00	
1,1,2,2-Tetrachloroethane	ND	2.0	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	2.0	1.00	
1,2,4-Trichlorobenzene	ND	2.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
Trichloroethene	ND	2.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	2.0	1.00	
1,2,4-Trimethylbenzene	ND	2.0	1.00	
1,3,5-Trimethylbenzene	ND	2.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	1.0	1.00	
p/m-Xylene	ND	2.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	2.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	20	1.00	
Diisopropyl Ether (DIPE)	ND	1.0	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	1.0	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	1.0	1.00	
Ethanol	ND	500	1.00	
TPPH	ND	50	1.00	
Gasoline Range Organics (C4-C12)	ND	50	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 36 of 66

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	109	79-139	
1,2-Dichloroethane-d4	122	71-155	
1,4-Bromofluorobenzene	98	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	102	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Project: OOI

Date Received: 06/25/19
Work Order: 19-06-1669
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-25.5'	**19-06-1669-13-D**	**06/25/19 12:51**	**Solid**	**GC/MS OO**	**06/25/19**	**07/03/19 00:22**	**190702L028**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	46	1.00	
Benzene	ND	0.93	1.00	
Bromobenzene	ND	0.93	1.00	
Bromochloromethane	ND	1.9	1.00	
Bromodichloromethane	ND	0.93	1.00	
Bromoform	ND	4.6	1.00	
Bromomethane	ND	19	1.00	
2-Butanone	ND	19	1.00	
n-Butylbenzene	ND	0.93	1.00	
sec-Butylbenzene	ND	0.93	1.00	
tert-Butylbenzene	ND	0.93	1.00	
Carbon Disulfide	ND	9.3	1.00	
Carbon Tetrachloride	ND	0.93	1.00	
Chlorobenzene	ND	0.93	1.00	
Chloroethane	ND	1.9	1.00	
Chloroform	ND	0.93	1.00	
Chloromethane	ND	19	1.00	
2-Chlorotoluene	ND	0.93	1.00	
4-Chlorotoluene	ND	0.93	1.00	
Dibromochloromethane	ND	1.9	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.6	1.00	
1,2-Dibromoethane	ND	0.93	1.00	
Dibromomethane	ND	0.93	1.00	
1,2-Dichlorobenzene	ND	0.93	1.00	
1,3-Dichlorobenzene	ND	0.93	1.00	
1,4-Dichlorobenzene	ND	0.93	1.00	
Dichlorodifluoromethane	ND	1.9	1.00	
1,1-Dichloroethane	ND	0.93	1.00	
1,2-Dichloroethane	ND	0.93	1.00	
1,1-Dichloroethene	ND	0.93	1.00	
c-1,2-Dichloroethene	ND	0.93	1.00	
t-1,2-Dichloroethene	ND	0.93	1.00	
1,2-Dichloropropane	ND	0.93	1.00	
1,3-Dichloropropane	ND	0.93	1.00	
2,2-Dichloropropane	ND	4.6	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 38 of 66

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.9	1.00	
c-1,3-Dichloropropene	ND	0.93	1.00	
t-1,3-Dichloropropene	ND	1.9	1.00	
Ethylbenzene	ND	0.93	1.00	
2-Hexanone	ND	19	1.00	
Isopropylbenzene	ND	0.93	1.00	
p-Isopropyltoluene	ND	0.93	1.00	
Methylene Chloride	ND	9.3	1.00	
4-Methyl-2-Pentanone	ND	19	1.00	
Naphthalene	ND	9.3	1.00	
n-Propylbenzene	ND	1.9	1.00	
Styrene	ND	0.93	1.00	
1,1,1,2-Tetrachloroethane	ND	0.93	1.00	
1,1,2,2-Tetrachloroethane	ND	1.9	1.00	
Tetrachloroethene	ND	0.93	1.00	
Toluene	ND	0.93	1.00	
1,2,3-Trichlorobenzene	ND	1.9	1.00	
1,2,4-Trichlorobenzene	ND	1.9	1.00	
1,1,1-Trichloroethane	ND	0.93	1.00	
1,1,2-Trichloroethane	ND	0.93	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	9.3	1.00	
Trichloroethene	ND	1.9	1.00	
Trichlorofluoromethane	ND	9.3	1.00	
1,2,3-Trichloropropane	ND	1.9	1.00	
1,2,4-Trimethylbenzene	ND	1.9	1.00	
1,3,5-Trimethylbenzene	ND	1.9	1.00	
Vinyl Acetate	ND	9.3	1.00	
Vinyl Chloride	ND	0.93	1.00	
p/m-Xylene	ND	1.9	1.00	
o-Xylene	ND	0.93	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.9	1.00	
Tert-Butyl Alcohol (TBA)	ND	19	1.00	
Diisopropyl Ether (DIPE)	ND	0.93	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.93	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.93	1.00	
Ethanol	ND	460	1.00	
TPPH	ND	46	1.00	
Gasoline Range Organics (C4-C12)	ND	46	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 39 of 66

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	107	79-139	
1,2-Dichloroethane-d4	117	71-155	
1,4-Bromofluorobenzene	97	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	102	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Project: OOI

Date Received:	06/25/19
Work Order:	19-06-1669
Preparation:	EPA 5035
Method:	GC/MS / EPA 8260B
Units:	ug/kg
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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-30'	**19-06-1669-14-E**	**06/25/19 13:01**	**Solid**	**GC/MS OO**	**06/25/19**	**07/04/19 10:03**	**190703L036**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	6900	100	
Benzene	ND	140	100	
Bromobenzene	ND	140	100	
Bromochloromethane	ND	270	100	
Bromodichloromethane	ND	140	100	
Bromoform	ND	690	100	
Bromomethane	ND	2700	100	
2-Butanone	ND	2700	100	
n-Butylbenzene	950	140	100	
sec-Butylbenzene	310	140	100	
tert-Butylbenzene	ND	140	100	
Carbon Disulfide	ND	1400	100	
Carbon Tetrachloride	ND	140	100	
Chlorobenzene	ND	140	100	
Chloroethane	ND	270	100	
Chloroform	ND	140	100	
Chloromethane	ND	2700	100	
2-Chlorotoluene	ND	140	100	
4-Chlorotoluene	ND	140	100	
Dibromochloromethane	ND	270	100	
1,2-Dibromo-3-Chloropropane	ND	690	100	
1,2-Dibromoethane	ND	140	100	
Dibromomethane	ND	140	100	
1,2-Dichlorobenzene	ND	140	100	
1,3-Dichlorobenzene	ND	140	100	
1,4-Dichlorobenzene	ND	140	100	
Dichlorodifluoromethane	ND	270	100	
1,1-Dichloroethane	ND	140	100	
1,2-Dichloroethane	ND	140	100	
1,1-Dichloroethene	ND	140	100	
c-1,2-Dichloroethene	ND	140	100	
t-1,2-Dichloroethene	ND	140	100	
1,2-Dichloropropane	ND	140	100	
1,3-Dichloropropane	ND	140	100	
2,2-Dichloropropane	ND	690	100	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 41 of 66

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	270	100	
c-1,3-Dichloropropene	ND	140	100	
t-1,3-Dichloropropene	ND	270	100	
Ethylbenzene	1400	140	100	
2-Hexanone	ND	2700	100	
Isopropylbenzene	750	140	100	
p-Isopropyltoluene	860	140	100	
Methylene Chloride	ND	1400	100	
4-Methyl-2-Pentanone	ND	2700	100	
Naphthalene	ND	1400	100	
n-Propylbenzene	1000	270	100	
Styrene	ND	140	100	
1,1,1,2-Tetrachloroethane	ND	140	100	
1,1,2,2-Tetrachloroethane	ND	270	100	
Tetrachloroethene	ND	140	100	
Toluene	ND	140	100	
1,2,3-Trichlorobenzene	ND	270	100	
1,2,4-Trichlorobenzene	ND	270	100	
1,1,1-Trichloroethane	ND	140	100	
1,1,2-Trichloroethane	ND	140	100	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	1400	100	
Trichloroethene	ND	270	100	
Trichlorofluoromethane	ND	1400	100	
1,2,3-Trichloropropane	ND	270	100	
1,2,4-Trimethylbenzene	6300	270	100	
1,3,5-Trimethylbenzene	2300	270	100	
Vinyl Acetate	ND	1400	100	
Vinyl Chloride	ND	140	100	
p/m-Xylene	3400	270	100	
o-Xylene	1100	140	100	
Methyl-t-Butyl Ether (MTBE)	ND	270	100	
Tert-Butyl Alcohol (TBA)	ND	2700	100	
Diisopropyl Ether (DIPE)	ND	140	100	
Ethyl-t-Butyl Ether (ETBE)	ND	140	100	
Tert-Amyl-Methyl Ether (TAME)	ND	140	100	
Ethanol	ND	69000	100	
TPPH	360000	6900	100	
Gasoline Range Organics (C4-C12)	310000	6900	100	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 42 of 66

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	91	79-139	
1,2-Dichloroethane-d4	87	71-155	
1,4-Bromofluorobenzene	103	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 43 of 66

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-33'	**19-06-1669-15-E**	**06/25/19 13:15**	**Solid**	**GC/MS OO**	**06/25/19**	**07/04/19 12:01**	**190703L036**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	320000	5000	
Benzene	ND	6400	5000	
Bromobenzene	ND	6400	5000	
Bromochloromethane	ND	13000	5000	
Bromodichloromethane	ND	6400	5000	
Bromoform	ND	32000	5000	
Bromomethane	ND	130000	5000	
2-Butanone	ND	130000	5000	
n-Butylbenzene	36000	6400	5000	
sec-Butylbenzene	12000	6400	5000	
tert-Butylbenzene	ND	6400	5000	
Carbon Disulfide	ND	64000	5000	
Carbon Tetrachloride	ND	6400	5000	
Chlorobenzene	ND	6400	5000	
Chloroethane	ND	13000	5000	
Chloroform	ND	6400	5000	
Chloromethane	ND	130000	5000	
2-Chlorotoluene	ND	6400	5000	
4-Chlorotoluene	ND	6400	5000	
Dibromochloromethane	ND	13000	5000	
1,2-Dibromo-3-Chloropropane	ND	32000	5000	
1,2-Dibromoethane	ND	6400	5000	
Dibromomethane	ND	6400	5000	
1,2-Dichlorobenzene	ND	6400	5000	
1,3-Dichlorobenzene	ND	6400	5000	
1,4-Dichlorobenzene	ND	6400	5000	
Dichlorodifluoromethane	ND	13000	5000	
1,1-Dichloroethane	ND	6400	5000	
1,2-Dichloroethane	ND	6400	5000	
1,1-Dichloroethene	ND	6400	5000	
c-1,2-Dichloroethene	ND	6400	5000	
t-1,2-Dichloroethene	ND	6400	5000	
1,2-Dichloropropane	ND	6400	5000	
1,3-Dichloropropane	ND	6400	5000	
2,2-Dichloropropane	ND	32000	5000	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 44 of 66

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	13000	5000	
c-1,3-Dichloropropene	ND	6400	5000	
t-1,3-Dichloropropene	ND	13000	5000	
Ethylbenzene	54000	6400	5000	
2-Hexanone	ND	130000	5000	
Isopropylbenzene	28000	6400	5000	
p-Isopropyltoluene	32000	6400	5000	
Methylene Chloride	ND	64000	5000	
4-Methyl-2-Pentanone	ND	130000	5000	
Naphthalene	ND	64000	5000	
n-Propylbenzene	40000	13000	5000	
Styrene	ND	6400	5000	
1,1,1,2-Tetrachloroethane	ND	6400	5000	
1,1,2,2-Tetrachloroethane	ND	13000	5000	
Tetrachloroethene	ND	6400	5000	
Toluene	ND	6400	5000	
1,2,3-Trichlorobenzene	ND	13000	5000	
1,2,4-Trichlorobenzene	ND	13000	5000	
1,1,1-Trichloroethane	ND	6400	5000	
1,1,2-Trichloroethane	ND	6400	5000	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	64000	5000	
Trichloroethene	ND	13000	5000	
Trichlorofluoromethane	ND	64000	5000	
1,2,3-Trichloropropane	ND	13000	5000	
1,2,4-Trimethylbenzene	250000	13000	5000	
1,3,5-Trimethylbenzene	89000	13000	5000	
Vinyl Acetate	ND	64000	5000	
Vinyl Chloride	ND	6400	5000	
p/m-Xylene	150000	13000	5000	
o-Xylene	48000	6400	5000	
Methyl-t-Butyl Ether (MTBE)	ND	13000	5000	
Tert-Butyl Alcohol (TBA)	ND	130000	5000	
Diisopropyl Ether (DIPE)	ND	6400	5000	
Ethyl-t-Butyl Ether (ETBE)	ND	6400	5000	
Tert-Amyl-Methyl Ether (TAME)	ND	6400	5000	
Ethanol	ND	3200000	5000	
TPPH	19000000	320000	5000	
Gasoline Range Organics (C4-C12)	16000000	320000	5000	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 45 of 66

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	90	79-139	
1,2-Dichloroethane-d4	86	71-155	
1,4-Bromofluorobenzene	102	80-120	
Toluene-d8	99	80-120	
Toluene-d8-TPPH	96	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 46 of 66

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-35'	**19-06-1669-16-D**	**06/25/19 13:40**	**Solid**	**GC/MS OO**	**06/25/19**	**07/04/19 11:02**	**190703L036**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	80000	2000	
Benzene	ND	1600	2000	
Bromobenzene	ND	1600	2000	
Bromochloromethane	ND	3200	2000	
Bromodichloromethane	ND	1600	2000	
Bromoform	ND	8000	2000	
Bromomethane	ND	32000	2000	
2-Butanone	ND	32000	2000	
n-Butylbenzene	11000	1600	2000	
sec-Butylbenzene	4400	1600	2000	
tert-Butylbenzene	ND	1600	2000	
Carbon Disulfide	ND	16000	2000	
Carbon Tetrachloride	ND	1600	2000	
Chlorobenzene	ND	1600	2000	
Chloroethane	ND	3200	2000	
Chloroform	ND	1600	2000	
Chloromethane	ND	32000	2000	
2-Chlorotoluene	ND	1600	2000	
4-Chlorotoluene	ND	1600	2000	
Dibromochloromethane	ND	3200	2000	
1,2-Dibromo-3-Chloropropane	ND	8000	2000	
1,2-Dibromoethane	ND	1600	2000	
Dibromomethane	ND	1600	2000	
1,2-Dichlorobenzene	ND	1600	2000	
1,3-Dichlorobenzene	ND	1600	2000	
1,4-Dichlorobenzene	ND	1600	2000	
Dichlorodifluoromethane	ND	3200	2000	
1,1-Dichloroethane	ND	1600	2000	
1,2-Dichloroethane	ND	1600	2000	
1,1-Dichloroethene	ND	1600	2000	
c-1,2-Dichloroethene	ND	1600	2000	
t-1,2-Dichloroethene	ND	1600	2000	
1,2-Dichloropropane	ND	1600	2000	
1,3-Dichloropropane	ND	1600	2000	
2,2-Dichloropropane	ND	8000	2000	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 47 of 66

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	3200	2000	
c-1,3-Dichloropropene	ND	1600	2000	
t-1,3-Dichloropropene	ND	3200	2000	
Ethylbenzene	33000	1600	2000	
2-Hexanone	ND	32000	2000	
Isopropylbenzene	13000	1600	2000	
p-Isopropyltoluene	12000	1600	2000	
Methylene Chloride	ND	16000	2000	
4-Methyl-2-Pentanone	ND	32000	2000	
Naphthalene	16000	16000	2000	
n-Propylbenzene	18000	3200	2000	
Styrene	ND	1600	2000	
1,1,1,2-Tetrachloroethane	ND	1600	2000	
1,1,2,2-Tetrachloroethane	ND	3200	2000	
Tetrachloroethene	ND	1600	2000	
Toluene	ND	1600	2000	
1,2,3-Trichlorobenzene	ND	3200	2000	
1,2,4-Trichlorobenzene	ND	3200	2000	
1,1,1-Trichloroethane	ND	1600	2000	
1,1,2-Trichloroethane	ND	1600	2000	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	16000	2000	
Trichloroethene	ND	3200	2000	
Trichlorofluoromethane	ND	16000	2000	
1,2,3-Trichloropropane	ND	3200	2000	
1,2,4-Trimethylbenzene	110000	3200	2000	
1,3,5-Trimethylbenzene	24000	3200	2000	
Vinyl Acetate	ND	16000	2000	
Vinyl Chloride	ND	1600	2000	
p/m-Xylene	53000	3200	2000	
o-Xylene	46000	1600	2000	
Methyl-t-Butyl Ether (MTBE)	ND	3200	2000	
Tert-Butyl Alcohol (TBA)	ND	32000	2000	
Diisopropyl Ether (DIPE)	ND	1600	2000	
Ethyl-t-Butyl Ether (ETBE)	ND	1600	2000	
Tert-Amyl-Methyl Ether (TAME)	ND	1600	2000	
Ethanol	ND	800000	2000	
Gasoline Range Organics (C4-C12)	6000000	80000	2000	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 48 of 66

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	90	79-139	
1,2-Dichloroethane-d4	83	71-155	
1,4-Bromofluorobenzene	103	80-120	
Toluene-d8	104	80-120	
Toluene-d8-TPPH	93	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-35'	**19-06-1669-16-D**	**06/25/19 13:40**	**Solid**	**GC/MS OO**	**06/25/19**	**07/04/19 18:36**	**190704L020**

Parameter	Result	RL	DF	Qualifiers
TPPH	7300000	200000	5000	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Toluene-d8-TPPH	98	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 49 of 66

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-41'	**19-06-1669-17-D**	**06/25/19 13:56**	**Solid**	**GC/MS OO**	**06/25/19**	**07/04/19 11:31**	**190703L036**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	7300	200	
Benzene	260	150	200	
Bromobenzene	ND	150	200	
Bromochloromethane	ND	290	200	
Bromodichloromethane	ND	150	200	
Bromoform	ND	730	200	
Bromomethane	ND	2900	200	
2-Butanone	ND	2900	200	
n-Butylbenzene	650	150	200	
sec-Butylbenzene	360	150	200	
tert-Butylbenzene	ND	150	200	
Carbon Disulfide	ND	1500	200	
Carbon Tetrachloride	ND	150	200	
Chlorobenzene	ND	150	200	
Chloroethane	ND	290	200	
Chloroform	ND	150	200	
Chloromethane	ND	2900	200	
2-Chlorotoluene	ND	150	200	
4-Chlorotoluene	ND	150	200	
Dibromochloromethane	ND	290	200	
1,2-Dibromo-3-Chloropropane	ND	730	200	
1,2-Dibromoethane	ND	150	200	
Dibromomethane	ND	150	200	
1,2-Dichlorobenzene	ND	150	200	
1,3-Dichlorobenzene	ND	150	200	
1,4-Dichlorobenzene	ND	150	200	
Dichlorodifluoromethane	ND	290	200	
1,1-Dichloroethane	ND	150	200	
1,2-Dichloroethane	ND	150	200	
1,1-Dichloroethene	ND	150	200	
c-1,2-Dichloroethene	ND	150	200	
t-1,2-Dichloroethene	ND	150	200	
1,2-Dichloropropane	ND	150	200	
1,3-Dichloropropane	ND	150	200	
2,2-Dichloropropane	ND	730	200	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 50 of 66

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	290	200	
c-1,3-Dichloropropene	ND	150	200	
t-1,3-Dichloropropene	ND	290	200	
Ethylbenzene	1100	150	200	
2-Hexanone	ND	2900	200	
Isopropylbenzene	870	150	200	
p-Isopropyltoluene	890	150	200	
Methylene Chloride	ND	1500	200	
4-Methyl-2-Pentanone	ND	2900	200	
Naphthalene	ND	1500	200	
n-Propylbenzene	990	290	200	
Styrene	ND	150	200	
1,1,1,2-Tetrachloroethane	ND	150	200	
1,1,2,2-Tetrachloroethane	ND	290	200	
Tetrachloroethene	ND	150	200	
Toluene	ND	150	200	
1,2,3-Trichlorobenzene	ND	290	200	
1,2,4-Trichlorobenzene	ND	290	200	
1,1,1-Trichloroethane	ND	150	200	
1,1,2-Trichloroethane	ND	150	200	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	1500	200	
Trichloroethene	ND	290	200	
Trichlorofluoromethane	ND	1500	200	
1,2,3-Trichloropropane	ND	290	200	
1,2,4-Trimethylbenzene	870	290	200	
1,3,5-Trimethylbenzene	530	290	200	
Vinyl Acetate	ND	1500	200	
Vinyl Chloride	ND	150	200	
p/m-Xylene	ND	290	200	
o-Xylene	ND	150	200	
Methyl-t-Butyl Ether (MTBE)	ND	290	200	
Tert-Butyl Alcohol (TBA)	ND	2900	200	
Diisopropyl Ether (DIPE)	ND	150	200	
Ethyl-t-Butyl Ether (ETBE)	ND	150	200	
Tert-Amyl-Methyl Ether (TAME)	ND	150	200	
Ethanol	ND	73000	200	
TPPH	500000	7300	200	
Gasoline Range Organics (C4-C12)	420000	7300	200	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 51 of 66

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	89	79-139	
1,2-Dichloroethane-d4	85	71-155	
1,4-Bromofluorobenzene	100	80-120	
Toluene-d8	102	80-120	
Toluene-d8-TPPH	96	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Project: OOI

Date Received:	06/25/19
Work Order:	19-06-1669
Preparation:	EPA 5035
Method:	GC/MS / EPA 8260B
Units:	ug/kg
	Page 52 of 66

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-43'	**19-06-1669-18-B**	**06/25/19 14:06**	**Solid**	**GC/MS OO**	**06/25/19**	**07/04/19 01:14**	**190703L026**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	38	1.00	
Benzene	ND	0.75	1.00	
Bromobenzene	ND	0.75	1.00	
Bromochloromethane	ND	1.5	1.00	
Bromodichloromethane	ND	0.75	1.00	
Bromoform	ND	3.8	1.00	
Bromomethane	ND	15	1.00	
2-Butanone	ND	15	1.00	
n-Butylbenzene	ND	0.75	1.00	
sec-Butylbenzene	0.77	0.75	1.00	
tert-Butylbenzene	ND	0.75	1.00	
Carbon Disulfide	ND	7.5	1.00	
Carbon Tetrachloride	ND	0.75	1.00	
Chlorobenzene	ND	0.75	1.00	
Chloroethane	ND	1.5	1.00	
Chloroform	ND	0.75	1.00	
Chloromethane	ND	15	1.00	
2-Chlorotoluene	ND	0.75	1.00	
4-Chlorotoluene	ND	0.75	1.00	
Dibromochloromethane	ND	1.5	1.00	
1,2-Dibromo-3-Chloropropane	ND	3.8	1.00	
1,2-Dibromoethane	ND	0.75	1.00	
Dibromomethane	ND	0.75	1.00	
1,2-Dichlorobenzene	ND	0.75	1.00	
1,3-Dichlorobenzene	ND	0.75	1.00	
1,4-Dichlorobenzene	ND	0.75	1.00	
Dichlorodifluoromethane	ND	1.5	1.00	
1,1-Dichloroethane	ND	0.75	1.00	
1,2-Dichloroethane	4.3	0.75	1.00	
1,1-Dichloroethene	ND	0.75	1.00	
c-1,2-Dichloroethene	ND	0.75	1.00	
t-1,2-Dichloroethene	ND	0.75	1.00	
1,2-Dichloropropane	ND	0.75	1.00	
1,3-Dichloropropane	ND	0.75	1.00	
2,2-Dichloropropane	ND	3.8	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 53 of 66

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.5	1.00	
c-1,3-Dichloropropene	ND	0.75	1.00	
t-1,3-Dichloropropene	ND	1.5	1.00	
Ethylbenzene	ND	0.75	1.00	
2-Hexanone	ND	15	1.00	
Isopropylbenzene	0.76	0.75	1.00	
p-Isopropyltoluene	ND	0.75	1.00	
Methylene Chloride	ND	7.5	1.00	
4-Methyl-2-Pentanone	ND	15	1.00	
Naphthalene	ND	7.5	1.00	
n-Propylbenzene	ND	1.5	1.00	
Styrene	ND	0.75	1.00	
1,1,1,2-Tetrachloroethane	ND	0.75	1.00	
1,1,2,2-Tetrachloroethane	ND	1.5	1.00	
Tetrachloroethene	ND	0.75	1.00	
Toluene	ND	0.75	1.00	
1,2,3-Trichlorobenzene	ND	1.5	1.00	
1,2,4-Trichlorobenzene	ND	1.5	1.00	
1,1,1-Trichloroethane	ND	0.75	1.00	
1,1,2-Trichloroethane	ND	0.75	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	7.5	1.00	
Trichloroethene	ND	1.5	1.00	
Trichlorofluoromethane	ND	7.5	1.00	
1,2,3-Trichloropropane	ND	1.5	1.00	
1,2,4-Trimethylbenzene	ND	1.5	1.00	
1,3,5-Trimethylbenzene	ND	1.5	1.00	
Vinyl Acetate	ND	7.5	1.00	
Vinyl Chloride	ND	0.75	1.00	
p/m-Xylene	ND	1.5	1.00	
o-Xylene	ND	0.75	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.5	1.00	
Tert-Butyl Alcohol (TBA)	ND	15	1.00	
Diisopropyl Ether (DIPE)	ND	0.75	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.75	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.75	1.00	
Ethanol	ND	380	1.00	
TPPH	1600	38	1.00	
Gasoline Range Organics (C4-C12)	1300	38	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 54 of 66

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	96	79-139	
1,2-Dichloroethane-d4	105	71-155	
1,4-Bromofluorobenzene	102	80-120	
Toluene-d8	99	80-120	
Toluene-d8-TPPH	100	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 55 of 66

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-45'	**19-06-1669-19-D**	**06/25/19 14:35**	**Solid**	**GC/MS OO**	**06/25/19**	**07/03/19 00:51**	**190702L028**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	39	1.00	
Benzene	ND	0.78	1.00	
Bromobenzene	ND	0.78	1.00	
Bromochloromethane	ND	1.6	1.00	
Bromodichloromethane	ND	0.78	1.00	
Bromoform	ND	3.9	1.00	
Bromomethane	ND	16	1.00	
2-Butanone	ND	16	1.00	
n-Butylbenzene	ND	0.78	1.00	
sec-Butylbenzene	ND	0.78	1.00	
tert-Butylbenzene	ND	0.78	1.00	
Carbon Disulfide	ND	7.8	1.00	
Carbon Tetrachloride	ND	0.78	1.00	
Chlorobenzene	ND	0.78	1.00	
Chloroethane	ND	1.6	1.00	
Chloroform	ND	0.78	1.00	
Chloromethane	ND	16	1.00	
2-Chlorotoluene	ND	0.78	1.00	
4-Chlorotoluene	ND	0.78	1.00	
Dibromochloromethane	ND	1.6	1.00	
1,2-Dibromo-3-Chloropropane	ND	3.9	1.00	
1,2-Dibromoethane	ND	0.78	1.00	
Dibromomethane	ND	0.78	1.00	
1,2-Dichlorobenzene	ND	0.78	1.00	
1,3-Dichlorobenzene	ND	0.78	1.00	
1,4-Dichlorobenzene	ND	0.78	1.00	
Dichlorodifluoromethane	ND	1.6	1.00	
1,1-Dichloroethane	ND	0.78	1.00	
1,2-Dichloroethane	ND	0.78	1.00	
1,1-Dichloroethene	ND	0.78	1.00	
c-1,2-Dichloroethene	ND	0.78	1.00	
t-1,2-Dichloroethene	ND	0.78	1.00	
1,2-Dichloropropane	ND	0.78	1.00	
1,3-Dichloropropane	ND	0.78	1.00	
2,2-Dichloropropane	ND	3.9	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 56 of 66

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.6	1.00	
c-1,3-Dichloropropene	ND	0.78	1.00	
t-1,3-Dichloropropene	ND	1.6	1.00	
Ethylbenzene	ND	0.78	1.00	
2-Hexanone	ND	16	1.00	
Isopropylbenzene	ND	0.78	1.00	
p-Isopropyltoluene	ND	0.78	1.00	
Methylene Chloride	ND	7.8	1.00	
4-Methyl-2-Pentanone	ND	16	1.00	
Naphthalene	ND	7.8	1.00	
n-Propylbenzene	ND	1.6	1.00	
Styrene	ND	0.78	1.00	
1,1,1,2-Tetrachloroethane	ND	0.78	1.00	
1,1,2,2-Tetrachloroethane	ND	1.6	1.00	
Tetrachloroethene	ND	0.78	1.00	
Toluene	ND	0.78	1.00	
1,2,3-Trichlorobenzene	ND	1.6	1.00	
1,2,4-Trichlorobenzene	ND	1.6	1.00	
1,1,1-Trichloroethane	ND	0.78	1.00	
1,1,2-Trichloroethane	ND	0.78	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	7.8	1.00	
Trichloroethene	ND	1.6	1.00	
Trichlorofluoromethane	ND	7.8	1.00	
1,2,3-Trichloropropane	ND	1.6	1.00	
1,2,4-Trimethylbenzene	ND	1.6	1.00	
1,3,5-Trimethylbenzene	ND	1.6	1.00	
Vinyl Acetate	ND	7.8	1.00	
Vinyl Chloride	ND	0.78	1.00	
p/m-Xylene	ND	1.6	1.00	
o-Xylene	ND	0.78	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.6	1.00	
Tert-Butyl Alcohol (TBA)	ND	16	1.00	
Diisopropyl Ether (DIPE)	ND	0.78	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.78	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.78	1.00	
Ethanol	ND	390	1.00	
TPPH	930	39	1.00	
Gasoline Range Organics (C4-C12)	870	39	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 57 of 66

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	103	79-139	
1,2-Dichloroethane-d4	112	71-155	
1,4-Bromofluorobenzene	100	80-120	
Toluene-d8	105	80-120	
Toluene-d8-TPPH	105	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/25/19
Work Order: 19-06-1669
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-779-2077**	**N/A**	**Solid**	**GC/MS OO**	**07/02/19**	**07/02/19 18:57**	**190702L028**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	50	1.00	
Benzene	ND	1.0	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	2.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.0	1.00	
Bromomethane	ND	20	1.00	
2-Butanone	ND	20	1.00	
n-Butylbenzene	ND	1.0	1.00	
sec-Butylbenzene	ND	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	1.0	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	2.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	20	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	2.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	5.0	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	2.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	1.0	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	5.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 59 of 66

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2.0	1.00	
c-1,3-Dichloropropene	ND	1.0	1.00	
t-1,3-Dichloropropene	ND	2.0	1.00	
Ethylbenzene	ND	1.0	1.00	
2-Hexanone	ND	20	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	ND	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	20	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	2.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	1.0	1.00	
1,1,2,2-Tetrachloroethane	ND	2.0	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	2.0	1.00	
1,2,4-Trichlorobenzene	ND	2.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
Trichloroethene	ND	2.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	2.0	1.00	
1,2,4-Trimethylbenzene	ND	2.0	1.00	
1,3,5-Trimethylbenzene	ND	2.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	1.0	1.00	
p/m-Xylene	ND	2.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	2.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	20	1.00	
Diisopropyl Ether (DIPE)	ND	1.0	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	1.0	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	1.0	1.00	
Ethanol	ND	500	1.00	
TPPH	ND	50	1.00	
Gasoline Range Organics (C4-C12)	ND	50	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 60 of 66

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	99	79-139	
1,2-Dichloroethane-d4	100	71-155	
1,4-Bromofluorobenzene	99	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	102	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/25/19
Work Order: 19-06-1669
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-779-2079**	**N/A**	**Solid**	**GC/MS OO**	**07/03/19**	**07/03/19 18:51**	**190703L026**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	50	1.00	
Benzene	ND	1.0	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	2.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.0	1.00	
Bromomethane	ND	20	1.00	
2-Butanone	ND	20	1.00	
n-Butylbenzene	ND	1.0	1.00	
sec-Butylbenzene	ND	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	1.0	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	2.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	20	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	2.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	5.0	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	2.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	1.0	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	5.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 62 of 66

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2.0	1.00	
c-1,3-Dichloropropene	ND	1.0	1.00	
t-1,3-Dichloropropene	ND	2.0	1.00	
Ethylbenzene	ND	1.0	1.00	
2-Hexanone	ND	20	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	ND	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	20	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	2.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	1.0	1.00	
1,1,2,2-Tetrachloroethane	ND	2.0	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	2.0	1.00	
1,2,4-Trichlorobenzene	ND	2.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
Trichloroethene	ND	2.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	2.0	1.00	
1,2,4-Trimethylbenzene	ND	2.0	1.00	
1,3,5-Trimethylbenzene	ND	2.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	1.0	1.00	
p/m-Xylene	ND	2.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	2.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	20	1.00	
Diisopropyl Ether (DIPE)	ND	1.0	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	1.0	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	1.0	1.00	
Ethanol	ND	500	1.00	
TPPH	ND	50	1.00	
Gasoline Range Organics (C4-C12)	ND	50	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 63 of 66

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	100	79-139	
1,2-Dichloroethane-d4	102	71-155	
1,4-Bromofluorobenzene	96	80-120	
Toluene-d8	100	80-120	
Toluene-d8-TPPH	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 64 of 66

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-779-2080**	**N/A**	**Solid**	**GC/MS OO**	**07/03/19**	**07/04/19 06:08**	**190703L036**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	5000	50.0	
Benzene	ND	100	50.0	
Bromobenzene	ND	100	50.0	
Bromochloromethane	ND	200	50.0	
Bromodichloromethane	ND	100	50.0	
Bromoform	ND	500	50.0	
Bromomethane	ND	2000	50.0	
2-Butanone	ND	2000	50.0	
n-Butylbenzene	ND	100	50.0	
sec-Butylbenzene	ND	100	50.0	
tert-Butylbenzene	ND	100	50.0	
Carbon Disulfide	ND	1000	50.0	
Carbon Tetrachloride	ND	100	50.0	
Chlorobenzene	ND	100	50.0	
Chloroethane	ND	200	50.0	
Chloroform	ND	100	50.0	
Chloromethane	ND	2000	50.0	
2-Chlorotoluene	ND	100	50.0	
4-Chlorotoluene	ND	100	50.0	
Dibromochloromethane	ND	200	50.0	
1,2-Dibromo-3-Chloropropane	ND	500	50.0	
1,2-Dibromoethane	ND	100	50.0	
Dibromomethane	ND	100	50.0	
1,2-Dichlorobenzene	ND	100	50.0	
1,3-Dichlorobenzene	ND	100	50.0	
1,4-Dichlorobenzene	ND	100	50.0	
Dichlorodifluoromethane	ND	200	50.0	
1,1-Dichloroethane	ND	100	50.0	
1,2-Dichloroethane	ND	100	50.0	
1,1-Dichloroethene	ND	100	50.0	
c-1,2-Dichloroethene	ND	100	50.0	
t-1,2-Dichloroethene	ND	100	50.0	
1,2-Dichloropropane	ND	100	50.0	
1,3-Dichloropropane	ND	100	50.0	
2,2-Dichloropropane	ND	500	50.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/25/19
30423 Canwood St., Suite 208	Work Order:	19-06-1669
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 65 of 66

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	200	50.0	
c-1,3-Dichloropropene	ND	100	50.0	
t-1,3-Dichloropropene	ND	200	50.0	
Ethylbenzene	ND	100	50.0	
2-Hexanone	ND	2000	50.0	
Isopropylbenzene	ND	100	50.0	
p-Isopropyltoluene	ND	100	50.0	
Methylene Chloride	ND	1000	50.0	
4-Methyl-2-Pentanone	ND	2000	50.0	
Naphthalene	ND	1000	50.0	
n-Propylbenzene	ND	200	50.0	
Styrene	ND	100	50.0	
1,1,1,2-Tetrachloroethane	ND	100	50.0	
1,1,2,2-Tetrachloroethane	ND	200	50.0	
Tetrachloroethene	ND	100	50.0	
Toluene	ND	100	50.0	
1,2,3-Trichlorobenzene	ND	200	50.0	
1,2,4-Trichlorobenzene	ND	200	50.0	
1,1,1-Trichloroethane	ND	100	50.0	
1,1,2-Trichloroethane	ND	100	50.0	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	1000	50.0	
Trichloroethene	ND	200	50.0	
Trichlorofluoromethane	ND	1000	50.0	
1,2,3-Trichloropropane	ND	200	50.0	
1,2,4-Trimethylbenzene	ND	200	50.0	
1,3,5-Trimethylbenzene	ND	200	50.0	
Vinyl Acetate	ND	1000	50.0	
Vinyl Chloride	ND	100	50.0	
p/m-Xylene	ND	200	50.0	
o-Xylene	ND	100	50.0	
Methyl-t-Butyl Ether (MTBE)	ND	200	50.0	
Tert-Butyl Alcohol (TBA)	ND	2000	50.0	
Diisopropyl Ether (DIPE)	ND	100	50.0	
Ethyl-t-Butyl Ether (ETBE)	ND	100	50.0	
Tert-Amyl-Methyl Ether (TAME)	ND	100	50.0	
Ethanol	ND	50000	50.0	
TPPH	ND	5000	50.0	
Gasoline Range Organics (C4-C12)	ND	5000	50.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 66 of 66

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	95	79-139	
1,2-Dichloroethane-d4	94	71-155	
1,4-Bromofluorobenzene	95	80-120	
Toluene-d8	99	80-120	
Toluene-d8-TPPH	101	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-779-2082**	**N/A**	**Solid**	**GC/MS OO**	**07/04/19**	**07/04/19 18:06**	**190704L020**

Parameter	Result	RL	DF	Qualifiers
TPPH	ND	5000	50.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	92	79-139	
1,2-Dichloroethane-d4	88	71-155	
1,4-Bromofluorobenzene	97	80-120	
Toluene-d8	97	80-120	
Toluene-d8-TPPH	98	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Project: OOI

Date Received: 06/25/19
Work Order: 19-06-1669
Preparation: N/A
Method: ASTM D-2216 (M)
Units: %

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-5.5'	**19-06-1669-1-A**	**06/25/19 08:35**	**Solid**	**N/A**	**06/27/19**	**06/27/19 14:30**	**J0627MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	9.3	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-10.5'	**19-06-1669-2-A**	**06/25/19 08:43**	**Solid**	**N/A**	**06/27/19**	**06/27/19 14:30**	**J0627MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	6.3	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-15.5'	**19-06-1669-3-A**	**06/25/19 08:52**	**Solid**	**N/A**	**06/27/19**	**06/27/19 14:30**	**J0627MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	7.9	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-20.5'	**19-06-1669-4-A**	**06/25/19 09:04**	**Solid**	**N/A**	**06/27/19**	**06/27/19 14:30**	**J0627MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	5.1	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-25.5'	**19-06-1669-5-A**	**06/25/19 09:14**	**Solid**	**N/A**	**06/27/19**	**06/27/19 14:30**	**J0627MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	3.4	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-32'	**19-06-1669-6-A**	**06/25/19 09:27**	**Solid**	**N/A**	**06/27/19**	**06/27/19 14:30**	**J0627MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	6.0	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-37.0'	**19-06-1669-7-A**	**06/25/19 10:08**	**Solid**	**N/A**	**06/27/19**	**06/27/19 14:30**	**J0627MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	25	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-35.5'	**19-06-1669-8-A**	**06/25/19 10:18**	**Solid**	**N/A**	**06/27/19**	**06/27/19 14:30**	**J0627MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	10	0.10	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/25/19
Work Order: 19-06-1669
Preparation: N/A
Method: ASTM D-2216 (M)
Units: %

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-3'	**19-06-1669-9-A**	**06/25/19 11:20**	**Solid**	**N/A**	**06/27/19**	**06/27/19 14:30**	**J0627MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	2.7	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-10.5'	**19-06-1669-10-A**	**06/25/19 11:40**	**Solid**	**N/A**	**06/27/19**	**06/27/19 14:30**	**J0627MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	7.8	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-15.5'	**19-06-1669-11-A**	**06/25/19 12:20**	**Solid**	**N/A**	**06/27/19**	**06/27/19 14:30**	**J0627MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	7.4	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-20.5'	**19-06-1669-12-A**	**06/25/19 12:38**	**Solid**	**N/A**	**06/27/19**	**06/27/19 14:30**	**J0627MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	4.7	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-25.5'	**19-06-1669-13-A**	**06/25/19 12:51**	**Solid**	**N/A**	**06/27/19**	**06/27/19 14:30**	**J0627MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	5.7	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-30'	**19-06-1669-14-A**	**06/25/19 13:01**	**Solid**	**N/A**	**06/27/19**	**06/27/19 14:30**	**J0627MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	5.9	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-33'	**19-06-1669-15-A**	**06/25/19 13:15**	**Solid**	**N/A**	**06/27/19**	**06/27/19 14:30**	**J0627MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	6.2	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-05-014-8474**	**N/A**	**Solid**	**N/A**	**06/27/19**	**06/27/19 14:30**	**J0627MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	ND	0.10	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Quality Control - Spike/Spike Duplicate

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: OOI			Page 1 of 2

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-06-1681-1	**Sample**	**Solid**	**GC 49**	**06/26/19**	**06/26/19 13:53**	**190626S02**
19-06-1681-1	**Matrix Spike**	**Solid**	**GC 49**	**06/26/19**	**06/26/19 13:10**	**190626S02**
19-06-1681-1	**Matrix Spike Duplicate**	**Solid**	**GC 49**	**06/26/19**	**06/26/19 13:31**	**190626S02**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	ND	400.0	399.0	100	400.2	100	64-130	0	0-15	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: OOI			Page 2 of 2

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-06-1612-1	**Sample**	**Concrete**	**ICP 8300**	**06/28/19**	**06/29/19 18:18**	**190628S01**
19-06-1612-1	**Matrix Spike**	**Concrete**	**ICP 8300**	**06/28/19**	**07/01/19 21:37**	**190628S01**
19-06-1612-1	**Matrix Spike Duplicate**	**Concrete**	**ICP 8300**	**06/28/19**	**07/01/19 21:39**	**190628S01**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Arsenic	17.61	25.00	46.00	114	47.09	118	75-125	2	0-20	
Lead	19.83	25.00	44.77	100	46.68	107	75-125	4	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Sample Duplicate

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	N/A
		Method:	ASTM D-2216 (M)
Project: OOI			Page 1 of 1

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
19-06-1740-1	**Sample**	**Solid**	**N/A**	**06/27/19 00:00**	**06/27/19 14:30**	**J0627MOID1**
19-06-1740-1	**Sample Duplicate**	**Solid**	**N/A**	**06/27/19 00:00**	**06/27/19 14:30**	**J0627MOID1**

Parameter	Sample Conc.	DUP Conc.	RPD	RPD CL	Qualifiers
Moisture	83.30	83.30	0	0-10	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: OOI			Page 1 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-15-490-3650	**LCS**	**Solid**	**GC 49**	**06/26/19**	**06/26/19 12:49**	**190626B02**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Diesel	400.0	422.9	106	75-123	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: OOI			Page 2 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-01-002-28068	**LCS**	**Solid**	**ICP 8300**	**06/28/19**	**06/29/19 18:15**	**190628L01**
097-01-002-28068	**LCSD**	**Solid**	**ICP 8300**	**06/28/19**	**06/29/19 18:17**	**190628L01**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Arsenic	25.00	23.91	96	25.33	101	80-120	6	0-20	
Lead	25.00	25.05	100	26.44	106	80-120	5	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5030C
		Method:	GC/MS / EPA 8260B
Project: OOI			Page 3 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-767-8589	**LCS**	**Aqueous**	**GC/MS PP**	**07/01/19**	**07/01/19 17:45**	**190701L020**
099-12-767-8589	**LCSD**	**Aqueous**	**GC/MS PP**	**07/01/19**	**07/01/19 18:16**	**190701L020**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	50.57	101	52.58	105	80-120	73-127	4	0-20	
Carbon Tetrachloride	50.00	46.83	94	49.43	99	67-139	55-151	5	0-20	
Chlorobenzene	50.00	47.96	96	48.98	98	78-120	71-127	2	0-20	
1,2-Dibromoethane	50.00	53.77	108	53.34	107	80-120	73-127	1	0-20	
1,2-Dichlorobenzene	50.00	48.63	97	49.96	100	63-129	52-140	3	0-20	
1,2-Dichloroethane	50.00	45.59	91	46.96	94	70-130	60-140	3	0-20	
1,1-Dichloroethene	50.00	46.31	93	48.35	97	66-126	56-136	4	0-20	
Ethylbenzene	50.00	50.28	101	51.39	103	80-123	73-130	2	0-20	
Toluene	50.00	47.83	96	49.81	100	80-120	73-127	4	0-20	
Trichloroethene	50.00	49.21	98	51.24	102	80-122	73-129	4	0-20	
Vinyl Chloride	50.00	44.08	88	46.67	93	70-130	60-140	6	0-20	
p/m-Xylene	100.0	99.09	99	101.8	102	75-123	67-131	3	0-25	
o-Xylene	50.00	50.19	100	51.38	103	74-122	66-130	2	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	41.55	83	41.78	84	69-129	59-139	1	0-22	
Tert-Butyl Alcohol (TBA)	250.0	242.5	97	249.7	100	69-129	59-139	3	0-25	
Diisopropyl Ether (DIPE)	50.00	48.68	97	48.42	97	68-128	58-138	1	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	45.63	91	46.00	92	63-135	51-147	1	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	51.36	103	51.80	104	67-133	56-144	1	0-20	
Ethanol	500.0	470.6	94	492.6	99	42-168	21-189	5	0-20	
TPPH	1000	1079	108	996.7	100	65-135	53-147	8	0-30	
Gasoline Range Organics	1000	1038	104	936.5	94	65-135	53-147	10	0-30	
Gasoline Range Organics (C4-C12)	1000	1070	107	986.7	99	65-135	53-147	8	0-30	

Total number of LCS compounds: 22
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Project: OOI

Date Received: 06/25/19
Work Order: 19-06-1669
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Page 4 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-779-2077	**LCS**	**Solid**	**GC/MS OO**	**07/02/19**	**07/02/19 16:59**	**190702L028**
099-12-779-2077	**LCSD**	**Solid**	**GC/MS OO**	**07/02/19**	**07/02/19 17:28**	**190702L028**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	47.77	96	47.05	94	80-120	73-127	2	0-20	
Carbon Tetrachloride	50.00	50.19	100	49.22	98	65-137	53-149	2	0-20	
Chlorobenzene	50.00	49.55	99	48.46	97	80-120	73-127	2	0-20	
1,2-Dibromoethane	50.00	51.41	103	50.74	101	80-120	73-127	1	0-20	
1,2-Dichlorobenzene	50.00	50.56	101	49.53	99	80-120	73-127	2	0-20	
1,2-Dichloroethane	50.00	48.86	98	47.12	94	80-120	73-127	4	0-20	
1,1-Dichloroethene	50.00	46.93	94	45.59	91	68-128	58-138	3	0-20	
Ethylbenzene	50.00	51.69	103	50.44	101	80-120	73-127	2	0-20	
Toluene	50.00	50.16	100	48.34	97	80-120	73-127	4	0-20	
Trichloroethene	50.00	49.64	99	48.63	97	80-120	73-127	2	0-20	
Vinyl Chloride	50.00	45.72	91	41.74	83	67-127	57-137	9	0-20	
p/m-Xylene	100.0	105.3	105	102.4	102	75-125	67-133	3	0-25	
o-Xylene	50.00	53.52	107	52.26	105	75-125	67-133	2	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	44.21	88	43.57	87	70-124	61-133	1	0-20	
Tert-Butyl Alcohol (TBA)	250.0	227.5	91	220.8	88	73-121	65-129	3	0-20	
Diisopropyl Ether (DIPE)	50.00	48.56	97	48.28	97	69-129	59-139	1	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	46.76	94	46.17	92	70-124	61-133	1	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	50.74	101	48.74	97	74-122	66-130	4	0-20	
Ethanol	500.0	485.6	97	442.6	89	51-135	37-149	9	0-27	
TPPH	1000	982.6	98	946.3	95	65-135	53-147	4	0-30	
Gasoline Range Organics (C4-C12)	1000	886.6	89	847.2	85	65-135	53-147	5	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
Project: OOI			Page 5 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-779-2079	**LCS**	**Solid**	**GC/MS OO**	**07/03/19**	**07/03/19 16:53**	**190703L026**
099-12-779-2079	**LCSD**	**Solid**	**GC/MS OO**	**07/03/19**	**07/03/19 17:23**	**190703L026**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	50.40	101	48.97	98	80-120	73-127	3	0-20	
Carbon Tetrachloride	50.00	51.80	104	50.00	100	65-137	53-149	4	0-20	
Chlorobenzene	50.00	51.33	103	49.26	99	80-120	73-127	4	0-20	
1,2-Dibromoethane	50.00	52.69	105	51.98	104	80-120	73-127	1	0-20	
1,2-Dichlorobenzene	50.00	52.61	105	50.67	101	80-120	73-127	4	0-20	
1,2-Dichloroethane	50.00	50.28	101	50.14	100	80-120	73-127	0	0-20	
1,1-Dichloroethene	50.00	48.48	97	47.18	94	68-128	58-138	3	0-20	
Ethylbenzene	50.00	53.88	108	51.42	103	80-120	73-127	5	0-20	
Toluene	50.00	52.83	106	50.99	102	80-120	73-127	4	0-20	
Trichloroethene	50.00	51.86	104	50.45	101	80-120	73-127	3	0-20	
Vinyl Chloride	50.00	45.90	92	41.55	83	67-127	57-137	10	0-20	
p/m-Xylene	100.0	110.3	110	105.1	105	75-125	67-133	5	0-25	
o-Xylene	50.00	55.34	111	53.09	106	75-125	67-133	4	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	43.03	86	42.48	85	70-124	61-133	1	0-20	
Tert-Butyl Alcohol (TBA)	250.0	230.0	92	214.5	86	73-121	65-129	7	0-20	
Diisopropyl Ether (DIPE)	50.00	50.21	100	48.63	97	69-129	59-139	3	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	46.28	93	45.49	91	70-124	61-133	2	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	51.65	103	51.65	103	74-122	66-130	0	0-20	
Ethanol	500.0	500.2	100	466.2	93	51-135	37-149	7	0-27	
TPPH	1000	963.5	96	980.0	98	65-135	53-147	2	0-30	
Gasoline Range Organics (C4-C12)	1000	863.5	86	875.5	88	65-135	53-147	1	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
Project: OOI			Page 6 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-779-2080	**LCS**	**Solid**	**GC/MS OO**	**07/03/19**	**07/04/19 04:11**	**190703L036**
099-12-779-2080	**LCSD**	**Solid**	**GC/MS OO**	**07/03/19**	**07/04/19 04:40**	**190703L036**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	53.69	107	46.30	93	80-120	73-127	15	0-20	
Carbon Tetrachloride	50.00	53.99	108	45.83	92	65-137	53-149	16	0-20	
Chlorobenzene	50.00	55.51	111	47.26	95	80-120	73-127	16	0-20	
1,2-Dibromoethane	50.00	57.66	115	49.67	99	80-120	73-127	15	0-20	
1,2-Dichlorobenzene	50.00	56.19	112	48.06	96	80-120	73-127	16	0-20	
1,2-Dichloroethane	50.00	52.94	106	46.10	92	80-120	73-127	14	0-20	
1,1-Dichloroethene	50.00	53.25	107	44.72	89	68-128	58-138	17	0-20	
Ethylbenzene	50.00	58.01	116	48.84	98	80-120	73-127	17	0-20	
Toluene	50.00	55.88	112	48.01	96	80-120	73-127	15	0-20	
Trichloroethene	50.00	56.29	113	47.80	96	80-120	73-127	16	0-20	
Vinyl Chloride	50.00	49.64	99	40.38	81	67-127	57-137	21	0-20	X
p/m-Xylene	100.0	117.4	117	99.30	99	75-125	67-133	17	0-25	
o-Xylene	50.00	59.74	119	51.04	102	75-125	67-133	16	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	48.34	97	40.43	81	70-124	61-133	18	0-20	
Tert-Butyl Alcohol (TBA)	250.0	253.2	101	219.4	88	73-121	65-129	14	0-20	
Diisopropyl Ether (DIPE)	50.00	54.56	109	46.39	93	69-129	59-139	16	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	52.04	104	43.02	86	70-124	61-133	19	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	55.89	112	47.49	95	74-122	66-130	16	0-20	
Ethanol	500.0	637.9	128	498.5	100	51-135	37-149	25	0-27	
TPPH	1000	904.2	90	887.4	89	65-135	53-147	2	0-30	
Gasoline Range Organics (C4-C12)	1000	861.6	86	799.9	80	65-135	53-147	7	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/25/19
30423 Canwood St., Suite 208		Work Order:	19-06-1669
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
Project: OOI			Page 7 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-779-2082	**LCS**	**Solid**	**GC/MS OO**	**07/04/19**	**07/04/19 14:10**	**190704L020**
099-12-779-2082	**LCSD**	**Solid**	**GC/MS OO**	**07/04/19**	**07/04/19 14:39**	**190704L020**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	45.00	90	46.86	94	80-120	73-127	4	0-20	
Carbon Tetrachloride	50.00	43.84	88	46.31	93	65-137	53-149	5	0-20	
Chlorobenzene	50.00	47.42	95	49.04	98	80-120	73-127	3	0-20	
1,2-Dibromoethane	50.00	49.83	100	51.79	104	80-120	73-127	4	0-20	
1,2-Dichlorobenzene	50.00	48.84	98	49.86	100	80-120	73-127	2	0-20	
1,2-Dichloroethane	50.00	44.95	90	45.93	92	80-120	73-127	2	0-20	
1,1-Dichloroethene	50.00	43.20	86	44.49	89	68-128	58-138	3	0-20	
Ethylbenzene	50.00	48.94	98	51.09	102	80-120	73-127	4	0-20	
Toluene	50.00	48.17	96	49.23	98	80-120	73-127	2	0-20	
Trichloroethene	50.00	46.93	94	48.94	98	80-120	73-127	4	0-20	
Vinyl Chloride	50.00	39.76	80	39.65	79	67-127	57-137	0	0-20	
p/m-Xylene	100.0	99.94	100	103.5	103	75-125	67-133	3	0-25	
o-Xylene	50.00	51.08	102	52.52	105	75-125	67-133	3	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	44.40	89	44.47	89	70-124	61-133	0	0-20	
Tert-Butyl Alcohol (TBA)	250.0	205.7	82	206.0	82	73-121	65-129	0	0-20	
Diisopropyl Ether (DIPE)	50.00	44.62	89	45.82	92	69-129	59-139	3	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	47.10	94	48.09	96	70-124	61-133	2	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	53.46	107	55.18	110	74-122	66-130	3	0-20	
Ethanol	500.0	404.9	81	414.2	83	51-135	37-149	2	0-27	
TPPH	1000	916.0	92	932.6	93	65-135	53-147	2	0-30	
Gasoline Range Organics (C4-C12)	1000	823.6	82	832.5	83	65-135	53-147	1	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Sample Analysis Summary Report

Work Order: 19-06-1669 Page 1 of 1

Method	Extraction	Chemist ID	Instrument	Analytical Location
ASTM D-2216 (M)	N/A	1136	N/A	1
EPA 6010B	EPA 3050B	1080	ICP 8300	1
EPA 8015B (M)	EPA 3550B	972	GC 49	1
GC/MS / EPA 8260B	EPA 5035	316	GC/MS OO	2
GC/MS / EPA 8260B	EPA 5035	1178	GC/MS OO	2
GC/MS / EPA 8260B	EPA 5030C	1191	GC/MS PP	2

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Glossary of Terms and Qualifiers

Work Order: 19-06-1669 Page 1 of 1

Qualifiers	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
	Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.
	A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: **19-06-1669**

DATE: JUNE 25 2019

PAGE: 1 OF 2

LABORATORY CLIENT: CALENVIRO

ADDRESS: 30423 Canwood Street #208

CITY: ~~Agoura Hills~~ STATE: CA ZIP: 91301

TEL: 818-991-1542 E-MAIL:

CLIENT PROJECT NAME / NUMBER: OOI

P.O. NO.: 3029

PROJECT CONTACT: C. Buckley

SAMPLER(S): (PRINT) Buckley CB

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAYS ☐ STANDARD

☐ COELT EDF GLOBAL ID: LOG CODE:

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	TPH(g) ☒ GRO (8260)	TPH(d) ☐ DRO	TPH(mo) ☒ C6-C36 ☒ C8-C44	TPH ____	BTEX / MTBE ☐ 8260 ☒ 5035	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☒ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6	ARSENIC / LEAD	MOISTURE %
1	CESBG-5.5'	6/25/19	8:35	SOIL	5				X		X		X										X	X
2	CESBG-10.5'		8:43	✓	✓				X		X		X										X	X
3	CESBG-15.5'		8:52	✓	✓				X		X		X										X	X
4	CESBG-20.5'		9:04	✓	✓				X		X		X										X	X
5	CESBG-25.5'		9:14	✓	✓				X		X		X										X	X
6	CESBG-~~28~~32'		9:27	✓	✓				X		X		X										X	X
7	CESBG-37.0'		~~9~~10:08	✓	✓				X		X		X										X	X
8	CESBG-35.5'		10:18	✓	4				X				X											X
9	CESB10-3'		11:20	✓	5				X		X		X										X	X
10	CESB10-10.5'	✓	11:40	✓	5				X		X		X										X	X

Relinquished by: (Signature)	Received by: (Signature/Affiliation) EC	Date: 6-25-19	Time: 16:38
Relinquished by: (Signature)	Received by: (Signature/Affiliation) Danyle Ez	Date: 6-25-19	Time: 17:30
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

06/02/14 Revision

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CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: 19-06-1669

DATE: JUNE 25 / 2019

PAGE: 2 OF 2

LABORATORY CLIENT: CALENVIRO

ADDRESS: 30423 Canwood Street #208

CITY: Agoura Hills STATE: CA ZIP: 91301

TEL: 818-991-1542 EMAIL:

CLIENT PROJECT NAME / NUMBER: OOI

P.O. NO.: 3029

PROJECT CONTACT: C. Buckley

SAMPLER(S): (PRINT) Buckley CB

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

☐ COELT EDF GLOBAL ID: LOG CODE:

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	TPH(g) ☒ GRO ☐ 8260	TPH(d) ☐ DRO	TPH ☒ C6-C36 ☐ C6-C44	TPH	BTEX / MTBE ☒ 8260 ☐ 5035	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6	ARSENIC / LEAD	MOISTURE %
11	CESB10-15.5	6/25/19	12:20p	SOIL	5				X		X		X										X	X
12	CESB10-20.5	✓	12:38		5				X		X		X										X	X
13	CESB10-25.5	✓	12:51		5				X		X		X										X	X
14	CESB10-30'	✓	1:01		4				X				X											X
15	CESB10-33'	✓	1:15		4				X				X											X
16	CESB10-35'	✓	1:40		3				X				X											
17	CESB10-41'	✓	1:56		3				X				X											
18	CESB10-43'	✓	2:06		3				X				X											
19	CESB10-45'	✓	2:35	↓	3				X				X											
20	~~CESB9~~ CESB9-GW	✓	3:20p	H2O	3				X															

Relinquished by: (Signature)	Received by: (Signature/Affiliation) EC	Date: 6-25-19	Time: 16:38
Relinquished by: (Signature)	Received by: (Signature/Affiliation) Dawnyle EC	Date: 6-25-19	Time: 17:30
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

06/02/14 Revision

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WORK ORDER NUMBER: 19-06-1069

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: CALENVIRO

DATE: 06/25/2019

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC6 (CF: -0.2°C); Temperature (w/o CF): 5.4 °C (w/ CF): 5.2 °C; ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter

Checked by: 1053

CUSTODY SEAL:

Cooler ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 1053

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: CR

SAMPLE CONDITION:

	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☑	☐	☐
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Acid/base preserved samples - pH within acceptable range	☐	☐	☑
Container(s) for certain analysis free of headspace	☑	☐	☐
☑ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☑ VOAh ☐ VOA**na₂** ☐ 100PJ ☐ 100PJ**na₂** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB ☐ 125PB**znna** (pH__9)
☐ 250AGB ☐ 250CGB ☐ 250CGBs (pH__2) ☐ 250PB ☐ 250PBn (pH__2) ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s** (pH__2) ☐ 500PB
☐ 1AGB ☐ 1AGB**na₂** ☐ 1AGBs (pH__2) ☐ 1AGBs (O&G) ☐ 1PB ☐ 1PB**na** (pH__12) ☐ _____ ☐ _____ ☐ _____

Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☑ Sleeve (2) ☐ EnCores® (__) ☑ TerraCores® (3) 5035 ☐ _____ ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na₂** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **x** = Na_2SO_3+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: CR

Reviewed by: [illegible]

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WORK ORDER NUMBER: 19-06-1771

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: California Environmental

Client Project Name: OOI

Attention: Charles Buckley
30423 Canwood St.
Suite 208
Agoura Hills, CA 91301-4316

Approved for release on 07/09/2019 by:
Don Burley
Project Manager

ResultLink

Email your PM

Eurofins Calscience (Calscience) certifies that the test results provided in this report meet all NELAC Institute requirements for parameters for which accreditation is required or available. Any exceptions to NELAC Institute requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

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Work Order Number: 19-06-1771

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Work Order Narrative

Work Order: 19-06-1771 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 06/26/19. They were assigned to Work Order 19-06-1771.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-13A): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

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Sample Summary

Client:	California Environmental	Work Order:	19-06-1771
	30423 Canwood St., Suite 208	Project Name:	OOI
	Agoura Hills, CA 91301-4316	PO Number:	3029
		Date/Time Received:	06/26/19 17:50
		Number of Containers:	82
Attn:	Charles Buckley		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
CESB11-GW	19-06-1771-1	06/26/19 07:50	3	Aqueous
CESB11-6.5'	19-06-1771-2	06/26/19 08:12	5	Solid
CESB11-11.5'	19-06-1771-3	06/26/19 08:26	5	Solid
CESB11-15.5'	19-06-1771-4	06/26/19 08:36	5	Solid
CESB11-20.5'	19-06-1771-5	06/26/19 08:49	5	Solid
CESB11-25.5'	19-06-1771-6	06/26/19 08:59	5	Solid
CESB11-30'	19-06-1771-7	06/26/19 09:17	4	Solid
CESB11-35.5'	19-06-1771-8	06/26/19 09:36	4	Solid
CESB11-40'	19-06-1771-9	06/26/19 10:10	3	Solid
CESB11-53'	19-06-1771-10	06/26/19 10:55	2	Solid
CESB12-6'	19-06-1771-11	06/26/19 11:45	5	Solid
CESB12-10'	19-06-1771-12	06/26/19 11:55	5	Solid
CESB12-15'	19-06-1771-13	06/26/19 12:15	5	Solid
CESB12-20'	19-06-1771-14	06/26/19 12:25	5	Solid
CESB12-25'	19-06-1771-15	06/26/19 12:40	5	Solid
CESB12-30'	19-06-1771-16	06/26/19 12:55	3	Solid
CESB12-38'	19-06-1771-17	06/26/19 13:08	3	Solid
CESB12-39.5'	19-06-1771-18	06/26/19 13:25	3	Solid
CESB12-42.5'	19-06-1771-19	06/26/19 13:45	3	Solid
CE DUP 1	19-06-1771-20	06/26/19 00:00	1	Solid
CESB12-46'	19-06-1771-21	06/26/19 14:05	3	Solid

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 1 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-6.5'	**19-06-1771-2-A**	**06/26/19 08:12**	**Solid**	**GC 48**	**06/28/19**	**06/29/19 00:54**	**190628B08A**

Parameter	Result	RL	DF	Qualifiers
C6	ND	4.9	1.00	
C7	ND	4.9	1.00	
C8	ND	4.9	1.00	
C9-C10	ND	4.9	1.00	
C11-C12	ND	4.9	1.00	
C13-C14	ND	4.9	1.00	
C15-C16	ND	4.9	1.00	
C17-C18	ND	4.9	1.00	
C19-C20	ND	4.9	1.00	
C21-C22	ND	4.9	1.00	
C23-C24	ND	4.9	1.00	
C25-C28	ND	4.9	1.00	
C29-C32	ND	4.9	1.00	
C33-C36	ND	4.9	1.00	
C37-C40	ND	4.9	1.00	
C41-C44	ND	4.9	1.00	
C6-C44 Total	ND	4.9	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	82	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 2 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-11.5'	**19-06-1771-3-A**	**06/26/19 08:26**	**Solid**	**GC 48**	**06/28/19**	**06/29/19 01:15**	**190628B08A**

Parameter	Result	RL	DF	Qualifiers
C6	ND	4.9	1.00	
C7	ND	4.9	1.00	
C8	ND	4.9	1.00	
C9-C10	ND	4.9	1.00	
C11-C12	ND	4.9	1.00	
C13-C14	ND	4.9	1.00	
C15-C16	ND	4.9	1.00	
C17-C18	ND	4.9	1.00	
C19-C20	ND	4.9	1.00	
C21-C22	ND	4.9	1.00	
C23-C24	ND	4.9	1.00	
C25-C28	ND	4.9	1.00	
C29-C32	ND	4.9	1.00	
C33-C36	ND	4.9	1.00	
C37-C40	ND	4.9	1.00	
C41-C44	ND	4.9	1.00	
C6-C44 Total	ND	4.9	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	73	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 3 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-15.5'	**19-06-1771-4-A**	**06/26/19 08:36**	**Solid**	**GC 48**	**06/28/19**	**06/29/19 01:36**	**190628B08A**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	67	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 4 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-20.5'	**19-06-1771-5-A**	**06/26/19 08:49**	**Solid**	**GC 48**	**06/28/19**	**06/29/19 01:57**	**190628B08A**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.1	1.00	
C7	ND	5.1	1.00	
C8	ND	5.1	1.00	
C9-C10	ND	5.1	1.00	
C11-C12	ND	5.1	1.00	
C13-C14	ND	5.1	1.00	
C15-C16	ND	5.1	1.00	
C17-C18	ND	5.1	1.00	
C19-C20	ND	5.1	1.00	
C21-C22	ND	5.1	1.00	
C23-C24	ND	5.1	1.00	
C25-C28	ND	5.1	1.00	
C29-C32	ND	5.1	1.00	
C33-C36	ND	5.1	1.00	
C37-C40	ND	5.1	1.00	
C41-C44	ND	5.1	1.00	
C6-C44 Total	ND	5.1	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	71	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 5 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-25.5'	**19-06-1771-6-A**	**06/26/19 08:59**	**Solid**	**GC 48**	**06/28/19**	**06/29/19 13:15**	**190628B08A**

Parameter	Result	RL	DF	Qualifiers
C6	ND	4.9	1.00	
C7	ND	4.9	1.00	
C8	ND	4.9	1.00	
C9-C10	ND	4.9	1.00	
C11-C12	ND	4.9	1.00	
C13-C14	ND	4.9	1.00	
C15-C16	ND	4.9	1.00	
C17-C18	ND	4.9	1.00	
C19-C20	ND	4.9	1.00	
C21-C22	ND	4.9	1.00	
C23-C24	ND	4.9	1.00	
C25-C28	ND	4.9	1.00	
C29-C32	ND	4.9	1.00	
C33-C36	ND	4.9	1.00	
C37-C40	ND	4.9	1.00	
C41-C44	ND	4.9	1.00	
C6-C44 Total	ND	4.9	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	95	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 6 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-30'	**19-06-1771-7-A**	**06/26/19 09:17**	**Solid**	**GC 48**	**06/28/19**	**06/29/19 02:40**	**190628B08A**

Comment(s): - The total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	10	5.0	1.00	
C8	27	5.0	1.00	
C9-C10	64	5.0	1.00	
C11-C12	25	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	130	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	79	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 7 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-35.5'	**19-06-1771-8-A**	**06/26/19 09:36**	**Solid**	**GC 48**	**06/28/19**	**06/29/19 03:01**	**190628B08A**

Comment(s): - The total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.1	1.00	
C7	ND	5.1	1.00	
C8	10	5.1	1.00	
C9-C10	24	5.1	1.00	
C11-C12	12	5.1	1.00	
C13-C14	ND	5.1	1.00	
C15-C16	ND	5.1	1.00	
C17-C18	ND	5.1	1.00	
C19-C20	ND	5.1	1.00	
C21-C22	ND	5.1	1.00	
C23-C24	ND	5.1	1.00	
C25-C28	ND	5.1	1.00	
C29-C32	ND	5.1	1.00	
C33-C36	ND	5.1	1.00	
C37-C40	ND	5.1	1.00	
C41-C44	ND	5.1	1.00	
C6-C44 Total	52	5.1	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	75	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 8 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-6'	**19-06-1771-11-A**	**06/26/19 11:45**	**Solid**	**GC 48**	**06/28/19**	**06/29/19 03:43**	**190628B08A**

Comment(s): - The total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	5.7	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	82	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 9 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-10'	**19-06-1771-12-A**	**06/26/19 11:55**	**Solid**	**GC 48**	**06/28/19**	**06/29/19 04:04**	**190628B08A**

Comment(s): - The total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.1	1.00	
C7	ND	5.1	1.00	
C8	ND	5.1	1.00	
C9-C10	ND	5.1	1.00	
C11-C12	ND	5.1	1.00	
C13-C14	ND	5.1	1.00	
C15-C16	ND	5.1	1.00	
C17-C18	ND	5.1	1.00	
C19-C20	ND	5.1	1.00	
C21-C22	ND	5.1	1.00	
C23-C24	ND	5.1	1.00	
C25-C28	ND	5.1	1.00	
C29-C32	ND	5.1	1.00	
C33-C36	ND	5.1	1.00	
C37-C40	ND	5.1	1.00	
C41-C44	ND	5.1	1.00	
C6-C44 Total	5.3	5.1	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	73	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 10 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-15'	**19-06-1771-13-A**	**06/26/19 12:15**	**Solid**	**GC 48**	**06/28/19**	**06/29/19 04:25**	**190628B08A**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	79	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 11 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-20'	**19-06-1771-14-A**	**06/26/19 12:25**	**Solid**	**GC 48**	**06/28/19**	**06/29/19 04:46**	**190628B08A**

Parameter	Result	RL	DF	Qualifiers
C6	ND	4.9	1.00	
C7	ND	4.9	1.00	
C8	ND	4.9	1.00	
C9-C10	ND	4.9	1.00	
C11-C12	ND	4.9	1.00	
C13-C14	ND	4.9	1.00	
C15-C16	ND	4.9	1.00	
C17-C18	ND	4.9	1.00	
C19-C20	ND	4.9	1.00	
C21-C22	ND	4.9	1.00	
C23-C24	ND	4.9	1.00	
C25-C28	ND	4.9	1.00	
C29-C32	ND	4.9	1.00	
C33-C36	ND	4.9	1.00	
C37-C40	ND	4.9	1.00	
C41-C44	ND	4.9	1.00	
C6-C44 Total	ND	4.9	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	66	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 12 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-25'	**19-06-1771-15-A**	**06/26/19 12:40**	**Solid**	**GC 48**	**06/28/19**	**06/29/19 05:07**	**190628B08A**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.1	1.00	
C7	ND	5.1	1.00	
C8	ND	5.1	1.00	
C9-C10	ND	5.1	1.00	
C11-C12	ND	5.1	1.00	
C13-C14	ND	5.1	1.00	
C15-C16	ND	5.1	1.00	
C17-C18	ND	5.1	1.00	
C19-C20	ND	5.1	1.00	
C21-C22	ND	5.1	1.00	
C23-C24	ND	5.1	1.00	
C25-C28	ND	5.1	1.00	
C29-C32	ND	5.1	1.00	
C33-C36	ND	5.1	1.00	
C37-C40	ND	5.1	1.00	
C41-C44	ND	5.1	1.00	
C6-C44 Total	ND	5.1	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	77	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 13 of 13

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-490-3654**	**N/A**	**Solid**	**GC 48**	**06/28/19**	**06/28/19 23:51**	**190628B08A**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	83	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: OOI			Page 1 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-6.5'	**19-06-1771-2-A**	**06/26/19 08:12**	**Solid**	**ICP 8300**	**07/01/19**	**07/01/19 21:53**	**190701L02A**

Parameter	Result	RL	DF	Qualifiers
Arsenic	9.37	0.746	0.995	
Lead	1.72	0.498	0.995	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-11.5'	**19-06-1771-3-A**	**06/26/19 08:26**	**Solid**	**ICP 8300**	**07/01/19**	**07/01/19 22:04**	**190701L02A**

Parameter	Result	RL	DF	Qualifiers
Arsenic	14.1	0.750	1.00	
Lead	2.06	0.500	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-15.5'	**19-06-1771-4-A**	**06/26/19 08:36**	**Solid**	**ICP 8300**	**07/01/19**	**07/01/19 22:06**	**190701L02A**

Parameter	Result	RL	DF	Qualifiers
Arsenic	17.8	0.732	0.976	
Lead	1.76	0.488	0.976	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-20.5'	**19-06-1771-5-A**	**06/26/19 08:49**	**Solid**	**ICP 8300**	**07/01/19**	**07/01/19 22:07**	**190701L02A**

Parameter	Result	RL	DF	Qualifiers
Arsenic	3.98	0.746	0.995	
Lead	ND	0.498	0.995	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-25.5'	**19-06-1771-6-A**	**06/26/19 08:59**	**Solid**	**ICP 8300**	**07/01/19**	**07/01/19 22:09**	**190701L02A**

Parameter	Result	RL	DF	Qualifiers
Arsenic	1.37	0.750	1.00	
Lead	0.795	0.500	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-30'	**19-06-1771-7-A**	**06/26/19 09:17**	**Solid**	**ICP 8300**	**07/01/19**	**07/01/19 22:11**	**190701L02A**

Parameter	Result	RL	DF	Qualifiers
Arsenic	5.18	0.754	1.01	
Lead	1.25	0.503	1.01	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/26/19
Work Order: 19-06-1771
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-35.5'	**19-06-1771-8-A**	**06/26/19 09:36**	**Solid**	**ICP 8300**	**07/01/19**	**07/01/19 22:13**	**190701L02A**

Parameter	Result	RL	DF	Qualifiers
Arsenic	14.7	0.725	0.966	
Lead	0.956	0.483	0.966	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-6'	**19-06-1771-11-A**	**06/26/19 11:45**	**Solid**	**ICP 8300**	**07/01/19**	**07/01/19 22:15**	**190701L02A**

Parameter	Result	RL	DF	Qualifiers
Arsenic	28.1	0.743	0.990	
Lead	1.26	0.495	0.990	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-10'	**19-06-1771-12-A**	**06/26/19 11:55**	**Solid**	**ICP 8300**	**07/01/19**	**07/01/19 22:16**	**190701L02A**

Parameter	Result	RL	DF	Qualifiers
Arsenic	ND	0.728	0.971	
Lead	ND	0.485	0.971	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-15'	**19-06-1771-13-A**	**06/26/19 12:15**	**Solid**	**ICP 8300**	**07/01/19**	**07/01/19 22:18**	**190701L02A**

Parameter	Result	RL	DF	Qualifiers
Arsenic	2.17	0.728	0.971	
Lead	1.08	0.485	0.971	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-20'	**19-06-1771-14-A**	**06/26/19 12:25**	**Solid**	**ICP 8300**	**07/01/19**	**07/01/19 22:24**	**190701L02A**

Parameter	Result	RL	DF	Qualifiers
Arsenic	2.88	0.735	0.980	
Lead	0.842	0.490	0.980	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-25'	**19-06-1771-15-A**	**06/26/19 12:40**	**Solid**	**ICP 8300**	**07/01/19**	**07/01/19 22:26**	**190701L02A**

Parameter	Result	RL	DF	Qualifiers
Arsenic	2.63	0.728	0.971	
Lead	ND	0.485	0.971	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: OOI			Page 3 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-28071**	**N/A**	**Solid**	**ICP 8300**	**07/01/19**	**07/01/19 21:46**	**190701L02A**

Parameter	Result	RL	DF	Qualifiers
Arsenic	ND	0.739	0.985	
Lead	ND	0.493	0.985	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 1 of 78

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-6.5'	**19-06-1771-2-D**	**06/26/19 08:12**	**Solid**	**GC/MS OO**	**06/26/19**	**07/03/19 19:21**	**190703L026**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	46	1.00	
Benzene	ND	0.91	1.00	
Bromobenzene	ND	0.91	1.00	
Bromochloromethane	ND	1.8	1.00	
Bromodichloromethane	ND	0.91	1.00	
Bromoform	ND	4.6	1.00	
Bromomethane	ND	18	1.00	
2-Butanone	ND	18	1.00	
n-Butylbenzene	ND	0.91	1.00	
sec-Butylbenzene	ND	0.91	1.00	
tert-Butylbenzene	ND	0.91	1.00	
Carbon Disulfide	ND	9.1	1.00	
Carbon Tetrachloride	ND	0.91	1.00	
Chlorobenzene	ND	0.91	1.00	
Chloroethane	ND	1.8	1.00	
Chloroform	ND	0.91	1.00	
Chloromethane	ND	18	1.00	
2-Chlorotoluene	ND	0.91	1.00	
4-Chlorotoluene	ND	0.91	1.00	
Dibromochloromethane	ND	1.8	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.6	1.00	
1,2-Dibromoethane	ND	0.91	1.00	
Dibromomethane	ND	0.91	1.00	
1,2-Dichlorobenzene	ND	0.91	1.00	
1,3-Dichlorobenzene	ND	0.91	1.00	
1,4-Dichlorobenzene	ND	0.91	1.00	
Dichlorodifluoromethane	ND	1.8	1.00	
1,1-Dichloroethane	ND	0.91	1.00	
1,2-Dichloroethane	ND	0.91	1.00	
1,1-Dichloroethene	ND	0.91	1.00	
c-1,2-Dichloroethene	ND	0.91	1.00	
t-1,2-Dichloroethene	ND	0.91	1.00	
1,2-Dichloropropane	ND	0.91	1.00	
1,3-Dichloropropane	ND	0.91	1.00	
2,2-Dichloropropane	ND	4.6	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 2 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.8	1.00	
c-1,3-Dichloropropene	ND	0.91	1.00	
t-1,3-Dichloropropene	ND	1.8	1.00	
Ethylbenzene	ND	0.91	1.00	
2-Hexanone	ND	18	1.00	
Isopropylbenzene	ND	0.91	1.00	
p-Isopropyltoluene	ND	0.91	1.00	
Methylene Chloride	ND	9.1	1.00	
4-Methyl-2-Pentanone	ND	18	1.00	
Naphthalene	ND	9.1	1.00	
n-Propylbenzene	ND	1.8	1.00	
Styrene	ND	0.91	1.00	
1,1,1,2-Tetrachloroethane	ND	0.91	1.00	
1,1,2,2-Tetrachloroethane	ND	1.8	1.00	
Tetrachloroethene	ND	0.91	1.00	
Toluene	ND	0.91	1.00	
1,2,3-Trichlorobenzene	ND	1.8	1.00	
1,2,4-Trichlorobenzene	ND	1.8	1.00	
1,1,1-Trichloroethane	ND	0.91	1.00	
1,1,2-Trichloroethane	ND	0.91	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	9.1	1.00	
Trichloroethene	ND	1.8	1.00	
Trichlorofluoromethane	ND	9.1	1.00	
1,2,3-Trichloropropane	ND	1.8	1.00	
1,2,4-Trimethylbenzene	ND	1.8	1.00	
1,3,5-Trimethylbenzene	ND	1.8	1.00	
Vinyl Acetate	ND	9.1	1.00	
Vinyl Chloride	ND	0.91	1.00	
p/m-Xylene	ND	1.8	1.00	
o-Xylene	ND	0.91	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.8	1.00	
Tert-Butyl Alcohol (TBA)	ND	18	1.00	
Diisopropyl Ether (DIPE)	ND	0.91	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.91	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.91	1.00	
Ethanol	ND	460	1.00	
TPPH	ND	46	1.00	
Gasoline Range Organics (C4-C12)	ND	46	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 3 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	108	79-139	
1,2-Dichloroethane-d4	113	71-155	
1,4-Bromofluorobenzene	97	80-120	
Toluene-d8	100	80-120	
Toluene-d8-TPPH	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 4 of 78

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-11.5'	**19-06-1771-3-D**	**06/26/19 08:26**	**Solid**	**GC/MS OO**	**06/26/19**	**07/03/19 19:50**	**190703L026**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	68	1.00	
Benzene	ND	1.4	1.00	
Bromobenzene	ND	1.4	1.00	
Bromochloromethane	ND	2.7	1.00	
Bromodichloromethane	ND	1.4	1.00	
Bromoform	ND	6.8	1.00	
Bromomethane	ND	27	1.00	
2-Butanone	ND	27	1.00	
n-Butylbenzene	ND	1.4	1.00	
sec-Butylbenzene	ND	1.4	1.00	
tert-Butylbenzene	ND	1.4	1.00	
Carbon Disulfide	ND	14	1.00	
Carbon Tetrachloride	ND	1.4	1.00	
Chlorobenzene	ND	1.4	1.00	
Chloroethane	ND	2.7	1.00	
Chloroform	ND	1.4	1.00	
Chloromethane	ND	27	1.00	
2-Chlorotoluene	ND	1.4	1.00	
4-Chlorotoluene	ND	1.4	1.00	
Dibromochloromethane	ND	2.7	1.00	
1,2-Dibromo-3-Chloropropane	ND	6.8	1.00	
1,2-Dibromoethane	ND	1.4	1.00	
Dibromomethane	ND	1.4	1.00	
1,2-Dichlorobenzene	ND	1.4	1.00	
1,3-Dichlorobenzene	ND	1.4	1.00	
1,4-Dichlorobenzene	ND	1.4	1.00	
Dichlorodifluoromethane	ND	2.7	1.00	
1,1-Dichloroethane	ND	1.4	1.00	
1,2-Dichloroethane	ND	1.4	1.00	
1,1-Dichloroethene	ND	1.4	1.00	
c-1,2-Dichloroethene	ND	1.4	1.00	
t-1,2-Dichloroethene	ND	1.4	1.00	
1,2-Dichloropropane	ND	1.4	1.00	
1,3-Dichloropropane	ND	1.4	1.00	
2,2-Dichloropropane	ND	6.8	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 5 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2.7	1.00	
c-1,3-Dichloropropene	ND	1.4	1.00	
t-1,3-Dichloropropene	ND	2.7	1.00	
Ethylbenzene	ND	1.4	1.00	
2-Hexanone	ND	27	1.00	
Isopropylbenzene	ND	1.4	1.00	
p-Isopropyltoluene	ND	1.4	1.00	
Methylene Chloride	ND	14	1.00	
4-Methyl-2-Pentanone	ND	27	1.00	
Naphthalene	ND	14	1.00	
n-Propylbenzene	ND	2.7	1.00	
Styrene	ND	1.4	1.00	
1,1,1,2-Tetrachloroethane	ND	1.4	1.00	
1,1,2,2-Tetrachloroethane	ND	2.7	1.00	
Tetrachloroethene	ND	1.4	1.00	
Toluene	ND	1.4	1.00	
1,2,3-Trichlorobenzene	ND	2.7	1.00	
1,2,4-Trichlorobenzene	ND	2.7	1.00	
1,1,1-Trichloroethane	ND	1.4	1.00	
1,1,2-Trichloroethane	ND	1.4	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	14	1.00	
Trichloroethene	ND	2.7	1.00	
Trichlorofluoromethane	ND	14	1.00	
1,2,3-Trichloropropane	ND	2.7	1.00	
1,2,4-Trimethylbenzene	ND	2.7	1.00	
1,3,5-Trimethylbenzene	ND	2.7	1.00	
Vinyl Acetate	ND	14	1.00	
Vinyl Chloride	ND	1.4	1.00	
p/m-Xylene	ND	2.7	1.00	
o-Xylene	ND	1.4	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	2.7	1.00	
Tert-Butyl Alcohol (TBA)	ND	27	1.00	
Diisopropyl Ether (DIPE)	ND	1.4	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	1.4	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	1.4	1.00	
Ethanol	ND	680	1.00	
TPPH	ND	68	1.00	
Gasoline Range Organics (C4-C12)	ND	68	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 6 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	105	79-139	
1,2-Dichloroethane-d4	116	71-155	
1,4-Bromofluorobenzene	99	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	102	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 7 of 78

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-15.5'	**19-06-1771-4-D**	**06/26/19 08:36**	**Solid**	**GC/MS OO**	**06/26/19**	**07/03/19 20:20**	**190703L026**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	42	1.00	
Benzene	ND	0.84	1.00	
Bromobenzene	ND	0.84	1.00	
Bromochloromethane	ND	1.7	1.00	
Bromodichloromethane	ND	0.84	1.00	
Bromoform	ND	4.2	1.00	
Bromomethane	ND	17	1.00	
2-Butanone	ND	17	1.00	
n-Butylbenzene	ND	0.84	1.00	
sec-Butylbenzene	ND	0.84	1.00	
tert-Butylbenzene	ND	0.84	1.00	
Carbon Disulfide	ND	8.4	1.00	
Carbon Tetrachloride	ND	0.84	1.00	
Chlorobenzene	ND	0.84	1.00	
Chloroethane	ND	1.7	1.00	
Chloroform	ND	0.84	1.00	
Chloromethane	ND	17	1.00	
2-Chlorotoluene	ND	0.84	1.00	
4-Chlorotoluene	ND	0.84	1.00	
Dibromochloromethane	ND	1.7	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.2	1.00	
1,2-Dibromoethane	ND	0.84	1.00	
Dibromomethane	ND	0.84	1.00	
1,2-Dichlorobenzene	ND	0.84	1.00	
1,3-Dichlorobenzene	ND	0.84	1.00	
1,4-Dichlorobenzene	ND	0.84	1.00	
Dichlorodifluoromethane	ND	1.7	1.00	
1,1-Dichloroethane	ND	0.84	1.00	
1,2-Dichloroethane	ND	0.84	1.00	
1,1-Dichloroethene	ND	0.84	1.00	
c-1,2-Dichloroethene	ND	0.84	1.00	
t-1,2-Dichloroethene	ND	0.84	1.00	
1,2-Dichloropropane	ND	0.84	1.00	
1,3-Dichloropropane	ND	0.84	1.00	
2,2-Dichloropropane	ND	4.2	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 8 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.7	1.00	
c-1,3-Dichloropropene	ND	0.84	1.00	
t-1,3-Dichloropropene	ND	1.7	1.00	
Ethylbenzene	ND	0.84	1.00	
2-Hexanone	ND	17	1.00	
Isopropylbenzene	ND	0.84	1.00	
p-Isopropyltoluene	ND	0.84	1.00	
Methylene Chloride	ND	8.4	1.00	
4-Methyl-2-Pentanone	ND	17	1.00	
Naphthalene	ND	8.4	1.00	
n-Propylbenzene	ND	1.7	1.00	
Styrene	ND	0.84	1.00	
1,1,1,2-Tetrachloroethane	ND	0.84	1.00	
1,1,2,2-Tetrachloroethane	ND	1.7	1.00	
Tetrachloroethene	ND	0.84	1.00	
Toluene	ND	0.84	1.00	
1,2,3-Trichlorobenzene	ND	1.7	1.00	
1,2,4-Trichlorobenzene	ND	1.7	1.00	
1,1,1-Trichloroethane	ND	0.84	1.00	
1,1,2-Trichloroethane	ND	0.84	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	8.4	1.00	
Trichloroethene	ND	1.7	1.00	
Trichlorofluoromethane	ND	8.4	1.00	
1,2,3-Trichloropropane	ND	1.7	1.00	
1,2,4-Trimethylbenzene	ND	1.7	1.00	
1,3,5-Trimethylbenzene	ND	1.7	1.00	
Vinyl Acetate	ND	8.4	1.00	
Vinyl Chloride	ND	0.84	1.00	
p/m-Xylene	ND	1.7	1.00	
o-Xylene	ND	0.84	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.7	1.00	
Tert-Butyl Alcohol (TBA)	ND	17	1.00	
Diisopropyl Ether (DIPE)	ND	0.84	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.84	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.84	1.00	
Ethanol	ND	420	1.00	
TPPH	ND	42	1.00	
Gasoline Range Organics (C4-C12)	ND	42	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 9 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	108	79-139	
1,2-Dichloroethane-d4	122	71-155	
1,4-Bromofluorobenzene	97	80-120	
Toluene-d8	100	80-120	
Toluene-d8-TPPH	102	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Project: OOI

Date Received: 06/26/19
Work Order: 19-06-1771
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-20.5'	**19-06-1771-5-D**	**06/26/19 08:49**	**Solid**	**GC/MS OO**	**06/26/19**	**07/04/19 19:05**	**190704L017**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	48	1.00	
Benzene	ND	0.97	1.00	
Bromobenzene	ND	0.97	1.00	
Bromochloromethane	ND	1.9	1.00	
Bromodichloromethane	ND	0.97	1.00	
Bromoform	ND	4.8	1.00	
Bromomethane	ND	19	1.00	
2-Butanone	ND	19	1.00	
n-Butylbenzene	ND	0.97	1.00	
sec-Butylbenzene	ND	0.97	1.00	
tert-Butylbenzene	ND	0.97	1.00	
Carbon Disulfide	ND	9.7	1.00	
Carbon Tetrachloride	ND	0.97	1.00	
Chlorobenzene	ND	0.97	1.00	
Chloroethane	ND	1.9	1.00	
Chloroform	ND	0.97	1.00	
Chloromethane	ND	19	1.00	
2-Chlorotoluene	ND	0.97	1.00	
4-Chlorotoluene	ND	0.97	1.00	
Dibromochloromethane	ND	1.9	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.8	1.00	
1,2-Dibromoethane	ND	0.97	1.00	
Dibromomethane	ND	0.97	1.00	
1,2-Dichlorobenzene	ND	0.97	1.00	
1,3-Dichlorobenzene	ND	0.97	1.00	
1,4-Dichlorobenzene	ND	0.97	1.00	
Dichlorodifluoromethane	ND	1.9	1.00	
1,1-Dichloroethane	ND	0.97	1.00	
1,2-Dichloroethane	ND	0.97	1.00	
1,1-Dichloroethene	ND	0.97	1.00	
c-1,2-Dichloroethene	ND	0.97	1.00	
t-1,2-Dichloroethene	ND	0.97	1.00	
1,2-Dichloropropane	ND	0.97	1.00	
1,3-Dichloropropane	ND	0.97	1.00	
2,2-Dichloropropane	ND	4.8	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 11 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.9	1.00	
c-1,3-Dichloropropene	ND	0.97	1.00	
t-1,3-Dichloropropene	ND	1.9	1.00	
Ethylbenzene	ND	0.97	1.00	
2-Hexanone	ND	19	1.00	
Isopropylbenzene	ND	0.97	1.00	
p-Isopropyltoluene	ND	0.97	1.00	
Methylene Chloride	ND	9.7	1.00	
4-Methyl-2-Pentanone	ND	19	1.00	
Naphthalene	ND	9.7	1.00	
n-Propylbenzene	ND	1.9	1.00	
Styrene	ND	0.97	1.00	
1,1,1,2-Tetrachloroethane	ND	0.97	1.00	
1,1,2,2-Tetrachloroethane	ND	1.9	1.00	
Tetrachloroethene	ND	0.97	1.00	
Toluene	ND	0.97	1.00	
1,2,3-Trichlorobenzene	ND	1.9	1.00	
1,2,4-Trichlorobenzene	ND	1.9	1.00	
1,1,1-Trichloroethane	ND	0.97	1.00	
1,1,2-Trichloroethane	ND	0.97	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	9.7	1.00	
Trichloroethene	ND	1.9	1.00	
Trichlorofluoromethane	ND	9.7	1.00	
1,2,3-Trichloropropane	ND	1.9	1.00	
1,2,4-Trimethylbenzene	ND	1.9	1.00	
1,3,5-Trimethylbenzene	ND	1.9	1.00	
Vinyl Acetate	ND	9.7	1.00	
Vinyl Chloride	ND	0.97	1.00	
p/m-Xylene	ND	1.9	1.00	
o-Xylene	ND	0.97	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.9	1.00	
Tert-Butyl Alcohol (TBA)	ND	19	1.00	
Diisopropyl Ether (DIPE)	ND	0.97	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.97	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.97	1.00	
Ethanol	ND	480	1.00	
TPPH	ND	48	1.00	
Gasoline Range Organics (C4-C12)	ND	48	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 12 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	99	79-139	
1,2-Dichloroethane-d4	101	71-155	
1,4-Bromofluorobenzene	99	80-120	
Toluene-d8	99	80-120	
Toluene-d8-TPPH	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/26/19
Work Order: 19-06-1771
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-25.5'	**19-06-1771-6-D**	**06/26/19 08:59**	**Solid**	**GC/MS OO**	**06/26/19**	**07/04/19 19:35**	**190704L017**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	48	1.00	
Benzene	ND	0.96	1.00	
Bromobenzene	ND	0.96	1.00	
Bromochloromethane	ND	1.9	1.00	
Bromodichloromethane	ND	0.96	1.00	
Bromoform	ND	4.8	1.00	
Bromomethane	ND	19	1.00	
2-Butanone	ND	19	1.00	
n-Butylbenzene	ND	0.96	1.00	
sec-Butylbenzene	ND	0.96	1.00	
tert-Butylbenzene	ND	0.96	1.00	
Carbon Disulfide	ND	9.6	1.00	
Carbon Tetrachloride	ND	0.96	1.00	
Chlorobenzene	ND	0.96	1.00	
Chloroethane	ND	1.9	1.00	
Chloroform	ND	0.96	1.00	
Chloromethane	ND	19	1.00	
2-Chlorotoluene	ND	0.96	1.00	
4-Chlorotoluene	ND	0.96	1.00	
Dibromochloromethane	ND	1.9	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.8	1.00	
1,2-Dibromoethane	ND	0.96	1.00	
Dibromomethane	ND	0.96	1.00	
1,2-Dichlorobenzene	ND	0.96	1.00	
1,3-Dichlorobenzene	ND	0.96	1.00	
1,4-Dichlorobenzene	ND	0.96	1.00	
Dichlorodifluoromethane	ND	1.9	1.00	
1,1-Dichloroethane	ND	0.96	1.00	
1,2-Dichloroethane	ND	0.96	1.00	
1,1-Dichloroethene	ND	0.96	1.00	
c-1,2-Dichloroethene	ND	0.96	1.00	
t-1,2-Dichloroethene	ND	0.96	1.00	
1,2-Dichloropropane	ND	0.96	1.00	
1,3-Dichloropropane	ND	0.96	1.00	
2,2-Dichloropropane	ND	4.8	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 14 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.9	1.00	
c-1,3-Dichloropropene	ND	0.96	1.00	
t-1,3-Dichloropropene	ND	1.9	1.00	
Ethylbenzene	ND	0.96	1.00	
2-Hexanone	ND	19	1.00	
Isopropylbenzene	ND	0.96	1.00	
p-Isopropyltoluene	ND	0.96	1.00	
Methylene Chloride	ND	9.6	1.00	
4-Methyl-2-Pentanone	ND	19	1.00	
Naphthalene	ND	9.6	1.00	
n-Propylbenzene	ND	1.9	1.00	
Styrene	ND	0.96	1.00	
1,1,1,2-Tetrachloroethane	ND	0.96	1.00	
1,1,2,2-Tetrachloroethane	ND	1.9	1.00	
Tetrachloroethene	ND	0.96	1.00	
Toluene	ND	0.96	1.00	
1,2,3-Trichlorobenzene	ND	1.9	1.00	
1,2,4-Trichlorobenzene	ND	1.9	1.00	
1,1,1-Trichloroethane	ND	0.96	1.00	
1,1,2-Trichloroethane	ND	0.96	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	9.6	1.00	
Trichloroethene	ND	1.9	1.00	
Trichlorofluoromethane	ND	9.6	1.00	
1,2,3-Trichloropropane	ND	1.9	1.00	
1,2,4-Trimethylbenzene	ND	1.9	1.00	
1,3,5-Trimethylbenzene	ND	1.9	1.00	
Vinyl Acetate	ND	9.6	1.00	
Vinyl Chloride	ND	0.96	1.00	
p/m-Xylene	ND	1.9	1.00	
o-Xylene	ND	0.96	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.9	1.00	
Tert-Butyl Alcohol (TBA)	ND	19	1.00	
Diisopropyl Ether (DIPE)	ND	0.96	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.96	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.96	1.00	
Ethanol	ND	480	1.00	
TPPH	ND	48	1.00	
Gasoline Range Organics (C4-C12)	ND	48	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 15 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	98	79-139	
1,2-Dichloroethane-d4	102	71-155	
1,4-Bromofluorobenzene	98	80-120	
Toluene-d8	97	80-120	
Toluene-d8-TPPH	99	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Project: OOI

Date Received: 06/26/19
Work Order: 19-06-1771
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-30'	**19-06-1771-7-C**	**06/26/19 09:17**	**Solid**	**GC/MS OO**	**06/26/19**	**07/07/19 20:51**	**190707L004**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	44	1.00	
Benzene	1.3	0.88	1.00	
Bromobenzene	ND	0.88	1.00	
Bromochloromethane	ND	1.8	1.00	
Bromodichloromethane	ND	0.88	1.00	
Bromoform	ND	4.4	1.00	
Bromomethane	ND	18	1.00	
2-Butanone	ND	18	1.00	
n-Butylbenzene	ND	0.88	1.00	
sec-Butylbenzene	1.9	0.88	1.00	
tert-Butylbenzene	ND	0.88	1.00	
Carbon Disulfide	ND	8.8	1.00	
Carbon Tetrachloride	ND	0.88	1.00	
Chlorobenzene	ND	0.88	1.00	
Chloroethane	ND	1.8	1.00	
Chloroform	ND	0.88	1.00	
Chloromethane	ND	18	1.00	
2-Chlorotoluene	ND	0.88	1.00	
4-Chlorotoluene	ND	0.88	1.00	
Dibromochloromethane	ND	1.8	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.4	1.00	
1,2-Dibromoethane	ND	0.88	1.00	
Dibromomethane	ND	0.88	1.00	
1,2-Dichlorobenzene	ND	0.88	1.00	
1,3-Dichlorobenzene	ND	0.88	1.00	
1,4-Dichlorobenzene	ND	0.88	1.00	
Dichlorodifluoromethane	ND	1.8	1.00	
1,1-Dichloroethane	ND	0.88	1.00	
1,2-Dichloroethane	ND	0.88	1.00	
1,1-Dichloroethene	ND	0.88	1.00	
c-1,2-Dichloroethene	ND	0.88	1.00	
t-1,2-Dichloroethene	ND	0.88	1.00	
1,2-Dichloropropane	ND	0.88	1.00	
1,3-Dichloropropane	ND	0.88	1.00	
2,2-Dichloropropane	ND	4.4	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 17 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.8	1.00	
c-1,3-Dichloropropene	ND	0.88	1.00	
t-1,3-Dichloropropene	ND	1.8	1.00	
Ethylbenzene	17	0.88	1.00	
2-Hexanone	ND	18	1.00	
Isopropylbenzene	5.3	0.88	1.00	
p-Isopropyltoluene	4.8	0.88	1.00	
Methylene Chloride	ND	8.8	1.00	
4-Methyl-2-Pentanone	ND	18	1.00	
Naphthalene	ND	8.8	1.00	
n-Propylbenzene	6.0	1.8	1.00	
Styrene	ND	0.88	1.00	
1,1,1,2-Tetrachloroethane	ND	0.88	1.00	
1,1,2,2-Tetrachloroethane	ND	1.8	1.00	
Tetrachloroethene	ND	0.88	1.00	
Toluene	ND	0.88	1.00	
1,2,3-Trichlorobenzene	ND	1.8	1.00	
1,2,4-Trichlorobenzene	ND	1.8	1.00	
1,1,1-Trichloroethane	ND	0.88	1.00	
1,1,2-Trichloroethane	ND	0.88	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	8.8	1.00	
Trichloroethene	ND	1.8	1.00	
Trichlorofluoromethane	ND	8.8	1.00	
1,2,3-Trichloropropane	ND	1.8	1.00	
1,2,4-Trimethylbenzene	39	1.8	1.00	
1,3,5-Trimethylbenzene	15	1.8	1.00	
Vinyl Acetate	ND	8.8	1.00	
Vinyl Chloride	ND	0.88	1.00	
p/m-Xylene	19	1.8	1.00	
o-Xylene	ND	0.88	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.8	1.00	
Tert-Butyl Alcohol (TBA)	ND	18	1.00	
Diisopropyl Ether (DIPE)	ND	0.88	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.88	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.88	1.00	
Ethanol	ND	440	1.00	
TPPH	3200	44	1.00	
Gasoline Range Organics (C4-C12)	2800	44	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 18 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	108	79-139	
1,2-Dichloroethane-d4	112	71-155	
1,4-Bromofluorobenzene	106	80-120	
Toluene-d8	105	80-120	
Toluene-d8-TPPH	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/26/19
Work Order: 19-06-1771
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-35.5'	**19-06-1771-8-E**	**06/26/19 09:36**	**Solid**	**GC/MS OO**	**06/26/19**	**07/04/19 20:33**	**190704L020**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	4400	100	
Benzene	ND	87	100	
Bromobenzene	ND	87	100	
Bromochloromethane	ND	170	100	
Bromodichloromethane	ND	87	100	
Bromoform	ND	440	100	
Bromomethane	ND	1700	100	
2-Butanone	ND	1700	100	
n-Butylbenzene	320	87	100	
sec-Butylbenzene	150	87	100	
tert-Butylbenzene	ND	87	100	
Carbon Disulfide	ND	870	100	
Carbon Tetrachloride	ND	87	100	
Chlorobenzene	ND	87	100	
Chloroethane	ND	170	100	
Chloroform	ND	87	100	
Chloromethane	ND	1700	100	
2-Chlorotoluene	ND	87	100	
4-Chlorotoluene	ND	87	100	
Dibromochloromethane	ND	170	100	
1,2-Dibromo-3-Chloropropane	ND	440	100	
1,2-Dibromoethane	ND	87	100	
Dibromomethane	ND	87	100	
1,2-Dichlorobenzene	ND	87	100	
1,3-Dichlorobenzene	ND	87	100	
1,4-Dichlorobenzene	ND	87	100	
Dichlorodifluoromethane	ND	170	100	
1,1-Dichloroethane	ND	87	100	
1,2-Dichloroethane	ND	87	100	
1,1-Dichloroethene	ND	87	100	
c-1,2-Dichloroethene	ND	87	100	
t-1,2-Dichloroethene	ND	87	100	
1,2-Dichloropropane	ND	87	100	
1,3-Dichloropropane	ND	87	100	
2,2-Dichloropropane	ND	440	100	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 20 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	170	100	
c-1,3-Dichloropropene	ND	87	100	
t-1,3-Dichloropropene	ND	170	100	
Ethylbenzene	950	87	100	
2-Hexanone	ND	1700	100	
Isopropylbenzene	450	87	100	
p-Isopropyltoluene	360	87	100	
Methylene Chloride	ND	870	100	
4-Methyl-2-Pentanone	ND	1700	100	
Naphthalene	ND	870	100	
n-Propylbenzene	520	170	100	
Styrene	ND	87	100	
1,1,1,2-Tetrachloroethane	ND	87	100	
1,1,2,2-Tetrachloroethane	ND	170	100	
Tetrachloroethene	ND	87	100	
Toluene	ND	87	100	
1,2,3-Trichlorobenzene	ND	170	100	
1,2,4-Trichlorobenzene	ND	170	100	
1,1,1-Trichloroethane	ND	87	100	
1,1,2-Trichloroethane	ND	87	100	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	870	100	
Trichloroethene	ND	170	100	
Trichlorofluoromethane	ND	870	100	
1,2,3-Trichloropropane	ND	170	100	
1,2,4-Trimethylbenzene	1700	170	100	
1,3,5-Trimethylbenzene	310	170	100	
Vinyl Acetate	ND	870	100	
Vinyl Chloride	ND	87	100	
p/m-Xylene	670	170	100	
o-Xylene	100	87	100	
Methyl-t-Butyl Ether (MTBE)	ND	170	100	
Tert-Butyl Alcohol (TBA)	ND	1700	100	
Diisopropyl Ether (DIPE)	ND	87	100	
Ethyl-t-Butyl Ether (ETBE)	ND	87	100	
Tert-Amyl-Methyl Ether (TAME)	ND	87	100	
Ethanol	ND	44000	100	
TPPH	270000	4400	100	
Gasoline Range Organics (C4-C12)	220000	4400	100	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 21 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	92	79-139	
1,2-Dichloroethane-d4	87	71-155	
1,4-Bromofluorobenzene	101	80-120	
Toluene-d8	105	80-120	
Toluene-d8-TPPH	99	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 22 of 78

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-40'	**19-06-1771-9-B**	**06/26/19 10:10**	**Solid**	**GC/MS OO**	**06/26/19**	**07/03/19 20:49**	**190703L026**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	41	1.00	
Benzene	3.9	0.81	1.00	
Bromobenzene	ND	0.81	1.00	
Bromochloromethane	ND	1.6	1.00	
Bromodichloromethane	ND	0.81	1.00	
Bromoform	ND	4.1	1.00	
Bromomethane	ND	16	1.00	
2-Butanone	ND	16	1.00	
n-Butylbenzene	ND	0.81	1.00	
sec-Butylbenzene	0.86	0.81	1.00	
tert-Butylbenzene	ND	0.81	1.00	
Carbon Disulfide	ND	8.1	1.00	
Carbon Tetrachloride	ND	0.81	1.00	
Chlorobenzene	ND	0.81	1.00	
Chloroethane	ND	1.6	1.00	
Chloroform	ND	0.81	1.00	
Chloromethane	ND	16	1.00	
2-Chlorotoluene	ND	0.81	1.00	
4-Chlorotoluene	ND	0.81	1.00	
Dibromochloromethane	ND	1.6	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.1	1.00	
1,2-Dibromoethane	ND	0.81	1.00	
Dibromomethane	ND	0.81	1.00	
1,2-Dichlorobenzene	ND	0.81	1.00	
1,3-Dichlorobenzene	ND	0.81	1.00	
1,4-Dichlorobenzene	ND	0.81	1.00	
Dichlorodifluoromethane	ND	1.6	1.00	
1,1-Dichloroethane	ND	0.81	1.00	
1,2-Dichloroethane	ND	0.81	1.00	
1,1-Dichloroethene	ND	0.81	1.00	
c-1,2-Dichloroethene	ND	0.81	1.00	
t-1,2-Dichloroethene	ND	0.81	1.00	
1,2-Dichloropropane	ND	0.81	1.00	
1,3-Dichloropropane	ND	0.81	1.00	
2,2-Dichloropropane	ND	4.1	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 23 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.6	1.00	
c-1,3-Dichloropropene	ND	0.81	1.00	
t-1,3-Dichloropropene	ND	1.6	1.00	
Ethylbenzene	ND	0.81	1.00	
2-Hexanone	ND	16	1.00	
Isopropylbenzene	5.2	0.81	1.00	
p-Isopropyltoluene	2.2	0.81	1.00	
Methylene Chloride	ND	8.1	1.00	
4-Methyl-2-Pentanone	ND	16	1.00	
Naphthalene	ND	8.1	1.00	
n-Propylbenzene	ND	1.6	1.00	
Styrene	ND	0.81	1.00	
1,1,1,2-Tetrachloroethane	ND	0.81	1.00	
1,1,2,2-Tetrachloroethane	ND	1.6	1.00	
Tetrachloroethene	ND	0.81	1.00	
Toluene	1.3	0.81	1.00	
1,2,3-Trichlorobenzene	ND	1.6	1.00	
1,2,4-Trichlorobenzene	ND	1.6	1.00	
1,1,1-Trichloroethane	ND	0.81	1.00	
1,1,2-Trichloroethane	ND	0.81	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	8.1	1.00	
Trichloroethene	ND	1.6	1.00	
Trichlorofluoromethane	ND	8.1	1.00	
1,2,3-Trichloropropane	ND	1.6	1.00	
1,2,4-Trimethylbenzene	ND	1.6	1.00	
1,3,5-Trimethylbenzene	ND	1.6	1.00	
Vinyl Acetate	ND	8.1	1.00	
Vinyl Chloride	ND	0.81	1.00	
p/m-Xylene	ND	1.6	1.00	
o-Xylene	ND	0.81	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.6	1.00	
Tert-Butyl Alcohol (TBA)	ND	16	1.00	
Diisopropyl Ether (DIPE)	ND	0.81	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.81	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.81	1.00	
Ethanol	ND	410	1.00	
TPPH	720	41	1.00	
Gasoline Range Organics (C4-C12)	690	41	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 24 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	102	79-139	
1,2-Dichloroethane-d4	110	71-155	
1,4-Bromofluorobenzene	99	80-120	
Toluene-d8	103	80-120	
Toluene-d8-TPPH	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 25 of 78

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-53'	**19-06-1771-10-B**	**06/26/19 10:55**	**Solid**	**GC/MS OO**	**06/26/19**	**07/03/19 21:19**	**190703L026**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	39	1.00	
Benzene	ND	0.79	1.00	
Bromobenzene	ND	0.79	1.00	
Bromochloromethane	ND	1.6	1.00	
Bromodichloromethane	ND	0.79	1.00	
Bromoform	ND	3.9	1.00	
Bromomethane	ND	16	1.00	
2-Butanone	ND	16	1.00	
n-Butylbenzene	ND	0.79	1.00	
sec-Butylbenzene	ND	0.79	1.00	
tert-Butylbenzene	ND	0.79	1.00	
Carbon Disulfide	ND	7.9	1.00	
Carbon Tetrachloride	ND	0.79	1.00	
Chlorobenzene	ND	0.79	1.00	
Chloroethane	ND	1.6	1.00	
Chloroform	ND	0.79	1.00	
Chloromethane	ND	16	1.00	
2-Chlorotoluene	ND	0.79	1.00	
4-Chlorotoluene	ND	0.79	1.00	
Dibromochloromethane	ND	1.6	1.00	
1,2-Dibromo-3-Chloropropane	ND	3.9	1.00	
1,2-Dibromoethane	ND	0.79	1.00	
Dibromomethane	ND	0.79	1.00	
1,2-Dichlorobenzene	ND	0.79	1.00	
1,3-Dichlorobenzene	ND	0.79	1.00	
1,4-Dichlorobenzene	ND	0.79	1.00	
Dichlorodifluoromethane	ND	1.6	1.00	
1,1-Dichloroethane	ND	0.79	1.00	
1,2-Dichloroethane	ND	0.79	1.00	
1,1-Dichloroethene	ND	0.79	1.00	
c-1,2-Dichloroethene	ND	0.79	1.00	
t-1,2-Dichloroethene	ND	0.79	1.00	
1,2-Dichloropropane	ND	0.79	1.00	
1,3-Dichloropropane	ND	0.79	1.00	
2,2-Dichloropropane	ND	3.9	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 26 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.6	1.00	
c-1,3-Dichloropropene	ND	0.79	1.00	
t-1,3-Dichloropropene	ND	1.6	1.00	
Ethylbenzene	ND	0.79	1.00	
2-Hexanone	ND	16	1.00	
Isopropylbenzene	ND	0.79	1.00	
p-Isopropyltoluene	ND	0.79	1.00	
Methylene Chloride	ND	7.9	1.00	
4-Methyl-2-Pentanone	ND	16	1.00	
Naphthalene	ND	7.9	1.00	
n-Propylbenzene	ND	1.6	1.00	
Styrene	ND	0.79	1.00	
1,1,1,2-Tetrachloroethane	ND	0.79	1.00	
1,1,2,2-Tetrachloroethane	ND	1.6	1.00	
Tetrachloroethene	ND	0.79	1.00	
Toluene	ND	0.79	1.00	
1,2,3-Trichlorobenzene	ND	1.6	1.00	
1,2,4-Trichlorobenzene	ND	1.6	1.00	
1,1,1-Trichloroethane	ND	0.79	1.00	
1,1,2-Trichloroethane	ND	0.79	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	7.9	1.00	
Trichloroethene	ND	1.6	1.00	
Trichlorofluoromethane	ND	7.9	1.00	
1,2,3-Trichloropropane	ND	1.6	1.00	
1,2,4-Trimethylbenzene	ND	1.6	1.00	
1,3,5-Trimethylbenzene	ND	1.6	1.00	
Vinyl Acetate	ND	7.9	1.00	
Vinyl Chloride	ND	0.79	1.00	
p/m-Xylene	ND	1.6	1.00	
o-Xylene	ND	0.79	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.6	1.00	
Tert-Butyl Alcohol (TBA)	ND	16	1.00	
Diisopropyl Ether (DIPE)	ND	0.79	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.79	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.79	1.00	
Ethanol	ND	390	1.00	
TPPH	110	39	1.00	
Gasoline Range Organics (C4-C12)	100	39	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 27 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	105	79-139	
1,2-Dichloroethane-d4	111	71-155	
1,4-Bromofluorobenzene	99	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	102	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Project: OOI

Date Received: 06/26/19
Work Order: 19-06-1771
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-6'	**19-06-1771-11-D**	**06/26/19 11:45**	**Solid**	**GC/MS OO**	**06/26/19**	**07/03/19 21:48**	**190703L026**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	37	1.00	
Benzene	ND	0.74	1.00	
Bromobenzene	ND	0.74	1.00	
Bromochloromethane	ND	1.5	1.00	
Bromodichloromethane	ND	0.74	1.00	
Bromoform	ND	3.7	1.00	
Bromomethane	ND	15	1.00	
2-Butanone	ND	15	1.00	
n-Butylbenzene	ND	0.74	1.00	
sec-Butylbenzene	ND	0.74	1.00	
tert-Butylbenzene	ND	0.74	1.00	
Carbon Disulfide	ND	7.4	1.00	
Carbon Tetrachloride	ND	0.74	1.00	
Chlorobenzene	ND	0.74	1.00	
Chloroethane	ND	1.5	1.00	
Chloroform	ND	0.74	1.00	
Chloromethane	ND	15	1.00	
2-Chlorotoluene	ND	0.74	1.00	
4-Chlorotoluene	ND	0.74	1.00	
Dibromochloromethane	ND	1.5	1.00	
1,2-Dibromo-3-Chloropropane	ND	3.7	1.00	
1,2-Dibromoethane	ND	0.74	1.00	
Dibromomethane	ND	0.74	1.00	
1,2-Dichlorobenzene	ND	0.74	1.00	
1,3-Dichlorobenzene	ND	0.74	1.00	
1,4-Dichlorobenzene	ND	0.74	1.00	
Dichlorodifluoromethane	ND	1.5	1.00	
1,1-Dichloroethane	ND	0.74	1.00	
1,2-Dichloroethane	ND	0.74	1.00	
1,1-Dichloroethene	ND	0.74	1.00	
c-1,2-Dichloroethene	ND	0.74	1.00	
t-1,2-Dichloroethene	ND	0.74	1.00	
1,2-Dichloropropane	ND	0.74	1.00	
1,3-Dichloropropane	ND	0.74	1.00	
2,2-Dichloropropane	ND	3.7	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 29 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.5	1.00	
c-1,3-Dichloropropene	ND	0.74	1.00	
t-1,3-Dichloropropene	ND	1.5	1.00	
Ethylbenzene	ND	0.74	1.00	
2-Hexanone	ND	15	1.00	
Isopropylbenzene	ND	0.74	1.00	
p-Isopropyltoluene	ND	0.74	1.00	
Methylene Chloride	ND	7.4	1.00	
4-Methyl-2-Pentanone	ND	15	1.00	
Naphthalene	ND	7.4	1.00	
n-Propylbenzene	ND	1.5	1.00	
Styrene	ND	0.74	1.00	
1,1,1,2-Tetrachloroethane	ND	0.74	1.00	
1,1,2,2-Tetrachloroethane	ND	1.5	1.00	
Tetrachloroethene	ND	0.74	1.00	
Toluene	ND	0.74	1.00	
1,2,3-Trichlorobenzene	ND	1.5	1.00	
1,2,4-Trichlorobenzene	ND	1.5	1.00	
1,1,1-Trichloroethane	ND	0.74	1.00	
1,1,2-Trichloroethane	ND	0.74	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	7.4	1.00	
Trichloroethene	ND	1.5	1.00	
Trichlorofluoromethane	ND	7.4	1.00	
1,2,3-Trichloropropane	ND	1.5	1.00	
1,2,4-Trimethylbenzene	ND	1.5	1.00	
1,3,5-Trimethylbenzene	ND	1.5	1.00	
Vinyl Acetate	ND	7.4	1.00	
Vinyl Chloride	ND	0.74	1.00	
p/m-Xylene	ND	1.5	1.00	
o-Xylene	ND	0.74	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.5	1.00	
Tert-Butyl Alcohol (TBA)	ND	15	1.00	
Diisopropyl Ether (DIPE)	ND	0.74	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.74	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.74	1.00	
Ethanol	ND	370	1.00	
TPPH	ND	37	1.00	
Gasoline Range Organics (C4-C12)	ND	37	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 30 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	106	79-139	
1,2-Dichloroethane-d4	114	71-155	
1,4-Bromofluorobenzene	98	80-120	
Toluene-d8	100	80-120	
Toluene-d8-TPPH	100	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 31 of 78

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-10'	**19-06-1771-12-D**	**06/26/19 11:55**	**Solid**	**GC/MS OO**	**06/26/19**	**07/03/19 22:18**	**190703L026**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	35	1.00	
Benzene	ND	0.70	1.00	
Bromobenzene	ND	0.70	1.00	
Bromochloromethane	ND	1.4	1.00	
Bromodichloromethane	ND	0.70	1.00	
Bromoform	ND	3.5	1.00	
Bromomethane	ND	14	1.00	
2-Butanone	ND	14	1.00	
n-Butylbenzene	ND	0.70	1.00	
sec-Butylbenzene	ND	0.70	1.00	
tert-Butylbenzene	ND	0.70	1.00	
Carbon Disulfide	ND	7.0	1.00	
Carbon Tetrachloride	ND	0.70	1.00	
Chlorobenzene	ND	0.70	1.00	
Chloroethane	ND	1.4	1.00	
Chloroform	ND	0.70	1.00	
Chloromethane	ND	14	1.00	
2-Chlorotoluene	ND	0.70	1.00	
4-Chlorotoluene	ND	0.70	1.00	
Dibromochloromethane	ND	1.4	1.00	
1,2-Dibromo-3-Chloropropane	ND	3.5	1.00	
1,2-Dibromoethane	ND	0.70	1.00	
Dibromomethane	ND	0.70	1.00	
1,2-Dichlorobenzene	ND	0.70	1.00	
1,3-Dichlorobenzene	ND	0.70	1.00	
1,4-Dichlorobenzene	ND	0.70	1.00	
Dichlorodifluoromethane	ND	1.4	1.00	
1,1-Dichloroethane	ND	0.70	1.00	
1,2-Dichloroethane	ND	0.70	1.00	
1,1-Dichloroethene	ND	0.70	1.00	
c-1,2-Dichloroethene	ND	0.70	1.00	
t-1,2-Dichloroethene	ND	0.70	1.00	
1,2-Dichloropropane	ND	0.70	1.00	
1,3-Dichloropropane	ND	0.70	1.00	
2,2-Dichloropropane	ND	3.5	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 32 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.4	1.00	
c-1,3-Dichloropropene	ND	0.70	1.00	
t-1,3-Dichloropropene	ND	1.4	1.00	
Ethylbenzene	ND	0.70	1.00	
2-Hexanone	ND	14	1.00	
Isopropylbenzene	ND	0.70	1.00	
p-Isopropyltoluene	ND	0.70	1.00	
Methylene Chloride	ND	7.0	1.00	
4-Methyl-2-Pentanone	ND	14	1.00	
Naphthalene	ND	7.0	1.00	
n-Propylbenzene	ND	1.4	1.00	
Styrene	ND	0.70	1.00	
1,1,1,2-Tetrachloroethane	ND	0.70	1.00	
1,1,2,2-Tetrachloroethane	ND	1.4	1.00	
Tetrachloroethene	ND	0.70	1.00	
Toluene	ND	0.70	1.00	
1,2,3-Trichlorobenzene	ND	1.4	1.00	
1,2,4-Trichlorobenzene	ND	1.4	1.00	
1,1,1-Trichloroethane	ND	0.70	1.00	
1,1,2-Trichloroethane	ND	0.70	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	7.0	1.00	
Trichloroethene	ND	1.4	1.00	
Trichlorofluoromethane	ND	7.0	1.00	
1,2,3-Trichloropropane	ND	1.4	1.00	
1,2,4-Trimethylbenzene	ND	1.4	1.00	
1,3,5-Trimethylbenzene	ND	1.4	1.00	
Vinyl Acetate	ND	7.0	1.00	
Vinyl Chloride	ND	0.70	1.00	
p/m-Xylene	ND	1.4	1.00	
o-Xylene	ND	0.70	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.4	1.00	
Tert-Butyl Alcohol (TBA)	ND	14	1.00	
Diisopropyl Ether (DIPE)	ND	0.70	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.70	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.70	1.00	
Ethanol	ND	350	1.00	
TPPH	ND	35	1.00	
Gasoline Range Organics (C4-C12)	ND	35	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 33 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	108	79-139	
1,2-Dichloroethane-d4	115	71-155	
1,4-Bromofluorobenzene	97	80-120	
Toluene-d8	102	80-120	
Toluene-d8-TPPH	102	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Project: OOI

Date Received:	06/26/19
Work Order:	19-06-1771
Preparation:	EPA 5035
Method:	GC/MS / EPA 8260B
Units:	ug/kg
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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-15'	**19-06-1771-13-D**	**06/26/19 12:15**	**Solid**	**GC/MS OO**	**06/26/19**	**07/03/19 22:47**	**190703L026**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	35	1.00	
Benzene	ND	0.71	1.00	
Bromobenzene	ND	0.71	1.00	
Bromochloromethane	ND	1.4	1.00	
Bromodichloromethane	ND	0.71	1.00	
Bromoform	ND	3.5	1.00	
Bromomethane	ND	14	1.00	
2-Butanone	ND	14	1.00	
n-Butylbenzene	ND	0.71	1.00	
sec-Butylbenzene	ND	0.71	1.00	
tert-Butylbenzene	ND	0.71	1.00	
Carbon Disulfide	ND	7.1	1.00	
Carbon Tetrachloride	ND	0.71	1.00	
Chlorobenzene	ND	0.71	1.00	
Chloroethane	ND	1.4	1.00	
Chloroform	ND	0.71	1.00	
Chloromethane	ND	14	1.00	
2-Chlorotoluene	ND	0.71	1.00	
4-Chlorotoluene	ND	0.71	1.00	
Dibromochloromethane	ND	1.4	1.00	
1,2-Dibromo-3-Chloropropane	ND	3.5	1.00	
1,2-Dibromoethane	ND	0.71	1.00	
Dibromomethane	ND	0.71	1.00	
1,2-Dichlorobenzene	ND	0.71	1.00	
1,3-Dichlorobenzene	ND	0.71	1.00	
1,4-Dichlorobenzene	ND	0.71	1.00	
Dichlorodifluoromethane	ND	1.4	1.00	
1,1-Dichloroethane	ND	0.71	1.00	
1,2-Dichloroethane	ND	0.71	1.00	
1,1-Dichloroethene	ND	0.71	1.00	
c-1,2-Dichloroethene	ND	0.71	1.00	
t-1,2-Dichloroethene	ND	0.71	1.00	
1,2-Dichloropropane	ND	0.71	1.00	
1,3-Dichloropropane	ND	0.71	1.00	
2,2-Dichloropropane	ND	3.5	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 35 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.4	1.00	
c-1,3-Dichloropropene	ND	0.71	1.00	
t-1,3-Dichloropropene	ND	1.4	1.00	
Ethylbenzene	ND	0.71	1.00	
2-Hexanone	ND	14	1.00	
Isopropylbenzene	ND	0.71	1.00	
p-Isopropyltoluene	ND	0.71	1.00	
Methylene Chloride	ND	7.1	1.00	
4-Methyl-2-Pentanone	ND	14	1.00	
Naphthalene	ND	7.1	1.00	
n-Propylbenzene	ND	1.4	1.00	
Styrene	ND	0.71	1.00	
1,1,1,2-Tetrachloroethane	ND	0.71	1.00	
1,1,2,2-Tetrachloroethane	ND	1.4	1.00	
Tetrachloroethene	ND	0.71	1.00	
Toluene	ND	0.71	1.00	
1,2,3-Trichlorobenzene	ND	1.4	1.00	
1,2,4-Trichlorobenzene	ND	1.4	1.00	
1,1,1-Trichloroethane	ND	0.71	1.00	
1,1,2-Trichloroethane	ND	0.71	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	7.1	1.00	
Trichloroethene	ND	1.4	1.00	
Trichlorofluoromethane	ND	7.1	1.00	
1,2,3-Trichloropropane	ND	1.4	1.00	
1,2,4-Trimethylbenzene	ND	1.4	1.00	
1,3,5-Trimethylbenzene	ND	1.4	1.00	
Vinyl Acetate	ND	7.1	1.00	
Vinyl Chloride	ND	0.71	1.00	
p/m-Xylene	ND	1.4	1.00	
o-Xylene	ND	0.71	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.4	1.00	
Tert-Butyl Alcohol (TBA)	ND	14	1.00	
Diisopropyl Ether (DIPE)	ND	0.71	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.71	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.71	1.00	
Ethanol	ND	350	1.00	
TPPH	ND	35	1.00	
Gasoline Range Organics (C4-C12)	ND	35	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 36 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	109	79-139	
1,2-Dichloroethane-d4	118	71-155	
1,4-Bromofluorobenzene	97	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 37 of 78

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-20'	**19-06-1771-14-D**	**06/26/19 12:25**	**Solid**	**GC/MS OO**	**06/26/19**	**07/03/19 23:17**	**190703L026**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	43	1.00	
Benzene	ND	0.86	1.00	
Bromobenzene	ND	0.86	1.00	
Bromochloromethane	ND	1.7	1.00	
Bromodichloromethane	ND	0.86	1.00	
Bromoform	ND	4.3	1.00	
Bromomethane	ND	17	1.00	
2-Butanone	ND	17	1.00	
n-Butylbenzene	ND	0.86	1.00	
sec-Butylbenzene	ND	0.86	1.00	
tert-Butylbenzene	ND	0.86	1.00	
Carbon Disulfide	ND	8.6	1.00	
Carbon Tetrachloride	ND	0.86	1.00	
Chlorobenzene	ND	0.86	1.00	
Chloroethane	ND	1.7	1.00	
Chloroform	ND	0.86	1.00	
Chloromethane	ND	17	1.00	
2-Chlorotoluene	ND	0.86	1.00	
4-Chlorotoluene	ND	0.86	1.00	
Dibromochloromethane	ND	1.7	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.3	1.00	
1,2-Dibromoethane	ND	0.86	1.00	
Dibromomethane	ND	0.86	1.00	
1,2-Dichlorobenzene	ND	0.86	1.00	
1,3-Dichlorobenzene	ND	0.86	1.00	
1,4-Dichlorobenzene	ND	0.86	1.00	
Dichlorodifluoromethane	ND	1.7	1.00	
1,1-Dichloroethane	ND	0.86	1.00	
1,2-Dichloroethane	ND	0.86	1.00	
1,1-Dichloroethene	ND	0.86	1.00	
c-1,2-Dichloroethene	ND	0.86	1.00	
t-1,2-Dichloroethene	ND	0.86	1.00	
1,2-Dichloropropane	ND	0.86	1.00	
1,3-Dichloropropane	ND	0.86	1.00	
2,2-Dichloropropane	ND	4.3	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 38 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.7	1.00	
c-1,3-Dichloropropene	ND	0.86	1.00	
t-1,3-Dichloropropene	ND	1.7	1.00	
Ethylbenzene	ND	0.86	1.00	
2-Hexanone	ND	17	1.00	
Isopropylbenzene	ND	0.86	1.00	
p-Isopropyltoluene	ND	0.86	1.00	
Methylene Chloride	ND	8.6	1.00	
4-Methyl-2-Pentanone	ND	17	1.00	
Naphthalene	ND	8.6	1.00	
n-Propylbenzene	ND	1.7	1.00	
Styrene	ND	0.86	1.00	
1,1,1,2-Tetrachloroethane	ND	0.86	1.00	
1,1,2,2-Tetrachloroethane	ND	1.7	1.00	
Tetrachloroethene	ND	0.86	1.00	
Toluene	ND	0.86	1.00	
1,2,3-Trichlorobenzene	ND	1.7	1.00	
1,2,4-Trichlorobenzene	ND	1.7	1.00	
1,1,1-Trichloroethane	ND	0.86	1.00	
1,1,2-Trichloroethane	ND	0.86	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	8.6	1.00	
Trichloroethene	ND	1.7	1.00	
Trichlorofluoromethane	ND	8.6	1.00	
1,2,3-Trichloropropane	ND	1.7	1.00	
1,2,4-Trimethylbenzene	ND	1.7	1.00	
1,3,5-Trimethylbenzene	ND	1.7	1.00	
Vinyl Acetate	ND	8.6	1.00	
Vinyl Chloride	ND	0.86	1.00	
p/m-Xylene	ND	1.7	1.00	
o-Xylene	ND	0.86	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.7	1.00	
Tert-Butyl Alcohol (TBA)	ND	17	1.00	
Diisopropyl Ether (DIPE)	ND	0.86	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.86	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.86	1.00	
Ethanol	ND	430	1.00	
TPPH	150	43	1.00	
Gasoline Range Organics (C4-C12)	110	43	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 39 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	109	79-139	
1,2-Dichloroethane-d4	121	71-155	
1,4-Bromofluorobenzene	98	80-120	
Toluene-d8	102	80-120	
Toluene-d8-TPPH	102	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/26/19
Work Order: 19-06-1771
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-25'	**19-06-1771-15-D**	**06/26/19 12:40**	**Solid**	**GC/MS OO**	**06/26/19**	**07/03/19 23:46**	**190703L026**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	51	1.00	
Benzene	ND	1.0	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	2.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.1	1.00	
Bromomethane	ND	20	1.00	
2-Butanone	ND	20	1.00	
n-Butylbenzene	1.4	1.0	1.00	
sec-Butylbenzene	1.1	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	1.0	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	2.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	20	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	2.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	5.1	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	2.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	1.0	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	5.1	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 41 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2.0	1.00	
c-1,3-Dichloropropene	ND	1.0	1.00	
t-1,3-Dichloropropene	ND	2.0	1.00	
Ethylbenzene	ND	1.0	1.00	
2-Hexanone	ND	20	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	1.7	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	20	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	2.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	1.0	1.00	
1,1,2,2-Tetrachloroethane	ND	2.0	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	2.0	1.00	
1,2,4-Trichlorobenzene	ND	2.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
Trichloroethene	ND	2.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	2.0	1.00	
1,2,4-Trimethylbenzene	ND	2.0	1.00	
1,3,5-Trimethylbenzene	ND	2.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	1.0	1.00	
p/m-Xylene	ND	2.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	2.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	20	1.00	
Diisopropyl Ether (DIPE)	ND	1.0	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	1.0	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	1.0	1.00	
Ethanol	ND	510	1.00	
TPPH	1700	51	1.00	
Gasoline Range Organics (C4-C12)	1200	51	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 42 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	107	79-139	
1,2-Dichloroethane-d4	117	71-155	
1,4-Bromofluorobenzene	104	80-120	
Toluene-d8	102	80-120	
Toluene-d8-TPPH	102	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Project: OOI

Date Received: 06/26/19
Work Order: 19-06-1771
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-30'	**19-06-1771-16-D**	**06/26/19 12:55**	**Solid**	**GC/MS OO**	**06/26/19**	**07/04/19 00:16**	**190703L026**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	43	1.00	
Benzene	ND	0.87	1.00	
Bromobenzene	ND	0.87	1.00	
Bromochloromethane	ND	1.7	1.00	
Bromodichloromethane	ND	0.87	1.00	
Bromoform	ND	4.3	1.00	
Bromomethane	ND	17	1.00	
2-Butanone	ND	17	1.00	
n-Butylbenzene	8.7	0.87	1.00	
sec-Butylbenzene	3.8	0.87	1.00	
tert-Butylbenzene	ND	0.87	1.00	
Carbon Disulfide	ND	8.7	1.00	
Carbon Tetrachloride	ND	0.87	1.00	
Chlorobenzene	ND	0.87	1.00	
Chloroethane	ND	1.7	1.00	
Chloroform	ND	0.87	1.00	
Chloromethane	ND	17	1.00	
2-Chlorotoluene	ND	0.87	1.00	
4-Chlorotoluene	ND	0.87	1.00	
Dibromochloromethane	ND	1.7	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.3	1.00	
1,2-Dibromoethane	ND	0.87	1.00	
Dibromomethane	ND	0.87	1.00	
1,2-Dichlorobenzene	ND	0.87	1.00	
1,3-Dichlorobenzene	ND	0.87	1.00	
1,4-Dichlorobenzene	ND	0.87	1.00	
Dichlorodifluoromethane	ND	1.7	1.00	
1,1-Dichloroethane	ND	0.87	1.00	
1,2-Dichloroethane	ND	0.87	1.00	
1,1-Dichloroethene	ND	0.87	1.00	
c-1,2-Dichloroethene	ND	0.87	1.00	
t-1,2-Dichloroethene	ND	0.87	1.00	
1,2-Dichloropropane	ND	0.87	1.00	
1,3-Dichloropropane	ND	0.87	1.00	
2,2-Dichloropropane	ND	4.3	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 44 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.7	1.00	
c-1,3-Dichloropropene	ND	0.87	1.00	
t-1,3-Dichloropropene	ND	1.7	1.00	
Ethylbenzene	1.8	0.87	1.00	
2-Hexanone	ND	17	1.00	
Isopropylbenzene	2.6	0.87	1.00	
p-Isopropyltoluene	9.3	0.87	1.00	
Methylene Chloride	ND	8.7	1.00	
4-Methyl-2-Pentanone	ND	17	1.00	
Naphthalene	ND	8.7	1.00	
n-Propylbenzene	2.9	1.7	1.00	
Styrene	ND	0.87	1.00	
1,1,1,2-Tetrachloroethane	ND	0.87	1.00	
1,1,2,2-Tetrachloroethane	ND	1.7	1.00	
Tetrachloroethene	ND	0.87	1.00	
Toluene	ND	0.87	1.00	
1,2,3-Trichlorobenzene	ND	1.7	1.00	
1,2,4-Trichlorobenzene	ND	1.7	1.00	
1,1,1-Trichloroethane	ND	0.87	1.00	
1,1,2-Trichloroethane	ND	0.87	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	8.7	1.00	
Trichloroethene	ND	1.7	1.00	
Trichlorofluoromethane	ND	8.7	1.00	
1,2,3-Trichloropropane	ND	1.7	1.00	
1,2,4-Trimethylbenzene	3.4	1.7	1.00	
1,3,5-Trimethylbenzene	2.0	1.7	1.00	
Vinyl Acetate	ND	8.7	1.00	
Vinyl Chloride	ND	0.87	1.00	
p/m-Xylene	ND	1.7	1.00	
o-Xylene	ND	0.87	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.7	1.00	
Tert-Butyl Alcohol (TBA)	ND	17	1.00	
Diisopropyl Ether (DIPE)	ND	0.87	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.87	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.87	1.00	
Ethanol	ND	430	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	105	79-139	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 45 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,2-Dichloroethane-d4	115	71-155	
1,4-Bromofluorobenzene	106	80-120	
Toluene-d8	102	80-120	
Toluene-d8-TPPH	102	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-30'	**19-06-1771-16-F**	**06/26/19 12:55**	**Solid**	**GC/MS OO**	**06/26/19**	**07/04/19 21:03**	**190704L020**

Parameter	Result	RL	DF	Qualifiers
TPPH	19000	2200	50.0	
Gasoline Range Organics (C4-C12)	13000	2200	50.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	91	79-139	
1,2-Dichloroethane-d4	89	71-155	
1,4-Bromofluorobenzene	99	80-120	
Toluene-d8	98	80-120	
Toluene-d8-TPPH	100	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Project: OOI

Date Received: 06/26/19
Work Order: 19-06-1771
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-38'	**19-06-1771-17-D**	**06/26/19 13:08**	**Solid**	**GC/MS OO**	**06/26/19**	**07/04/19 08:35**	**190703L036**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	84000	2000	
Benzene	1900	1700	2000	
Bromobenzene	ND	1700	2000	
Bromochloromethane	ND	3400	2000	
Bromodichloromethane	ND	1700	2000	
Bromoform	ND	8400	2000	
Bromomethane	ND	34000	2000	
2-Butanone	ND	34000	2000	
n-Butylbenzene	16000	1700	2000	
sec-Butylbenzene	5600	1700	2000	
tert-Butylbenzene	ND	1700	2000	
Carbon Disulfide	ND	17000	2000	
Carbon Tetrachloride	ND	1700	2000	
Chlorobenzene	ND	1700	2000	
Chloroethane	ND	3400	2000	
Chloroform	ND	1700	2000	
Chloromethane	ND	34000	2000	
2-Chlorotoluene	ND	1700	2000	
4-Chlorotoluene	ND	1700	2000	
Dibromochloromethane	ND	3400	2000	
1,2-Dibromo-3-Chloropropane	ND	8400	2000	
1,2-Dibromoethane	ND	1700	2000	
Dibromomethane	ND	1700	2000	
1,2-Dichlorobenzene	ND	1700	2000	
1,3-Dichlorobenzene	ND	1700	2000	
1,4-Dichlorobenzene	ND	1700	2000	
Dichlorodifluoromethane	ND	3400	2000	
1,1-Dichloroethane	ND	1700	2000	
1,2-Dichloroethane	ND	1700	2000	
1,1-Dichloroethene	ND	1700	2000	
c-1,2-Dichloroethene	ND	1700	2000	
t-1,2-Dichloroethene	ND	1700	2000	
1,2-Dichloropropane	ND	1700	2000	
1,3-Dichloropropane	ND	1700	2000	
2,2-Dichloropropane	ND	8400	2000	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 47 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	3400	2000	
c-1,3-Dichloropropene	ND	1700	2000	
t-1,3-Dichloropropene	ND	3400	2000	
Ethylbenzene	45000	1700	2000	
2-Hexanone	ND	34000	2000	
Isopropylbenzene	17000	1700	2000	
p-Isopropyltoluene	15000	1700	2000	
Methylene Chloride	ND	17000	2000	
4-Methyl-2-Pentanone	ND	34000	2000	
Naphthalene	ND	17000	2000	
n-Propylbenzene	22000	3400	2000	
Styrene	ND	1700	2000	
1,1,1,2-Tetrachloroethane	ND	1700	2000	
1,1,2,2-Tetrachloroethane	ND	3400	2000	
Tetrachloroethene	ND	1700	2000	
Toluene	6500	1700	2000	
1,2,3-Trichlorobenzene	ND	3400	2000	
1,2,4-Trichlorobenzene	ND	3400	2000	
1,1,1-Trichloroethane	ND	1700	2000	
1,1,2-Trichloroethane	ND	1700	2000	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	17000	2000	
Trichloroethene	ND	3400	2000	
Trichlorofluoromethane	ND	17000	2000	
1,2,3-Trichloropropane	ND	3400	2000	
1,2,4-Trimethylbenzene	130000	3400	2000	
1,3,5-Trimethylbenzene	45000	3400	2000	
Vinyl Acetate	ND	17000	2000	
Vinyl Chloride	ND	1700	2000	
p/m-Xylene	110000	3400	2000	
o-Xylene	56000	1700	2000	
Methyl-t-Butyl Ether (MTBE)	ND	3400	2000	
Tert-Butyl Alcohol (TBA)	ND	34000	2000	
Diisopropyl Ether (DIPE)	ND	1700	2000	
Ethyl-t-Butyl Ether (ETBE)	ND	1700	2000	
Tert-Amyl-Methyl Ether (TAME)	ND	1700	2000	
Ethanol	ND	840000	2000	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	96	79-139	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 48 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,2-Dichloroethane-d4	93	71-155	
1,4-Bromofluorobenzene	105	80-120	
Toluene-d8	109	80-120	
Toluene-d8-TPPH	96	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-38'	**19-06-1771-17-D**	**06/26/19 13:08**	**Solid**	**GC/MS OO**	**06/26/19**	**07/07/19 21:20**	**190707L005**

Parameter	Result	RL	DF	Qualifiers
TPPH	4400000	210000	5000	
Gasoline Range Organics (C4-C12)	4100000	210000	5000	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	101	79-139	
1,2-Dichloroethane-d4	97	71-155	
1,4-Bromofluorobenzene	99	80-120	
Toluene-d8	100	80-120	
Toluene-d8-TPPH	99	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 49 of 78

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-39.5'	**19-06-1771-18-C**	**06/26/19 13:25**	**Solid**	**GC/MS OO**	**06/26/19**	**07/08/19 20:18**	**190708L017**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	38	1.00	
Benzene	30	0.75	1.00	
Bromobenzene	ND	0.75	1.00	
Bromochloromethane	ND	1.5	1.00	
Bromodichloromethane	ND	0.75	1.00	
Bromoform	ND	3.8	1.00	
Bromomethane	ND	15	1.00	
2-Butanone	ND	15	1.00	
n-Butylbenzene	0.98	0.75	1.00	
sec-Butylbenzene	1.3	0.75	1.00	
tert-Butylbenzene	ND	0.75	1.00	
Carbon Disulfide	ND	7.5	1.00	
Carbon Tetrachloride	ND	0.75	1.00	
Chlorobenzene	ND	0.75	1.00	
Chloroethane	ND	1.5	1.00	
Chloroform	ND	0.75	1.00	
Chloromethane	ND	15	1.00	
2-Chlorotoluene	ND	0.75	1.00	
4-Chlorotoluene	ND	0.75	1.00	
Dibromochloromethane	ND	1.5	1.00	
1,2-Dibromo-3-Chloropropane	ND	3.8	1.00	
1,2-Dibromoethane	ND	0.75	1.00	
Dibromomethane	ND	0.75	1.00	
1,2-Dichlorobenzene	ND	0.75	1.00	
1,3-Dichlorobenzene	ND	0.75	1.00	
1,4-Dichlorobenzene	ND	0.75	1.00	
Dichlorodifluoromethane	ND	1.5	1.00	
1,1-Dichloroethane	ND	0.75	1.00	
1,2-Dichloroethane	ND	0.75	1.00	
1,1-Dichloroethene	ND	0.75	1.00	
c-1,2-Dichloroethene	ND	0.75	1.00	
t-1,2-Dichloroethene	ND	0.75	1.00	
1,2-Dichloropropane	ND	0.75	1.00	
1,3-Dichloropropane	ND	0.75	1.00	
2,2-Dichloropropane	ND	3.8	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 50 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.5	1.00	
c-1,3-Dichloropropene	ND	0.75	1.00	
t-1,3-Dichloropropene	ND	1.5	1.00	
Ethylbenzene	0.93	0.75	1.00	
2-Hexanone	ND	15	1.00	
Isopropylbenzene	3.4	0.75	1.00	
p-Isopropyltoluene	2.8	0.75	1.00	
Methylene Chloride	ND	7.5	1.00	
4-Methyl-2-Pentanone	ND	15	1.00	
Naphthalene	ND	7.5	1.00	
n-Propylbenzene	ND	1.5	1.00	
Styrene	ND	0.75	1.00	
1,1,1,2-Tetrachloroethane	ND	0.75	1.00	
1,1,2,2-Tetrachloroethane	ND	1.5	1.00	
Tetrachloroethene	ND	0.75	1.00	
Toluene	1.4	0.75	1.00	
1,2,3-Trichlorobenzene	ND	1.5	1.00	
1,2,4-Trichlorobenzene	ND	1.5	1.00	
1,1,1-Trichloroethane	ND	0.75	1.00	
1,1,2-Trichloroethane	ND	0.75	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	7.5	1.00	
Trichloroethene	ND	1.5	1.00	
Trichlorofluoromethane	ND	7.5	1.00	
1,2,3-Trichloropropane	ND	1.5	1.00	
1,2,4-Trimethylbenzene	ND	1.5	1.00	
1,3,5-Trimethylbenzene	ND	1.5	1.00	
Vinyl Acetate	ND	7.5	1.00	
Vinyl Chloride	ND	0.75	1.00	
p/m-Xylene	1.7	1.5	1.00	
o-Xylene	0.95	0.75	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.5	1.00	
Tert-Butyl Alcohol (TBA)	ND	15	1.00	
Diisopropyl Ether (DIPE)	ND	0.75	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.75	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.75	1.00	
Ethanol	ND	380	1.00	
TPPH	880	38	1.00	
Gasoline Range Organics (C4-C12)	830	38	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 51 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	97	79-139	
1,2-Dichloroethane-d4	98	71-155	
1,4-Bromofluorobenzene	102	80-120	
Toluene-d8	102	80-120	
Toluene-d8-TPPH	100	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 52 of 78

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-42.5'	**19-06-1771-19-C**	**06/26/19 13:45**	**Solid**	**GC/MS OO**	**06/26/19**	**07/08/19 20:48**	**190708L017**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	34	1.00	
Benzene	67	0.69	1.00	
Bromobenzene	ND	0.69	1.00	
Bromochloromethane	ND	1.4	1.00	
Bromodichloromethane	ND	0.69	1.00	
Bromoform	ND	3.4	1.00	
Bromomethane	ND	14	1.00	
2-Butanone	ND	14	1.00	
n-Butylbenzene	0.72	0.69	1.00	
sec-Butylbenzene	0.91	0.69	1.00	
tert-Butylbenzene	ND	0.69	1.00	
Carbon Disulfide	ND	6.9	1.00	
Carbon Tetrachloride	ND	0.69	1.00	
Chlorobenzene	ND	0.69	1.00	
Chloroethane	ND	1.4	1.00	
Chloroform	ND	0.69	1.00	
Chloromethane	ND	14	1.00	
2-Chlorotoluene	ND	0.69	1.00	
4-Chlorotoluene	ND	0.69	1.00	
Dibromochloromethane	ND	1.4	1.00	
1,2-Dibromo-3-Chloropropane	ND	3.4	1.00	
1,2-Dibromoethane	ND	0.69	1.00	
Dibromomethane	ND	0.69	1.00	
1,2-Dichlorobenzene	ND	0.69	1.00	
1,3-Dichlorobenzene	ND	0.69	1.00	
1,4-Dichlorobenzene	ND	0.69	1.00	
Dichlorodifluoromethane	ND	1.4	1.00	
1,1-Dichloroethane	ND	0.69	1.00	
1,2-Dichloroethane	ND	0.69	1.00	
1,1-Dichloroethene	ND	0.69	1.00	
c-1,2-Dichloroethene	ND	0.69	1.00	
t-1,2-Dichloroethene	ND	0.69	1.00	
1,2-Dichloropropane	ND	0.69	1.00	
1,3-Dichloropropane	ND	0.69	1.00	
2,2-Dichloropropane	ND	3.4	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 53 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.4	1.00	
c-1,3-Dichloropropene	ND	0.69	1.00	
t-1,3-Dichloropropene	ND	1.4	1.00	
Ethylbenzene	9.4	0.69	1.00	
2-Hexanone	ND	14	1.00	
Isopropylbenzene	6.3	0.69	1.00	
p-Isopropyltoluene	1.7	0.69	1.00	
Methylene Chloride	ND	6.9	1.00	
4-Methyl-2-Pentanone	ND	14	1.00	
Naphthalene	ND	6.9	1.00	
n-Propylbenzene	3.2	1.4	1.00	
Styrene	ND	0.69	1.00	
1,1,1,2-Tetrachloroethane	ND	0.69	1.00	
1,1,2,2-Tetrachloroethane	ND	1.4	1.00	
Tetrachloroethene	ND	0.69	1.00	
Toluene	0.83	0.69	1.00	
1,2,3-Trichlorobenzene	ND	1.4	1.00	
1,2,4-Trichlorobenzene	ND	1.4	1.00	
1,1,1-Trichloroethane	ND	0.69	1.00	
1,1,2-Trichloroethane	ND	0.69	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	6.9	1.00	
Trichloroethene	ND	1.4	1.00	
Trichlorofluoromethane	ND	6.9	1.00	
1,2,3-Trichloropropane	ND	1.4	1.00	
1,2,4-Trimethylbenzene	ND	1.4	1.00	
1,3,5-Trimethylbenzene	ND	1.4	1.00	
Vinyl Acetate	ND	6.9	1.00	
Vinyl Chloride	ND	0.69	1.00	
p/m-Xylene	ND	1.4	1.00	
o-Xylene	ND	0.69	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.4	1.00	
Tert-Butyl Alcohol (TBA)	ND	14	1.00	
Diisopropyl Ether (DIPE)	ND	0.69	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.69	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.69	1.00	
Ethanol	ND	340	1.00	
TPPH	1100	34	1.00	
Gasoline Range Organics (C4-C12)	1100	34	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 54 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	98	79-139	
1,2-Dichloroethane-d4	99	71-155	
1,4-Bromofluorobenzene	103	80-120	
Toluene-d8	102	80-120	
Toluene-d8-TPPH	99	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 55 of 78

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CE DUP 1	**19-06-1771-20-B**	**06/26/19 00:00**	**Solid**	**GC/MS OO**	**06/26/19**	**07/07/19 20:21**	**190707L004**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	42	1.00	
Benzene	ND	0.83	1.00	
Bromobenzene	ND	0.83	1.00	
Bromochloromethane	ND	1.7	1.00	
Bromodichloromethane	ND	0.83	1.00	
Bromoform	ND	4.2	1.00	
Bromomethane	ND	17	1.00	
2-Butanone	ND	17	1.00	
n-Butylbenzene	ND	0.83	1.00	
sec-Butylbenzene	ND	0.83	1.00	
tert-Butylbenzene	ND	0.83	1.00	
Carbon Disulfide	ND	8.3	1.00	
Carbon Tetrachloride	ND	0.83	1.00	
Chlorobenzene	ND	0.83	1.00	
Chloroethane	ND	1.7	1.00	
Chloroform	ND	0.83	1.00	
Chloromethane	ND	17	1.00	
2-Chlorotoluene	ND	0.83	1.00	
4-Chlorotoluene	ND	0.83	1.00	
Dibromochloromethane	ND	1.7	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.2	1.00	
1,2-Dibromoethane	ND	0.83	1.00	
Dibromomethane	ND	0.83	1.00	
1,2-Dichlorobenzene	ND	0.83	1.00	
1,3-Dichlorobenzene	ND	0.83	1.00	
1,4-Dichlorobenzene	ND	0.83	1.00	
Dichlorodifluoromethane	ND	1.7	1.00	
1,1-Dichloroethane	ND	0.83	1.00	
1,2-Dichloroethane	ND	0.83	1.00	
1,1-Dichloroethene	ND	0.83	1.00	
c-1,2-Dichloroethene	ND	0.83	1.00	
t-1,2-Dichloroethene	ND	0.83	1.00	
1,2-Dichloropropane	ND	0.83	1.00	
1,3-Dichloropropane	ND	0.83	1.00	
2,2-Dichloropropane	ND	4.2	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 56 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.7	1.00	
c-1,3-Dichloropropene	ND	0.83	1.00	
t-1,3-Dichloropropene	ND	1.7	1.00	
Ethylbenzene	ND	0.83	1.00	
2-Hexanone	ND	17	1.00	
Isopropylbenzene	ND	0.83	1.00	
p-Isopropyltoluene	ND	0.83	1.00	
Methylene Chloride	ND	8.3	1.00	
4-Methyl-2-Pentanone	ND	17	1.00	
Naphthalene	ND	8.3	1.00	
n-Propylbenzene	ND	1.7	1.00	
Styrene	ND	0.83	1.00	
1,1,1,2-Tetrachloroethane	ND	0.83	1.00	
1,1,2,2-Tetrachloroethane	ND	1.7	1.00	
Tetrachloroethene	ND	0.83	1.00	
Toluene	ND	0.83	1.00	
1,2,3-Trichlorobenzene	ND	1.7	1.00	
1,2,4-Trichlorobenzene	ND	1.7	1.00	
1,1,1-Trichloroethane	ND	0.83	1.00	
1,1,2-Trichloroethane	ND	0.83	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	8.3	1.00	
Trichloroethene	ND	1.7	1.00	
Trichlorofluoromethane	ND	8.3	1.00	
1,2,3-Trichloropropane	ND	1.7	1.00	
1,2,4-Trimethylbenzene	ND	1.7	1.00	
1,3,5-Trimethylbenzene	ND	1.7	1.00	
Vinyl Acetate	ND	8.3	1.00	
Vinyl Chloride	ND	0.83	1.00	
p/m-Xylene	ND	1.7	1.00	
o-Xylene	ND	0.83	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.7	1.00	
Tert-Butyl Alcohol (TBA)	ND	17	1.00	
Diisopropyl Ether (DIPE)	ND	0.83	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.83	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.83	1.00	
Ethanol	ND	420	1.00	
TPPH	87	42	1.00	
Gasoline Range Organics (C4-C12)	92	42	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 57 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	111	79-139	
1,2-Dichloroethane-d4	119	71-155	
1,4-Bromofluorobenzene	98	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	103	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 58 of 78

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-46'	**19-06-1771-21-B**	**06/26/19 14:05**	**Solid**	**GC/MS OO**	**06/26/19**	**07/07/19 22:49**	**190707L004**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	39	1.00	
Benzene	ND	0.78	1.00	
Bromobenzene	ND	0.78	1.00	
Bromochloromethane	ND	1.6	1.00	
Bromodichloromethane	ND	0.78	1.00	
Bromoform	ND	3.9	1.00	
Bromomethane	ND	16	1.00	
2-Butanone	ND	16	1.00	
n-Butylbenzene	ND	0.78	1.00	
sec-Butylbenzene	ND	0.78	1.00	
tert-Butylbenzene	ND	0.78	1.00	
Carbon Disulfide	ND	7.8	1.00	
Carbon Tetrachloride	ND	0.78	1.00	
Chlorobenzene	ND	0.78	1.00	
Chloroethane	ND	1.6	1.00	
Chloroform	ND	0.78	1.00	
Chloromethane	ND	16	1.00	
2-Chlorotoluene	ND	0.78	1.00	
4-Chlorotoluene	ND	0.78	1.00	
Dibromochloromethane	ND	1.6	1.00	
1,2-Dibromo-3-Chloropropane	ND	3.9	1.00	
1,2-Dibromoethane	ND	0.78	1.00	
Dibromomethane	ND	0.78	1.00	
1,2-Dichlorobenzene	ND	0.78	1.00	
1,3-Dichlorobenzene	ND	0.78	1.00	
1,4-Dichlorobenzene	ND	0.78	1.00	
Dichlorodifluoromethane	ND	1.6	1.00	
1,1-Dichloroethane	ND	0.78	1.00	
1,2-Dichloroethane	5.4	0.78	1.00	
1,1-Dichloroethene	ND	0.78	1.00	
c-1,2-Dichloroethene	ND	0.78	1.00	
t-1,2-Dichloroethene	ND	0.78	1.00	
1,2-Dichloropropane	ND	0.78	1.00	
1,3-Dichloropropane	ND	0.78	1.00	
2,2-Dichloropropane	ND	3.9	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 59 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.6	1.00	
c-1,3-Dichloropropene	ND	0.78	1.00	
t-1,3-Dichloropropene	ND	1.6	1.00	
Ethylbenzene	ND	0.78	1.00	
2-Hexanone	ND	16	1.00	
Isopropylbenzene	ND	0.78	1.00	
p-Isopropyltoluene	ND	0.78	1.00	
Methylene Chloride	ND	7.8	1.00	
4-Methyl-2-Pentanone	ND	16	1.00	
Naphthalene	ND	7.8	1.00	
n-Propylbenzene	ND	1.6	1.00	
Styrene	ND	0.78	1.00	
1,1,1,2-Tetrachloroethane	ND	0.78	1.00	
1,1,2,2-Tetrachloroethane	ND	1.6	1.00	
Tetrachloroethene	ND	0.78	1.00	
Toluene	ND	0.78	1.00	
1,2,3-Trichlorobenzene	ND	1.6	1.00	
1,2,4-Trichlorobenzene	ND	1.6	1.00	
1,1,1-Trichloroethane	ND	0.78	1.00	
1,1,2-Trichloroethane	ND	0.78	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	7.8	1.00	
Trichloroethene	ND	1.6	1.00	
Trichlorofluoromethane	ND	7.8	1.00	
1,2,3-Trichloropropane	ND	1.6	1.00	
1,2,4-Trimethylbenzene	ND	1.6	1.00	
1,3,5-Trimethylbenzene	ND	1.6	1.00	
Vinyl Acetate	ND	7.8	1.00	
Vinyl Chloride	ND	0.78	1.00	
p/m-Xylene	ND	1.6	1.00	
o-Xylene	ND	0.78	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.6	1.00	
Tert-Butyl Alcohol (TBA)	ND	16	1.00	
Diisopropyl Ether (DIPE)	ND	0.78	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.78	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.78	1.00	
Ethanol	ND	390	1.00	
TPPH	340	39	1.00	
Gasoline Range Organics (C4-C12)	310	39	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 60 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	100	79-139	
1,2-Dichloroethane-d4	102	71-155	
1,4-Bromofluorobenzene	99	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	102	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/26/19
Work Order: 19-06-1771
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-779-2079**	**N/A**	**Solid**	**GC/MS OO**	**07/03/19**	**07/03/19 18:51**	**190703L026**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	50	1.00	
Benzene	ND	1.0	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	2.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.0	1.00	
Bromomethane	ND	20	1.00	
2-Butanone	ND	20	1.00	
n-Butylbenzene	ND	1.0	1.00	
sec-Butylbenzene	ND	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	1.0	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	2.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	20	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	2.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	5.0	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	2.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	1.0	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	5.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 62 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2.0	1.00	
c-1,3-Dichloropropene	ND	1.0	1.00	
t-1,3-Dichloropropene	ND	2.0	1.00	
Ethylbenzene	ND	1.0	1.00	
2-Hexanone	ND	20	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	ND	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	20	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	2.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	1.0	1.00	
1,1,2,2-Tetrachloroethane	ND	2.0	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	2.0	1.00	
1,2,4-Trichlorobenzene	ND	2.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
Trichloroethene	ND	2.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	2.0	1.00	
1,2,4-Trimethylbenzene	ND	2.0	1.00	
1,3,5-Trimethylbenzene	ND	2.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	1.0	1.00	
p/m-Xylene	ND	2.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	2.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	20	1.00	
Diisopropyl Ether (DIPE)	ND	1.0	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	1.0	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	1.0	1.00	
Ethanol	ND	500	1.00	
TPPH	ND	50	1.00	
Gasoline Range Organics (C4-C12)	ND	50	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 63 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	100	79-139	
1,2-Dichloroethane-d4	102	71-155	
1,4-Bromofluorobenzene	96	80-120	
Toluene-d8	100	80-120	
Toluene-d8-TPPH	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/26/19
Work Order: 19-06-1771
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-779-2080**	**N/A**	**Solid**	**GC/MS OO**	**07/03/19**	**07/04/19 06:08**	**190703L036**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	5000	50.0	
Benzene	ND	100	50.0	
Bromobenzene	ND	100	50.0	
Bromochloromethane	ND	200	50.0	
Bromodichloromethane	ND	100	50.0	
Bromoform	ND	500	50.0	
Bromomethane	ND	2000	50.0	
2-Butanone	ND	2000	50.0	
n-Butylbenzene	ND	100	50.0	
sec-Butylbenzene	ND	100	50.0	
tert-Butylbenzene	ND	100	50.0	
Carbon Disulfide	ND	1000	50.0	
Carbon Tetrachloride	ND	100	50.0	
Chlorobenzene	ND	100	50.0	
Chloroethane	ND	200	50.0	
Chloroform	ND	100	50.0	
Chloromethane	ND	2000	50.0	
2-Chlorotoluene	ND	100	50.0	
4-Chlorotoluene	ND	100	50.0	
Dibromochloromethane	ND	200	50.0	
1,2-Dibromo-3-Chloropropane	ND	500	50.0	
1,2-Dibromoethane	ND	100	50.0	
Dibromomethane	ND	100	50.0	
1,2-Dichlorobenzene	ND	100	50.0	
1,3-Dichlorobenzene	ND	100	50.0	
1,4-Dichlorobenzene	ND	100	50.0	
Dichlorodifluoromethane	ND	200	50.0	
1,1-Dichloroethane	ND	100	50.0	
1,2-Dichloroethane	ND	100	50.0	
1,1-Dichloroethene	ND	100	50.0	
c-1,2-Dichloroethene	ND	100	50.0	
t-1,2-Dichloroethene	ND	100	50.0	
1,2-Dichloropropane	ND	100	50.0	
1,3-Dichloropropane	ND	100	50.0	
2,2-Dichloropropane	ND	500	50.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 65 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	200	50.0	
c-1,3-Dichloropropene	ND	100	50.0	
t-1,3-Dichloropropene	ND	200	50.0	
Ethylbenzene	ND	100	50.0	
2-Hexanone	ND	2000	50.0	
Isopropylbenzene	ND	100	50.0	
p-Isopropyltoluene	ND	100	50.0	
Methylene Chloride	ND	1000	50.0	
4-Methyl-2-Pentanone	ND	2000	50.0	
Naphthalene	ND	1000	50.0	
n-Propylbenzene	ND	200	50.0	
Styrene	ND	100	50.0	
1,1,1,2-Tetrachloroethane	ND	100	50.0	
1,1,2,2-Tetrachloroethane	ND	200	50.0	
Tetrachloroethene	ND	100	50.0	
Toluene	ND	100	50.0	
1,2,3-Trichlorobenzene	ND	200	50.0	
1,2,4-Trichlorobenzene	ND	200	50.0	
1,1,1-Trichloroethane	ND	100	50.0	
1,1,2-Trichloroethane	ND	100	50.0	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	1000	50.0	
Trichloroethene	ND	200	50.0	
Trichlorofluoromethane	ND	1000	50.0	
1,2,3-Trichloropropane	ND	200	50.0	
1,2,4-Trimethylbenzene	ND	200	50.0	
1,3,5-Trimethylbenzene	ND	200	50.0	
Vinyl Acetate	ND	1000	50.0	
Vinyl Chloride	ND	100	50.0	
p/m-Xylene	ND	200	50.0	
o-Xylene	ND	100	50.0	
Methyl-t-Butyl Ether (MTBE)	ND	200	50.0	
Tert-Butyl Alcohol (TBA)	ND	2000	50.0	
Diisopropyl Ether (DIPE)	ND	100	50.0	
Ethyl-t-Butyl Ether (ETBE)	ND	100	50.0	
Tert-Amyl-Methyl Ether (TAME)	ND	100	50.0	
Ethanol	ND	50000	50.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	95	79-139	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 66 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,2-Dichloroethane-d4	94	71-155	
1,4-Bromofluorobenzene	95	80-120	
Toluene-d8	99	80-120	
Toluene-d8-TPPH	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/26/19
Work Order: 19-06-1771
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-779-2081**	**N/A**	**Solid**	**GC/MS OO**	**07/04/19**	**07/04/19 17:37**	**190704L017**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	50	1.00	
Benzene	ND	1.0	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	2.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.0	1.00	
Bromomethane	ND	20	1.00	
2-Butanone	ND	20	1.00	
n-Butylbenzene	ND	1.0	1.00	
sec-Butylbenzene	ND	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	1.0	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	2.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	20	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	2.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	5.0	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	2.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	1.0	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	5.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 68 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2.0	1.00	
c-1,3-Dichloropropene	ND	1.0	1.00	
t-1,3-Dichloropropene	ND	2.0	1.00	
Ethylbenzene	ND	1.0	1.00	
2-Hexanone	ND	20	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	ND	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	20	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	2.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	1.0	1.00	
1,1,2,2-Tetrachloroethane	ND	2.0	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	2.0	1.00	
1,2,4-Trichlorobenzene	ND	2.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
Trichloroethene	ND	2.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	2.0	1.00	
1,2,4-Trimethylbenzene	ND	2.0	1.00	
1,3,5-Trimethylbenzene	ND	2.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	1.0	1.00	
p/m-Xylene	ND	2.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	2.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	20	1.00	
Diisopropyl Ether (DIPE)	ND	1.0	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	1.0	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	1.0	1.00	
Ethanol	ND	500	1.00	
TPPH	ND	50	1.00	
Gasoline Range Organics (C4-C12)	ND	50	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 69 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	94	79-139	
1,2-Dichloroethane-d4	93	71-155	
1,4-Bromofluorobenzene	97	80-120	
Toluene-d8	99	80-120	
Toluene-d8-TPPH	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/26/19
Work Order: 19-06-1771
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-779-2082**	**N/A**	**Solid**	**GC/MS OO**	**07/04/19**	**07/04/19 18:06**	**190704L020**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	5000	50.0	
Benzene	ND	100	50.0	
Bromobenzene	ND	100	50.0	
Bromochloromethane	ND	200	50.0	
Bromodichloromethane	ND	100	50.0	
Bromoform	ND	500	50.0	
Bromomethane	ND	2000	50.0	
2-Butanone	ND	2000	50.0	
n-Butylbenzene	ND	100	50.0	
sec-Butylbenzene	ND	100	50.0	
tert-Butylbenzene	ND	100	50.0	
Carbon Disulfide	ND	1000	50.0	
Carbon Tetrachloride	ND	100	50.0	
Chlorobenzene	ND	100	50.0	
Chloroethane	ND	200	50.0	
Chloroform	ND	100	50.0	
Chloromethane	ND	2000	50.0	
2-Chlorotoluene	ND	100	50.0	
4-Chlorotoluene	ND	100	50.0	
Dibromochloromethane	ND	200	50.0	
1,2-Dibromo-3-Chloropropane	ND	500	50.0	
1,2-Dibromoethane	ND	100	50.0	
Dibromomethane	ND	100	50.0	
1,2-Dichlorobenzene	ND	100	50.0	
1,3-Dichlorobenzene	ND	100	50.0	
1,4-Dichlorobenzene	ND	100	50.0	
Dichlorodifluoromethane	ND	200	50.0	
1,1-Dichloroethane	ND	100	50.0	
1,2-Dichloroethane	ND	100	50.0	
1,1-Dichloroethene	ND	100	50.0	
c-1,2-Dichloroethene	ND	100	50.0	
t-1,2-Dichloroethene	ND	100	50.0	
1,2-Dichloropropane	ND	100	50.0	
1,3-Dichloropropane	ND	100	50.0	
2,2-Dichloropropane	ND	500	50.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 71 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	200	50.0	
c-1,3-Dichloropropene	ND	100	50.0	
t-1,3-Dichloropropene	ND	200	50.0	
Ethylbenzene	ND	100	50.0	
2-Hexanone	ND	2000	50.0	
Isopropylbenzene	ND	100	50.0	
p-Isopropyltoluene	ND	100	50.0	
Methylene Chloride	ND	1000	50.0	
4-Methyl-2-Pentanone	ND	2000	50.0	
Naphthalene	ND	1000	50.0	
n-Propylbenzene	ND	200	50.0	
Styrene	ND	100	50.0	
1,1,1,2-Tetrachloroethane	ND	100	50.0	
1,1,2,2-Tetrachloroethane	ND	200	50.0	
Tetrachloroethene	ND	100	50.0	
Toluene	ND	100	50.0	
1,2,3-Trichlorobenzene	ND	200	50.0	
1,2,4-Trichlorobenzene	ND	200	50.0	
1,1,1-Trichloroethane	ND	100	50.0	
1,1,2-Trichloroethane	ND	100	50.0	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	1000	50.0	
Trichloroethene	ND	200	50.0	
Trichlorofluoromethane	ND	1000	50.0	
1,2,3-Trichloropropane	ND	200	50.0	
1,2,4-Trimethylbenzene	ND	200	50.0	
1,3,5-Trimethylbenzene	ND	200	50.0	
Vinyl Acetate	ND	1000	50.0	
Vinyl Chloride	ND	100	50.0	
p/m-Xylene	ND	200	50.0	
o-Xylene	ND	100	50.0	
Methyl-t-Butyl Ether (MTBE)	ND	200	50.0	
Tert-Butyl Alcohol (TBA)	ND	2000	50.0	
Diisopropyl Ether (DIPE)	ND	100	50.0	
Ethyl-t-Butyl Ether (ETBE)	ND	100	50.0	
Tert-Amyl-Methyl Ether (TAME)	ND	100	50.0	
Ethanol	ND	50000	50.0	
TPPH	ND	5000	50.0	
Gasoline Range Organics (C4-C12)	ND	5000	50.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 72 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	92	79-139	
1,2-Dichloroethane-d4	88	71-155	
1,4-Bromofluorobenzene	97	80-120	
Toluene-d8	97	80-120	
Toluene-d8-TPPH	98	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 73 of 78

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-779-2089**	**N/A**	**Solid**	**GC/MS OO**	**07/07/19**	**07/07/19 17:54**	**190707L004**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	50	1.00	
Benzene	ND	1.0	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	2.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.0	1.00	
Bromomethane	ND	20	1.00	
2-Butanone	ND	20	1.00	
n-Butylbenzene	ND	1.0	1.00	
sec-Butylbenzene	ND	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	1.0	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	2.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	20	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	2.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	5.0	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	2.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	1.0	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	5.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 74 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2.0	1.00	
c-1,3-Dichloropropene	ND	1.0	1.00	
t-1,3-Dichloropropene	ND	2.0	1.00	
Ethylbenzene	ND	1.0	1.00	
2-Hexanone	ND	20	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	ND	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	20	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	2.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	1.0	1.00	
1,1,2,2-Tetrachloroethane	ND	2.0	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	2.0	1.00	
1,2,4-Trichlorobenzene	ND	2.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
Trichloroethene	ND	2.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	2.0	1.00	
1,2,4-Trimethylbenzene	ND	2.0	1.00	
1,3,5-Trimethylbenzene	ND	2.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	1.0	1.00	
p/m-Xylene	ND	2.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	2.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	20	1.00	
Diisopropyl Ether (DIPE)	ND	1.0	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	1.0	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	1.0	1.00	
Ethanol	ND	500	1.00	
TPPH	ND	50	1.00	
Gasoline Range Organics (C4-C12)	ND	50	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 75 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	105	79-139	
1,2-Dichloroethane-d4	103	71-155	
1,4-Bromofluorobenzene	94	80-120	
Toluene-d8	102	80-120	
Toluene-d8-TPPH	104	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-779-2090**	**N/A**	**Solid**	**GC/MS OO**	**07/07/19**	**07/07/19 18:24**	**190707L005**

Parameter	Result	RL	DF	Qualifiers
TPPH	ND	5000	50.0	
Gasoline Range Organics (C4-C12)	ND	5000	50.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	99	79-139	
1,2-Dichloroethane-d4	94	71-155	
1,4-Bromofluorobenzene	96	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	103	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/26/19
Work Order: 19-06-1771
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-779-2091**	**N/A**	**Solid**	**GC/MS OO**	**07/08/19**	**07/08/19 18:50**	**190708L017**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	50	1.00	
Benzene	ND	1.0	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	2.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.0	1.00	
Bromomethane	ND	20	1.00	
2-Butanone	ND	20	1.00	
n-Butylbenzene	ND	1.0	1.00	
sec-Butylbenzene	ND	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	1.0	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	2.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	20	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	2.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	5.0	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	2.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	1.0	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	5.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 77 of 78

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2.0	1.00	
c-1,3-Dichloropropene	ND	1.0	1.00	
t-1,3-Dichloropropene	ND	2.0	1.00	
Ethylbenzene	ND	1.0	1.00	
2-Hexanone	ND	20	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	ND	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	20	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	2.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	1.0	1.00	
1,1,2,2-Tetrachloroethane	ND	2.0	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	2.0	1.00	
1,2,4-Trichlorobenzene	ND	2.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
Trichloroethene	ND	2.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	2.0	1.00	
1,2,4-Trimethylbenzene	ND	2.0	1.00	
1,3,5-Trimethylbenzene	ND	2.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	1.0	1.00	
p/m-Xylene	ND	2.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	2.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	20	1.00	
Diisopropyl Ether (DIPE)	ND	1.0	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	1.0	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	1.0	1.00	
Ethanol	ND	500	1.00	
TPPH	ND	50	1.00	
Gasoline Range Organics (C4-C12)	ND	50	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/26/19
30423 Canwood St., Suite 208	Work Order:	19-06-1771
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 78 of 78

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	99	79-139	
1,2-Dichloroethane-d4	94	71-155	
1,4-Bromofluorobenzene	97	80-120	
Toluene-d8	99	80-120	
Toluene-d8-TPPH	100	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	N/A
		Method:	ASTM D-2216 (M)
		Units:	%
Project: OOI			Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-6.5'	**19-06-1771-2-A**	**06/26/19 08:12**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB2**

Parameter	Result	RL	DF	Qualifiers
Moisture	8.8	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-11.5'	**19-06-1771-3-A**	**06/26/19 08:26**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB2**

Parameter	Result	RL	DF	Qualifiers
Moisture	17	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-15.5'	**19-06-1771-4-A**	**06/26/19 08:36**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB2**

Parameter	Result	RL	DF	Qualifiers
Moisture	11	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-20.5'	**19-06-1771-5-A**	**06/26/19 08:49**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB2**

Parameter	Result	RL	DF	Qualifiers
Moisture	3.0	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-25.5'	**19-06-1771-6-A**	**06/26/19 08:59**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB2**

Parameter	Result	RL	DF	Qualifiers
Moisture	3.6	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-30'	**19-06-1771-7-A**	**06/26/19 09:17**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB2**

Parameter	Result	RL	DF	Qualifiers
Moisture	15	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-35.5'	**19-06-1771-8-A**	**06/26/19 09:36**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB2**

Parameter	Result	RL	DF	Qualifiers
Moisture	21	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-6'	**19-06-1771-11-A**	**06/26/19 11:45**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB2**

Parameter	Result	RL	DF	Qualifiers
Moisture	12	0.10	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	N/A
		Method:	ASTM D-2216 (M)
		Units:	%
Project: OOI			Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-10'	**19-06-1771-12-A**	**06/26/19 11:55**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB2**

Parameter	Result	RL	DF	Qualifiers
Moisture	11	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-15'	**19-06-1771-13-A**	**06/26/19 12:15**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB2**

Parameter	Result	RL	DF	Qualifiers
Moisture	11	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-20'	**19-06-1771-14-A**	**06/26/19 12:25**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB2**

Parameter	Result	RL	DF	Qualifiers
Moisture	12	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-25'	**19-06-1771-15-A**	**06/26/19 12:40**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB2**

Parameter	Result	RL	DF	Qualifiers
Moisture	3.0	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-05-014-8482**	**N/A**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB2**

Parameter	Result	RL	DF	Qualifiers
Moisture	ND	0.10	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Quality Control - Spike/Spike Duplicate

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: OOI			Page 1 of 2

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-06-1424-2	**Sample**	**Sediment**	**GC 48**	**06/28/19**	**06/28/19 22:48**	**190628S08**
19-06-1424-2	**Matrix Spike**	**Sediment**	**GC 48**	**06/28/19**	**06/28/19 21:45**	**190628S08**
19-06-1424-2	**Matrix Spike Duplicate**	**Sediment**	**GC 48**	**06/28/19**	**06/28/19 22:06**	**190628S08**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	ND	400.0	361.8	90	396.6	99	64-130	9	0-15	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: OOI			Page 2 of 2

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
CESB11-6.5'	**Sample**	**Solid**	**ICP 8300**	**07/01/19**	**07/01/19 21:53**	**190701S02**
CESB11-6.5'	**Matrix Spike**	**Solid**	**ICP 8300**	**07/01/19**	**07/01/19 21:55**	**190701S02**
CESB11-6.5'	**Matrix Spike Duplicate**	**Solid**	**ICP 8300**	**07/01/19**	**07/01/19 22:02**	**190701S02**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Arsenic	9.372	25.00	34.58	101	32.42	92	75-125	6	0-20	
Lead	1.721	25.00	26.95	101	26.45	99	75-125	2	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Sample Duplicate

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	N/A
		Method:	ASTM D-2216 (M)
Project: OOI			Page 1 of 1

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
19-06-1878-17	**Sample**	**Solid**	**N/A**	**06/28/19 00:00**	**06/28/19 16:00**	**J0628MOID3**
19-06-1878-17	**Sample Duplicate**	**Solid**	**N/A**	**06/28/19 00:00**	**06/28/19 16:00**	**J0628MOID3**

Parameter	Sample Conc.	DUP Conc.	RPD	RPD CL	Qualifiers
Moisture	15.10	16.50	9	0-10	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: OOI			Page 1 of 9

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-15-490-3654	**LCS**	**Solid**	**GC 48**	**06/28/19**	**06/29/19 00:12**	**190628B08A**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Diesel	400.0	388.1	97	75-123	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: OOI			Page 2 of 9

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-01-002-28071	**LCS**	**Solid**	**ICP 8300**	**07/01/19**	**07/01/19 21:48**	**190701L02A**
097-01-002-28071	**LCSD**	**Solid**	**ICP 8300**	**07/01/19**	**07/01/19 21:51**	**190701L02A**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Arsenic	25.00	23.89	96	25.07	100	80-120	5	0-20	
Lead	25.00	26.42	106	27.42	110	80-120	4	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
Project: OOI			Page 3 of 9

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-779-2079	**LCS**	**Solid**	**GC/MS OO**	**07/03/19**	**07/03/19 16:53**	**190703L026**
099-12-779-2079	**LCSD**	**Solid**	**GC/MS OO**	**07/03/19**	**07/03/19 17:23**	**190703L026**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	50.40	101	48.97	98	80-120	73-127	3	0-20	
Carbon Tetrachloride	50.00	51.80	104	50.00	100	65-137	53-149	4	0-20	
Chlorobenzene	50.00	51.33	103	49.26	99	80-120	73-127	4	0-20	
1,2-Dibromoethane	50.00	52.69	105	51.98	104	80-120	73-127	1	0-20	
1,2-Dichlorobenzene	50.00	52.61	105	50.67	101	80-120	73-127	4	0-20	
1,2-Dichloroethane	50.00	50.28	101	50.14	100	80-120	73-127	0	0-20	
1,1-Dichloroethene	50.00	48.48	97	47.18	94	68-128	58-138	3	0-20	
Ethylbenzene	50.00	53.88	108	51.42	103	80-120	73-127	5	0-20	
Toluene	50.00	52.83	106	50.99	102	80-120	73-127	4	0-20	
Trichloroethene	50.00	51.86	104	50.45	101	80-120	73-127	3	0-20	
Vinyl Chloride	50.00	45.90	92	41.55	83	67-127	57-137	10	0-20	
p/m-Xylene	100.0	110.3	110	105.1	105	75-125	67-133	5	0-25	
o-Xylene	50.00	55.34	111	53.09	106	75-125	67-133	4	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	43.03	86	42.48	85	70-124	61-133	1	0-20	
Tert-Butyl Alcohol (TBA)	250.0	230.0	92	214.5	86	73-121	65-129	7	0-20	
Diisopropyl Ether (DIPE)	50.00	50.21	100	48.63	97	69-129	59-139	3	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	46.28	93	45.49	91	70-124	61-133	2	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	51.65	103	51.65	103	74-122	66-130	0	0-20	
Ethanol	500.0	500.2	100	466.2	93	51-135	37-149	7	0-27	
TPPH	1000	963.5	96	980.0	98	65-135	53-147	2	0-30	
Gasoline Range Organics (C4-C12)	1000	863.5	86	875.5	88	65-135	53-147	1	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
Project: OOI			Page 4 of 9

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-779-2080	**LCS**	**Solid**	**GC/MS OO**	**07/03/19**	**07/04/19 04:11**	**190703L036**
099-12-779-2080	**LCSD**	**Solid**	**GC/MS OO**	**07/03/19**	**07/04/19 04:40**	**190703L036**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	53.69	107	46.30	93	80-120	73-127	15	0-20	
Carbon Tetrachloride	50.00	53.99	108	45.83	92	65-137	53-149	16	0-20	
Chlorobenzene	50.00	55.51	111	47.26	95	80-120	73-127	16	0-20	
1,2-Dibromoethane	50.00	57.66	115	49.67	99	80-120	73-127	15	0-20	
1,2-Dichlorobenzene	50.00	56.19	112	48.06	96	80-120	73-127	16	0-20	
1,2-Dichloroethane	50.00	52.94	106	46.10	92	80-120	73-127	14	0-20	
1,1-Dichloroethene	50.00	53.25	107	44.72	89	68-128	58-138	17	0-20	
Ethylbenzene	50.00	58.01	116	48.84	98	80-120	73-127	17	0-20	
Toluene	50.00	55.88	112	48.01	96	80-120	73-127	15	0-20	
Trichloroethene	50.00	56.29	113	47.80	96	80-120	73-127	16	0-20	
Vinyl Chloride	50.00	49.64	99	40.38	81	67-127	57-137	21	0-20	X
p/m-Xylene	100.0	117.4	117	99.30	99	75-125	67-133	17	0-25	
o-Xylene	50.00	59.74	119	51.04	102	75-125	67-133	16	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	48.34	97	40.43	81	70-124	61-133	18	0-20	
Tert-Butyl Alcohol (TBA)	250.0	253.2	101	219.4	88	73-121	65-129	14	0-20	
Diisopropyl Ether (DIPE)	50.00	54.56	109	46.39	93	69-129	59-139	16	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	52.04	104	43.02	86	70-124	61-133	19	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	55.89	112	47.49	95	74-122	66-130	16	0-20	
Ethanol	500.0	637.9	128	498.5	100	51-135	37-149	25	0-27	
TPPH	1000	904.2	90	887.4	89	65-135	53-147	2	0-30	
Gasoline Range Organics (C4-C12)	1000	861.6	86	799.9	80	65-135	53-147	7	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Project: OOI

Date Received: 06/26/19
Work Order: 19-06-1771
Preparation: EPA 5035
Method: GC/MS / EPA 8260B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-779-2081	**LCS**	**Solid**	**GC/MS OO**	**07/04/19**	**07/04/19 15:39**	**190704L017**
099-12-779-2081	**LCSD**	**Solid**	**GC/MS OO**	**07/04/19**	**07/04/19 16:08**	**190704L017**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	45.00	90	46.86	94	80-120	73-127	4	0-20	
Carbon Tetrachloride	50.00	43.84	88	46.31	93	65-137	53-149	5	0-20	
Chlorobenzene	50.00	47.42	95	49.04	98	80-120	73-127	3	0-20	
1,2-Dibromoethane	50.00	49.83	100	51.79	104	80-120	73-127	4	0-20	
1,2-Dichlorobenzene	50.00	48.84	98	49.86	100	80-120	73-127	2	0-20	
1,2-Dichloroethane	50.00	44.95	90	45.93	92	80-120	73-127	2	0-20	
1,1-Dichloroethene	50.00	43.20	86	44.49	89	68-128	58-138	3	0-20	
Ethylbenzene	50.00	48.94	98	51.09	102	80-120	73-127	4	0-20	
Toluene	50.00	48.17	96	49.23	98	80-120	73-127	2	0-20	
Trichloroethene	50.00	46.93	94	48.94	98	80-120	73-127	4	0-20	
Vinyl Chloride	50.00	39.76	80	39.65	79	67-127	57-137	0	0-20	
p/m-Xylene	100.0	99.94	100	103.5	103	75-125	67-133	3	0-25	
o-Xylene	50.00	51.08	102	52.52	105	75-125	67-133	3	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	44.40	89	44.47	89	70-124	61-133	0	0-20	
Tert-Butyl Alcohol (TBA)	250.0	205.7	82	206.0	82	73-121	65-129	0	0-20	
Diisopropyl Ether (DIPE)	50.00	44.62	89	45.82	92	69-129	59-139	3	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	47.10	94	48.09	96	70-124	61-133	2	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	53.46	107	55.18	110	74-122	66-130	3	0-20	
Ethanol	500.0	404.9	81	414.2	83	51-135	37-149	2	0-27	
TPPH	1000	916.0	92	932.6	93	65-135	53-147	2	0-30	
Gasoline Range Organics (C4-C12)	1000	823.6	82	832.5	83	65-135	53-147	1	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
Project: OOI			Page 6 of 9

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-779-2082	**LCS**	**Solid**	**GC/MS OO**	**07/04/19**	**07/04/19 14:10**	**190704L020**
099-12-779-2082	**LCSD**	**Solid**	**GC/MS OO**	**07/04/19**	**07/04/19 14:39**	**190704L020**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	45.00	90	46.86	94	80-120	73-127	4	0-20	
Carbon Tetrachloride	50.00	43.84	88	46.31	93	65-137	53-149	5	0-20	
Chlorobenzene	50.00	47.42	95	49.04	98	80-120	73-127	3	0-20	
1,2-Dibromoethane	50.00	49.83	100	51.79	104	80-120	73-127	4	0-20	
1,2-Dichlorobenzene	50.00	48.84	98	49.86	100	80-120	73-127	2	0-20	
1,2-Dichloroethane	50.00	44.95	90	45.93	92	80-120	73-127	2	0-20	
1,1-Dichloroethene	50.00	43.20	86	44.49	89	68-128	58-138	3	0-20	
Ethylbenzene	50.00	48.94	98	51.09	102	80-120	73-127	4	0-20	
Toluene	50.00	48.17	96	49.23	98	80-120	73-127	2	0-20	
Trichloroethene	50.00	46.93	94	48.94	98	80-120	73-127	4	0-20	
Vinyl Chloride	50.00	39.76	80	39.65	79	67-127	57-137	0	0-20	
p/m-Xylene	100.0	99.94	100	103.5	103	75-125	67-133	3	0-25	
o-Xylene	50.00	51.08	102	52.52	105	75-125	67-133	3	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	44.40	89	44.47	89	70-124	61-133	0	0-20	
Tert-Butyl Alcohol (TBA)	250.0	205.7	82	206.0	82	73-121	65-129	0	0-20	
Diisopropyl Ether (DIPE)	50.00	44.62	89	45.82	92	69-129	59-139	3	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	47.10	94	48.09	96	70-124	61-133	2	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	53.46	107	55.18	110	74-122	66-130	3	0-20	
Ethanol	500.0	404.9	81	414.2	83	51-135	37-149	2	0-27	
TPPH	1000	916.0	92	932.6	93	65-135	53-147	2	0-30	
Gasoline Range Organics (C4-C12)	1000	823.6	82	832.5	83	65-135	53-147	1	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
Project: OOI			Page 7 of 9

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-779-2089	**LCS**	**Solid**	**GC/MS OO**	**07/07/19**	**07/07/19 15:56**	**190707L004**
099-12-779-2089	**LCSD**	**Solid**	**GC/MS OO**	**07/07/19**	**07/07/19 16:26**	**190707L004**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	49.62	99	48.47	97	80-120	73-127	2	0-20	
Carbon Tetrachloride	50.00	51.40	103	48.80	98	65-137	53-149	5	0-20	
Chlorobenzene	50.00	49.54	99	49.27	99	80-120	73-127	1	0-20	
1,2-Dibromoethane	50.00	49.74	99	49.67	99	80-120	73-127	0	0-20	
1,2-Dichlorobenzene	50.00	49.77	100	50.10	100	80-120	73-127	1	0-20	
1,2-Dichloroethane	50.00	49.45	99	47.86	96	80-120	73-127	3	0-20	
1,1-Dichloroethene	50.00	47.22	94	45.28	91	68-128	58-138	4	0-20	
Ethylbenzene	50.00	50.63	101	50.47	101	80-120	73-127	0	0-20	
Toluene	50.00	50.76	102	50.24	100	80-120	73-127	1	0-20	
Trichloroethene	50.00	50.60	101	49.39	99	80-120	73-127	2	0-20	
Vinyl Chloride	50.00	47.99	96	46.75	93	67-127	57-137	3	0-20	
p/m-Xylene	100.0	105.6	106	104.7	105	75-125	67-133	1	0-25	
o-Xylene	50.00	53.06	106	52.57	105	75-125	67-133	1	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	41.97	84	40.85	82	70-124	61-133	3	0-20	
Tert-Butyl Alcohol (TBA)	250.0	204.3	82	204.8	82	73-121	65-129	0	0-20	
Diisopropyl Ether (DIPE)	50.00	51.53	103	50.21	100	69-129	59-139	3	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	47.10	94	45.76	92	70-124	61-133	3	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	51.81	104	51.04	102	74-122	66-130	1	0-20	
Ethanol	500.0	475.2	95	459.6	92	51-135	37-149	3	0-27	
TPPH	1000	900.1	90	931.6	93	65-135	53-147	3	0-30	
Gasoline Range Organics (C4-C12)	1000	814.1	81	841.2	84	65-135	53-147	3	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
Project: OOI			Page 8 of 9

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-779-2090	**LCS**	**Solid**	**GC/MS OO**	**07/07/19**	**07/07/19 15:56**	**190707L005**
099-12-779-2090	**LCSD**	**Solid**	**GC/MS OO**	**07/07/19**	**07/07/19 16:26**	**190707L005**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	49.62	99	48.47	97	80-120	73-127	2	0-20	
Carbon Tetrachloride	50.00	51.40	103	48.80	98	65-137	53-149	5	0-20	
Chlorobenzene	50.00	49.54	99	49.27	99	80-120	73-127	1	0-20	
1,2-Dibromoethane	50.00	49.74	99	49.67	99	80-120	73-127	0	0-20	
1,2-Dichlorobenzene	50.00	49.77	100	50.10	100	80-120	73-127	1	0-20	
1,2-Dichloroethane	50.00	49.45	99	47.86	96	80-120	73-127	3	0-20	
1,1-Dichloroethene	50.00	47.22	94	45.28	91	68-128	58-138	4	0-20	
Ethylbenzene	50.00	50.63	101	50.47	101	80-120	73-127	0	0-20	
Toluene	50.00	50.76	102	50.24	100	80-120	73-127	1	0-20	
Trichloroethene	50.00	50.60	101	49.39	99	80-120	73-127	2	0-20	
Vinyl Chloride	50.00	47.99	96	46.75	93	67-127	57-137	3	0-20	
p/m-Xylene	100.0	105.6	106	104.7	105	75-125	67-133	1	0-25	
o-Xylene	50.00	53.06	106	52.57	105	75-125	67-133	1	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	41.97	84	40.85	82	70-124	61-133	3	0-20	
Tert-Butyl Alcohol (TBA)	250.0	204.3	82	204.8	82	73-121	65-129	0	0-20	
Diisopropyl Ether (DIPE)	50.00	51.53	103	50.21	100	69-129	59-139	3	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	47.10	94	45.76	92	70-124	61-133	3	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	51.81	104	51.04	102	74-122	66-130	1	0-20	
Ethanol	500.0	475.2	95	459.6	92	51-135	37-149	3	0-27	
TPPH	1000	900.1	90	931.6	93	65-135	53-147	3	0-30	
Gasoline Range Organics (C4-C12)	1000	814.1	81	841.2	84	65-135	53-147	3	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/26/19
30423 Canwood St., Suite 208		Work Order:	19-06-1771
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
Project: OOI			Page 9 of 9

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-779-2091	**LCS**	**Solid**	**GC/MS OO**	**07/08/19**	**07/08/19 16:52**	**190708L017**
099-12-779-2091	**LCSD**	**Solid**	**GC/MS OO**	**07/08/19**	**07/08/19 17:21**	**190708L017**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	48.31	97	46.90	94	80-120	73-127	3	0-20	
Carbon Tetrachloride	50.00	47.70	95	47.08	94	65-137	53-149	1	0-20	
Chlorobenzene	50.00	50.03	100	48.23	96	80-120	73-127	4	0-20	
1,2-Dibromoethane	50.00	51.22	102	50.75	101	80-120	73-127	1	0-20	
1,2-Dichlorobenzene	50.00	50.84	102	49.04	98	80-120	73-127	4	0-20	
1,2-Dichloroethane	50.00	46.11	92	45.69	91	80-120	73-127	1	0-20	
1,1-Dichloroethene	50.00	44.88	90	43.30	87	68-128	58-138	4	0-20	
Ethylbenzene	50.00	51.93	104	49.73	99	80-120	73-127	4	0-20	
Toluene	50.00	50.65	101	48.89	98	80-120	73-127	4	0-20	
Trichloroethene	50.00	50.49	101	48.13	96	80-120	73-127	5	0-20	
Vinyl Chloride	50.00	44.24	88	43.65	87	67-127	57-137	1	0-20	
p/m-Xylene	100.0	106.2	106	101.3	101	75-125	67-133	5	0-25	
o-Xylene	50.00	53.69	107	51.69	103	75-125	67-133	4	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	43.31	87	43.21	86	70-124	61-133	0	0-20	
Tert-Butyl Alcohol (TBA)	250.0	212.4	85	209.5	84	73-121	65-129	1	0-20	
Diisopropyl Ether (DIPE)	50.00	47.91	96	46.72	93	69-129	59-139	3	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	48.64	97	48.22	96	70-124	61-133	1	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	56.21	112	56.24	112	74-122	66-130	0	0-20	
Ethanol	500.0	426.5	85	397.8	80	51-135	37-149	7	0-27	
TPPH	1000	970.0	97	892.2	89	65-135	53-147	8	0-30	
Gasoline Range Organics (C4-C12)	1000	879.4	88	802.7	80	65-135	53-147	9	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Sample Analysis Summary Report

Work Order: 19-06-1771 Page 1 of 1

Method	Extraction	Chemist ID	Instrument	Analytical Location
ASTM D-2216 (M)	N/A	1215	N/A	1
EPA 6010B	EPA 3050B	1080	ICP 8300	1
EPA 8015B (M)	EPA 3550B	972	GC 48	1
GC/MS / EPA 8260B	EPA 5035	316	GC/MS OO	2
GC/MS / EPA 8260B	EPA 5035	1178	GC/MS OO	2

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Glossary of Terms and Qualifiers

Work Order: 19-06-1771 Page 1 of 1

Qualifiers	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: **19-06-1771**

DATE: JUNE 26, 2019

PAGE: 1 OF 2

LABORATORY CLIENT: CALENVIRO

ADDRESS: 30423 Canwood Street #208

CITY: Agoura Hills STATE: CA ZIP: 91301

TEL: 818-991-1542 E-MAIL:

CLIENT PROJECT NAME / NUMBER: OOI

P.O. NO.: 3029

PROJECT CONTACT: C. Buckley

SAMPLER(S): (PRINT) Buckley CB

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAYS ☐ STANDARD

☐ COELT EDF GLOBAL ID: LOG CODE:

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	TPH(g) GRO 8260B	TPH(d) DRO	TPH C6-C36 C6-C44	TPH	BTEX / MTBE 8260	VOCs (8260) Full List + 10 Oxy	Oxygenates (8260)	Prep (5035) En Core Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs 8270 8270 SIM	T22 Metals 6010/747X 6020/747X	Cr(VI) 7196 7199 218.6	ARSENIC/LEAD	MOISTURE		
1	CESB11-GW	6/26/19	7:50	H2O	3		X									X							ONE W/ PRODUCT LAYER			
2	CESB11-6.5'		8:12	Soil	5				X		X			X		X							X	X		
3	CESB11-11.5		8:26	✓	5				X		X			X		X							X	X		
4	CESB11-15.5		8:36	✓	5				X		X			X		X							X	X		
5	CESB11-20.5		8:49	✓	5				X		X			X		X							X	X		
6	CESB11-25.5		8:59	✓	5				X		X			X		X							X	X		
TAC/Tip	CESB11-30		9:17	✓	4				X		X			X		X							X	X		
8	CESB11-35.5		9:36	✓	4				X		X			X		X							X	X		Hot
9	CESB11-40		10:10	✓	3				X					X		X										
10	CESB11-53	↓	10:55		2				X					X		X										

Relinquished by: (Signature)	Received by: (Signature/Affiliation) RM EC	Date: 6/26/19	Time: 1920
Relinquished by: (Signature) Rudy Flyr	Received by: (Signature/Affiliation)	Date: 6/26/19	Time: 1750
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: 1771

DATE: JUNE 26 2019

PAGE: 2 OF 2

LABORATORY CLIENT: CALENVIRO

ADDRESS: 30423 Canwood Street #208

CITY: Agoura Hills STATE: CA ZIP: 91301

TEL: 818-991 1542 E-MAIL:

CLIENT PROJECT NAME / NUMBER: OOI

P.O. NO.: 3029

PROJECT CONTACT: C. Buckley

SAMPLER(S): (PRINT) Buckley CB

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAYS ☐ STANDARD

☐ COELT EDF | GLOBAL ID: | LOG CODE:

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	TPH(g) ☒ GRO 8260	TPH(d) ☐ DRO	TPH ☐ C6-C36 ☒ C6-C44	TPH ____	BTEX / MTBE ☒ 8260 ☒ 40ml	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☒ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6	ARSENIC/Lead	MOISTURE		
11	CESB12-6'	6/26/19	11:45	Soil	5				X		X		X			X							X	X		
12	CESB12-10'		11:55		5				X		X		X			X							X	X		
13	CESB12-15'		12:15		5				X		X		X			X							X	X		
14	CESB12-20'		12:25		5				X		X		X			X							X	X		
15	CESB12-25'		12:40		5				X		X		X			X							X	X		
16	CESB12-30'		12:55		3				X				X			X										
17	CESB12-35'		1:08		3				X				X			X										
18	CESB12-39.5		1:25		3				X				X			X										
19	CESB12-42.5	↓	1:45	↓	3				X				X			X										
20	CE DUP1	6/26/19		Soil	1				X				X			X										
21	CESB12-46	6/26/19	2:05	Soil	3																					

Relinquished by: (Signature) CESB12-46 | Received by: (Signature/Affiliation) EC AM | Date: 6/26/19 AM | Time: 1540 AM

Relinquished by: (Signature) | Received by: (Signature/Affiliation) Rudy N EC | Date: 6/26/19 | Time: 1520

Relinquished by: (Signature) Rudy N | Received by: (Signature/Affiliation) | Date: 6/26/19 | Time: 1750

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WORK ORDER NUMBER: 19-06-1771

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: CALENVIRO

DATE: 06/26/2019

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC6 (CF: -0.2°C); Temperature (w/o CF): 2.5 °C (w/ CF): 2.3 °C; ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter Checked by: 676

CUSTODY SEAL:

Cooler ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 676

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 1198

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☐	☐	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☐	☑	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☑	☐	☐
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Acid/base preserved samples - pH within acceptable range	☐	☐	☑
Container(s) for certain analysis free of headspace	☐	☑	☐
☑ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☑ VOAh ☐ VOA**na₂** ☐ 100PJ ☐ 100PJ**na₂** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB ☐ 125PB**znna** (pH__9)

☐ 250AGB ☐ 250CGB ☐ 250CGB**s** (pH__2) ☐ 250PB ☐ 250PB**n** (pH__2) ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s** (pH__2) ☐ 500PB

☐ 1AGB ☐ 1AGB**na₂** ☐ 1AGBs (pH__2) ☐ 1AGBs (O&G) ☐ 1PB ☐ 1PB**na** (pH__12) ☐ _____ ☐ _____ ☐ _____

Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☑ Sleeve (7) ☐ EnCores® (__) ☑ TerraCores® (3) ☑ 2oz PJ ☐ _____ ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na₂** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **x** = Na_2SO_3+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 1198

Reviewed by: 1053

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WORK ORDER NUMBER: 19-06-1878

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: California Environmental

Client Project Name: OOI

Attention: Charles Buckley
30423 Canwood St.
Suite 208
Agoura Hills, CA 91301-4316

Approved for release on 07/11/2019 by:
Don Burley
Project Manager

ResultLink ▸

Email your PM ▸

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Work Order Number: 19-06-1878

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Work Order Narrative

Work Order: 19-06-1878 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 06/27/19. They were assigned to Work Order 19-06-1878.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-13A): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

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Sample Summary

Client:	California Environmental	Work Order:	19-06-1878
	30423 Canwood St., Suite 208	Project Name:	OOI
	Agoura Hills, CA 91301-4316	PO Number:	
		Date/Time Received:	06/27/19 17:25
		Number of Containers:	102
Attn:	Charles Buckley		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
CESB13-7'	19-06-1878-1	06/27/19 07:40	5	Solid
CESB13-11'	19-06-1878-2	06/27/19 07:50	5	Solid
CESB13-15'	19-06-1878-3	06/27/19 08:02	5	Solid
CESB13-20'	19-06-1878-4	06/27/19 08:10	5	Solid
CESB13-25'	19-06-1878-5	06/27/19 08:18	5	Solid
CESB13-30'	19-06-1878-6	06/27/19 08:38	5	Solid
CESB13-32	19-06-1878-7	06/27/19 08:50	5	Solid
CESB13-36	19-06-1878-8	06/27/19 09:00	5	Solid
CESB13-40	19-06-1878-9	06/27/19 09:20	5	Solid
CESB13-42	19-06-1878-10	06/27/19 09:45	3	Solid
CESB13-47'	19-06-1878-11	06/27/19 10:01	3	Solid
CESB14-11'	19-06-1878-12	06/27/19 11:51	5	Solid
CESB14-16'	19-06-1878-13	06/27/19 12:13	5	Solid
CESB14-20'	19-06-1878-14	06/27/19 12:18	5	Solid
CESB14-26'	19-06-1878-15	06/27/19 12:30	5	Solid
CESB14-31	19-06-1878-16	06/27/19 12:45	5	Solid
CESB14-36	19-06-1878-17	06/27/19 13:00	4	Solid
CESB14-42	19-06-1878-18	06/27/19 13:16	3	Solid
CESB14-49.5	19-06-1878-19	06/27/19 14:05	3	Solid
CE DUP 2	19-06-1878-20	06/27/19 00:00	4	Solid
CESB14-46	19-06-1878-21	06/27/19 13:59	3	Solid
CESB14-49.5	19-06-1878-22	06/27/19 14:15	3	Solid
CESB9-GW	19-06-1878-23	06/27/19 15:00	3	Aqueous
CESB10-GW	19-06-1878-24	06/27/19 15:20	1	Aqueous
CESB11-GW	19-06-1878-25	06/27/19 15:50	2	Aqueous

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 1 of 17

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-7'	**19-06-1878-1-A**	**06/27/19 07:40**	**Solid**	**GC 49**	**07/02/19**	**07/02/19 20:06**	**190702B04**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	74	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 2 of 17

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-11'	**19-06-1878-2-A**	**06/27/19 07:50**	**Solid**	**GC 49**	**07/02/19**	**07/02/19 20:26**	**190702B04**

Comment(s): - The total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	7.6	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	79	61-145	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 3 of 17

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-15'	**19-06-1878-3-A**	**06/27/19 08:02**	**Solid**	**GC 49**	**07/02/19**	**07/02/19 20:49**	**190702B04**

Parameter	Result	RL	DF	Qualifiers
C6	ND	4.9	1.00	
C7	ND	4.9	1.00	
C8	ND	4.9	1.00	
C9-C10	ND	4.9	1.00	
C11-C12	ND	4.9	1.00	
C13-C14	ND	4.9	1.00	
C15-C16	ND	4.9	1.00	
C17-C18	ND	4.9	1.00	
C19-C20	ND	4.9	1.00	
C21-C22	ND	4.9	1.00	
C23-C24	ND	4.9	1.00	
C25-C28	ND	4.9	1.00	
C29-C32	ND	4.9	1.00	
C33-C36	ND	4.9	1.00	
C37-C40	ND	4.9	1.00	
C41-C44	ND	4.9	1.00	
C6-C44 Total	ND	4.9	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	72	61-145	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 4 of 17

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-20'	**19-06-1878-4-A**	**06/27/19 08:10**	**Solid**	**GC 49**	**07/02/19**	**07/02/19 21:10**	**190702B04**

Parameter	Result	RL	DF	Qualifiers
C6	ND	4.9	1.00	
C7	ND	4.9	1.00	
C8	ND	4.9	1.00	
C9-C10	ND	4.9	1.00	
C11-C12	ND	4.9	1.00	
C13-C14	ND	4.9	1.00	
C15-C16	ND	4.9	1.00	
C17-C18	ND	4.9	1.00	
C19-C20	ND	4.9	1.00	
C21-C22	ND	4.9	1.00	
C23-C24	ND	4.9	1.00	
C25-C28	ND	4.9	1.00	
C29-C32	ND	4.9	1.00	
C33-C36	ND	4.9	1.00	
C37-C40	ND	4.9	1.00	
C41-C44	ND	4.9	1.00	
C6-C44 Total	ND	4.9	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	74	61-145	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 5 of 17

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-25'	**19-06-1878-5-A**	**06/27/19 08:18**	**Solid**	**GC 49**	**07/02/19**	**07/02/19 21:32**	**190702B04**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	75	61-145	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 6 of 17

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-30'	**19-06-1878-6-A**	**06/27/19 08:38**	**Solid**	**GC 49**	**07/02/19**	**07/02/19 21:53**	**190702B04**

Comment(s): - The total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qualifiers
C6	ND	4.9	1.00	
C7	ND	4.9	1.00	
C8	ND	4.9	1.00	
C9-C10	ND	4.9	1.00	
C11-C12	ND	4.9	1.00	
C13-C14	ND	4.9	1.00	
C15-C16	ND	4.9	1.00	
C17-C18	ND	4.9	1.00	
C19-C20	ND	4.9	1.00	
C21-C22	ND	4.9	1.00	
C23-C24	ND	4.9	1.00	
C25-C28	ND	4.9	1.00	
C29-C32	ND	4.9	1.00	
C33-C36	ND	4.9	1.00	
C37-C40	ND	4.9	1.00	
C41-C44	ND	4.9	1.00	
C6-C44 Total	6.0	4.9	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	86	61-145	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 7 of 17

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-32	**19-06-1878-7-A**	**06/27/19 08:50**	**Solid**	**GC 49**	**07/02/19**	**07/02/19 22:16**	**190702B04**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	67	61-145	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 8 of 17

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-36	**19-06-1878-8-A**	**06/27/19 09:00**	**Solid**	**GC 49**	**07/02/19**	**07/02/19 22:37**	**190702B04**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	65	61-145	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 9 of 17

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-40	**19-06-1878-9-A**	**06/27/19 09:20**	**Solid**	**GC 49**	**07/02/19**	**07/02/19 22:58**	**190702B04**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	68	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 10 of 17

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-11'	**19-06-1878-12-A**	**06/27/19 11:51**	**Solid**	**GC 49**	**07/02/19**	**07/02/19 23:20**	**190702B04**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	65	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 11 of 17

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-16'	**19-06-1878-13-A**	**06/27/19 12:13**	**Solid**	**GC 49**	**07/02/19**	**07/02/19 23:41**	**190702B04**

Parameter	Result	RL	DF	Qualifiers
C6	ND	4.9	1.00	
C7	ND	4.9	1.00	
C8	ND	4.9	1.00	
C9-C10	ND	4.9	1.00	
C11-C12	ND	4.9	1.00	
C13-C14	ND	4.9	1.00	
C15-C16	ND	4.9	1.00	
C17-C18	ND	4.9	1.00	
C19-C20	ND	4.9	1.00	
C21-C22	ND	4.9	1.00	
C23-C24	ND	4.9	1.00	
C25-C28	ND	4.9	1.00	
C29-C32	ND	4.9	1.00	
C33-C36	ND	4.9	1.00	
C37-C40	ND	4.9	1.00	
C41-C44	ND	4.9	1.00	
C6-C44 Total	ND	4.9	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	70	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 12 of 17

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-20'	**19-06-1878-14-A**	**06/27/19 12:18**	**Solid**	**GC 49**	**07/02/19**	**07/03/19 00:03**	**190702B04**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	67	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 13 of 17

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-26'	**19-06-1878-15-A**	**06/27/19 12:30**	**Solid**	**GC 49**	**07/02/19**	**07/03/19 13:50**	**190702B04**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	99	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 14 of 17

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-31	**19-06-1878-16-A**	**06/27/19 12:45**	**Solid**	**GC 49**	**07/02/19**	**07/03/19 01:08**	**190702B04**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	62	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 15 of 17

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-36	**19-06-1878-17-A**	**06/27/19 13:00**	**Solid**	**GC 49**	**07/02/19**	**07/03/19 01:29**	**190702B04**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	61	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 16 of 17

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CE DUP 2	**19-06-1878-20-A**	**06/27/19 00:00**	**Solid**	**GC 49**	**07/02/19**	**07/03/19 01:52**	**190702B04**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	62	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 17 of 17

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-490-3658**	**N/A**	**Solid**	**GC 49**	**07/02/19**	**07/02/19 18:38**	**190702B04**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	88	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Project: OOI

Date Received: 06/27/19
Work Order: 19-06-1878
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-7'	**19-06-1878-1-A**	**06/27/19 07:40**	**Solid**	**ICP 8300**	**07/02/19**	**07/03/19 19:39**	**190702L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	ND	0.735	0.980	
Lead	1.96	0.490	0.980	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-11'	**19-06-1878-2-A**	**06/27/19 07:50**	**Solid**	**ICP 8300**	**07/02/19**	**07/03/19 19:44**	**190702L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	ND	0.718	0.957	
Lead	1.01	0.478	0.957	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-15'	**19-06-1878-3-A**	**06/27/19 08:02**	**Solid**	**ICP 8300**	**07/02/19**	**07/03/19 19:46**	**190702L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	ND	0.735	0.980	
Lead	1.50	0.490	0.980	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-20'	**19-06-1878-4-A**	**06/27/19 08:10**	**Solid**	**ICP 8300**	**07/02/19**	**07/03/19 19:48**	**190702L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	ND	0.750	1.00	
Lead	1.08	0.500	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-25'	**19-06-1878-5-A**	**06/27/19 08:18**	**Solid**	**ICP 8300**	**07/02/19**	**07/03/19 19:55**	**190702L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	12.7	0.746	0.995	
Lead	ND	0.498	0.995	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-30'	**19-06-1878-6-A**	**06/27/19 08:38**	**Solid**	**ICP 8300**	**07/02/19**	**07/03/19 19:57**	**190702L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	1.48	0.777	1.04	
Lead	ND	0.518	1.04	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/27/19
Work Order: 19-06-1878
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-32	**19-06-1878-7-A**	**06/27/19 08:50**	**Solid**	**ICP 8300**	**07/02/19**	**07/03/19 19:59**	**190702L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	ND	0.750	1.00	
Lead	0.525	0.500	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-36	**19-06-1878-8-A**	**06/27/19 09:00**	**Solid**	**ICP 8300**	**07/02/19**	**07/03/19 20:01**	**190702L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	ND	0.746	0.995	
Lead	0.853	0.498	0.995	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-40	**19-06-1878-9-A**	**06/27/19 09:20**	**Solid**	**ICP 8300**	**07/02/19**	**07/03/19 20:03**	**190702L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	ND	0.743	0.990	
Lead	0.516	0.495	0.990	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-11'	**19-06-1878-12-A**	**06/27/19 11:51**	**Solid**	**ICP 8300**	**07/02/19**	**07/03/19 20:04**	**190702L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	ND	0.754	1.01	
Lead	1.03	0.503	1.01	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-16'	**19-06-1878-13-A**	**06/27/19 12:13**	**Solid**	**ICP 8300**	**07/02/19**	**07/03/19 20:06**	**190702L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	2.99	0.758	1.01	
Lead	3.29	0.505	1.01	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-20'	**19-06-1878-14-A**	**06/27/19 12:18**	**Solid**	**ICP 8300**	**07/02/19**	**07/03/19 20:08**	**190702L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	ND	0.743	0.990	
Lead	1.43	0.495	0.990	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/27/19
Work Order: 19-06-1878
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-26'	**19-06-1878-15-A**	**06/27/19 12:30**	**Solid**	**ICP 8300**	**07/02/19**	**07/03/19 20:10**	**190702L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	6.21	0.785	1.05	
Lead	1.31	0.524	1.05	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-31	**19-06-1878-16-A**	**06/27/19 12:45**	**Solid**	**ICP 8300**	**07/02/19**	**07/03/19 20:12**	**190702L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	5.45	0.769	1.03	
Lead	0.694	0.513	1.03	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-36	**19-06-1878-17-A**	**06/27/19 13:00**	**Solid**	**ICP 8300**	**07/02/19**	**07/03/19 20:17**	**190702L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	0.835	0.777	1.04	
Lead	0.818	0.518	1.04	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CE DUP 2	**19-06-1878-20-A**	**06/27/19 00:00**	**Solid**	**ICP 8300**	**07/02/19**	**07/03/19 20:19**	**190702L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	ND	0.773	1.03	
Lead	ND	0.515	1.03	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-28079**	**N/A**	**Solid**	**ICP 8300**	**07/02/19**	**07/03/19 19:33**	**190702L01**

Parameter	Result	RL	DF	Qualifiers
Arsenic	ND	0.721	0.962	
Lead	ND	0.481	0.962	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/27/19
Work Order: 19-06-1878
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Units: ug/L

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB9-GW	**19-06-1878-23-C**	**06/27/19 15:00**	**Aqueous**	**GC/MS PP**	**07/05/19**	**07/05/19 21:07**	**190705L008**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	100	5.00	
Benzene	190	2.5	5.00	
Bromobenzene	ND	5.0	5.00	
Bromochloromethane	ND	5.0	5.00	
Bromodichloromethane	ND	5.0	5.00	
Bromoform	ND	25	5.00	
Bromomethane	ND	250	5.00	
2-Butanone	ND	50	5.00	
n-Butylbenzene	21	5.0	5.00	
sec-Butylbenzene	16	5.0	5.00	
tert-Butylbenzene	ND	5.0	5.00	
Carbon Disulfide	ND	50	5.00	
Carbon Tetrachloride	ND	2.5	5.00	
Chlorobenzene	ND	5.0	5.00	
Chloroethane	ND	25	5.00	
Chloroform	ND	5.0	5.00	
Chloromethane	ND	50	5.00	
2-Chlorotoluene	ND	5.0	5.00	
4-Chlorotoluene	ND	5.0	5.00	
Dibromochloromethane	ND	5.0	5.00	
1,2-Dibromo-3-Chloropropane	ND	50	5.00	
1,2-Dibromoethane	ND	5.0	5.00	
Dibromomethane	ND	5.0	5.00	
1,2-Dichlorobenzene	ND	5.0	5.00	
1,3-Dichlorobenzene	ND	5.0	5.00	
1,4-Dichlorobenzene	ND	5.0	5.00	
Dichlorodifluoromethane	ND	5.0	5.00	
1,1-Dichloroethane	ND	5.0	5.00	
1,2-Dichloroethane	ND	2.5	5.00	
1,1-Dichloroethene	ND	5.0	5.00	
c-1,2-Dichloroethene	ND	5.0	5.00	
t-1,2-Dichloroethene	ND	5.0	5.00	
1,2-Dichloropropane	ND	5.0	5.00	
1,3-Dichloropropane	ND	5.0	5.00	
2,2-Dichloropropane	ND	5.0	5.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5030C
	Method:	GC/MS / EPA 8260B
	Units:	ug/L
Project: OOI		Page 2 of 15

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	5.0	5.00	
c-1,3-Dichloropropene	ND	2.5	5.00	
t-1,3-Dichloropropene	ND	2.5	5.00	
Ethylbenzene	610	5.0	5.00	
2-Hexanone	ND	50	5.00	
Isopropylbenzene	130	5.0	5.00	
p-Isopropyltoluene	42	5.0	5.00	
Methylene Chloride	ND	50	5.00	
4-Methyl-2-Pentanone	ND	50	5.00	
Naphthalene	60	50	5.00	
n-Propylbenzene	130	5.0	5.00	
Styrene	ND	5.0	5.00	
1,1,1,2-Tetrachloroethane	ND	5.0	5.00	
1,1,2,2-Tetrachloroethane	ND	5.0	5.00	
Tetrachloroethene	ND	5.0	5.00	
Toluene	13	5.0	5.00	
1,2,3-Trichlorobenzene	ND	5.0	5.00	
1,2,4-Trichlorobenzene	ND	5.0	5.00	
1,1,1-Trichloroethane	ND	5.0	5.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	50	5.00	
1,1,2-Trichloroethane	ND	5.0	5.00	
Trichloroethene	ND	5.0	5.00	
Trichlorofluoromethane	ND	50	5.00	
1,2,3-Trichloropropane	ND	25	5.00	
1,2,4-Trimethylbenzene	330	5.0	5.00	
1,3,5-Trimethylbenzene	27	5.0	5.00	
Vinyl Acetate	ND	50	5.00	
Vinyl Chloride	ND	2.5	5.00	
p/m-Xylene	280	5.0	5.00	
o-Xylene	81	5.0	5.00	
Methyl-t-Butyl Ether (MTBE)	ND	5.0	5.00	
Tert-Butyl Alcohol (TBA)	54	50	5.00	
Diisopropyl Ether (DIPE)	ND	10	5.00	
Ethyl-t-Butyl Ether (ETBE)	ND	10	5.00	
Tert-Amyl-Methyl Ether (TAME)	ND	10	5.00	
Ethanol	ND	500	5.00	
TPPH	15000	250	5.00	
Gasoline Range Organics (C4-C12)	14000	250	5.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5030C
	Method:	GC/MS / EPA 8260B
	Units:	ug/L
Project: OOI		Page 3 of 15

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	94	78-126	
1,2-Dichloroethane-d4	85	75-135	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	95	80-120	
1,4-Bromofluorobenzene	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5030C
		Method:	GC/MS / EPA 8260B
		Units:	ug/L
Project: OOI			Page 4 of 15

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB10-GW	**19-06-1878-24-A**	**06/27/19 15:20**	**Aqueous**	**GC/MS PP**	**07/05/19**	**07/05/19 21:38**	**190705L008**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	1000	50.0	
Benzene	390	25	50.0	
Bromobenzene	ND	50	50.0	
Bromochloromethane	ND	50	50.0	
Bromodichloromethane	ND	50	50.0	
Bromoform	ND	250	50.0	
Bromomethane	ND	2500	50.0	
2-Butanone	ND	500	50.0	
n-Butylbenzene	ND	50	50.0	
sec-Butylbenzene	81	50	50.0	
tert-Butylbenzene	ND	50	50.0	
Carbon Disulfide	ND	500	50.0	
Carbon Tetrachloride	ND	25	50.0	
Chlorobenzene	ND	50	50.0	
Chloroethane	ND	250	50.0	
Chloroform	ND	50	50.0	
Chloromethane	ND	500	50.0	
2-Chlorotoluene	ND	50	50.0	
4-Chlorotoluene	ND	50	50.0	
Dibromochloromethane	ND	50	50.0	
1,2-Dibromo-3-Chloropropane	ND	500	50.0	
1,2-Dibromoethane	ND	50	50.0	
Dibromomethane	ND	50	50.0	
1,2-Dichlorobenzene	ND	50	50.0	
1,3-Dichlorobenzene	ND	50	50.0	
1,4-Dichlorobenzene	ND	50	50.0	
Dichlorodifluoromethane	ND	50	50.0	
1,1-Dichloroethane	ND	50	50.0	
1,2-Dichloroethane	ND	25	50.0	
1,1-Dichloroethene	ND	50	50.0	
c-1,2-Dichloroethene	ND	50	50.0	
t-1,2-Dichloroethene	ND	50	50.0	
1,2-Dichloropropane	ND	50	50.0	
1,3-Dichloropropane	ND	50	50.0	
2,2-Dichloropropane	ND	50	50.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5030C
	Method:	GC/MS / EPA 8260B
	Units:	ug/L
Project: OOI		Page 5 of 15

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	50	50.0	
c-1,3-Dichloropropene	ND	25	50.0	
t-1,3-Dichloropropene	ND	25	50.0	
Ethylbenzene	1500	50	50.0	
2-Hexanone	ND	500	50.0	
Isopropylbenzene	290	50	50.0	
p-Isopropyltoluene	220	50	50.0	
Methylene Chloride	ND	500	50.0	
4-Methyl-2-Pentanone	ND	500	50.0	
Naphthalene	830	500	50.0	
n-Propylbenzene	370	50	50.0	
Styrene	ND	50	50.0	
1,1,1,2-Tetrachloroethane	ND	50	50.0	
1,1,2,2-Tetrachloroethane	ND	50	50.0	
Tetrachloroethene	ND	50	50.0	
Toluene	120	50	50.0	
1,2,3-Trichlorobenzene	ND	50	50.0	
1,2,4-Trichlorobenzene	ND	50	50.0	
1,1,1-Trichloroethane	ND	50	50.0	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	500	50.0	
1,1,2-Trichloroethane	ND	50	50.0	
Trichloroethene	ND	50	50.0	
Trichlorofluoromethane	ND	500	50.0	
1,2,3-Trichloropropane	ND	250	50.0	
1,2,4-Trimethylbenzene	2800	50	50.0	
1,3,5-Trimethylbenzene	680	50	50.0	
Vinyl Acetate	ND	500	50.0	
Vinyl Chloride	ND	25	50.0	
p/m-Xylene	2700	50	50.0	
o-Xylene	2300	50	50.0	
Methyl-t-Butyl Ether (MTBE)	ND	50	50.0	
Tert-Butyl Alcohol (TBA)	ND	500	50.0	
Diisopropyl Ether (DIPE)	ND	100	50.0	
Ethyl-t-Butyl Ether (ETBE)	ND	100	50.0	
Tert-Amyl-Methyl Ether (TAME)	ND	100	50.0	
Ethanol	ND	5000	50.0	
TPPH	92000	2500	50.0	
Gasoline Range Organics (C4-C12)	79000	2500	50.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5030C
	Method:	GC/MS / EPA 8260B
	Units:	ug/L
Project: OOI		Page 6 of 15

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	95	78-126	
1,2-Dichloroethane-d4	90	75-135	
Toluene-d8	99	80-120	
Toluene-d8-TPPH	93	80-120	
1,4-Bromofluorobenzene	99	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/27/19
Work Order: 19-06-1878
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Units: ug/L

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-GW	**19-06-1878-25-B**	**06/27/19 15:50**	**Aqueous**	**GC/MS PP**	**07/02/19**	**07/03/19 00:44**	**190702L023**

Parameter	Result	RL	DF	Qualifiers
Acetone	20	20	1.00	
Benzene	93	0.50	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	1.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.0	1.00	
Bromomethane	ND	50	1.00	
2-Butanone	ND	10	1.00	
n-Butylbenzene	9.6	1.0	1.00	
sec-Butylbenzene	7.0	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	0.50	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	5.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	10	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	1.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	10	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	1.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	0.50	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	1.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5030C
		Method:	GC/MS / EPA 8260B
		Units:	ug/L
Project: OOI			Page 8 of 15

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.0	1.00	
c-1,3-Dichloropropene	ND	0.50	1.00	
t-1,3-Dichloropropene	ND	0.50	1.00	
2-Hexanone	ND	10	1.00	
Isopropylbenzene	77	1.0	1.00	
p-Isopropyltoluene	17	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	10	1.00	
Naphthalene	91	10	1.00	
n-Propylbenzene	71	1.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	1.0	1.00	
1,1,2,2-Tetrachloroethane	ND	1.0	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	17	1.0	1.00	
1,2,3-Trichlorobenzene	ND	1.0	1.00	
1,2,4-Trichlorobenzene	ND	1.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
Trichloroethene	ND	1.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	5.0	1.00	
1,3,5-Trimethylbenzene	68	1.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	0.50	1.00	
o-Xylene	48	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	1.00	
Diisopropyl Ether (DIPE)	ND	2.0	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1.00	
Ethanol	ND	100	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	95	78-126	
1,2-Dichloroethane-d4	88	75-135	
Toluene-d8	105	80-120	
Toluene-d8-TPPH	99	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5030C
		Method:	GC/MS / EPA 8260B
		Units:	ug/L
Project: OOI			Page 9 of 15

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	108	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB11-GW	**19-06-1878-25-B**	**06/27/19 15:50**	**Aqueous**	**GC/MS PP**	**07/05/19**	**07/05/19 22:08**	**190705L008**

Parameter	Result	RL	DF	Qualifiers
Ethylbenzene	520	10	10.0	
1,2,4-Trimethylbenzene	290	10	10.0	
p/m-Xylene	420	10	10.0	
TPPH	8900	500	10.0	
Gasoline Range Organics (C4-C12)	8600	500	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	95	78-126	
1,2-Dichloroethane-d4	90	75-135	
Toluene-d8	98	80-120	
Toluene-d8-TPPH	93	80-120	
1,4-Bromofluorobenzene	98	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/27/19
Work Order: 19-06-1878
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Units: ug/L

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-767-8590**	**N/A**	**Aqueous**	**GC/MS PP**	**07/02/19**	**07/02/19 18:20**	**190702L023**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	20	1.00	
Benzene	ND	0.50	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	1.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.0	1.00	
Bromomethane	ND	50	1.00	
2-Butanone	ND	10	1.00	
n-Butylbenzene	ND	1.0	1.00	
sec-Butylbenzene	ND	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	0.50	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	5.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	10	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	1.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	10	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	1.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	0.50	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	1.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5030C
	Method:	GC/MS / EPA 8260B
	Units:	ug/L
Project: OOI		Page 11 of 15

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.0	1.00	
c-1,3-Dichloropropene	ND	0.50	1.00	
t-1,3-Dichloropropene	ND	0.50	1.00	
2-Hexanone	ND	10	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	ND	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	10	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	1.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	1.0	1.00	
1,1,2,2-Tetrachloroethane	ND	1.0	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	1.0	1.00	
1,2,4-Trichlorobenzene	ND	1.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
Trichloroethene	ND	1.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	5.0	1.00	
1,3,5-Trimethylbenzene	ND	1.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	0.50	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	1.00	
Diisopropyl Ether (DIPE)	ND	2.0	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1.00	
Ethanol	ND	100	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	96	78-126	
1,2-Dichloroethane-d4	95	75-135	
Toluene-d8	99	80-120	
Toluene-d8-TPPH	93	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5030C
	Method:	GC/MS / EPA 8260B
	Units:	ug/L
Project: OOI		Page 12 of 15

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	98	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/27/19
Work Order: 19-06-1878
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Units: ug/L

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-767-8591**	**N/A**	**Aqueous**	**GC/MS PP**	**07/05/19**	**07/05/19 19:05**	**190705L008**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	20	1.00	
Benzene	ND	0.50	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	1.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.0	1.00	
Bromomethane	ND	50	1.00	
2-Butanone	ND	10	1.00	
n-Butylbenzene	ND	1.0	1.00	
sec-Butylbenzene	ND	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	0.50	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	5.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	10	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	1.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	10	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	1.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	0.50	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	1.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5030C
	Method:	GC/MS / EPA 8260B
	Units:	ug/L
Project: OOI		Page 14 of 15

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.0	1.00	
c-1,3-Dichloropropene	ND	0.50	1.00	
t-1,3-Dichloropropene	ND	0.50	1.00	
Ethylbenzene	ND	1.0	1.00	
2-Hexanone	ND	10	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	ND	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	10	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	1.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	1.0	1.00	
1,1,2,2-Tetrachloroethane	ND	1.0	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	1.0	1.00	
1,2,4-Trichlorobenzene	ND	1.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
Trichloroethene	ND	1.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	5.0	1.00	
1,2,4-Trimethylbenzene	ND	1.0	1.00	
1,3,5-Trimethylbenzene	ND	1.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	0.50	1.00	
p/m-Xylene	ND	1.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	1.00	
Diisopropyl Ether (DIPE)	ND	2.0	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1.00	
Ethanol	ND	100	1.00	
TPPH	ND	50	1.00	
Gasoline Range Organics (C4-C12)	ND	50	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5030C
		Method:	GC/MS / EPA 8260B
		Units:	ug/L
Project: OOI			Page 15 of 15

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	97	78-126	
1,2-Dichloroethane-d4	91	75-135	
Toluene-d8	97	80-120	
Toluene-d8-TPPH	91	80-120	
1,4-Bromofluorobenzene	96	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 1 of 81

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-7'	**19-06-1878-1-D**	**06/27/19 07:40**	**Solid**	**GC/MS OO**	**06/27/19**	**07/04/19 21:32**	**190704L017**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	34	1.00	
Benzene	ND	0.68	1.00	
Bromobenzene	ND	0.68	1.00	
Bromochloromethane	ND	1.4	1.00	
Bromodichloromethane	ND	0.68	1.00	
Bromoform	ND	3.4	1.00	
Bromomethane	ND	14	1.00	
2-Butanone	ND	14	1.00	
n-Butylbenzene	ND	0.68	1.00	
sec-Butylbenzene	ND	0.68	1.00	
tert-Butylbenzene	ND	0.68	1.00	
Carbon Disulfide	ND	6.8	1.00	
Carbon Tetrachloride	ND	0.68	1.00	
Chlorobenzene	ND	0.68	1.00	
Chloroethane	ND	1.4	1.00	
Chloroform	ND	0.68	1.00	
Chloromethane	ND	14	1.00	
2-Chlorotoluene	ND	0.68	1.00	
4-Chlorotoluene	ND	0.68	1.00	
Dibromochloromethane	ND	1.4	1.00	
1,2-Dibromo-3-Chloropropane	ND	3.4	1.00	
1,2-Dibromoethane	ND	0.68	1.00	
Dibromomethane	ND	0.68	1.00	
1,2-Dichlorobenzene	ND	0.68	1.00	
1,3-Dichlorobenzene	ND	0.68	1.00	
1,4-Dichlorobenzene	ND	0.68	1.00	
Dichlorodifluoromethane	ND	1.4	1.00	
1,1-Dichloroethane	ND	0.68	1.00	
1,2-Dichloroethane	ND	0.68	1.00	
1,1-Dichloroethene	ND	0.68	1.00	
c-1,2-Dichloroethene	ND	0.68	1.00	
t-1,2-Dichloroethene	ND	0.68	1.00	
1,2-Dichloropropane	ND	0.68	1.00	
1,3-Dichloropropane	ND	0.68	1.00	
2,2-Dichloropropane	ND	3.4	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 2 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.4	1.00	
c-1,3-Dichloropropene	ND	0.68	1.00	
t-1,3-Dichloropropene	ND	1.4	1.00	
Ethylbenzene	ND	0.68	1.00	
2-Hexanone	ND	14	1.00	
Isopropylbenzene	ND	0.68	1.00	
p-Isopropyltoluene	ND	0.68	1.00	
Methylene Chloride	ND	6.8	1.00	
4-Methyl-2-Pentanone	ND	14	1.00	
Naphthalene	ND	6.8	1.00	
n-Propylbenzene	ND	1.4	1.00	
Styrene	ND	0.68	1.00	
1,1,1,2-Tetrachloroethane	ND	0.68	1.00	
1,1,2,2-Tetrachloroethane	ND	1.4	1.00	
Tetrachloroethene	ND	0.68	1.00	
Toluene	ND	0.68	1.00	
1,2,3-Trichlorobenzene	ND	1.4	1.00	
1,2,4-Trichlorobenzene	ND	1.4	1.00	
1,1,1-Trichloroethane	ND	0.68	1.00	
1,1,2-Trichloroethane	ND	0.68	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	6.8	1.00	
Trichloroethene	ND	1.4	1.00	
Trichlorofluoromethane	ND	6.8	1.00	
1,2,3-Trichloropropane	ND	1.4	1.00	
1,2,4-Trimethylbenzene	ND	1.4	1.00	
1,3,5-Trimethylbenzene	ND	1.4	1.00	
Vinyl Acetate	ND	6.8	1.00	
Vinyl Chloride	ND	0.68	1.00	
p/m-Xylene	ND	1.4	1.00	
o-Xylene	ND	0.68	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.4	1.00	
Tert-Butyl Alcohol (TBA)	ND	14	1.00	
Diisopropyl Ether (DIPE)	ND	0.68	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.68	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.68	1.00	
Ethanol	ND	340	1.00	
TPPH	ND	34	1.00	
Gasoline Range Organics (C4-C12)	ND	34	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 3 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	102	79-139	
1,2-Dichloroethane-d4	106	71-155	
1,4-Bromofluorobenzene	99	80-120	
Toluene-d8	99	80-120	
Toluene-d8-TPPH	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 4 of 81

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-11'	**19-06-1878-2-D**	**06/27/19 07:50**	**Solid**	**GC/MS OO**	**06/27/19**	**07/04/19 22:02**	**190704L017**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	35	1.00	
Benzene	ND	0.70	1.00	
Bromobenzene	ND	0.70	1.00	
Bromochloromethane	ND	1.4	1.00	
Bromodichloromethane	ND	0.70	1.00	
Bromoform	ND	3.5	1.00	
Bromomethane	ND	14	1.00	
2-Butanone	ND	14	1.00	
n-Butylbenzene	ND	0.70	1.00	
sec-Butylbenzene	ND	0.70	1.00	
tert-Butylbenzene	ND	0.70	1.00	
Carbon Disulfide	ND	7.0	1.00	
Carbon Tetrachloride	ND	0.70	1.00	
Chlorobenzene	ND	0.70	1.00	
Chloroethane	ND	1.4	1.00	
Chloroform	ND	0.70	1.00	
Chloromethane	ND	14	1.00	
2-Chlorotoluene	ND	0.70	1.00	
4-Chlorotoluene	ND	0.70	1.00	
Dibromochloromethane	ND	1.4	1.00	
1,2-Dibromo-3-Chloropropane	ND	3.5	1.00	
1,2-Dibromoethane	ND	0.70	1.00	
Dibromomethane	ND	0.70	1.00	
1,2-Dichlorobenzene	ND	0.70	1.00	
1,3-Dichlorobenzene	ND	0.70	1.00	
1,4-Dichlorobenzene	ND	0.70	1.00	
Dichlorodifluoromethane	ND	1.4	1.00	
1,1-Dichloroethane	ND	0.70	1.00	
1,2-Dichloroethane	ND	0.70	1.00	
1,1-Dichloroethene	ND	0.70	1.00	
c-1,2-Dichloroethene	ND	0.70	1.00	
t-1,2-Dichloroethene	ND	0.70	1.00	
1,2-Dichloropropane	ND	0.70	1.00	
1,3-Dichloropropane	ND	0.70	1.00	
2,2-Dichloropropane	ND	3.5	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 5 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.4	1.00	
c-1,3-Dichloropropene	ND	0.70	1.00	
t-1,3-Dichloropropene	ND	1.4	1.00	
Ethylbenzene	ND	0.70	1.00	
2-Hexanone	ND	14	1.00	
Isopropylbenzene	ND	0.70	1.00	
p-Isopropyltoluene	ND	0.70	1.00	
Methylene Chloride	ND	7.0	1.00	
4-Methyl-2-Pentanone	ND	14	1.00	
Naphthalene	ND	7.0	1.00	
n-Propylbenzene	ND	1.4	1.00	
Styrene	ND	0.70	1.00	
1,1,1,2-Tetrachloroethane	ND	0.70	1.00	
1,1,2,2-Tetrachloroethane	ND	1.4	1.00	
Tetrachloroethene	ND	0.70	1.00	
Toluene	ND	0.70	1.00	
1,2,3-Trichlorobenzene	ND	1.4	1.00	
1,2,4-Trichlorobenzene	ND	1.4	1.00	
1,1,1-Trichloroethane	ND	0.70	1.00	
1,1,2-Trichloroethane	ND	0.70	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	7.0	1.00	
Trichloroethene	ND	1.4	1.00	
Trichlorofluoromethane	ND	7.0	1.00	
1,2,3-Trichloropropane	ND	1.4	1.00	
1,2,4-Trimethylbenzene	ND	1.4	1.00	
1,3,5-Trimethylbenzene	ND	1.4	1.00	
Vinyl Acetate	ND	7.0	1.00	
Vinyl Chloride	ND	0.70	1.00	
p/m-Xylene	ND	1.4	1.00	
o-Xylene	ND	0.70	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.4	1.00	
Tert-Butyl Alcohol (TBA)	ND	14	1.00	
Diisopropyl Ether (DIPE)	ND	0.70	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.70	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.70	1.00	
Ethanol	ND	350	1.00	
TPPH	47	35	1.00	
Gasoline Range Organics (C4-C12)	42	35	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 6 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	102	79-139	
1,2-Dichloroethane-d4	104	71-155	
1,4-Bromofluorobenzene	100	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	102	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/27/19
Work Order: 19-06-1878
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-15'	**19-06-1878-3-D**	**06/27/19 08:02**	**Solid**	**GC/MS OO**	**06/27/19**	**07/04/19 22:31**	**190704L017**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	34	1.00	
Benzene	ND	0.67	1.00	
Bromobenzene	ND	0.67	1.00	
Bromochloromethane	ND	1.3	1.00	
Bromodichloromethane	ND	0.67	1.00	
Bromoform	ND	3.4	1.00	
Bromomethane	ND	13	1.00	
2-Butanone	ND	13	1.00	
n-Butylbenzene	ND	0.67	1.00	
sec-Butylbenzene	ND	0.67	1.00	
tert-Butylbenzene	ND	0.67	1.00	
Carbon Disulfide	ND	6.7	1.00	
Carbon Tetrachloride	ND	0.67	1.00	
Chlorobenzene	ND	0.67	1.00	
Chloroethane	ND	1.3	1.00	
Chloroform	ND	0.67	1.00	
Chloromethane	ND	13	1.00	
2-Chlorotoluene	ND	0.67	1.00	
4-Chlorotoluene	ND	0.67	1.00	
Dibromochloromethane	ND	1.3	1.00	
1,2-Dibromo-3-Chloropropane	ND	3.4	1.00	
1,2-Dibromoethane	ND	0.67	1.00	
Dibromomethane	ND	0.67	1.00	
1,2-Dichlorobenzene	ND	0.67	1.00	
1,3-Dichlorobenzene	ND	0.67	1.00	
1,4-Dichlorobenzene	ND	0.67	1.00	
Dichlorodifluoromethane	ND	1.3	1.00	
1,1-Dichloroethane	ND	0.67	1.00	
1,2-Dichloroethane	ND	0.67	1.00	
1,1-Dichloroethene	ND	0.67	1.00	
c-1,2-Dichloroethene	ND	0.67	1.00	
t-1,2-Dichloroethene	ND	0.67	1.00	
1,2-Dichloropropane	ND	0.67	1.00	
1,3-Dichloropropane	ND	0.67	1.00	
2,2-Dichloropropane	ND	3.4	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 8 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.3	1.00	
c-1,3-Dichloropropene	ND	0.67	1.00	
t-1,3-Dichloropropene	ND	1.3	1.00	
Ethylbenzene	ND	0.67	1.00	
2-Hexanone	ND	13	1.00	
Isopropylbenzene	ND	0.67	1.00	
p-Isopropyltoluene	ND	0.67	1.00	
Methylene Chloride	ND	6.7	1.00	
4-Methyl-2-Pentanone	ND	13	1.00	
Naphthalene	ND	6.7	1.00	
n-Propylbenzene	ND	1.3	1.00	
Styrene	ND	0.67	1.00	
1,1,1,2-Tetrachloroethane	ND	0.67	1.00	
1,1,2,2-Tetrachloroethane	ND	1.3	1.00	
Tetrachloroethene	ND	0.67	1.00	
Toluene	ND	0.67	1.00	
1,2,3-Trichlorobenzene	ND	1.3	1.00	
1,2,4-Trichlorobenzene	ND	1.3	1.00	
1,1,1-Trichloroethane	ND	0.67	1.00	
1,1,2-Trichloroethane	ND	0.67	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	6.7	1.00	
Trichloroethene	ND	1.3	1.00	
Trichlorofluoromethane	ND	6.7	1.00	
1,2,3-Trichloropropane	ND	1.3	1.00	
1,2,4-Trimethylbenzene	ND	1.3	1.00	
1,3,5-Trimethylbenzene	ND	1.3	1.00	
Vinyl Acetate	ND	6.7	1.00	
Vinyl Chloride	ND	0.67	1.00	
p/m-Xylene	ND	1.3	1.00	
o-Xylene	ND	0.67	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.3	1.00	
Tert-Butyl Alcohol (TBA)	ND	13	1.00	
Diisopropyl Ether (DIPE)	ND	0.67	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.67	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.67	1.00	
Ethanol	ND	340	1.00	
TPPH	41	34	1.00	
Gasoline Range Organics (C4-C12)	56	34	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 9 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	103	79-139	
1,2-Dichloroethane-d4	107	71-155	
1,4-Bromofluorobenzene	100	80-120	
Toluene-d8	99	80-120	
Toluene-d8-TPPH	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 10 of 81

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-20'	**19-06-1878-4-D**	**06/27/19 08:10**	**Solid**	**GC/MS OO**	**06/27/19**	**07/04/19 23:01**	**190704L017**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	39	1.00	
Benzene	ND	0.77	1.00	
Bromobenzene	ND	0.77	1.00	
Bromochloromethane	ND	1.5	1.00	
Bromodichloromethane	ND	0.77	1.00	
Bromoform	ND	3.9	1.00	
Bromomethane	ND	15	1.00	
2-Butanone	ND	15	1.00	
n-Butylbenzene	ND	0.77	1.00	
sec-Butylbenzene	ND	0.77	1.00	
tert-Butylbenzene	ND	0.77	1.00	
Carbon Disulfide	ND	7.7	1.00	
Carbon Tetrachloride	ND	0.77	1.00	
Chlorobenzene	ND	0.77	1.00	
Chloroethane	ND	1.5	1.00	
Chloroform	ND	0.77	1.00	
Chloromethane	ND	15	1.00	
2-Chlorotoluene	ND	0.77	1.00	
4-Chlorotoluene	ND	0.77	1.00	
Dibromochloromethane	ND	1.5	1.00	
1,2-Dibromo-3-Chloropropane	ND	3.9	1.00	
1,2-Dibromoethane	ND	0.77	1.00	
Dibromomethane	ND	0.77	1.00	
1,2-Dichlorobenzene	ND	0.77	1.00	
1,3-Dichlorobenzene	ND	0.77	1.00	
1,4-Dichlorobenzene	ND	0.77	1.00	
Dichlorodifluoromethane	ND	1.5	1.00	
1,1-Dichloroethane	ND	0.77	1.00	
1,2-Dichloroethane	ND	0.77	1.00	
1,1-Dichloroethene	ND	0.77	1.00	
c-1,2-Dichloroethene	ND	0.77	1.00	
t-1,2-Dichloroethene	ND	0.77	1.00	
1,2-Dichloropropane	ND	0.77	1.00	
1,3-Dichloropropane	ND	0.77	1.00	
2,2-Dichloropropane	ND	3.9	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 11 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.5	1.00	
c-1,3-Dichloropropene	ND	0.77	1.00	
t-1,3-Dichloropropene	ND	1.5	1.00	
Ethylbenzene	ND	0.77	1.00	
2-Hexanone	ND	15	1.00	
Isopropylbenzene	ND	0.77	1.00	
p-Isopropyltoluene	ND	0.77	1.00	
Methylene Chloride	ND	7.7	1.00	
4-Methyl-2-Pentanone	ND	15	1.00	
Naphthalene	ND	7.7	1.00	
n-Propylbenzene	ND	1.5	1.00	
Styrene	ND	0.77	1.00	
1,1,1,2-Tetrachloroethane	ND	0.77	1.00	
1,1,2,2-Tetrachloroethane	ND	1.5	1.00	
Tetrachloroethene	ND	0.77	1.00	
Toluene	ND	0.77	1.00	
1,2,3-Trichlorobenzene	ND	1.5	1.00	
1,2,4-Trichlorobenzene	ND	1.5	1.00	
1,1,1-Trichloroethane	ND	0.77	1.00	
1,1,2-Trichloroethane	ND	0.77	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	7.7	1.00	
Trichloroethene	ND	1.5	1.00	
Trichlorofluoromethane	ND	7.7	1.00	
1,2,3-Trichloropropane	ND	1.5	1.00	
1,2,4-Trimethylbenzene	ND	1.5	1.00	
1,3,5-Trimethylbenzene	ND	1.5	1.00	
Vinyl Acetate	ND	7.7	1.00	
Vinyl Chloride	ND	0.77	1.00	
p/m-Xylene	ND	1.5	1.00	
o-Xylene	ND	0.77	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.5	1.00	
Tert-Butyl Alcohol (TBA)	ND	15	1.00	
Diisopropyl Ether (DIPE)	ND	0.77	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.77	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.77	1.00	
Ethanol	ND	390	1.00	
TPPH	150	39	1.00	
Gasoline Range Organics (C4-C12)	110	39	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 12 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	103	79-139	
1,2-Dichloroethane-d4	110	71-155	
1,4-Bromofluorobenzene	99	80-120	
Toluene-d8	100	80-120	
Toluene-d8-TPPH	102	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/27/19
Work Order: 19-06-1878
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-25'	**19-06-1878-5-D**	**06/27/19 08:18**	**Solid**	**GC/MS OO**	**06/27/19**	**07/04/19 23:30**	**190704L017**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	58	1.00	
Benzene	ND	1.2	1.00	
Bromobenzene	ND	1.2	1.00	
Bromochloromethane	ND	2.3	1.00	
Bromodichloromethane	ND	1.2	1.00	
Bromoform	ND	5.8	1.00	
Bromomethane	ND	23	1.00	
2-Butanone	ND	23	1.00	
n-Butylbenzene	ND	1.2	1.00	
sec-Butylbenzene	ND	1.2	1.00	
tert-Butylbenzene	ND	1.2	1.00	
Carbon Disulfide	ND	12	1.00	
Carbon Tetrachloride	ND	1.2	1.00	
Chlorobenzene	ND	1.2	1.00	
Chloroethane	ND	2.3	1.00	
Chloroform	ND	1.2	1.00	
Chloromethane	ND	23	1.00	
2-Chlorotoluene	ND	1.2	1.00	
4-Chlorotoluene	ND	1.2	1.00	
Dibromochloromethane	ND	2.3	1.00	
1,2-Dibromo-3-Chloropropane	ND	5.8	1.00	
1,2-Dibromoethane	ND	1.2	1.00	
Dibromomethane	ND	1.2	1.00	
1,2-Dichlorobenzene	ND	1.2	1.00	
1,3-Dichlorobenzene	ND	1.2	1.00	
1,4-Dichlorobenzene	ND	1.2	1.00	
Dichlorodifluoromethane	ND	2.3	1.00	
1,1-Dichloroethane	ND	1.2	1.00	
1,2-Dichloroethane	ND	1.2	1.00	
1,1-Dichloroethene	ND	1.2	1.00	
c-1,2-Dichloroethene	ND	1.2	1.00	
t-1,2-Dichloroethene	ND	1.2	1.00	
1,2-Dichloropropane	ND	1.2	1.00	
1,3-Dichloropropane	ND	1.2	1.00	
2,2-Dichloropropane	ND	5.8	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 14 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2.3	1.00	
c-1,3-Dichloropropene	ND	1.2	1.00	
t-1,3-Dichloropropene	ND	2.3	1.00	
Ethylbenzene	ND	1.2	1.00	
2-Hexanone	ND	23	1.00	
Isopropylbenzene	ND	1.2	1.00	
p-Isopropyltoluene	ND	1.2	1.00	
Methylene Chloride	ND	12	1.00	
4-Methyl-2-Pentanone	ND	23	1.00	
Naphthalene	ND	12	1.00	
n-Propylbenzene	ND	2.3	1.00	
Styrene	ND	1.2	1.00	
1,1,1,2-Tetrachloroethane	ND	1.2	1.00	
1,1,2,2-Tetrachloroethane	ND	2.3	1.00	
Tetrachloroethene	ND	1.2	1.00	
Toluene	ND	1.2	1.00	
1,2,3-Trichlorobenzene	ND	2.3	1.00	
1,2,4-Trichlorobenzene	ND	2.3	1.00	
1,1,1-Trichloroethane	ND	1.2	1.00	
1,1,2-Trichloroethane	ND	1.2	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	12	1.00	
Trichloroethene	ND	2.3	1.00	
Trichlorofluoromethane	ND	12	1.00	
1,2,3-Trichloropropane	ND	2.3	1.00	
1,2,4-Trimethylbenzene	ND	2.3	1.00	
1,3,5-Trimethylbenzene	ND	2.3	1.00	
Vinyl Acetate	ND	12	1.00	
Vinyl Chloride	ND	1.2	1.00	
p/m-Xylene	ND	2.3	1.00	
o-Xylene	ND	1.2	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	2.3	1.00	
Tert-Butyl Alcohol (TBA)	ND	23	1.00	
Diisopropyl Ether (DIPE)	ND	1.2	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	1.2	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	1.2	1.00	
Ethanol	ND	580	1.00	
TPPH	1500	58	1.00	
Gasoline Range Organics (C4-C12)	1000	58	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 15 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	103	79-139	
1,2-Dichloroethane-d4	110	71-155	
1,4-Bromofluorobenzene	102	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	103	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Project: OOI

Date Received: 06/27/19
Work Order: 19-06-1878
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-30'	**19-06-1878-6-D**	**06/27/19 08:38**	**Solid**	**GC/MS OO**	**06/27/19**	**07/04/19 23:59**	**190704L017**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	47	1.00	
Benzene	ND	0.94	1.00	
Bromobenzene	ND	0.94	1.00	
Bromochloromethane	ND	1.9	1.00	
Bromodichloromethane	ND	0.94	1.00	
Bromoform	ND	4.7	1.00	
Bromomethane	ND	19	1.00	
2-Butanone	ND	19	1.00	
n-Butylbenzene	ND	0.94	1.00	
sec-Butylbenzene	1.8	0.94	1.00	
tert-Butylbenzene	ND	0.94	1.00	
Carbon Disulfide	ND	9.4	1.00	
Carbon Tetrachloride	ND	0.94	1.00	
Chlorobenzene	ND	0.94	1.00	
Chloroethane	ND	1.9	1.00	
Chloroform	ND	0.94	1.00	
Chloromethane	ND	19	1.00	
2-Chlorotoluene	ND	0.94	1.00	
4-Chlorotoluene	ND	0.94	1.00	
Dibromochloromethane	ND	1.9	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.7	1.00	
1,2-Dibromoethane	ND	0.94	1.00	
Dibromomethane	ND	0.94	1.00	
1,2-Dichlorobenzene	ND	0.94	1.00	
1,3-Dichlorobenzene	ND	0.94	1.00	
1,4-Dichlorobenzene	ND	0.94	1.00	
Dichlorodifluoromethane	ND	1.9	1.00	
1,1-Dichloroethane	ND	0.94	1.00	
1,2-Dichloroethane	ND	0.94	1.00	
1,1-Dichloroethene	ND	0.94	1.00	
c-1,2-Dichloroethene	ND	0.94	1.00	
t-1,2-Dichloroethene	ND	0.94	1.00	
1,2-Dichloropropane	ND	0.94	1.00	
1,3-Dichloropropane	ND	0.94	1.00	
2,2-Dichloropropane	ND	4.7	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 17 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.9	1.00	
c-1,3-Dichloropropene	ND	0.94	1.00	
t-1,3-Dichloropropene	ND	1.9	1.00	
Ethylbenzene	ND	0.94	1.00	
2-Hexanone	ND	19	1.00	
Isopropylbenzene	ND	0.94	1.00	
p-Isopropyltoluene	ND	0.94	1.00	
Methylene Chloride	ND	9.4	1.00	
4-Methyl-2-Pentanone	ND	19	1.00	
Naphthalene	ND	9.4	1.00	
n-Propylbenzene	ND	1.9	1.00	
Styrene	ND	0.94	1.00	
1,1,1,2-Tetrachloroethane	ND	0.94	1.00	
1,1,2,2-Tetrachloroethane	ND	1.9	1.00	
Tetrachloroethene	ND	0.94	1.00	
Toluene	ND	0.94	1.00	
1,2,3-Trichlorobenzene	ND	1.9	1.00	
1,2,4-Trichlorobenzene	ND	1.9	1.00	
1,1,1-Trichloroethane	ND	0.94	1.00	
1,1,2-Trichloroethane	ND	0.94	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	9.4	1.00	
Trichloroethene	ND	1.9	1.00	
Trichlorofluoromethane	ND	9.4	1.00	
1,2,3-Trichloropropane	ND	1.9	1.00	
1,2,4-Trimethylbenzene	ND	1.9	1.00	
1,3,5-Trimethylbenzene	ND	1.9	1.00	
Vinyl Acetate	ND	9.4	1.00	
Vinyl Chloride	ND	0.94	1.00	
p/m-Xylene	ND	1.9	1.00	
o-Xylene	ND	0.94	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.9	1.00	
Tert-Butyl Alcohol (TBA)	ND	19	1.00	
Diisopropyl Ether (DIPE)	ND	0.94	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.94	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.94	1.00	
Ethanol	ND	470	1.00	
TPPH	3000	47	1.00	
Gasoline Range Organics (C4-C12)	2000	47	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 18 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	100	79-139	
1,2-Dichloroethane-d4	106	71-155	
1,4-Bromofluorobenzene	105	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	103	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 19 of 81

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-32	**19-06-1878-7-D**	**06/27/19 08:50**	**Solid**	**GC/MS OO**	**06/27/19**	**07/05/19 00:29**	**190704L017**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	44	1.00	
Benzene	ND	0.88	1.00	
Bromobenzene	ND	0.88	1.00	
Bromochloromethane	ND	1.8	1.00	
Bromodichloromethane	ND	0.88	1.00	
Bromoform	ND	4.4	1.00	
Bromomethane	ND	18	1.00	
2-Butanone	ND	18	1.00	
n-Butylbenzene	8.5	0.88	1.00	
sec-Butylbenzene	5.0	0.88	1.00	
tert-Butylbenzene	ND	0.88	1.00	
Carbon Disulfide	ND	8.8	1.00	
Carbon Tetrachloride	ND	0.88	1.00	
Chlorobenzene	ND	0.88	1.00	
Chloroethane	ND	1.8	1.00	
Chloroform	ND	0.88	1.00	
Chloromethane	ND	18	1.00	
2-Chlorotoluene	ND	0.88	1.00	
4-Chlorotoluene	ND	0.88	1.00	
Dibromochloromethane	ND	1.8	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.4	1.00	
1,2-Dibromoethane	ND	0.88	1.00	
Dibromomethane	ND	0.88	1.00	
1,2-Dichlorobenzene	ND	0.88	1.00	
1,3-Dichlorobenzene	ND	0.88	1.00	
1,4-Dichlorobenzene	ND	0.88	1.00	
Dichlorodifluoromethane	ND	1.8	1.00	
1,1-Dichloroethane	ND	0.88	1.00	
1,2-Dichloroethane	ND	0.88	1.00	
1,1-Dichloroethene	ND	0.88	1.00	
c-1,2-Dichloroethene	ND	0.88	1.00	
t-1,2-Dichloroethene	ND	0.88	1.00	
1,2-Dichloropropane	ND	0.88	1.00	
1,3-Dichloropropane	ND	0.88	1.00	
2,2-Dichloropropane	ND	4.4	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 20 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.8	1.00	
c-1,3-Dichloropropene	ND	0.88	1.00	
t-1,3-Dichloropropene	ND	1.8	1.00	
Ethylbenzene	ND	0.88	1.00	
2-Hexanone	ND	18	1.00	
Isopropylbenzene	2.5	0.88	1.00	
p-Isopropyltoluene	5.7	0.88	1.00	
Methylene Chloride	ND	8.8	1.00	
4-Methyl-2-Pentanone	ND	18	1.00	
Naphthalene	ND	8.8	1.00	
n-Propylbenzene	2.0	1.8	1.00	
Styrene	ND	0.88	1.00	
1,1,1,2-Tetrachloroethane	ND	0.88	1.00	
1,1,2,2-Tetrachloroethane	ND	1.8	1.00	
Tetrachloroethene	ND	0.88	1.00	
Toluene	ND	0.88	1.00	
1,2,3-Trichlorobenzene	ND	1.8	1.00	
1,2,4-Trichlorobenzene	ND	1.8	1.00	
1,1,1-Trichloroethane	ND	0.88	1.00	
1,1,2-Trichloroethane	ND	0.88	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	8.8	1.00	
Trichloroethene	ND	1.8	1.00	
Trichlorofluoromethane	ND	8.8	1.00	
1,2,3-Trichloropropane	ND	1.8	1.00	
1,2,4-Trimethylbenzene	ND	1.8	1.00	
1,3,5-Trimethylbenzene	ND	1.8	1.00	
Vinyl Acetate	ND	8.8	1.00	
Vinyl Chloride	ND	0.88	1.00	
p/m-Xylene	ND	1.8	1.00	
o-Xylene	ND	0.88	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.8	1.00	
Tert-Butyl Alcohol (TBA)	ND	18	1.00	
Diisopropyl Ether (DIPE)	ND	0.88	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.88	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.88	1.00	
Ethanol	ND	440	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	101	79-139	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 21 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,2-Dichloroethane-d4	106	71-155	
1,4-Bromofluorobenzene	109	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	102	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-32	**19-06-1878-7-F**	**06/27/19 08:50**	**Solid**	**GC/MS OO**	**06/27/19**	**07/06/19 23:23**	**190706L022**

Parameter	Result	RL	DF	Qualifiers
TPPH	6400	4700	100	
Gasoline Range Organics (C4-C12)	ND	4700	100	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	101	79-139	
1,2-Dichloroethane-d4	101	71-155	
1,4-Bromofluorobenzene	94	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	103	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 22 of 81

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-36	**19-06-1878-8-D**	**06/27/19 09:00**	**Solid**	**GC/MS OO**	**06/27/19**	**07/05/19 00:58**	**190704L017**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	58	1.00	
Benzene	2.1	1.2	1.00	
Bromobenzene	ND	1.2	1.00	
Bromochloromethane	ND	2.3	1.00	
Bromodichloromethane	ND	1.2	1.00	
Bromoform	ND	5.8	1.00	
Bromomethane	ND	23	1.00	
2-Butanone	ND	23	1.00	
n-Butylbenzene	11	1.2	1.00	
sec-Butylbenzene	6.6	1.2	1.00	
tert-Butylbenzene	ND	1.2	1.00	
Carbon Disulfide	ND	12	1.00	
Carbon Tetrachloride	ND	1.2	1.00	
Chlorobenzene	ND	1.2	1.00	
Chloroethane	ND	2.3	1.00	
Chloroform	ND	1.2	1.00	
Chloromethane	ND	23	1.00	
2-Chlorotoluene	ND	1.2	1.00	
4-Chlorotoluene	ND	1.2	1.00	
Dibromochloromethane	ND	2.3	1.00	
1,2-Dibromo-3-Chloropropane	ND	5.8	1.00	
1,2-Dibromoethane	ND	1.2	1.00	
Dibromomethane	ND	1.2	1.00	
1,2-Dichlorobenzene	ND	1.2	1.00	
1,3-Dichlorobenzene	ND	1.2	1.00	
1,4-Dichlorobenzene	ND	1.2	1.00	
Dichlorodifluoromethane	ND	2.3	1.00	
1,1-Dichloroethane	ND	1.2	1.00	
1,2-Dichloroethane	ND	1.2	1.00	
1,1-Dichloroethene	ND	1.2	1.00	
c-1,2-Dichloroethene	ND	1.2	1.00	
t-1,2-Dichloroethene	ND	1.2	1.00	
1,2-Dichloropropane	ND	1.2	1.00	
1,3-Dichloropropane	ND	1.2	1.00	
2,2-Dichloropropane	ND	5.8	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 23 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2.3	1.00	
c-1,3-Dichloropropene	ND	1.2	1.00	
t-1,3-Dichloropropene	ND	2.3	1.00	
Ethylbenzene	1.9	1.2	1.00	
2-Hexanone	ND	23	1.00	
Isopropylbenzene	5.2	1.2	1.00	
p-Isopropyltoluene	8.7	1.2	1.00	
Methylene Chloride	ND	12	1.00	
4-Methyl-2-Pentanone	ND	23	1.00	
Naphthalene	ND	12	1.00	
n-Propylbenzene	2.6	2.3	1.00	
Styrene	ND	1.2	1.00	
1,1,1,2-Tetrachloroethane	ND	1.2	1.00	
1,1,2,2-Tetrachloroethane	ND	2.3	1.00	
Tetrachloroethene	ND	1.2	1.00	
Toluene	ND	1.2	1.00	
1,2,3-Trichlorobenzene	ND	2.3	1.00	
1,2,4-Trichlorobenzene	ND	2.3	1.00	
1,1,1-Trichloroethane	ND	1.2	1.00	
1,1,2-Trichloroethane	ND	1.2	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	12	1.00	
Trichloroethene	ND	2.3	1.00	
Trichlorofluoromethane	ND	12	1.00	
1,2,3-Trichloropropane	ND	2.3	1.00	
1,2,4-Trimethylbenzene	3.8	2.3	1.00	
1,3,5-Trimethylbenzene	2.9	2.3	1.00	
Vinyl Acetate	ND	12	1.00	
Vinyl Chloride	ND	1.2	1.00	
p/m-Xylene	ND	2.3	1.00	
o-Xylene	ND	1.2	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	2.3	1.00	
Tert-Butyl Alcohol (TBA)	ND	23	1.00	
Diisopropyl Ether (DIPE)	ND	1.2	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	1.2	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	1.2	1.00	
Ethanol	ND	580	1.00	
Gasoline Range Organics (C4-C12)	4300	58	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 24 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	98	79-139	
1,2-Dichloroethane-d4	102	71-155	
1,4-Bromofluorobenzene	107	80-120	
Toluene-d8	100	80-120	
Toluene-d8-TPPH	101	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-36	**19-06-1878-8-F**	**06/27/19 09:00**	**Solid**	**GC/MS OO**	**06/27/19**	**07/06/19 23:52**	**190706L022**

Parameter	Result	RL	DF	Qualifiers
TPPH	5900	4500	100	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	101	79-139	
1,2-Dichloroethane-d4	102	71-155	
1,4-Bromofluorobenzene	96	80-120	
Toluene-d8	100	80-120	
Toluene-d8-TPPH	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 25 of 81

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-40	**19-06-1878-9-D**	**06/27/19 09:20**	**Solid**	**GC/MS OO**	**06/27/19**	**07/07/19 23:18**	**190707L004**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	43	1.00	
Benzene	15	0.86	1.00	
Bromobenzene	ND	0.86	1.00	
Bromochloromethane	ND	1.7	1.00	
Bromodichloromethane	ND	0.86	1.00	
Bromoform	ND	4.3	1.00	
Bromomethane	ND	17	1.00	
2-Butanone	ND	17	1.00	
n-Butylbenzene	9.4	0.86	1.00	
sec-Butylbenzene	4.2	0.86	1.00	
tert-Butylbenzene	ND	0.86	1.00	
Carbon Disulfide	ND	8.6	1.00	
Carbon Tetrachloride	ND	0.86	1.00	
Chlorobenzene	ND	0.86	1.00	
Chloroethane	ND	1.7	1.00	
Chloroform	ND	0.86	1.00	
Chloromethane	ND	17	1.00	
2-Chlorotoluene	ND	0.86	1.00	
4-Chlorotoluene	ND	0.86	1.00	
Dibromochloromethane	ND	1.7	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.3	1.00	
1,2-Dibromoethane	ND	0.86	1.00	
Dibromomethane	ND	0.86	1.00	
1,2-Dichlorobenzene	ND	0.86	1.00	
1,3-Dichlorobenzene	ND	0.86	1.00	
1,4-Dichlorobenzene	ND	0.86	1.00	
Dichlorodifluoromethane	ND	1.7	1.00	
1,1-Dichloroethane	ND	0.86	1.00	
1,2-Dichloroethane	ND	0.86	1.00	
1,1-Dichloroethene	ND	0.86	1.00	
c-1,2-Dichloroethene	ND	0.86	1.00	
t-1,2-Dichloroethene	ND	0.86	1.00	
1,2-Dichloropropane	ND	0.86	1.00	
1,3-Dichloropropane	ND	0.86	1.00	
2,2-Dichloropropane	ND	4.3	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 26 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.7	1.00	
c-1,3-Dichloropropene	ND	0.86	1.00	
t-1,3-Dichloropropene	ND	1.7	1.00	
Ethylbenzene	45	0.86	1.00	
2-Hexanone	ND	17	1.00	
Isopropylbenzene	15	0.86	1.00	
p-Isopropyltoluene	11	0.86	1.00	
Methylene Chloride	ND	8.6	1.00	
4-Methyl-2-Pentanone	ND	17	1.00	
Naphthalene	15	8.6	1.00	
n-Propylbenzene	15	1.7	1.00	
Styrene	ND	0.86	1.00	
1,1,1,2-Tetrachloroethane	ND	0.86	1.00	
1,1,2,2-Tetrachloroethane	ND	1.7	1.00	
Tetrachloroethene	ND	0.86	1.00	
Toluene	1.5	0.86	1.00	
1,2,3-Trichlorobenzene	ND	1.7	1.00	
1,2,4-Trichlorobenzene	ND	1.7	1.00	
1,1,1-Trichloroethane	ND	0.86	1.00	
1,1,2-Trichloroethane	ND	0.86	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	8.6	1.00	
Trichloroethene	ND	1.7	1.00	
Trichlorofluoromethane	ND	8.6	1.00	
1,2,3-Trichloropropane	ND	1.7	1.00	
1,2,4-Trimethylbenzene	78	1.7	1.00	
1,3,5-Trimethylbenzene	21	1.7	1.00	
Vinyl Acetate	ND	8.6	1.00	
Vinyl Chloride	ND	0.86	1.00	
p/m-Xylene	7.5	1.7	1.00	
o-Xylene	9.0	0.86	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.7	1.00	
Tert-Butyl Alcohol (TBA)	ND	17	1.00	
Diisopropyl Ether (DIPE)	ND	0.86	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.86	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.86	1.00	
Ethanol	ND	430	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	101	79-139	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 27 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,2-Dichloroethane-d4	105	71-155	
1,4-Bromofluorobenzene	108	80-120	
Toluene-d8	114	80-120	
Toluene-d8-TPPH	89	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-40	**19-06-1878-9-F**	**06/27/19 09:20**	**Solid**	**GC/MS OO**	**06/27/19**	**07/06/19 21:25**	**190706L022**

Parameter	Result	RL	DF	Qualifiers
TPPH	39000	3900	100	
Gasoline Range Organics (C4-C12)	34000	3900	100	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	103	79-139	
1,2-Dichloroethane-d4	102	71-155	
1,4-Bromofluorobenzene	97	80-120	
Toluene-d8	103	80-120	
Toluene-d8-TPPH	103	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 28 of 81

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-42	**19-06-1878-10-B**	**06/27/19 09:45**	**Solid**	**GC/MS OO**	**06/27/19**	**07/06/19 17:30**	**190706L008**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	37	1.00	
Benzene	2.6	0.74	1.00	
Bromobenzene	ND	0.74	1.00	
Bromochloromethane	ND	1.5	1.00	
Bromodichloromethane	ND	0.74	1.00	
Bromoform	ND	3.7	1.00	
Bromomethane	ND	15	1.00	
2-Butanone	ND	15	1.00	
n-Butylbenzene	ND	0.74	1.00	
sec-Butylbenzene	ND	0.74	1.00	
tert-Butylbenzene	ND	0.74	1.00	
Carbon Disulfide	ND	7.4	1.00	
Carbon Tetrachloride	ND	0.74	1.00	
Chlorobenzene	ND	0.74	1.00	
Chloroethane	ND	1.5	1.00	
Chloroform	ND	0.74	1.00	
Chloromethane	ND	15	1.00	
2-Chlorotoluene	ND	0.74	1.00	
4-Chlorotoluene	ND	0.74	1.00	
Dibromochloromethane	ND	1.5	1.00	
1,2-Dibromo-3-Chloropropane	ND	3.7	1.00	
1,2-Dibromoethane	ND	0.74	1.00	
Dibromomethane	ND	0.74	1.00	
1,2-Dichlorobenzene	ND	0.74	1.00	
1,3-Dichlorobenzene	ND	0.74	1.00	
1,4-Dichlorobenzene	ND	0.74	1.00	
Dichlorodifluoromethane	ND	1.5	1.00	
1,1-Dichloroethane	ND	0.74	1.00	
1,2-Dichloroethane	2.1	0.74	1.00	
1,1-Dichloroethene	ND	0.74	1.00	
c-1,2-Dichloroethene	ND	0.74	1.00	
t-1,2-Dichloroethene	ND	0.74	1.00	
1,2-Dichloropropane	ND	0.74	1.00	
1,3-Dichloropropane	ND	0.74	1.00	
2,2-Dichloropropane	ND	3.7	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 29 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.5	1.00	
c-1,3-Dichloropropene	ND	0.74	1.00	
t-1,3-Dichloropropene	ND	1.5	1.00	
Ethylbenzene	ND	0.74	1.00	
2-Hexanone	ND	15	1.00	
Isopropylbenzene	ND	0.74	1.00	
p-Isopropyltoluene	ND	0.74	1.00	
Methylene Chloride	ND	7.4	1.00	
4-Methyl-2-Pentanone	ND	15	1.00	
Naphthalene	ND	7.4	1.00	
n-Propylbenzene	ND	1.5	1.00	
Styrene	ND	0.74	1.00	
1,1,1,2-Tetrachloroethane	ND	0.74	1.00	
1,1,2,2-Tetrachloroethane	ND	1.5	1.00	
Tetrachloroethene	ND	0.74	1.00	
Toluene	ND	0.74	1.00	
1,2,3-Trichlorobenzene	ND	1.5	1.00	
1,2,4-Trichlorobenzene	ND	1.5	1.00	
1,1,1-Trichloroethane	ND	0.74	1.00	
1,1,2-Trichloroethane	ND	0.74	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	7.4	1.00	
Trichloroethene	ND	1.5	1.00	
Trichlorofluoromethane	ND	7.4	1.00	
1,2,3-Trichloropropane	ND	1.5	1.00	
1,2,4-Trimethylbenzene	ND	1.5	1.00	
1,3,5-Trimethylbenzene	ND	1.5	1.00	
Vinyl Acetate	ND	7.4	1.00	
Vinyl Chloride	ND	0.74	1.00	
p/m-Xylene	ND	1.5	1.00	
o-Xylene	ND	0.74	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.5	1.00	
Tert-Butyl Alcohol (TBA)	ND	15	1.00	
Diisopropyl Ether (DIPE)	ND	0.74	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.74	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.74	1.00	
Ethanol	ND	370	1.00	
TPPH	230	37	1.00	
Gasoline Range Organics (C4-C12)	220	37	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 30 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	106	79-139	
1,2-Dichloroethane-d4	117	71-155	
1,4-Bromofluorobenzene	96	80-120	
Toluene-d8	103	80-120	
Toluene-d8-TPPH	104	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 31 of 81

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-47'	**19-06-1878-11-B**	**06/27/19 10:01**	**Solid**	**GC/MS OO**	**06/27/19**	**07/06/19 17:59**	**190706L008**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	40	1.00	
Benzene	ND	0.80	1.00	
Bromobenzene	ND	0.80	1.00	
Bromochloromethane	ND	1.6	1.00	
Bromodichloromethane	ND	0.80	1.00	
Bromoform	ND	4.0	1.00	
Bromomethane	ND	16	1.00	
2-Butanone	ND	16	1.00	
n-Butylbenzene	ND	0.80	1.00	
sec-Butylbenzene	ND	0.80	1.00	
tert-Butylbenzene	ND	0.80	1.00	
Carbon Disulfide	ND	8.0	1.00	
Carbon Tetrachloride	ND	0.80	1.00	
Chlorobenzene	ND	0.80	1.00	
Chloroethane	ND	1.6	1.00	
Chloroform	ND	0.80	1.00	
Chloromethane	ND	16	1.00	
2-Chlorotoluene	ND	0.80	1.00	
4-Chlorotoluene	ND	0.80	1.00	
Dibromochloromethane	ND	1.6	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.0	1.00	
1,2-Dibromoethane	ND	0.80	1.00	
Dibromomethane	ND	0.80	1.00	
1,2-Dichlorobenzene	ND	0.80	1.00	
1,3-Dichlorobenzene	ND	0.80	1.00	
1,4-Dichlorobenzene	ND	0.80	1.00	
Dichlorodifluoromethane	ND	1.6	1.00	
1,1-Dichloroethane	ND	0.80	1.00	
1,2-Dichloroethane	6.2	0.80	1.00	
1,1-Dichloroethene	ND	0.80	1.00	
c-1,2-Dichloroethene	ND	0.80	1.00	
t-1,2-Dichloroethene	ND	0.80	1.00	
1,2-Dichloropropane	ND	0.80	1.00	
1,3-Dichloropropane	ND	0.80	1.00	
2,2-Dichloropropane	ND	4.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 32 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.6	1.00	
c-1,3-Dichloropropene	ND	0.80	1.00	
t-1,3-Dichloropropene	ND	1.6	1.00	
Ethylbenzene	ND	0.80	1.00	
2-Hexanone	ND	16	1.00	
Isopropylbenzene	ND	0.80	1.00	
p-Isopropyltoluene	ND	0.80	1.00	
Methylene Chloride	ND	8.0	1.00	
4-Methyl-2-Pentanone	ND	16	1.00	
Naphthalene	ND	8.0	1.00	
n-Propylbenzene	ND	1.6	1.00	
Styrene	ND	0.80	1.00	
1,1,1,2-Tetrachloroethane	ND	0.80	1.00	
1,1,2,2-Tetrachloroethane	ND	1.6	1.00	
Tetrachloroethene	ND	0.80	1.00	
Toluene	ND	0.80	1.00	
1,2,3-Trichlorobenzene	ND	1.6	1.00	
1,2,4-Trichlorobenzene	ND	1.6	1.00	
1,1,1-Trichloroethane	ND	0.80	1.00	
1,1,2-Trichloroethane	ND	0.80	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	8.0	1.00	
Trichloroethene	ND	1.6	1.00	
Trichlorofluoromethane	ND	8.0	1.00	
1,2,3-Trichloropropane	ND	1.6	1.00	
1,2,4-Trimethylbenzene	ND	1.6	1.00	
1,3,5-Trimethylbenzene	ND	1.6	1.00	
Vinyl Acetate	ND	8.0	1.00	
Vinyl Chloride	ND	0.80	1.00	
p/m-Xylene	ND	1.6	1.00	
o-Xylene	ND	0.80	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.6	1.00	
Tert-Butyl Alcohol (TBA)	ND	16	1.00	
Diisopropyl Ether (DIPE)	ND	0.80	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.80	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.80	1.00	
Ethanol	ND	400	1.00	
TPPH	220	40	1.00	
Gasoline Range Organics (C4-C12)	210	40	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 33 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	107	79-139	
1,2-Dichloroethane-d4	113	71-155	
1,4-Bromofluorobenzene	98	80-120	
Toluene-d8	103	80-120	
Toluene-d8-TPPH	104	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 34 of 81

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-11'	**19-06-1878-12-D**	**06/27/19 11:51**	**Solid**	**GC/MS OO**	**06/27/19**	**07/06/19 18:29**	**190706L008**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	37	1.00	
Benzene	ND	0.74	1.00	
Bromobenzene	ND	0.74	1.00	
Bromochloromethane	ND	1.5	1.00	
Bromodichloromethane	ND	0.74	1.00	
Bromoform	ND	3.7	1.00	
Bromomethane	ND	15	1.00	
2-Butanone	ND	15	1.00	
n-Butylbenzene	ND	0.74	1.00	
sec-Butylbenzene	ND	0.74	1.00	
tert-Butylbenzene	ND	0.74	1.00	
Carbon Disulfide	ND	7.4	1.00	
Carbon Tetrachloride	ND	0.74	1.00	
Chlorobenzene	ND	0.74	1.00	
Chloroethane	ND	1.5	1.00	
Chloroform	ND	0.74	1.00	
Chloromethane	ND	15	1.00	
2-Chlorotoluene	ND	0.74	1.00	
4-Chlorotoluene	ND	0.74	1.00	
Dibromochloromethane	ND	1.5	1.00	
1,2-Dibromo-3-Chloropropane	ND	3.7	1.00	
1,2-Dibromoethane	ND	0.74	1.00	
Dibromomethane	ND	0.74	1.00	
1,2-Dichlorobenzene	ND	0.74	1.00	
1,3-Dichlorobenzene	ND	0.74	1.00	
1,4-Dichlorobenzene	ND	0.74	1.00	
Dichlorodifluoromethane	ND	1.5	1.00	
1,1-Dichloroethane	ND	0.74	1.00	
1,2-Dichloroethane	ND	0.74	1.00	
1,1-Dichloroethene	ND	0.74	1.00	
c-1,2-Dichloroethene	ND	0.74	1.00	
t-1,2-Dichloroethene	ND	0.74	1.00	
1,2-Dichloropropane	ND	0.74	1.00	
1,3-Dichloropropane	ND	0.74	1.00	
2,2-Dichloropropane	ND	3.7	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 35 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.5	1.00	
c-1,3-Dichloropropene	ND	0.74	1.00	
t-1,3-Dichloropropene	ND	1.5	1.00	
Ethylbenzene	ND	0.74	1.00	
2-Hexanone	ND	15	1.00	
Isopropylbenzene	ND	0.74	1.00	
p-Isopropyltoluene	ND	0.74	1.00	
Methylene Chloride	ND	7.4	1.00	
4-Methyl-2-Pentanone	ND	15	1.00	
Naphthalene	ND	7.4	1.00	
n-Propylbenzene	ND	1.5	1.00	
Styrene	ND	0.74	1.00	
1,1,1,2-Tetrachloroethane	ND	0.74	1.00	
1,1,2,2-Tetrachloroethane	ND	1.5	1.00	
Tetrachloroethene	ND	0.74	1.00	
Toluene	ND	0.74	1.00	
1,2,3-Trichlorobenzene	ND	1.5	1.00	
1,2,4-Trichlorobenzene	ND	1.5	1.00	
1,1,1-Trichloroethane	ND	0.74	1.00	
1,1,2-Trichloroethane	ND	0.74	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	7.4	1.00	
Trichloroethene	ND	1.5	1.00	
Trichlorofluoromethane	ND	7.4	1.00	
1,2,3-Trichloropropane	ND	1.5	1.00	
1,2,4-Trimethylbenzene	ND	1.5	1.00	
1,3,5-Trimethylbenzene	ND	1.5	1.00	
Vinyl Acetate	ND	7.4	1.00	
Vinyl Chloride	ND	0.74	1.00	
p/m-Xylene	ND	1.5	1.00	
o-Xylene	ND	0.74	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.5	1.00	
Tert-Butyl Alcohol (TBA)	ND	15	1.00	
Diisopropyl Ether (DIPE)	ND	0.74	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.74	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.74	1.00	
Ethanol	ND	370	1.00	
TPPH	ND	37	1.00	
Gasoline Range Organics (C4-C12)	ND	37	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 36 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	113	79-139	
1,2-Dichloroethane-d4	118	71-155	
1,4-Bromofluorobenzene	96	80-120	
Toluene-d8	102	80-120	
Toluene-d8-TPPH	103	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 37 of 81

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-16'	**19-06-1878-13-D**	**06/27/19 12:13**	**Solid**	**GC/MS OO**	**06/27/19**	**07/06/19 18:58**	**190706L008**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	38	1.00	
Benzene	ND	0.76	1.00	
Bromobenzene	ND	0.76	1.00	
Bromochloromethane	ND	1.5	1.00	
Bromodichloromethane	ND	0.76	1.00	
Bromoform	ND	3.8	1.00	
Bromomethane	ND	15	1.00	
2-Butanone	ND	15	1.00	
n-Butylbenzene	ND	0.76	1.00	
sec-Butylbenzene	ND	0.76	1.00	
tert-Butylbenzene	ND	0.76	1.00	
Carbon Disulfide	ND	7.6	1.00	
Carbon Tetrachloride	ND	0.76	1.00	
Chlorobenzene	ND	0.76	1.00	
Chloroethane	ND	1.5	1.00	
Chloroform	ND	0.76	1.00	
Chloromethane	ND	15	1.00	
2-Chlorotoluene	ND	0.76	1.00	
4-Chlorotoluene	ND	0.76	1.00	
Dibromochloromethane	ND	1.5	1.00	
1,2-Dibromo-3-Chloropropane	ND	3.8	1.00	
1,2-Dibromoethane	ND	0.76	1.00	
Dibromomethane	ND	0.76	1.00	
1,2-Dichlorobenzene	ND	0.76	1.00	
1,3-Dichlorobenzene	ND	0.76	1.00	
1,4-Dichlorobenzene	ND	0.76	1.00	
Dichlorodifluoromethane	ND	1.5	1.00	
1,1-Dichloroethane	ND	0.76	1.00	
1,2-Dichloroethane	ND	0.76	1.00	
1,1-Dichloroethene	ND	0.76	1.00	
c-1,2-Dichloroethene	ND	0.76	1.00	
t-1,2-Dichloroethene	ND	0.76	1.00	
1,2-Dichloropropane	ND	0.76	1.00	
1,3-Dichloropropane	ND	0.76	1.00	
2,2-Dichloropropane	ND	3.8	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 38 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.5	1.00	
c-1,3-Dichloropropene	ND	0.76	1.00	
t-1,3-Dichloropropene	ND	1.5	1.00	
Ethylbenzene	ND	0.76	1.00	
2-Hexanone	ND	15	1.00	
Isopropylbenzene	ND	0.76	1.00	
p-Isopropyltoluene	ND	0.76	1.00	
Methylene Chloride	ND	7.6	1.00	
4-Methyl-2-Pentanone	ND	15	1.00	
Naphthalene	ND	7.6	1.00	
n-Propylbenzene	ND	1.5	1.00	
Styrene	ND	0.76	1.00	
1,1,1,2-Tetrachloroethane	ND	0.76	1.00	
1,1,2,2-Tetrachloroethane	ND	1.5	1.00	
Tetrachloroethene	ND	0.76	1.00	
Toluene	ND	0.76	1.00	
1,2,3-Trichlorobenzene	ND	1.5	1.00	
1,2,4-Trichlorobenzene	ND	1.5	1.00	
1,1,1-Trichloroethane	ND	0.76	1.00	
1,1,2-Trichloroethane	ND	0.76	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	7.6	1.00	
Trichloroethene	ND	1.5	1.00	
Trichlorofluoromethane	ND	7.6	1.00	
1,2,3-Trichloropropane	ND	1.5	1.00	
1,2,4-Trimethylbenzene	ND	1.5	1.00	
1,3,5-Trimethylbenzene	ND	1.5	1.00	
Vinyl Acetate	ND	7.6	1.00	
Vinyl Chloride	ND	0.76	1.00	
p/m-Xylene	ND	1.5	1.00	
o-Xylene	ND	0.76	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.5	1.00	
Tert-Butyl Alcohol (TBA)	ND	15	1.00	
Diisopropyl Ether (DIPE)	ND	0.76	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.76	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.76	1.00	
Ethanol	ND	380	1.00	
TPPH	ND	38	1.00	
Gasoline Range Organics (C4-C12)	ND	38	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 39 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	113	79-139	
1,2-Dichloroethane-d4	118	71-155	
1,4-Bromofluorobenzene	96	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	103	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 40 of 81

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-20'	**19-06-1878-14-D**	**06/27/19 12:18**	**Solid**	**GC/MS OO**	**06/27/19**	**07/06/19 19:28**	**190706L008**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	37	1.00	
Benzene	ND	0.73	1.00	
Bromobenzene	ND	0.73	1.00	
Bromochloromethane	ND	1.5	1.00	
Bromodichloromethane	ND	0.73	1.00	
Bromoform	ND	3.7	1.00	
Bromomethane	ND	15	1.00	
2-Butanone	ND	15	1.00	
n-Butylbenzene	ND	0.73	1.00	
sec-Butylbenzene	ND	0.73	1.00	
tert-Butylbenzene	ND	0.73	1.00	
Carbon Disulfide	ND	7.3	1.00	
Carbon Tetrachloride	ND	0.73	1.00	
Chlorobenzene	ND	0.73	1.00	
Chloroethane	ND	1.5	1.00	
Chloroform	ND	0.73	1.00	
Chloromethane	ND	15	1.00	
2-Chlorotoluene	ND	0.73	1.00	
4-Chlorotoluene	ND	0.73	1.00	
Dibromochloromethane	ND	1.5	1.00	
1,2-Dibromo-3-Chloropropane	ND	3.7	1.00	
1,2-Dibromoethane	ND	0.73	1.00	
Dibromomethane	ND	0.73	1.00	
1,2-Dichlorobenzene	ND	0.73	1.00	
1,3-Dichlorobenzene	ND	0.73	1.00	
1,4-Dichlorobenzene	ND	0.73	1.00	
Dichlorodifluoromethane	ND	1.5	1.00	
1,1-Dichloroethane	ND	0.73	1.00	
1,2-Dichloroethane	ND	0.73	1.00	
1,1-Dichloroethene	ND	0.73	1.00	
c-1,2-Dichloroethene	ND	0.73	1.00	
t-1,2-Dichloroethene	ND	0.73	1.00	
1,2-Dichloropropane	ND	0.73	1.00	
1,3-Dichloropropane	ND	0.73	1.00	
2,2-Dichloropropane	ND	3.7	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 41 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.5	1.00	
c-1,3-Dichloropropene	ND	0.73	1.00	
t-1,3-Dichloropropene	ND	1.5	1.00	
Ethylbenzene	ND	0.73	1.00	
2-Hexanone	ND	15	1.00	
Isopropylbenzene	ND	0.73	1.00	
p-Isopropyltoluene	ND	0.73	1.00	
Methylene Chloride	ND	7.3	1.00	
4-Methyl-2-Pentanone	ND	15	1.00	
Naphthalene	ND	7.3	1.00	
n-Propylbenzene	ND	1.5	1.00	
Styrene	ND	0.73	1.00	
1,1,1,2-Tetrachloroethane	ND	0.73	1.00	
1,1,2,2-Tetrachloroethane	ND	1.5	1.00	
Tetrachloroethene	ND	0.73	1.00	
Toluene	ND	0.73	1.00	
1,2,3-Trichlorobenzene	ND	1.5	1.00	
1,2,4-Trichlorobenzene	ND	1.5	1.00	
1,1,1-Trichloroethane	ND	0.73	1.00	
1,1,2-Trichloroethane	ND	0.73	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	7.3	1.00	
Trichloroethene	ND	1.5	1.00	
Trichlorofluoromethane	ND	7.3	1.00	
1,2,3-Trichloropropane	ND	1.5	1.00	
1,2,4-Trimethylbenzene	ND	1.5	1.00	
1,3,5-Trimethylbenzene	ND	1.5	1.00	
Vinyl Acetate	ND	7.3	1.00	
Vinyl Chloride	ND	0.73	1.00	
p/m-Xylene	ND	1.5	1.00	
o-Xylene	ND	0.73	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.5	1.00	
Tert-Butyl Alcohol (TBA)	ND	15	1.00	
Diisopropyl Ether (DIPE)	ND	0.73	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.73	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.73	1.00	
Ethanol	ND	370	1.00	
TPPH	93	37	1.00	
Gasoline Range Organics (C4-C12)	93	37	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 42 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	115	79-139	
1,2-Dichloroethane-d4	119	71-155	
1,4-Bromofluorobenzene	97	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	103	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 43 of 81

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-26'	**19-06-1878-15-D**	**06/27/19 12:30**	**Solid**	**GC/MS OO**	**06/27/19**	**07/06/19 19:57**	**190706L008**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	40	1.00	
Benzene	ND	0.80	1.00	
Bromobenzene	ND	0.80	1.00	
Bromochloromethane	ND	1.6	1.00	
Bromodichloromethane	ND	0.80	1.00	
Bromoform	ND	4.0	1.00	
Bromomethane	ND	16	1.00	
2-Butanone	ND	16	1.00	
n-Butylbenzene	ND	0.80	1.00	
sec-Butylbenzene	ND	0.80	1.00	
tert-Butylbenzene	ND	0.80	1.00	
Carbon Disulfide	ND	8.0	1.00	
Carbon Tetrachloride	ND	0.80	1.00	
Chlorobenzene	ND	0.80	1.00	
Chloroethane	ND	1.6	1.00	
Chloroform	ND	0.80	1.00	
Chloromethane	ND	16	1.00	
2-Chlorotoluene	ND	0.80	1.00	
4-Chlorotoluene	ND	0.80	1.00	
Dibromochloromethane	ND	1.6	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.0	1.00	
1,2-Dibromoethane	ND	0.80	1.00	
Dibromomethane	ND	0.80	1.00	
1,2-Dichlorobenzene	ND	0.80	1.00	
1,3-Dichlorobenzene	ND	0.80	1.00	
1,4-Dichlorobenzene	ND	0.80	1.00	
Dichlorodifluoromethane	ND	1.6	1.00	
1,1-Dichloroethane	ND	0.80	1.00	
1,2-Dichloroethane	ND	0.80	1.00	
1,1-Dichloroethene	ND	0.80	1.00	
c-1,2-Dichloroethene	ND	0.80	1.00	
t-1,2-Dichloroethene	ND	0.80	1.00	
1,2-Dichloropropane	ND	0.80	1.00	
1,3-Dichloropropane	ND	0.80	1.00	
2,2-Dichloropropane	ND	4.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 44 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.6	1.00	
c-1,3-Dichloropropene	ND	0.80	1.00	
t-1,3-Dichloropropene	ND	1.6	1.00	
Ethylbenzene	ND	0.80	1.00	
2-Hexanone	ND	16	1.00	
Isopropylbenzene	ND	0.80	1.00	
p-Isopropyltoluene	ND	0.80	1.00	
Methylene Chloride	ND	8.0	1.00	
4-Methyl-2-Pentanone	ND	16	1.00	
Naphthalene	ND	8.0	1.00	
n-Propylbenzene	ND	1.6	1.00	
Styrene	ND	0.80	1.00	
1,1,1,2-Tetrachloroethane	ND	0.80	1.00	
1,1,2,2-Tetrachloroethane	ND	1.6	1.00	
Tetrachloroethene	ND	0.80	1.00	
Toluene	ND	0.80	1.00	
1,2,3-Trichlorobenzene	ND	1.6	1.00	
1,2,4-Trichlorobenzene	ND	1.6	1.00	
1,1,1-Trichloroethane	ND	0.80	1.00	
1,1,2-Trichloroethane	ND	0.80	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	8.0	1.00	
Trichloroethene	ND	1.6	1.00	
Trichlorofluoromethane	ND	8.0	1.00	
1,2,3-Trichloropropane	ND	1.6	1.00	
1,2,4-Trimethylbenzene	ND	1.6	1.00	
1,3,5-Trimethylbenzene	ND	1.6	1.00	
Vinyl Acetate	ND	8.0	1.00	
Vinyl Chloride	ND	0.80	1.00	
p/m-Xylene	ND	1.6	1.00	
o-Xylene	ND	0.80	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.6	1.00	
Tert-Butyl Alcohol (TBA)	ND	16	1.00	
Diisopropyl Ether (DIPE)	ND	0.80	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.80	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.80	1.00	
Ethanol	ND	400	1.00	
TPPH	240	40	1.00	
Gasoline Range Organics (C4-C12)	150	40	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 45 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	112	79-139	
1,2-Dichloroethane-d4	122	71-155	
1,4-Bromofluorobenzene	99	80-120	
Toluene-d8	102	80-120	
Toluene-d8-TPPH	103	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 46 of 81

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-31	**19-06-1878-16-E**	**06/27/19 12:45**	**Solid**	**GC/MS OO**	**06/27/19**	**07/08/19 22:16**	**190708L017**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	58	1.00	
Benzene	ND	1.2	1.00	
Bromobenzene	ND	1.2	1.00	
Bromochloromethane	ND	2.3	1.00	
Bromodichloromethane	ND	1.2	1.00	
Bromoform	ND	5.8	1.00	
Bromomethane	ND	23	1.00	
2-Butanone	ND	23	1.00	
n-Butylbenzene	18	1.2	1.00	
sec-Butylbenzene	8.1	1.2	1.00	
tert-Butylbenzene	ND	1.2	1.00	
Carbon Disulfide	ND	12	1.00	
Carbon Tetrachloride	ND	1.2	1.00	
Chlorobenzene	ND	1.2	1.00	
Chloroethane	ND	2.3	1.00	
Chloroform	ND	1.2	1.00	
Chloromethane	ND	23	1.00	
2-Chlorotoluene	ND	1.2	1.00	
4-Chlorotoluene	ND	1.2	1.00	
Dibromochloromethane	ND	2.3	1.00	
1,2-Dibromo-3-Chloropropane	ND	5.8	1.00	
1,2-Dibromoethane	ND	1.2	1.00	
Dibromomethane	ND	1.2	1.00	
1,2-Dichlorobenzene	ND	1.2	1.00	
1,3-Dichlorobenzene	ND	1.2	1.00	
1,4-Dichlorobenzene	ND	1.2	1.00	
Dichlorodifluoromethane	ND	2.3	1.00	
1,1-Dichloroethane	ND	1.2	1.00	
1,2-Dichloroethane	ND	1.2	1.00	
1,1-Dichloroethene	ND	1.2	1.00	
c-1,2-Dichloroethene	ND	1.2	1.00	
t-1,2-Dichloroethene	ND	1.2	1.00	
1,2-Dichloropropane	ND	1.2	1.00	
1,3-Dichloropropane	ND	1.2	1.00	
2,2-Dichloropropane	ND	5.8	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 47 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2.3	1.00	
c-1,3-Dichloropropene	ND	1.2	1.00	
t-1,3-Dichloropropene	ND	2.3	1.00	
Ethylbenzene	3.8	1.2	1.00	
2-Hexanone	ND	23	1.00	
Isopropylbenzene	8.0	1.2	1.00	
p-Isopropyltoluene	19	1.2	1.00	
Methylene Chloride	ND	12	1.00	
4-Methyl-2-Pentanone	ND	23	1.00	
Naphthalene	ND	12	1.00	
n-Propylbenzene	7.8	2.3	1.00	
Styrene	ND	1.2	1.00	
1,1,1,2-Tetrachloroethane	ND	1.2	1.00	
1,1,2,2-Tetrachloroethane	ND	2.3	1.00	
Tetrachloroethene	ND	1.2	1.00	
Toluene	ND	1.2	1.00	
1,2,3-Trichlorobenzene	ND	2.3	1.00	
1,2,4-Trichlorobenzene	ND	2.3	1.00	
1,1,1-Trichloroethane	ND	1.2	1.00	
1,1,2-Trichloroethane	ND	1.2	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	12	1.00	
Trichloroethene	ND	2.3	1.00	
Trichlorofluoromethane	ND	12	1.00	
1,2,3-Trichloropropane	ND	2.3	1.00	
1,2,4-Trimethylbenzene	ND	2.3	1.00	
1,3,5-Trimethylbenzene	ND	2.3	1.00	
Vinyl Acetate	ND	12	1.00	
Vinyl Chloride	ND	1.2	1.00	
p/m-Xylene	ND	2.3	1.00	
o-Xylene	ND	1.2	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	2.3	1.00	
Tert-Butyl Alcohol (TBA)	ND	23	1.00	
Diisopropyl Ether (DIPE)	ND	1.2	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	1.2	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	1.2	1.00	
Ethanol	ND	580	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	97	79-139	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 48 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,2-Dichloroethane-d4	98	71-155	
1,4-Bromofluorobenzene	107	80-120	
Toluene-d8	102	80-120	
Toluene-d8-TPPH	100	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-31	**19-06-1878-16-F**	**06/27/19 12:45**	**Solid**	**GC/MS OO**	**06/27/19**	**07/06/19 21:55**	**190706L022**

Parameter	Result	RL	DF	Qualifiers
TPPH	11000	4900	100	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	104	79-139	
1,2-Dichloroethane-d4	102	71-155	
1,4-Bromofluorobenzene	95	80-120	
Toluene-d8	100	80-120	
Toluene-d8-TPPH	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 49 of 81

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-36	**19-06-1878-17-E**	**06/27/19 13:00**	**Solid**	**GC/MS OO**	**06/27/19**	**07/10/19 20:41**	**190710L008**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	2100	50.0	
Benzene	ND	43	50.0	
Bromobenzene	ND	43	50.0	
Bromochloromethane	ND	85	50.0	
Bromodichloromethane	ND	43	50.0	
Bromoform	ND	210	50.0	
Bromomethane	ND	850	50.0	
2-Butanone	ND	850	50.0	
n-Butylbenzene	110	43	50.0	
sec-Butylbenzene	62	43	50.0	
tert-Butylbenzene	ND	43	50.0	
Carbon Disulfide	ND	430	50.0	
Carbon Tetrachloride	ND	43	50.0	
Chlorobenzene	ND	43	50.0	
Chloroethane	ND	85	50.0	
Chloroform	ND	43	50.0	
Chloromethane	ND	850	50.0	
2-Chlorotoluene	ND	43	50.0	
4-Chlorotoluene	ND	43	50.0	
Dibromochloromethane	ND	85	50.0	
1,2-Dibromo-3-Chloropropane	ND	210	50.0	
1,2-Dibromoethane	ND	43	50.0	
Dibromomethane	ND	43	50.0	
1,2-Dichlorobenzene	ND	43	50.0	
1,3-Dichlorobenzene	ND	43	50.0	
1,4-Dichlorobenzene	ND	43	50.0	
Dichlorodifluoromethane	ND	85	50.0	
1,1-Dichloroethane	ND	43	50.0	
1,2-Dichloroethane	ND	43	50.0	
1,1-Dichloroethene	ND	43	50.0	
c-1,2-Dichloroethene	ND	43	50.0	
t-1,2-Dichloroethene	ND	43	50.0	
1,2-Dichloropropane	ND	43	50.0	
1,3-Dichloropropane	ND	43	50.0	
2,2-Dichloropropane	ND	210	50.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 50 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	85	50.0	
c-1,3-Dichloropropene	ND	43	50.0	
t-1,3-Dichloropropene	ND	85	50.0	
Ethylbenzene	150	43	50.0	
2-Hexanone	ND	850	50.0	
Isopropylbenzene	110	43	50.0	
p-Isopropyltoluene	74	43	50.0	
Methylene Chloride	ND	430	50.0	
4-Methyl-2-Pentanone	ND	850	50.0	
Naphthalene	ND	430	50.0	
n-Propylbenzene	140	85	50.0	
Styrene	ND	43	50.0	
1,1,1,2-Tetrachloroethane	ND	43	50.0	
1,1,2,2-Tetrachloroethane	ND	85	50.0	
Tetrachloroethene	ND	43	50.0	
Toluene	ND	43	50.0	
1,2,3-Trichlorobenzene	ND	85	50.0	
1,2,4-Trichlorobenzene	ND	85	50.0	
1,1,1-Trichloroethane	ND	43	50.0	
1,1,2-Trichloroethane	ND	43	50.0	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	430	50.0	
Trichloroethene	ND	85	50.0	
Trichlorofluoromethane	ND	430	50.0	
1,2,3-Trichloropropane	ND	85	50.0	
1,2,4-Trimethylbenzene	ND	85	50.0	
1,3,5-Trimethylbenzene	ND	85	50.0	
Vinyl Acetate	ND	430	50.0	
Vinyl Chloride	ND	43	50.0	
p/m-Xylene	ND	85	50.0	
o-Xylene	ND	43	50.0	
Methyl-t-Butyl Ether (MTBE)	ND	85	50.0	
Tert-Butyl Alcohol (TBA)	ND	850	50.0	
Diisopropyl Ether (DIPE)	ND	43	50.0	
Ethyl-t-Butyl Ether (ETBE)	ND	43	50.0	
Tert-Amyl-Methyl Ether (TAME)	ND	43	50.0	
Ethanol	ND	21000	50.0	
TPPH	56000	2100	50.0	
Gasoline Range Organics (C4-C12)	43000	2100	50.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 51 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	103	79-139	
1,2-Dichloroethane-d4	101	71-155	
1,4-Bromofluorobenzene	101	80-120	
Toluene-d8	102	80-120	
Toluene-d8-TPPH	103	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 52 of 81

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-42	**19-06-1878-18-B**	**06/27/19 13:16**	**Solid**	**GC/MS OO**	**06/27/19**	**07/08/19 23:15**	**190708L017**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	40	1.00	
Benzene	0.98	0.79	1.00	
Bromobenzene	ND	0.79	1.00	
Bromochloromethane	ND	1.6	1.00	
Bromodichloromethane	ND	0.79	1.00	
Bromoform	ND	4.0	1.00	
Bromomethane	ND	16	1.00	
2-Butanone	ND	16	1.00	
n-Butylbenzene	1.3	0.79	1.00	
sec-Butylbenzene	1.9	0.79	1.00	
tert-Butylbenzene	ND	0.79	1.00	
Carbon Disulfide	ND	7.9	1.00	
Carbon Tetrachloride	ND	0.79	1.00	
Chlorobenzene	ND	0.79	1.00	
Chloroethane	ND	1.6	1.00	
Chloroform	ND	0.79	1.00	
Chloromethane	ND	16	1.00	
2-Chlorotoluene	ND	0.79	1.00	
4-Chlorotoluene	ND	0.79	1.00	
Dibromochloromethane	ND	1.6	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.0	1.00	
1,2-Dibromoethane	ND	0.79	1.00	
Dibromomethane	ND	0.79	1.00	
1,2-Dichlorobenzene	ND	0.79	1.00	
1,3-Dichlorobenzene	ND	0.79	1.00	
1,4-Dichlorobenzene	ND	0.79	1.00	
Dichlorodifluoromethane	ND	1.6	1.00	
1,1-Dichloroethane	ND	0.79	1.00	
1,2-Dichloroethane	ND	0.79	1.00	
1,1-Dichloroethene	ND	0.79	1.00	
c-1,2-Dichloroethene	ND	0.79	1.00	
t-1,2-Dichloroethene	ND	0.79	1.00	
1,2-Dichloropropane	ND	0.79	1.00	
1,3-Dichloropropane	ND	0.79	1.00	
2,2-Dichloropropane	ND	4.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 53 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.6	1.00	
c-1,3-Dichloropropene	ND	0.79	1.00	
t-1,3-Dichloropropene	ND	1.6	1.00	
Ethylbenzene	ND	0.79	1.00	
2-Hexanone	ND	16	1.00	
Isopropylbenzene	0.90	0.79	1.00	
p-Isopropyltoluene	1.6	0.79	1.00	
Methylene Chloride	ND	7.9	1.00	
4-Methyl-2-Pentanone	ND	16	1.00	
Naphthalene	ND	7.9	1.00	
n-Propylbenzene	ND	1.6	1.00	
Styrene	ND	0.79	1.00	
1,1,1,2-Tetrachloroethane	ND	0.79	1.00	
1,1,2,2-Tetrachloroethane	ND	1.6	1.00	
Tetrachloroethene	ND	0.79	1.00	
Toluene	ND	0.79	1.00	
1,2,3-Trichlorobenzene	ND	1.6	1.00	
1,2,4-Trichlorobenzene	ND	1.6	1.00	
1,1,1-Trichloroethane	ND	0.79	1.00	
1,1,2-Trichloroethane	ND	0.79	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	7.9	1.00	
Trichloroethene	ND	1.6	1.00	
Trichlorofluoromethane	ND	7.9	1.00	
1,2,3-Trichloropropane	ND	1.6	1.00	
1,2,4-Trimethylbenzene	ND	1.6	1.00	
1,3,5-Trimethylbenzene	ND	1.6	1.00	
Vinyl Acetate	ND	7.9	1.00	
Vinyl Chloride	ND	0.79	1.00	
p/m-Xylene	ND	1.6	1.00	
o-Xylene	ND	0.79	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.6	1.00	
Tert-Butyl Alcohol (TBA)	ND	16	1.00	
Diisopropyl Ether (DIPE)	ND	0.79	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.79	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.79	1.00	
Ethanol	ND	400	1.00	
TPPH	1500	40	1.00	
Gasoline Range Organics (C4-C12)	1300	40	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 54 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	95	79-139	
1,2-Dichloroethane-d4	93	71-155	
1,4-Bromofluorobenzene	102	80-120	
Toluene-d8	100	80-120	
Toluene-d8-TPPH	93	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 55 of 81

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-49.5	**19-06-1878-19-C**	**06/27/19 14:05**	**Solid**	**GC/MS OO**	**06/27/19**	**07/06/19 20:27**	**190706L008**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	38	1.00	
Benzene	ND	0.77	1.00	
Bromobenzene	ND	0.77	1.00	
Bromochloromethane	ND	1.5	1.00	
Bromodichloromethane	ND	0.77	1.00	
Bromoform	ND	3.8	1.00	
Bromomethane	ND	15	1.00	
2-Butanone	ND	15	1.00	
n-Butylbenzene	ND	0.77	1.00	
sec-Butylbenzene	ND	0.77	1.00	
tert-Butylbenzene	ND	0.77	1.00	
Carbon Disulfide	ND	7.7	1.00	
Carbon Tetrachloride	ND	0.77	1.00	
Chlorobenzene	ND	0.77	1.00	
Chloroethane	ND	1.5	1.00	
Chloroform	ND	0.77	1.00	
Chloromethane	ND	15	1.00	
2-Chlorotoluene	ND	0.77	1.00	
4-Chlorotoluene	ND	0.77	1.00	
Dibromochloromethane	ND	1.5	1.00	
1,2-Dibromo-3-Chloropropane	ND	3.8	1.00	
1,2-Dibromoethane	ND	0.77	1.00	
Dibromomethane	ND	0.77	1.00	
1,2-Dichlorobenzene	ND	0.77	1.00	
1,3-Dichlorobenzene	ND	0.77	1.00	
1,4-Dichlorobenzene	ND	0.77	1.00	
Dichlorodifluoromethane	ND	1.5	1.00	
1,1-Dichloroethane	ND	0.77	1.00	
1,2-Dichloroethane	3.8	0.77	1.00	
1,1-Dichloroethene	ND	0.77	1.00	
c-1,2-Dichloroethene	ND	0.77	1.00	
t-1,2-Dichloroethene	ND	0.77	1.00	
1,2-Dichloropropane	ND	0.77	1.00	
1,3-Dichloropropane	ND	0.77	1.00	
2,2-Dichloropropane	ND	3.8	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 56 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.5	1.00	
c-1,3-Dichloropropene	ND	0.77	1.00	
t-1,3-Dichloropropene	ND	1.5	1.00	
Ethylbenzene	ND	0.77	1.00	
2-Hexanone	ND	15	1.00	
Isopropylbenzene	ND	0.77	1.00	
p-Isopropyltoluene	ND	0.77	1.00	
Methylene Chloride	ND	7.7	1.00	
4-Methyl-2-Pentanone	ND	15	1.00	
Naphthalene	ND	7.7	1.00	
n-Propylbenzene	ND	1.5	1.00	
Styrene	ND	0.77	1.00	
1,1,1,2-Tetrachloroethane	ND	0.77	1.00	
1,1,2,2-Tetrachloroethane	ND	1.5	1.00	
Tetrachloroethene	ND	0.77	1.00	
Toluene	ND	0.77	1.00	
1,2,3-Trichlorobenzene	ND	1.5	1.00	
1,2,4-Trichlorobenzene	ND	1.5	1.00	
1,1,1-Trichloroethane	ND	0.77	1.00	
1,1,2-Trichloroethane	ND	0.77	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	7.7	1.00	
Trichloroethene	ND	1.5	1.00	
Trichlorofluoromethane	ND	7.7	1.00	
1,2,3-Trichloropropane	ND	1.5	1.00	
1,2,4-Trimethylbenzene	ND	1.5	1.00	
1,3,5-Trimethylbenzene	ND	1.5	1.00	
Vinyl Acetate	ND	7.7	1.00	
Vinyl Chloride	ND	0.77	1.00	
p/m-Xylene	ND	1.5	1.00	
o-Xylene	ND	0.77	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.5	1.00	
Tert-Butyl Alcohol (TBA)	ND	15	1.00	
Diisopropyl Ether (DIPE)	ND	0.77	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.77	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.77	1.00	
Ethanol	ND	380	1.00	
TPPH	78	38	1.00	
Gasoline Range Organics (C4-C12)	71	38	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 57 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	109	79-139	
1,2-Dichloroethane-d4	113	71-155	
1,4-Bromofluorobenzene	98	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	102	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 58 of 81

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CE DUP 2	**19-06-1878-20-E**	**06/27/19 00:00**	**Solid**	**GC/MS OO**	**06/27/19**	**07/08/19 21:47**	**190708L023**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	8200	50.0	
Benzene	ND	160	50.0	
Bromobenzene	ND	160	50.0	
Bromochloromethane	ND	330	50.0	
Bromodichloromethane	ND	160	50.0	
Bromoform	ND	820	50.0	
Bromomethane	ND	3300	50.0	
2-Butanone	ND	3300	50.0	
n-Butylbenzene	ND	160	50.0	
sec-Butylbenzene	ND	160	50.0	
tert-Butylbenzene	ND	160	50.0	
Carbon Disulfide	ND	1600	50.0	
Carbon Tetrachloride	ND	160	50.0	
Chlorobenzene	ND	160	50.0	
Chloroethane	ND	330	50.0	
Chloroform	ND	160	50.0	
Chloromethane	ND	3300	50.0	
2-Chlorotoluene	ND	160	50.0	
4-Chlorotoluene	ND	160	50.0	
Dibromochloromethane	ND	330	50.0	
1,2-Dibromo-3-Chloropropane	ND	820	50.0	
1,2-Dibromoethane	ND	160	50.0	
Dibromomethane	ND	160	50.0	
1,2-Dichlorobenzene	ND	160	50.0	
1,3-Dichlorobenzene	ND	160	50.0	
1,4-Dichlorobenzene	ND	160	50.0	
Dichlorodifluoromethane	ND	330	50.0	
1,1-Dichloroethane	ND	160	50.0	
1,2-Dichloroethane	ND	160	50.0	
1,1-Dichloroethene	ND	160	50.0	
c-1,2-Dichloroethene	ND	160	50.0	
t-1,2-Dichloroethene	ND	160	50.0	
1,2-Dichloropropane	ND	160	50.0	
1,3-Dichloropropane	ND	160	50.0	
2,2-Dichloropropane	ND	820	50.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 59 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	330	50.0	
c-1,3-Dichloropropene	ND	160	50.0	
t-1,3-Dichloropropene	ND	330	50.0	
Ethylbenzene	ND	160	50.0	
2-Hexanone	ND	3300	50.0	
Isopropylbenzene	ND	160	50.0	
p-Isopropyltoluene	ND	160	50.0	
Methylene Chloride	ND	1600	50.0	
4-Methyl-2-Pentanone	ND	3300	50.0	
Naphthalene	ND	1600	50.0	
n-Propylbenzene	ND	330	50.0	
Styrene	ND	160	50.0	
1,1,1,2-Tetrachloroethane	ND	160	50.0	
1,1,2,2-Tetrachloroethane	ND	330	50.0	
Tetrachloroethene	ND	160	50.0	
Toluene	ND	160	50.0	
1,2,3-Trichlorobenzene	ND	330	50.0	
1,2,4-Trichlorobenzene	ND	330	50.0	
1,1,1-Trichloroethane	ND	160	50.0	
1,1,2-Trichloroethane	ND	160	50.0	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	1600	50.0	
Trichloroethene	ND	330	50.0	
Trichlorofluoromethane	ND	1600	50.0	
1,2,3-Trichloropropane	ND	330	50.0	
1,2,4-Trimethylbenzene	ND	330	50.0	
1,3,5-Trimethylbenzene	ND	330	50.0	
Vinyl Acetate	ND	1600	50.0	
Vinyl Chloride	ND	160	50.0	
p/m-Xylene	ND	330	50.0	
o-Xylene	ND	160	50.0	
Methyl-t-Butyl Ether (MTBE)	ND	330	50.0	
Tert-Butyl Alcohol (TBA)	ND	3300	50.0	
Diisopropyl Ether (DIPE)	ND	160	50.0	
Ethyl-t-Butyl Ether (ETBE)	ND	160	50.0	
Tert-Amyl-Methyl Ether (TAME)	ND	160	50.0	
Ethanol	ND	82000	50.0	
TPPH	65000	8200	50.0	
Gasoline Range Organics (C4-C12)	44000	8200	50.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 60 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	88	79-139	
1,2-Dichloroethane-d4	82	71-155	
1,4-Bromofluorobenzene	98	80-120	
Toluene-d8	99	80-120	
Toluene-d8-TPPH	100	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 61 of 81

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-46	**19-06-1878-21-C**	**06/27/19 13:59**	**Solid**	**GC/MS OO**	**06/27/19**	**07/06/19 20:56**	**190706L008**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	40	1.00	
Benzene	20	0.79	1.00	
Bromobenzene	ND	0.79	1.00	
Bromochloromethane	ND	1.6	1.00	
Bromodichloromethane	ND	0.79	1.00	
Bromoform	ND	4.0	1.00	
Bromomethane	ND	16	1.00	
2-Butanone	ND	16	1.00	
n-Butylbenzene	ND	0.79	1.00	
sec-Butylbenzene	ND	0.79	1.00	
tert-Butylbenzene	ND	0.79	1.00	
Carbon Disulfide	ND	7.9	1.00	
Carbon Tetrachloride	ND	0.79	1.00	
Chlorobenzene	ND	0.79	1.00	
Chloroethane	ND	1.6	1.00	
Chloroform	ND	0.79	1.00	
Chloromethane	ND	16	1.00	
2-Chlorotoluene	ND	0.79	1.00	
4-Chlorotoluene	ND	0.79	1.00	
Dibromochloromethane	ND	1.6	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.0	1.00	
1,2-Dibromoethane	ND	0.79	1.00	
Dibromomethane	ND	0.79	1.00	
1,2-Dichlorobenzene	ND	0.79	1.00	
1,3-Dichlorobenzene	ND	0.79	1.00	
1,4-Dichlorobenzene	ND	0.79	1.00	
Dichlorodifluoromethane	ND	1.6	1.00	
1,1-Dichloroethane	ND	0.79	1.00	
1,2-Dichloroethane	ND	0.79	1.00	
1,1-Dichloroethene	ND	0.79	1.00	
c-1,2-Dichloroethene	ND	0.79	1.00	
t-1,2-Dichloroethene	ND	0.79	1.00	
1,2-Dichloropropane	ND	0.79	1.00	
1,3-Dichloropropane	ND	0.79	1.00	
2,2-Dichloropropane	ND	4.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 62 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.6	1.00	
c-1,3-Dichloropropene	ND	0.79	1.00	
t-1,3-Dichloropropene	ND	1.6	1.00	
Ethylbenzene	ND	0.79	1.00	
2-Hexanone	ND	16	1.00	
Isopropylbenzene	0.83	0.79	1.00	
p-Isopropyltoluene	ND	0.79	1.00	
Methylene Chloride	ND	7.9	1.00	
4-Methyl-2-Pentanone	ND	16	1.00	
Naphthalene	ND	7.9	1.00	
n-Propylbenzene	ND	1.6	1.00	
Styrene	ND	0.79	1.00	
1,1,1,2-Tetrachloroethane	ND	0.79	1.00	
1,1,2,2-Tetrachloroethane	ND	1.6	1.00	
Tetrachloroethene	ND	0.79	1.00	
Toluene	ND	0.79	1.00	
1,2,3-Trichlorobenzene	ND	1.6	1.00	
1,2,4-Trichlorobenzene	ND	1.6	1.00	
1,1,1-Trichloroethane	ND	0.79	1.00	
1,1,2-Trichloroethane	ND	0.79	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	7.9	1.00	
Trichloroethene	ND	1.6	1.00	
Trichlorofluoromethane	ND	7.9	1.00	
1,2,3-Trichloropropane	ND	1.6	1.00	
1,2,4-Trimethylbenzene	ND	1.6	1.00	
1,3,5-Trimethylbenzene	ND	1.6	1.00	
Vinyl Acetate	ND	7.9	1.00	
Vinyl Chloride	ND	0.79	1.00	
p/m-Xylene	ND	1.6	1.00	
o-Xylene	ND	0.79	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.6	1.00	
Tert-Butyl Alcohol (TBA)	ND	16	1.00	
Diisopropyl Ether (DIPE)	ND	0.79	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.79	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.79	1.00	
Ethanol	ND	400	1.00	
TPPH	270	40	1.00	
Gasoline Range Organics (C4-C12)	250	40	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 63 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	108	79-139	
1,2-Dichloroethane-d4	120	71-155	
1,4-Bromofluorobenzene	99	80-120	
Toluene-d8	103	80-120	
Toluene-d8-TPPH	104	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/27/19
Work Order: 19-06-1878
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-779-2081**	**N/A**	**Solid**	**GC/MS OO**	**07/04/19**	**07/04/19 17:37**	**190704L017**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	50	1.00	
Benzene	ND	1.0	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	2.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.0	1.00	
Bromomethane	ND	20	1.00	
2-Butanone	ND	20	1.00	
n-Butylbenzene	ND	1.0	1.00	
sec-Butylbenzene	ND	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	1.0	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	2.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	20	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	2.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	5.0	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	2.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	1.0	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	5.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 65 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2.0	1.00	
c-1,3-Dichloropropene	ND	1.0	1.00	
t-1,3-Dichloropropene	ND	2.0	1.00	
Ethylbenzene	ND	1.0	1.00	
2-Hexanone	ND	20	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	ND	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	20	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	2.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	1.0	1.00	
1,1,2,2-Tetrachloroethane	ND	2.0	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	2.0	1.00	
1,2,4-Trichlorobenzene	ND	2.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
Trichloroethene	ND	2.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	2.0	1.00	
1,2,4-Trimethylbenzene	ND	2.0	1.00	
1,3,5-Trimethylbenzene	ND	2.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	1.0	1.00	
p/m-Xylene	ND	2.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	2.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	20	1.00	
Diisopropyl Ether (DIPE)	ND	1.0	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	1.0	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	1.0	1.00	
Ethanol	ND	500	1.00	
TPPH	ND	50	1.00	
Gasoline Range Organics (C4-C12)	ND	50	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 66 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	94	79-139	
1,2-Dichloroethane-d4	93	71-155	
1,4-Bromofluorobenzene	97	80-120	
Toluene-d8	99	80-120	
Toluene-d8-TPPH	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/27/19
Work Order: 19-06-1878
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-779-2085**	**N/A**	**Solid**	**GC/MS OO**	**07/06/19**	**07/06/19 16:31**	**190706L008**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	50	1.00	
Benzene	ND	1.0	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	2.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.0	1.00	
Bromomethane	ND	20	1.00	
2-Butanone	ND	20	1.00	
n-Butylbenzene	ND	1.0	1.00	
sec-Butylbenzene	ND	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	1.0	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	2.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	20	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	2.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	5.0	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	2.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	1.0	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	5.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 68 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2.0	1.00	
c-1,3-Dichloropropene	ND	1.0	1.00	
t-1,3-Dichloropropene	ND	2.0	1.00	
Ethylbenzene	ND	1.0	1.00	
2-Hexanone	ND	20	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	ND	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	20	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	2.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	1.0	1.00	
1,1,2,2-Tetrachloroethane	ND	2.0	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	2.0	1.00	
1,2,4-Trichlorobenzene	ND	2.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
Trichloroethene	ND	2.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	2.0	1.00	
1,2,4-Trimethylbenzene	ND	2.0	1.00	
1,3,5-Trimethylbenzene	ND	2.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	1.0	1.00	
p/m-Xylene	ND	2.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	2.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	20	1.00	
Diisopropyl Ether (DIPE)	ND	1.0	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	1.0	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	1.0	1.00	
Ethanol	ND	500	1.00	
TPPH	ND	50	1.00	
Gasoline Range Organics (C4-C12)	ND	50	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 69 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	106	79-139	
1,2-Dichloroethane-d4	102	71-155	
1,4-Bromofluorobenzene	95	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	102	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-779-2087**	**N/A**	**Solid**	**GC/MS OO**	**07/06/19**	**07/06/19 17:00**	**190706L022**

Parameter	Result	RL	DF	Qualifiers
TPPH	ND	5000	50.0	
Gasoline Range Organics (C4-C12)	ND	5000	50.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	99	79-139	
1,2-Dichloroethane-d4	102	71-155	
1,4-Bromofluorobenzene	94	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	102	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 70 of 81

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-779-2089**	**N/A**	**Solid**	**GC/MS OO**	**07/07/19**	**07/07/19 17:54**	**190707L004**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	50	1.00	
Benzene	ND	1.0	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	2.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.0	1.00	
Bromomethane	ND	20	1.00	
2-Butanone	ND	20	1.00	
n-Butylbenzene	ND	1.0	1.00	
sec-Butylbenzene	ND	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	1.0	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	2.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	20	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	2.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	5.0	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	2.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	1.0	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	5.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 71 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2.0	1.00	
c-1,3-Dichloropropene	ND	1.0	1.00	
t-1,3-Dichloropropene	ND	2.0	1.00	
Ethylbenzene	ND	1.0	1.00	
2-Hexanone	ND	20	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	ND	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	20	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	2.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	1.0	1.00	
1,1,2,2-Tetrachloroethane	ND	2.0	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	2.0	1.00	
1,2,4-Trichlorobenzene	ND	2.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
Trichloroethene	ND	2.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	2.0	1.00	
1,2,4-Trimethylbenzene	ND	2.0	1.00	
1,3,5-Trimethylbenzene	ND	2.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	1.0	1.00	
p/m-Xylene	ND	2.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	2.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	20	1.00	
Diisopropyl Ether (DIPE)	ND	1.0	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	1.0	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	1.0	1.00	
Ethanol	ND	500	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	105	79-139	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 72 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,2-Dichloroethane-d4	103	71-155	
1,4-Bromofluorobenzene	94	80-120	
Toluene-d8	102	80-120	
Toluene-d8-TPPH	104	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 73 of 81

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-779-2091**	**N/A**	**Solid**	**GC/MS OO**	**07/08/19**	**07/08/19 18:50**	**190708L017**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	50	1.00	
Benzene	ND	1.0	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	2.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.0	1.00	
Bromomethane	ND	20	1.00	
2-Butanone	ND	20	1.00	
n-Butylbenzene	ND	1.0	1.00	
sec-Butylbenzene	ND	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	1.0	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	2.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	20	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	2.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	5.0	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	2.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	1.0	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	5.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 74 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2.0	1.00	
c-1,3-Dichloropropene	ND	1.0	1.00	
t-1,3-Dichloropropene	ND	2.0	1.00	
Ethylbenzene	ND	1.0	1.00	
2-Hexanone	ND	20	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	ND	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	20	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	2.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	1.0	1.00	
1,1,2,2-Tetrachloroethane	ND	2.0	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	2.0	1.00	
1,2,4-Trichlorobenzene	ND	2.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
Trichloroethene	ND	2.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	2.0	1.00	
1,2,4-Trimethylbenzene	ND	2.0	1.00	
1,3,5-Trimethylbenzene	ND	2.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	1.0	1.00	
p/m-Xylene	ND	2.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	2.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	20	1.00	
Diisopropyl Ether (DIPE)	ND	1.0	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	1.0	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	1.0	1.00	
Ethanol	ND	500	1.00	
TPPH	ND	50	1.00	
Gasoline Range Organics (C4-C12)	ND	50	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 75 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	99	79-139	
1,2-Dichloroethane-d4	94	71-155	
1,4-Bromofluorobenzene	97	80-120	
Toluene-d8	99	80-120	
Toluene-d8-TPPH	100	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 76 of 81

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-779-2092**	**N/A**	**Solid**	**GC/MS OO**	**07/08/19**	**07/08/19 19:20**	**190708L023**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	5000	50.0	
Benzene	ND	100	50.0	
Bromobenzene	ND	100	50.0	
Bromochloromethane	ND	200	50.0	
Bromodichloromethane	ND	100	50.0	
Bromoform	ND	500	50.0	
Bromomethane	ND	2000	50.0	
2-Butanone	ND	2000	50.0	
n-Butylbenzene	ND	100	50.0	
sec-Butylbenzene	ND	100	50.0	
tert-Butylbenzene	ND	100	50.0	
Carbon Disulfide	ND	1000	50.0	
Carbon Tetrachloride	ND	100	50.0	
Chlorobenzene	ND	100	50.0	
Chloroethane	ND	200	50.0	
Chloroform	ND	100	50.0	
Chloromethane	ND	2000	50.0	
2-Chlorotoluene	ND	100	50.0	
4-Chlorotoluene	ND	100	50.0	
Dibromochloromethane	ND	200	50.0	
1,2-Dibromo-3-Chloropropane	ND	500	50.0	
1,2-Dibromoethane	ND	100	50.0	
Dibromomethane	ND	100	50.0	
1,2-Dichlorobenzene	ND	100	50.0	
1,3-Dichlorobenzene	ND	100	50.0	
1,4-Dichlorobenzene	ND	100	50.0	
Dichlorodifluoromethane	ND	200	50.0	
1,1-Dichloroethane	ND	100	50.0	
1,2-Dichloroethane	ND	100	50.0	
1,1-Dichloroethene	ND	100	50.0	
c-1,2-Dichloroethene	ND	100	50.0	
t-1,2-Dichloroethene	ND	100	50.0	
1,2-Dichloropropane	ND	100	50.0	
1,3-Dichloropropane	ND	100	50.0	
2,2-Dichloropropane	ND	500	50.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 77 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	200	50.0	
c-1,3-Dichloropropene	ND	100	50.0	
t-1,3-Dichloropropene	ND	200	50.0	
Ethylbenzene	ND	100	50.0	
2-Hexanone	ND	2000	50.0	
Isopropylbenzene	ND	100	50.0	
p-Isopropyltoluene	ND	100	50.0	
Methylene Chloride	ND	1000	50.0	
4-Methyl-2-Pentanone	ND	2000	50.0	
Naphthalene	ND	1000	50.0	
n-Propylbenzene	ND	200	50.0	
Styrene	ND	100	50.0	
1,1,1,2-Tetrachloroethane	ND	100	50.0	
1,1,2,2-Tetrachloroethane	ND	200	50.0	
Tetrachloroethene	ND	100	50.0	
Toluene	ND	100	50.0	
1,2,3-Trichlorobenzene	ND	200	50.0	
1,2,4-Trichlorobenzene	ND	200	50.0	
1,1,1-Trichloroethane	ND	100	50.0	
1,1,2-Trichloroethane	ND	100	50.0	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	1000	50.0	
Trichloroethene	ND	200	50.0	
Trichlorofluoromethane	ND	1000	50.0	
1,2,3-Trichloropropane	ND	200	50.0	
1,2,4-Trimethylbenzene	ND	200	50.0	
1,3,5-Trimethylbenzene	ND	200	50.0	
Vinyl Acetate	ND	1000	50.0	
Vinyl Chloride	ND	100	50.0	
p/m-Xylene	ND	200	50.0	
o-Xylene	ND	100	50.0	
Methyl-t-Butyl Ether (MTBE)	ND	200	50.0	
Tert-Butyl Alcohol (TBA)	ND	2000	50.0	
Diisopropyl Ether (DIPE)	ND	100	50.0	
Ethyl-t-Butyl Ether (ETBE)	ND	100	50.0	
Tert-Amyl-Methyl Ether (TAME)	ND	100	50.0	
Ethanol	ND	50000	50.0	
TPPH	ND	5000	50.0	
Gasoline Range Organics (C4-C12)	ND	5000	50.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 78 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	96	79-139	
1,2-Dichloroethane-d4	93	71-155	
1,4-Bromofluorobenzene	96	80-120	
Toluene-d8	99	80-120	
Toluene-d8-TPPH	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 79 of 81

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-779-2094**	**N/A**	**Solid**	**GC/MS OO**	**07/10/19**	**07/10/19 19:39**	**190710L008**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	5000	50.0	
Benzene	ND	100	50.0	
Bromobenzene	ND	100	50.0	
Bromochloromethane	ND	200	50.0	
Bromodichloromethane	ND	100	50.0	
Bromoform	ND	500	50.0	
Bromomethane	ND	2000	50.0	
2-Butanone	ND	2000	50.0	
n-Butylbenzene	ND	100	50.0	
sec-Butylbenzene	ND	100	50.0	
tert-Butylbenzene	ND	100	50.0	
Carbon Disulfide	ND	1000	50.0	
Carbon Tetrachloride	ND	100	50.0	
Chlorobenzene	ND	100	50.0	
Chloroethane	ND	200	50.0	
Chloroform	ND	100	50.0	
Chloromethane	ND	2000	50.0	
2-Chlorotoluene	ND	100	50.0	
4-Chlorotoluene	ND	100	50.0	
Dibromochloromethane	ND	200	50.0	
1,2-Dibromo-3-Chloropropane	ND	500	50.0	
1,2-Dibromoethane	ND	100	50.0	
Dibromomethane	ND	100	50.0	
1,2-Dichlorobenzene	ND	100	50.0	
1,3-Dichlorobenzene	ND	100	50.0	
1,4-Dichlorobenzene	ND	100	50.0	
Dichlorodifluoromethane	ND	200	50.0	
1,1-Dichloroethane	ND	100	50.0	
1,2-Dichloroethane	ND	100	50.0	
1,1-Dichloroethene	ND	100	50.0	
c-1,2-Dichloroethene	ND	100	50.0	
t-1,2-Dichloroethene	ND	100	50.0	
1,2-Dichloropropane	ND	100	50.0	
1,3-Dichloropropane	ND	100	50.0	
2,2-Dichloropropane	ND	500	50.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 80 of 81

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	200	50.0	
c-1,3-Dichloropropene	ND	100	50.0	
t-1,3-Dichloropropene	ND	200	50.0	
Ethylbenzene	ND	100	50.0	
2-Hexanone	ND	2000	50.0	
Isopropylbenzene	ND	100	50.0	
p-Isopropyltoluene	ND	100	50.0	
Methylene Chloride	ND	1000	50.0	
4-Methyl-2-Pentanone	ND	2000	50.0	
Naphthalene	ND	1000	50.0	
n-Propylbenzene	ND	200	50.0	
Styrene	ND	100	50.0	
1,1,1,2-Tetrachloroethane	ND	100	50.0	
1,1,2,2-Tetrachloroethane	ND	200	50.0	
Tetrachloroethene	ND	100	50.0	
Toluene	ND	100	50.0	
1,2,3-Trichlorobenzene	ND	200	50.0	
1,2,4-Trichlorobenzene	ND	200	50.0	
1,1,1-Trichloroethane	ND	100	50.0	
1,1,2-Trichloroethane	ND	100	50.0	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	1000	50.0	
Trichloroethene	ND	200	50.0	
Trichlorofluoromethane	ND	1000	50.0	
1,2,3-Trichloropropane	ND	200	50.0	
1,2,4-Trimethylbenzene	ND	200	50.0	
1,3,5-Trimethylbenzene	ND	200	50.0	
Vinyl Acetate	ND	1000	50.0	
Vinyl Chloride	ND	100	50.0	
p/m-Xylene	ND	200	50.0	
o-Xylene	ND	100	50.0	
Methyl-t-Butyl Ether (MTBE)	ND	200	50.0	
Tert-Butyl Alcohol (TBA)	ND	2000	50.0	
Diisopropyl Ether (DIPE)	ND	100	50.0	
Ethyl-t-Butyl Ether (ETBE)	ND	100	50.0	
Tert-Amyl-Methyl Ether (TAME)	ND	100	50.0	
Ethanol	ND	50000	50.0	
TPPH	ND	5000	50.0	
Gasoline Range Organics (C4-C12)	ND	5000	50.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 81 of 81

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	98	79-139	
1,2-Dichloroethane-d4	97	71-155	
1,4-Bromofluorobenzene	93	80-120	
Toluene-d8	100	80-120	
Toluene-d8-TPPH	102	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Project: OOI

Date Received: 06/27/19
Work Order: 19-06-1878
Preparation: N/A
Method: ASTM D-2216 (M)
Units: %

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-7'	**19-06-1878-1-A**	**06/27/19 07:40**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	12	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-11'	**19-06-1878-2-A**	**06/27/19 07:50**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	12	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-15'	**19-06-1878-3-A**	**06/27/19 08:02**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	12	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-20'	**19-06-1878-4-A**	**06/27/19 08:10**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	8.2	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-25'	**19-06-1878-5-A**	**06/27/19 08:18**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	9.0	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-30'	**19-06-1878-6-A**	**06/27/19 08:38**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	4.1	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-32	**19-06-1878-7-A**	**06/27/19 08:50**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	4.3	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-36	**19-06-1878-8-A**	**06/27/19 09:00**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	19	0.10	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Project: OOI

Date Received: 06/27/19
Work Order: 19-06-1878
Preparation: N/A
Method: ASTM D-2216 (M)
Units: %

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-40	**19-06-1878-9-A**	**06/27/19 09:20**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	21	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-11'	**19-06-1878-12-A**	**06/27/19 11:51**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	7.3	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-16'	**19-06-1878-13-A**	**06/27/19 12:13**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	11	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-20'	**19-06-1878-14-A**	**06/27/19 12:18**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	8.1	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-26'	**19-06-1878-15-A**	**06/27/19 12:30**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	4.5	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-31	**19-06-1878-16-A**	**06/27/19 12:45**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	15	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-36	**19-06-1878-17-A**	**06/27/19 13:00**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB2**

Parameter	Result	RL	DF	Qualifiers
Moisture	15	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CE DUP 2	**19-06-1878-20-A**	**06/27/19 00:00**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB2**

Parameter	Result	RL	DF	Qualifiers
Moisture	12	0.10	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	N/A
		Method:	ASTM D-2216 (M)
		Units:	%
Project: OOI			Page 3 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-05-014-8483**	**N/A**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	ND	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-05-014-8482**	**N/A**	**Solid**	**N/A**	**06/28/19**	**06/28/19 16:00**	**J0628MOIB2**

Parameter	Result	RL	DF	Qualifiers
Moisture	ND	0.10	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Quality Control - Spike/Spike Duplicate

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: OOI			Page 1 of 2

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
CESB14-20'	**Sample**	**Solid**	**GC 49**	**07/02/19**	**07/03/19 00:03**	**190702S04**
CESB14-20'	**Matrix Spike**	**Solid**	**GC 49**	**07/02/19**	**07/02/19 19:22**	**190702S04**
CESB14-20'	**Matrix Spike Duplicate**	**Solid**	**GC 49**	**07/02/19**	**07/02/19 19:43**	**190702S04**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	ND	400.0	396.1	99	403.8	101	64-130	2	0-15	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

California Environmental	Date Received:	06/27/19
30423 Canwood St., Suite 208	Work Order:	19-06-1878
Agoura Hills, CA 91301-4316	Preparation:	EPA 3050B
	Method:	EPA 6010B
Project: OOI		Page 2 of 2

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
CESB13-7'	**Sample**	**Solid**	**ICP 8300**	**07/02/19**	**07/03/19 19:39**	**190702S01**
CESB13-7'	**Matrix Spike**	**Solid**	**ICP 8300**	**07/02/19**	**07/03/19 19:41**	**190702S01**
CESB13-7'	**Matrix Spike Duplicate**	**Solid**	**ICP 8300**	**07/02/19**	**07/03/19 19:42**	**190702S01**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Arsenic	ND	25.00	25.65	103	24.55	98	75-125	4	0-20	
Lead	1.964	25.00	27.84	104	27.01	100	75-125	3	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Sample Duplicate

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	N/A
		Method:	ASTM D-2216 (M)
Project: OOI			Page 1 of 2

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
19-06-1826-1	**Sample**	**Solid**	**N/A**	**06/28/19 00:00**	**06/28/19 16:00**	**J0628MOID1**
19-06-1826-1	**Sample Duplicate**	**Solid**	**N/A**	**06/28/19 00:00**	**06/28/19 16:00**	**J0628MOID1**

Parameter	Sample Conc.	DUP Conc.	RPD	RPD CL	Qualifiers
Moisture	86.30	85.80	1	0-10	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Sample Duplicate

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	N/A
		Method:	ASTM D-2216 (M)
Project: OOI			Page 2 of 2

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
CESB14-36	**Sample**	**Solid**	**N/A**	**06/28/19 00:00**	**06/28/19 16:00**	**J0628MOID3**
CESB14-36	**Sample Duplicate**	**Solid**	**N/A**	**06/28/19 00:00**	**06/28/19 16:00**	**J0628MOID3**

Parameter	Sample Conc.	DUP Conc.	RPD	RPD CL	Qualifiers
Moisture	15.10	16.50	9	0-10	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: OOI			Page 1 of 11

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-15-490-3658	**LCS**	**Solid**	**GC 49**	**07/02/19**	**07/02/19 19:01**	**190702B04**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Diesel	400.0	390.3	98	75-123	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: OOI			Page 2 of 11

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-01-002-28079	**LCS**	**Solid**	**ICP 8300**	**07/02/19**	**07/03/19 19:35**	**190702L01**
097-01-002-28079	**LCSD**	**Solid**	**ICP 8300**	**07/02/19**	**07/03/19 19:37**	**190702L01**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Arsenic	25.00	26.04	104	26.45	106	80-120	2	0-20	
Lead	25.00	28.18	113	28.45	114	80-120	1	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5030C
		Method:	GC/MS / EPA 8260B
Project: OOI			Page 3 of 11

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-767-8590	**LCS**	**Aqueous**	**GC/MS PP**	**07/02/19**	**07/02/19 16:48**	**190702L023**
099-12-767-8590	**LCSD**	**Aqueous**	**GC/MS PP**	**07/02/19**	**07/02/19 17:18**	**190702L023**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	51.01	102	52.82	106	80-120	73-127	3	0-20	
Carbon Tetrachloride	50.00	47.70	95	49.71	99	67-139	55-151	4	0-20	
Chlorobenzene	50.00	48.58	97	50.40	101	78-120	71-127	4	0-20	
1,2-Dibromoethane	50.00	54.31	109	54.93	110	80-120	73-127	1	0-20	
1,2-Dichlorobenzene	50.00	49.75	99	50.50	101	63-129	52-140	1	0-20	
1,2-Dichloroethane	50.00	47.23	94	47.66	95	70-130	60-140	1	0-20	
1,1-Dichloroethene	50.00	46.86	94	48.49	97	66-126	56-136	3	0-20	
Ethylbenzene	50.00	50.81	102	53.42	107	80-123	73-130	5	0-20	
Toluene	50.00	49.29	99	50.50	101	80-120	73-127	2	0-20	
Trichloroethene	50.00	50.13	100	51.72	103	80-122	73-129	3	0-20	
Vinyl Chloride	50.00	42.26	85	43.48	87	70-130	60-140	3	0-20	
p/m-Xylene	100.0	100.2	100	104.5	105	75-123	67-131	4	0-25	
o-Xylene	50.00	51.24	102	52.97	106	74-122	66-130	3	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	43.10	86	43.80	88	69-129	59-139	2	0-22	
Tert-Butyl Alcohol (TBA)	250.0	254.1	102	245.0	98	69-129	59-139	4	0-25	
Diisopropyl Ether (DIPE)	50.00	49.02	98	50.63	101	68-128	58-138	3	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	47.13	94	47.82	96	63-135	51-147	1	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	53.21	106	53.79	108	67-133	56-144	1	0-20	
Ethanol	500.0	521.7	104	489.7	98	42-168	21-189	6	0-20	
TPPH	1000	1051	105	1022	102	65-135	53-147	3	0-30	
Gasoline Range Organics (C4-C12)	1000	1035	104	1012	101	65-135	53-147	2	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5030C
		Method:	GC/MS / EPA 8260B
Project: OOI			Page 4 of 11

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-767-8591	**LCS**	**Aqueous**	**GC/MS PP**	**07/05/19**	**07/05/19 17:33**	**190705L008**
099-12-767-8591	**LCSD**	**Aqueous**	**GC/MS PP**	**07/05/19**	**07/05/19 18:04**	**190705L008**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	49.24	98	50.73	101	80-120	73-127	3	0-20	
Carbon Tetrachloride	50.00	44.53	89	46.67	93	67-139	55-151	5	0-20	
Chlorobenzene	50.00	46.94	94	48.06	96	78-120	71-127	2	0-20	
1,2-Dibromoethane	50.00	52.45	105	52.29	105	80-120	73-127	0	0-20	
1,2-Dichlorobenzene	50.00	48.97	98	50.17	100	63-129	52-140	2	0-20	
1,2-Dichloroethane	50.00	44.89	90	44.40	89	70-130	60-140	1	0-20	
1,1-Dichloroethene	50.00	42.91	86	43.99	88	66-126	56-136	2	0-20	
Ethylbenzene	50.00	48.43	97	49.80	100	80-123	73-130	3	0-20	
Toluene	50.00	47.21	94	49.30	99	80-120	73-127	4	0-20	
Trichloroethene	50.00	49.03	98	49.82	100	80-122	73-129	2	0-20	
Vinyl Chloride	50.00	35.30	71	36.37	73	70-130	60-140	3	0-20	
p/m-Xylene	100.0	95.51	96	96.98	97	75-123	67-131	2	0-25	
o-Xylene	50.00	48.41	97	49.32	99	74-122	66-130	2	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	40.18	80	39.76	80	69-129	59-139	1	0-22	
Tert-Butyl Alcohol (TBA)	250.0	245.6	98	241.7	97	69-129	59-139	2	0-25	
Diisopropyl Ether (DIPE)	50.00	45.07	90	45.15	90	68-128	58-138	0	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	43.13	86	42.95	86	63-135	51-147	0	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	50.59	101	50.63	101	67-133	56-144	0	0-20	
Ethanol	500.0	477.1	95	485.6	97	42-168	21-189	2	0-20	
TPPH	1000	1002	100	966.9	97	65-135	53-147	4	0-30	
Gasoline Range Organics (C4-C12)	1000	987.7	99	953.1	95	65-135	53-147	4	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
Project: OOI			Page 5 of 11

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-779-2081	**LCS**	**Solid**	**GC/MS OO**	**07/04/19**	**07/04/19 15:39**	**190704L017**
099-12-779-2081	**LCSD**	**Solid**	**GC/MS OO**	**07/04/19**	**07/04/19 16:08**	**190704L017**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	45.00	90	46.86	94	80-120	73-127	4	0-20	
Carbon Tetrachloride	50.00	43.84	88	46.31	93	65-137	53-149	5	0-20	
Chlorobenzene	50.00	47.42	95	49.04	98	80-120	73-127	3	0-20	
1,2-Dibromoethane	50.00	49.83	100	51.79	104	80-120	73-127	4	0-20	
1,2-Dichlorobenzene	50.00	48.84	98	49.86	100	80-120	73-127	2	0-20	
1,2-Dichloroethane	50.00	44.95	90	45.93	92	80-120	73-127	2	0-20	
1,1-Dichloroethene	50.00	43.20	86	44.49	89	68-128	58-138	3	0-20	
Ethylbenzene	50.00	48.94	98	51.09	102	80-120	73-127	4	0-20	
Toluene	50.00	48.17	96	49.23	98	80-120	73-127	2	0-20	
Trichloroethene	50.00	46.93	94	48.94	98	80-120	73-127	4	0-20	
Vinyl Chloride	50.00	39.76	80	39.65	79	67-127	57-137	0	0-20	
p/m-Xylene	100.0	99.94	100	103.5	103	75-125	67-133	3	0-25	
o-Xylene	50.00	51.08	102	52.52	105	75-125	67-133	3	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	44.40	89	44.47	89	70-124	61-133	0	0-20	
Tert-Butyl Alcohol (TBA)	250.0	205.7	82	206.0	82	73-121	65-129	0	0-20	
Diisopropyl Ether (DIPE)	50.00	44.62	89	45.82	92	69-129	59-139	3	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	47.10	94	48.09	96	70-124	61-133	2	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	53.46	107	55.18	110	74-122	66-130	3	0-20	
Ethanol	500.0	404.9	81	414.2	83	51-135	37-149	2	0-27	
TPPH	1000	916.0	92	932.6	93	65-135	53-147	2	0-30	
Gasoline Range Organics (C4-C12)	1000	823.6	82	832.5	83	65-135	53-147	1	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
Project: OOI			Page 6 of 11

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-779-2085	**LCS**	**Solid**	**GC/MS OO**	**07/06/19**	**07/06/19 15:02**	**190706L008**
099-12-779-2085	**LCSD**	**Solid**	**GC/MS OO**	**07/06/19**	**07/06/19 15:32**	**190706L008**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	47.19	94	48.58	97	80-120	73-127	3	0-20	
Carbon Tetrachloride	50.00	47.02	94	50.73	101	65-137	53-149	8	0-20	
Chlorobenzene	50.00	48.25	97	49.52	99	80-120	73-127	3	0-20	
1,2-Dibromoethane	50.00	48.12	96	50.33	101	80-120	73-127	4	0-20	
1,2-Dichlorobenzene	50.00	47.72	95	49.87	100	80-120	73-127	4	0-20	
1,2-Dichloroethane	50.00	48.35	97	48.95	98	80-120	73-127	1	0-20	
1,1-Dichloroethene	50.00	43.98	88	47.53	95	68-128	58-138	8	0-20	
Ethylbenzene	50.00	49.19	98	50.95	102	80-120	73-127	4	0-20	
Toluene	50.00	49.41	99	50.64	101	80-120	73-127	2	0-20	
Trichloroethene	50.00	47.41	95	49.70	99	80-120	73-127	5	0-20	
Vinyl Chloride	50.00	39.37	79	42.11	84	67-127	57-137	7	0-20	
p/m-Xylene	100.0	102.3	102	105.6	106	75-125	67-133	3	0-25	
o-Xylene	50.00	51.47	103	53.13	106	75-125	67-133	3	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	38.70	77	41.44	83	70-124	61-133	7	0-20	
Tert-Butyl Alcohol (TBA)	250.0	203.8	82	209.2	84	73-121	65-129	3	0-20	
Diisopropyl Ether (DIPE)	50.00	47.78	96	51.28	103	69-129	59-139	7	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	42.36	85	45.41	91	70-124	61-133	7	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	48.47	97	50.01	100	74-122	66-130	3	0-20	
Ethanol	500.0	476.0	95	459.2	92	51-135	37-149	4	0-27	
TPPH	1000	924.3	92	948.7	95	65-135	53-147	3	0-30	
Gasoline Range Organics (C4-C12)	1000	822.0	82	857.9	86	65-135	53-147	4	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
Project: OOI			Page 7 of 11

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-779-2087	**LCS**	**Solid**	**GC/MS OO**	**07/06/19**	**07/06/19 15:02**	**190706L022**
099-12-779-2087	**LCSD**	**Solid**	**GC/MS OO**	**07/06/19**	**07/06/19 15:32**	**190706L022**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	47.19	94	48.58	97	80-120	73-127	3	0-20	
Carbon Tetrachloride	50.00	47.02	94	50.73	101	65-137	53-149	8	0-20	
Chlorobenzene	50.00	48.25	97	49.52	99	80-120	73-127	3	0-20	
1,2-Dibromoethane	50.00	48.12	96	50.33	101	80-120	73-127	4	0-20	
1,2-Dichlorobenzene	50.00	47.72	95	49.87	100	80-120	73-127	4	0-20	
1,2-Dichloroethane	50.00	48.35	97	48.95	98	80-120	73-127	1	0-20	
1,1-Dichloroethene	50.00	43.98	88	47.53	95	68-128	58-138	8	0-20	
Ethylbenzene	50.00	49.19	98	50.95	102	80-120	73-127	4	0-20	
Toluene	50.00	49.41	99	50.64	101	80-120	73-127	2	0-20	
Trichloroethene	50.00	47.41	95	49.70	99	80-120	73-127	5	0-20	
Vinyl Chloride	50.00	39.37	79	42.11	84	67-127	57-137	7	0-20	
p/m-Xylene	100.0	102.3	102	105.6	106	75-125	67-133	3	0-25	
o-Xylene	50.00	51.47	103	53.13	106	75-125	67-133	3	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	38.70	77	41.44	83	70-124	61-133	7	0-20	
Tert-Butyl Alcohol (TBA)	250.0	203.8	82	209.2	84	73-121	65-129	3	0-20	
Diisopropyl Ether (DIPE)	50.00	47.78	96	51.28	103	69-129	59-139	7	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	42.36	85	45.41	91	70-124	61-133	7	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	48.47	97	50.01	100	74-122	66-130	3	0-20	
Ethanol	500.0	476.0	95	459.2	92	51-135	37-149	4	0-27	
TPPH	1000	924.3	92	948.7	95	65-135	53-147	3	0-30	
Gasoline Range Organics (C4-C12)	1000	822.0	82	857.9	86	65-135	53-147	4	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
Project: OOI			Page 8 of 11

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-779-2089	**LCS**	**Solid**	**GC/MS OO**	**07/07/19**	**07/07/19 15:56**	**190707L004**
099-12-779-2089	**LCSD**	**Solid**	**GC/MS OO**	**07/07/19**	**07/07/19 16:26**	**190707L004**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	49.62	99	48.47	97	80-120	73-127	2	0-20	
Carbon Tetrachloride	50.00	51.40	103	48.80	98	65-137	53-149	5	0-20	
Chlorobenzene	50.00	49.54	99	49.27	99	80-120	73-127	1	0-20	
1,2-Dibromoethane	50.00	49.74	99	49.67	99	80-120	73-127	0	0-20	
1,2-Dichlorobenzene	50.00	49.77	100	50.10	100	80-120	73-127	1	0-20	
1,2-Dichloroethane	50.00	49.45	99	47.86	96	80-120	73-127	3	0-20	
1,1-Dichloroethene	50.00	47.22	94	45.28	91	68-128	58-138	4	0-20	
Ethylbenzene	50.00	50.63	101	50.47	101	80-120	73-127	0	0-20	
Toluene	50.00	50.76	102	50.24	100	80-120	73-127	1	0-20	
Trichloroethene	50.00	50.60	101	49.39	99	80-120	73-127	2	0-20	
Vinyl Chloride	50.00	47.99	96	46.75	93	67-127	57-137	3	0-20	
p/m-Xylene	100.0	105.6	106	104.7	105	75-125	67-133	1	0-25	
o-Xylene	50.00	53.06	106	52.57	105	75-125	67-133	1	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	41.97	84	40.85	82	70-124	61-133	3	0-20	
Tert-Butyl Alcohol (TBA)	250.0	204.3	82	204.8	82	73-121	65-129	0	0-20	
Diisopropyl Ether (DIPE)	50.00	51.53	103	50.21	100	69-129	59-139	3	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	47.10	94	45.76	92	70-124	61-133	3	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	51.81	104	51.04	102	74-122	66-130	1	0-20	
Ethanol	500.0	475.2	95	459.6	92	51-135	37-149	3	0-27	
TPPH	1000	900.1	90	931.6	93	65-135	53-147	3	0-30	
Gasoline Range Organics (C4-C12)	1000	814.1	81	841.2	84	65-135	53-147	3	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
Project: OOI			Page 9 of 11

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-779-2091	**LCS**	**Solid**	**GC/MS OO**	**07/08/19**	**07/08/19 16:52**	**190708L017**
099-12-779-2091	**LCSD**	**Solid**	**GC/MS OO**	**07/08/19**	**07/08/19 17:21**	**190708L017**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	48.31	97	46.90	94	80-120	73-127	3	0-20	
Carbon Tetrachloride	50.00	47.70	95	47.08	94	65-137	53-149	1	0-20	
Chlorobenzene	50.00	50.03	100	48.23	96	80-120	73-127	4	0-20	
1,2-Dibromoethane	50.00	51.22	102	50.75	101	80-120	73-127	1	0-20	
1,2-Dichlorobenzene	50.00	50.84	102	49.04	98	80-120	73-127	4	0-20	
1,2-Dichloroethane	50.00	46.11	92	45.69	91	80-120	73-127	1	0-20	
1,1-Dichloroethene	50.00	44.88	90	43.30	87	68-128	58-138	4	0-20	
Ethylbenzene	50.00	51.93	104	49.73	99	80-120	73-127	4	0-20	
Toluene	50.00	50.65	101	48.89	98	80-120	73-127	4	0-20	
Trichloroethene	50.00	50.49	101	48.13	96	80-120	73-127	5	0-20	
Vinyl Chloride	50.00	44.24	88	43.65	87	67-127	57-137	1	0-20	
p/m-Xylene	100.0	106.2	106	101.3	101	75-125	67-133	5	0-25	
o-Xylene	50.00	53.69	107	51.69	103	75-125	67-133	4	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	43.31	87	43.21	86	70-124	61-133	0	0-20	
Tert-Butyl Alcohol (TBA)	250.0	212.4	85	209.5	84	73-121	65-129	1	0-20	
Diisopropyl Ether (DIPE)	50.00	47.91	96	46.72	93	69-129	59-139	3	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	48.64	97	48.22	96	70-124	61-133	1	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	56.21	112	56.24	112	74-122	66-130	0	0-20	
Ethanol	500.0	426.5	85	397.8	80	51-135	37-149	7	0-27	
TPPH	1000	970.0	97	892.2	89	65-135	53-147	8	0-30	
Gasoline Range Organics (C4-C12)	1000	879.4	88	802.7	80	65-135	53-147	9	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
Project: OOI			Page 10 of 11

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-779-2092	**LCS**	**Solid**	**GC/MS OO**	**07/08/19**	**07/08/19 16:52**	**190708L023**
099-12-779-2092	**LCSD**	**Solid**	**GC/MS OO**	**07/08/19**	**07/08/19 17:21**	**190708L023**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	48.31	97	46.90	94	80-120	73-127	3	0-20	
Carbon Tetrachloride	50.00	47.70	95	47.08	94	65-137	53-149	1	0-20	
Chlorobenzene	50.00	50.03	100	48.23	96	80-120	73-127	4	0-20	
1,2-Dibromoethane	50.00	51.22	102	50.75	101	80-120	73-127	1	0-20	
1,2-Dichlorobenzene	50.00	50.84	102	49.04	98	80-120	73-127	4	0-20	
1,2-Dichloroethane	50.00	46.11	92	45.69	91	80-120	73-127	1	0-20	
1,1-Dichloroethene	50.00	44.88	90	43.30	87	68-128	58-138	4	0-20	
Ethylbenzene	50.00	51.93	104	49.73	99	80-120	73-127	4	0-20	
Toluene	50.00	50.65	101	48.89	98	80-120	73-127	4	0-20	
Trichloroethene	50.00	50.49	101	48.13	96	80-120	73-127	5	0-20	
Vinyl Chloride	50.00	44.24	88	43.65	87	67-127	57-137	1	0-20	
p/m-Xylene	100.0	106.2	106	101.3	101	75-125	67-133	5	0-25	
o-Xylene	50.00	53.69	107	51.69	103	75-125	67-133	4	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	43.31	87	43.21	86	70-124	61-133	0	0-20	
Tert-Butyl Alcohol (TBA)	250.0	212.4	85	209.5	84	73-121	65-129	1	0-20	
Diisopropyl Ether (DIPE)	50.00	47.91	96	46.72	93	69-129	59-139	3	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	48.64	97	48.22	96	70-124	61-133	1	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	56.21	112	56.24	112	74-122	66-130	0	0-20	
Ethanol	500.0	426.5	85	397.8	80	51-135	37-149	7	0-27	
TPPH	1000	970.0	97	892.2	89	65-135	53-147	8	0-30	
Gasoline Range Organics (C4-C12)	1000	879.4	88	802.7	80	65-135	53-147	9	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/27/19
30423 Canwood St., Suite 208		Work Order:	19-06-1878
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
Project: OOI			Page 11 of 11

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-779-2094	**LCS**	**Solid**	**GC/MS OO**	**07/10/19**	**07/10/19 17:11**	**190710L008**
099-12-779-2094	**LCSD**	**Solid**	**GC/MS OO**	**07/10/19**	**07/10/19 17:41**	**190710L008**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	45.99	92	47.04	94	80-120	73-127	2	0-20	
Carbon Tetrachloride	50.00	47.48	95	47.51	95	65-137	53-149	0	0-20	
Chlorobenzene	50.00	46.07	92	47.94	96	80-120	73-127	4	0-20	
1,2-Dibromoethane	50.00	49.00	98	51.79	104	80-120	73-127	6	0-20	
1,2-Dichlorobenzene	50.00	46.43	93	48.49	97	80-120	73-127	4	0-20	
1,2-Dichloroethane	50.00	46.24	92	48.38	97	80-120	73-127	5	0-20	
1,1-Dichloroethene	50.00	42.66	85	43.14	86	68-128	58-138	1	0-20	
Ethylbenzene	50.00	46.23	92	48.42	97	80-120	73-127	5	0-20	
Toluene	50.00	46.67	93	48.43	97	80-120	73-127	4	0-20	
Trichloroethene	50.00	47.10	94	47.79	96	80-120	73-127	1	0-20	
Vinyl Chloride	50.00	39.78	80	41.05	82	67-127	57-137	3	0-20	
p/m-Xylene	100.0	95.25	95	100.5	100	75-125	67-133	5	0-25	
o-Xylene	50.00	48.29	97	50.91	102	75-125	67-133	5	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	41.61	83	43.42	87	70-124	61-133	4	0-20	
Tert-Butyl Alcohol (TBA)	250.0	193.3	77	203.2	81	73-121	65-129	5	0-20	
Diisopropyl Ether (DIPE)	50.00	48.05	96	49.42	99	69-129	59-139	3	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	46.21	92	47.57	95	70-124	61-133	3	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	51.75	103	53.76	108	74-122	66-130	4	0-20	
Ethanol	500.0	367.0	73	397.1	79	51-135	37-149	8	0-27	
TPPH	1000	920.5	92	938.7	94	65-135	53-147	2	0-30	
Gasoline Range Organics (C4-C12)	1000	895.1	90	850.0	85	65-135	53-147	5	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Sample Analysis Summary Report

Work Order: 19-06-1878 Page 1 of 1

Method	Extraction	Chemist ID	Instrument	Analytical Location
ASTM D-2216 (M)	N/A	1215	N/A	1
EPA 6010B	EPA 3050B	1080	ICP 8300	1
EPA 8015B (M)	EPA 3550B	1028	GC 49	1
GC/MS / EPA 8260B	EPA 5035	1178	GC/MS OO	2
GC/MS / EPA 8260B	EPA 5030C	1191	GC/MS PP	2

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Glossary of Terms and Qualifiers

Work Order: 19-06-1878 Page 1 of 1

Qualifiers	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: **19-06-1878**

DATE: JUNE 27, 2019

PAGE: 1 OF 3

LABORATORY CLIENT: CALENVIRO

ADDRESS: 30423 Canwood Street #208

CITY: Agoura Hills STATE: CA ZIP: 91301

TEL: 818-991-1542 E-MAIL:

CLIENT PROJECT NAME / NUMBER: OOI

P.O. NO.: 3029

PROJECT CONTACT: C. Buckley

SAMPLER(S): (PRINT) Buckley CB

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAYS ☐ STANDARD

☐ COELT EDF GLOBAL ID: LOG CODE:

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☒ TPH(g) ☐ GRO 8260	☐ TPH(d) ☐ DRO	TPH ☐ C6-C36 ☒ C6-C44 8015	TPH	BTEX / MTBE ☐ 8260 ☐	VOCs (8260) + 0.4	Oxygenates (8260)	Prep (5035) ☐ En Core ☒ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6	ARSENIC / LEAD	MOISTURE		
1	CESB(3-7',	6/27/19	7:40	Soil	5				X		X			X		X							X	X		
2	-11		7:50		5				X		X			X		X							X	X		
3	-15'		8:02		5				X		X			X		X							X	X		
4	-20'		8:10		5				X		X			X		X							X	X		
5	-25'		8:15		5				X		X			X		X							X	X		
6	-30'		8:38		5				X		X			X		X							X	X		
7	-32		8:50		5				X		X			X		X							X	X		
8	-36		9:00		5				X		X			X		X							X	X		
9	-40		9:20		5				X		X			X		X							X	X		
10	-42		9:45		3				X					X		X										

Relinquished by: (Signature) CB	Received by: (Signature/Affiliation) Sony Vu	Date: 06/27/19	Time: 16:07
Relinquished by: (Signature) Sontay Uter	Received by: (Signature/Affiliation) Danny G	Date: 06/27/19	Time: 17:25
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

06/02/14 Revision

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CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: 19-06-1878

DATE: June 27, 2019

PAGE: 2 OF 3

LABORATORY CLIENT: CALENVIRO

ADDRESS: 30423 Canwood Street #208

CITY: Agoura Hills STATE: CA ZIP: 91301

TEL: 818-991-1542 E-MAIL:

CLIENT PROJECT NAME / NUMBER: OOI

P.O. NO.: 3029

PROJECT CONTACT: C. Buckley

SAMPLER(S): (PRINT) Buckley CB

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

☐ COELT EDF | GLOBAL ID: | LOG CODE:

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	TPH(g) GRO 8260	TPH(d) DRO	TPH C6-C36 C6-C44 8015	TPH	BTEX / MTBE 8260	VOCs (8260) + OXY	Oxygenates (8260)	Prep (5035) En Core Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs 8270 SIM	T22 Metals 6010/747X 6020/747X	Cr(VI) 7196 7199 218.6	Arsenic Lead	Moisture %
11	CESB13-47	6/21/19	10:01	Soil	3				X					X		X								
12	CESB14-11'		11:51		5				X		X			X		X							X	X
13	CESB14-16'		12:13		5				X		X			X		X							X	X
14	CESB14-20'		12:18		5				X		X			X		X							X	X
15	CESB14-26'		12:30		5				X		X			X		X							X	X
16	CESB14-31		12:45		5				X		X			X		X							X	X
17	CESB14-36		1pm		4				X		X			X		X							X	X
18	CESB14-42		1:16		3				X		X			X		X								
19	CESB14-49.5		2:05		3				X		X			X		X								
20	CE DUP 2			↓	4				X		X			X		X							X	X

Relinquished by: (Signature) CB	Received by: (Signature/Affiliation) Sara Cron	Date: 06/27/19	Time: 16:07
Relinquished by: (Signature) Sara Cron	Received by: (Signature/Affiliation) Dannyle Cz	Date: 06/27/19	Time: 17:25
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: 19-06-1878

DATE: JUNE 27

PAGE: 3 OF 3

LABORATORY CLIENT: CALENVIRO

ADDRESS: 30423 Canwood Street #208

CITY: Agoura Hills STATE: CA ZIP: 91301

TEL: 818-991-1542 E-MAIL:

CLIENT PROJECT NAME / NUMBER: OOI

P.O. NO.: 3029

PROJECT CONTACT: C. Buckley

SAMPLER(S): (PRINT) Buckley CB

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAYS ☐ STANDARD

☐ COELT EDF | GLOBAL ID: | LOG CODE:

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☒ TPH(g) ☐ GRO 8260	☐ TPH(d) ☐ DRO	TPH ☐ C6-C36 ☐ C6-C44	TPH ____	BTEX / MTBE ☐ 8260 ☐ ____	VOCs (8260) 4 oxy	Oxygenates (8260)	Prep (5035) ☐ En Core ☒ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6
21	CESB14-46	6/27/19	1:55	Soil	3		X		X					X		X						
22	CESB14-49.5	✓	2:15	✓	3		X		X					X		X						
23	CESB1-GW	✓	3p	H2O	3	X			X					X								
24	CESB10-GW	✓	3:20	H2O	1	X			X					X								
25	CESB10-GW		3:50	H2O	2	X			X					X								

Relinquished by: (Signature) CB	Received by: (Signature/Affiliation) Sonia Lopez	Date: 06/27/19	Time: 16:07
Relinquished by: (Signature) Sonia Lopez	Received by: (Signature/Affiliation) Danielle Tz	Date: 06/27/19	Time: 17:25
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

06/02/14 Revision

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WORK ORDER NUMBER: 19-06-1878

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: CALENVIRO

DATE: 06 / 27 / 2019

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC6 (CF: -0.2°C); Temperature (w/o CF): 5.1 °C (w/ CF): 4.9 °C; ☒ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter Checked by: 1167

CUSTODY SEAL:

Cooler ☐ Present and Intact ☐ Present but Not Intact ☒ Not Present ☐ N/A Checked by: 1167

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☒ Not Present ☐ N/A Checked by: TDY

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☐	☑	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☑	☐	☐
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Acid/base preserved samples - pH within acceptable range	☐	☐	☑
Container(s) for certain analysis free of headspace	☑	☐	☐
☑ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☑ VOAh ☐ VOAna$_2$ ☐ 100PJ ☐ 100PJna$_2$ ☐ 125AGB ☐ 125AGBh ☐ 125AGBp ☐ 125PB ☐ 125PBznna (pH__9)
☐ 250AGB ☐ 250CGB ☐ 250CGBs (pH__2) ☐ 250PB ☐ 250PBn (pH__2) ☐ 500AGB ☐ 500AGJ ☐ 500AGJs (pH__2) ☐ 500PB
☐ 1AGB ☐ 1AGBna$_2$ ☐ 1AGBs (pH__2) ☐ 1AGBs (O&G) ☐ 1PB ☐ 1PBna (pH__12) ☐ _____ ☐ _____ ☐ _____

Solid: ☑ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☑ Sleeve (2*) ☐ EnCores® (__) ☑ TerraCores® (3) ☑ 2oz PJ ☐ _____ ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **x** = Na_2SO_3+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: TDY

Reviewed by: IS

* 4) 6715-9)

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WORK ORDER NUMBER: 19-06-1989

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: California Environmental

Client Project Name: OOI

Attention: Charles Buckley
30423 Canwood St.
Suite 208
Agoura Hills, CA 91301-4316

Approved for release on 07/12/2019 by:
Don Burley
Project Manager

ResultLink

Email your PM

Eurofins Calscience (Calscience) certifies that the test results provided in this report meet all NELAC Institute requirements for parameters for which accreditation is required or available. Any exceptions to NELAC Institute requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

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Work Order Number: 19-06-1989

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Work Order Narrative

Work Order: 19-06-1989 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 06/28/19. They were assigned to Work Order 19-06-1989.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-13A): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

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Sample Summary

Client:	California Environmental	Work Order:	19-06-1989
	30423 Canwood St., Suite 208	Project Name:	OOI
	Agoura Hills, CA 91301-4316	PO Number:	
		Date/Time Received:	06/28/19 17:26
		Number of Containers:	61
Attn:	Charles Buckley		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
CESB15-5	19-06-1989-1	06/28/19 07:39	5	Solid
CESB15-10	19-06-1989-2	06/28/19 07:50	5	Solid
CESB15-15	19-06-1989-3	06/28/19 08:02	5	Solid
CESB15-20	19-06-1989-4	06/28/19 08:18	5	Solid
CESB15-25	19-06-1989-5	06/28/19 08:42	5	Solid
CESB15-30	19-06-1989-6	06/28/19 08:51	5	Solid
CESB15-31.8	19-06-1989-7	06/28/19 08:59	4	Solid
CESB15-37	19-06-1989-8	06/28/19 09:45	4	Solid
CESB15-40	19-06-1989-9	06/28/19 10:07	4	Solid
CESB15-44	19-06-1989-10	06/28/19 10:55	4	Solid
CESB12-GW	19-06-1989-11	06/28/19 12:03	3	Aqueous
CESB13-GW	19-06-1989-12	06/28/19 12:35	3	Aqueous
CESB14-GW	19-06-1989-13	06/28/19 13:05	3	Aqueous
CESB15-GW	19-06-1989-14	06/28/19 13:50	3	Aqueous
CE Dup #3	19-06-1989-15	06/28/19 00:00	3	Solid

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 1 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-5	**19-06-1989-1-A**	**06/28/19 07:39**	**Solid**	**GC 50**	**07/01/19**	**07/02/19 05:12**	**190701B02A**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	84	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 2 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-10	**19-06-1989-2-A**	**06/28/19 07:50**	**Solid**	**GC 50**	**07/01/19**	**07/02/19 05:33**	**190701B02A**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	82	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 3 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-15	**19-06-1989-3-A**	**06/28/19 08:02**	**Solid**	**GC 50**	**07/01/19**	**07/02/19 05:53**	**190701B02A**

Parameter	Result	RL	DF	Qualifiers
C6	ND	4.9	1.00	
C7	ND	4.9	1.00	
C8	ND	4.9	1.00	
C9-C10	ND	4.9	1.00	
C11-C12	ND	4.9	1.00	
C13-C14	ND	4.9	1.00	
C15-C16	ND	4.9	1.00	
C17-C18	ND	4.9	1.00	
C19-C20	ND	4.9	1.00	
C21-C22	ND	4.9	1.00	
C23-C24	ND	4.9	1.00	
C25-C28	ND	4.9	1.00	
C29-C32	ND	4.9	1.00	
C33-C36	ND	4.9	1.00	
C37-C40	ND	4.9	1.00	
C41-C44	ND	4.9	1.00	
C6-C44 Total	ND	4.9	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	71	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 4 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-20	**19-06-1989-4-A**	**06/28/19 08:18**	**Solid**	**GC 50**	**07/01/19**	**07/02/19 06:14**	**190701B02A**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	88	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 5 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-25	**19-06-1989-5-A**	**06/28/19 08:42**	**Solid**	**GC 50**	**07/01/19**	**07/02/19 06:34**	**190701B02A**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	79	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 6 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-30	**19-06-1989-6-A**	**06/28/19 08:51**	**Solid**	**GC 50**	**07/01/19**	**07/02/19 07:16**	**190701B02A**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	78	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 7 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-31.8	**19-06-1989-7-A**	**06/28/19 08:59**	**Solid**	**GC 50**	**07/01/19**	**07/02/19 07:36**	**190701B02A**

Comment(s): - The total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	7.2	5.0	1.00	
C11-C12	7.5	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	17	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	80	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 8 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-37	**19-06-1989-8-A**	**06/28/19 09:45**	**Solid**	**GC 50**	**07/01/19**	**07/02/19 12:05**	**190701B02A**

Comment(s): - The total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qualifiers
C6	83	50	10.0	
C7	390	50	10.0	
C8	460	50	10.0	
C9-C10	970	50	10.0	
C11-C12	330	50	10.0	
C13-C14	ND	50	10.0	
C15-C16	ND	50	10.0	
C17-C18	ND	50	10.0	
C19-C20	ND	50	10.0	
C21-C22	ND	50	10.0	
C23-C24	ND	50	10.0	
C25-C28	ND	50	10.0	
C29-C32	ND	50	10.0	
C33-C36	ND	50	10.0	
C37-C40	ND	50	10.0	
C41-C44	ND	50	10.0	
C6-C44 Total	2300	50	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	86	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 9 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-40	**19-06-1989-9-A**	**06/28/19 10:07**	**Solid**	**GC 50**	**07/01/19**	**07/02/19 08:17**	**190701B02A**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	72	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 10 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-44	**19-06-1989-10-A**	**06/28/19 10:55**	**Solid**	**GC 50**	**07/01/19**	**07/02/19 08:38**	**190701B02A**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	69	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: OOI			Page 11 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-490-3657**	**N/A**	**Solid**	**GC 50**	**07/01/19**	**07/02/19 00:25**	**190701B02A**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	88	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: OOI			Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-5	**19-06-1989-1-A**	**06/28/19 07:39**	**Solid**	**ICP 8300**	**07/01/19**	**07/02/19 16:14**	**190701L05**

Parameter	Result	RL	DF	Qualifiers
Arsenic	2.12	0.773	1.03	
Lead	1.68	0.515	1.03	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-10	**19-06-1989-2-A**	**06/28/19 07:50**	**Solid**	**ICP 8300**	**07/01/19**	**07/02/19 16:19**	**190701L05**

Parameter	Result	RL	DF	Qualifiers
Arsenic	2.29	0.765	1.02	
Lead	1.94	0.510	1.02	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-15	**19-06-1989-3-A**	**06/28/19 08:02**	**Solid**	**ICP 8300**	**07/01/19**	**07/02/19 16:25**	**190701L05**

Parameter	Result	RL	DF	Qualifiers
Arsenic	4.40	0.725	0.966	
Lead	1.70	0.483	0.966	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-20	**19-06-1989-4-A**	**06/28/19 08:18**	**Solid**	**ICP 8300**	**07/01/19**	**07/02/19 16:27**	**190701L05**

Parameter	Result	RL	DF	Qualifiers
Arsenic	ND	0.765	1.02	
Lead	4.23	0.510	1.02	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-25	**19-06-1989-5-A**	**06/28/19 08:42**	**Solid**	**ICP 8300**	**07/01/19**	**07/02/19 16:29**	**190701L05**

Parameter	Result	RL	DF	Qualifiers
Arsenic	3.15	0.773	1.03	
Lead	0.998	0.515	1.03	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-30	**19-06-1989-6-A**	**06/28/19 08:51**	**Solid**	**ICP 8300**	**07/01/19**	**07/02/19 16:31**	**190701L05**

Parameter	Result	RL	DF	Qualifiers
Arsenic	1.32	0.781	1.04	
Lead	4.61	0.521	1.04	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/28/19
Work Order: 19-06-1989
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-31.8	**19-06-1989-7-A**	**06/28/19 08:59**	**Solid**	**ICP 8300**	**07/01/19**	**07/02/19 16:33**	**190701L05**

Parameter	Result	RL	DF	Qualifiers
Arsenic	13.3	0.777	1.04	
Lead	7.11	0.518	1.04	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-37	**19-06-1989-8-A**	**06/28/19 09:45**	**Solid**	**ICP 8300**	**07/01/19**	**07/02/19 16:34**	**190701L05**

Parameter	Result	RL	DF	Qualifiers
Arsenic	4.47	0.777	1.04	
Lead	1.74	0.518	1.04	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-40	**19-06-1989-9-A**	**06/28/19 10:07**	**Solid**	**ICP 8300**	**07/01/19**	**07/02/19 16:36**	**190701L05**

Parameter	Result	RL	DF	Qualifiers
Arsenic	24.2	0.718	0.957	
Lead	3.80	0.478	0.957	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-44	**19-06-1989-10-A**	**06/28/19 10:55**	**Solid**	**ICP 8300**	**07/01/19**	**07/02/19 16:38**	**190701L05**

Parameter	Result	RL	DF	Qualifiers
Arsenic	3.45	0.735	0.980	
Lead	2.13	0.490	0.980	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-28084**	**N/A**	**Solid**	**ICP 8300**	**07/01/19**	**07/02/19 16:05**	**190701L05**

Parameter	Result	RL	DF	Qualifiers
Arsenic	ND	0.732	0.976	
Lead	ND	0.488	0.976	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/28/19
Work Order: 19-06-1989
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Units: ug/L

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-GW	**19-06-1989-11-B**	**06/28/19 12:03**	**Aqueous**	**GC/MS PP**	**07/05/19**	**07/05/19 20:06**	**190705L008**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	200	10.0	
Benzene	520	5.0	10.0	
Bromobenzene	ND	10	10.0	
Bromochloromethane	ND	10	10.0	
Bromodichloromethane	ND	10	10.0	
Bromoform	ND	50	10.0	
Bromomethane	ND	500	10.0	
2-Butanone	ND	100	10.0	
n-Butylbenzene	ND	10	10.0	
sec-Butylbenzene	36	10	10.0	
tert-Butylbenzene	ND	10	10.0	
Carbon Disulfide	ND	100	10.0	
Carbon Tetrachloride	ND	5.0	10.0	
Chlorobenzene	ND	10	10.0	
Chloroethane	ND	50	10.0	
Chloroform	ND	10	10.0	
Chloromethane	ND	100	10.0	
2-Chlorotoluene	ND	10	10.0	
4-Chlorotoluene	ND	10	10.0	
Dibromochloromethane	ND	10	10.0	
1,2-Dibromo-3-Chloropropane	ND	100	10.0	
1,2-Dibromoethane	ND	10	10.0	
Dibromomethane	ND	10	10.0	
1,2-Dichlorobenzene	ND	10	10.0	
1,3-Dichlorobenzene	ND	10	10.0	
1,4-Dichlorobenzene	ND	10	10.0	
Dichlorodifluoromethane	ND	10	10.0	
1,1-Dichloroethane	ND	10	10.0	
1,2-Dichloroethane	ND	5.0	10.0	
1,1-Dichloroethene	ND	10	10.0	
c-1,2-Dichloroethene	ND	10	10.0	
t-1,2-Dichloroethene	ND	10	10.0	
1,2-Dichloropropane	ND	10	10.0	
1,3-Dichloropropane	ND	10	10.0	
2,2-Dichloropropane	ND	10	10.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5030C
	Method:	GC/MS / EPA 8260B
	Units:	ug/L
Project: OOI		Page 2 of 21

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	10	10.0	
c-1,3-Dichloropropene	ND	5.0	10.0	
t-1,3-Dichloropropene	ND	5.0	10.0	
Ethylbenzene	1200	10	10.0	
2-Hexanone	ND	100	10.0	
Isopropylbenzene	220	10	10.0	
p-Isopropyltoluene	97	10	10.0	
Methylene Chloride	ND	100	10.0	
4-Methyl-2-Pentanone	ND	100	10.0	
Naphthalene	260	100	10.0	
n-Propylbenzene	240	10	10.0	
Styrene	ND	10	10.0	
1,1,1,2-Tetrachloroethane	ND	10	10.0	
1,1,2,2-Tetrachloroethane	ND	10	10.0	
Tetrachloroethene	ND	10	10.0	
Toluene	430	10	10.0	
1,2,3-Trichlorobenzene	ND	10	10.0	
1,2,4-Trichlorobenzene	ND	10	10.0	
1,1,1-Trichloroethane	ND	10	10.0	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	100	10.0	
1,1,2-Trichloroethane	ND	10	10.0	
Trichloroethene	ND	10	10.0	
Trichlorofluoromethane	ND	100	10.0	
1,2,3-Trichloropropane	ND	50	10.0	
1,2,4-Trimethylbenzene	1300	10	10.0	
1,3,5-Trimethylbenzene	470	10	10.0	
Vinyl Acetate	ND	100	10.0	
Vinyl Chloride	ND	5.0	10.0	
p/m-Xylene	2700	10	10.0	
o-Xylene	1500	10	10.0	
Methyl-t-Butyl Ether (MTBE)	ND	10	10.0	
Tert-Butyl Alcohol (TBA)	ND	100	10.0	
Diisopropyl Ether (DIPE)	ND	20	10.0	
Ethyl-t-Butyl Ether (ETBE)	ND	20	10.0	
Tert-Amyl-Methyl Ether (TAME)	ND	20	10.0	
Ethanol	ND	1000	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	96	78-126	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 5030C
		Method:	GC/MS / EPA 8260B
		Units:	ug/L
Project: OOI			Page 3 of 21

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,2-Dichloroethane-d4	90	75-135	
Toluene-d8	103	80-120	
Toluene-d8-TPPH	98	80-120	
1,4-Bromofluorobenzene	109	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB12-GW	**19-06-1989-11-A**	**06/28/19 12:03**	**Aqueous**	**GC/MS PP**	**07/02/19**	**07/03/19 01:14**	**190702L023**

Parameter	Result	RL	DF	Qualifiers
TPPH	38000	2500	50.0	
Gasoline Range Organics (C4-C12)	36000	2500	50.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Toluene-d8-TPPH	95	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/28/19
Work Order: 19-06-1989
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Units: ug/L

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB13-GW	**19-06-1989-12-A**	**06/28/19 12:35**	**Aqueous**	**GC/MS PP**	**07/02/19**	**07/03/19 01:45**	**190702L023**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	100	5.00	
Benzene	220	2.5	5.00	
Bromobenzene	ND	5.0	5.00	
Bromochloromethane	ND	5.0	5.00	
Bromodichloromethane	ND	5.0	5.00	
Bromoform	ND	25	5.00	
Bromomethane	ND	250	5.00	
2-Butanone	ND	50	5.00	
n-Butylbenzene	ND	5.0	5.00	
sec-Butylbenzene	8.7	5.0	5.00	
tert-Butylbenzene	ND	5.0	5.00	
Carbon Disulfide	ND	50	5.00	
Carbon Tetrachloride	ND	2.5	5.00	
Chlorobenzene	ND	5.0	5.00	
Chloroethane	ND	25	5.00	
Chloroform	ND	5.0	5.00	
Chloromethane	ND	50	5.00	
2-Chlorotoluene	ND	5.0	5.00	
4-Chlorotoluene	ND	5.0	5.00	
Dibromochloromethane	ND	5.0	5.00	
1,2-Dibromo-3-Chloropropane	ND	50	5.00	
1,2-Dibromoethane	ND	5.0	5.00	
Dibromomethane	ND	5.0	5.00	
1,2-Dichlorobenzene	ND	5.0	5.00	
1,3-Dichlorobenzene	ND	5.0	5.00	
1,4-Dichlorobenzene	ND	5.0	5.00	
Dichlorodifluoromethane	ND	5.0	5.00	
1,1-Dichloroethane	ND	5.0	5.00	
1,2-Dichloroethane	ND	2.5	5.00	
1,1-Dichloroethene	ND	5.0	5.00	
c-1,2-Dichloroethene	ND	5.0	5.00	
t-1,2-Dichloroethene	ND	5.0	5.00	
1,2-Dichloropropane	ND	5.0	5.00	
1,3-Dichloropropane	ND	5.0	5.00	
2,2-Dichloropropane	ND	5.0	5.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5030C
	Method:	GC/MS / EPA 8260B
	Units:	ug/L
Project: OOI		Page 5 of 21

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	5.0	5.00	
c-1,3-Dichloropropene	ND	2.5	5.00	
t-1,3-Dichloropropene	ND	2.5	5.00	
Ethylbenzene	530	5.0	5.00	
2-Hexanone	ND	50	5.00	
Isopropylbenzene	86	5.0	5.00	
p-Isopropyltoluene	21	5.0	5.00	
Methylene Chloride	ND	50	5.00	
4-Methyl-2-Pentanone	ND	50	5.00	
Naphthalene	130	50	5.00	
n-Propylbenzene	73	5.0	5.00	
Styrene	ND	5.0	5.00	
1,1,1,2-Tetrachloroethane	ND	5.0	5.00	
1,1,2,2-Tetrachloroethane	ND	5.0	5.00	
Tetrachloroethene	ND	5.0	5.00	
Toluene	26	5.0	5.00	
1,2,3-Trichlorobenzene	ND	5.0	5.00	
1,2,4-Trichlorobenzene	ND	5.0	5.00	
1,1,1-Trichloroethane	ND	5.0	5.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	50	5.00	
1,1,2-Trichloroethane	ND	5.0	5.00	
Trichloroethene	ND	5.0	5.00	
Trichlorofluoromethane	ND	50	5.00	
1,2,3-Trichloropropane	ND	25	5.00	
1,2,4-Trimethylbenzene	420	5.0	5.00	
1,3,5-Trimethylbenzene	100	5.0	5.00	
Vinyl Acetate	ND	50	5.00	
Vinyl Chloride	ND	2.5	5.00	
p/m-Xylene	89	5.0	5.00	
o-Xylene	110	5.0	5.00	
Methyl-t-Butyl Ether (MTBE)	ND	5.0	5.00	
Tert-Butyl Alcohol (TBA)	ND	50	5.00	
Diisopropyl Ether (DIPE)	ND	10	5.00	
Ethyl-t-Butyl Ether (ETBE)	ND	10	5.00	
Tert-Amyl-Methyl Ether (TAME)	ND	10	5.00	
Ethanol	ND	500	5.00	
TPPH	11000	250	5.00	
Gasoline Range Organics (C4-C12)	10000	250	5.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5030C
	Method:	GC/MS / EPA 8260B
	Units:	ug/L
Project: OOI		Page 6 of 21

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	95	78-126	
1,2-Dichloroethane-d4	88	75-135	
Toluene-d8	100	80-120	
Toluene-d8-TPPH	94	80-120	
1,4-Bromofluorobenzene	100	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/28/19
Work Order: 19-06-1989
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Units: ug/L

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB14-GW	**19-06-1989-13-B**	**06/28/19 13:05**	**Aqueous**	**GC/MS PP**	**07/10/19**	**07/10/19 23:20**	**190710L010**

Parameter	Result	RL	DF	Qualifiers
Acetone	260	40	2.00	
Benzene	94	1.0	2.00	
Bromobenzene	ND	2.0	2.00	
Bromochloromethane	ND	2.0	2.00	
Bromodichloromethane	ND	2.0	2.00	
Bromoform	ND	10	2.00	
Bromomethane	ND	100	2.00	
2-Butanone	ND	20	2.00	
n-Butylbenzene	14	2.0	2.00	
sec-Butylbenzene	15	2.0	2.00	
tert-Butylbenzene	ND	2.0	2.00	
Carbon Disulfide	ND	20	2.00	
Carbon Tetrachloride	ND	1.0	2.00	
Chlorobenzene	ND	2.0	2.00	
Chloroethane	ND	10	2.00	
Chloroform	ND	2.0	2.00	
Chloromethane	ND	20	2.00	
2-Chlorotoluene	ND	2.0	2.00	
4-Chlorotoluene	ND	2.0	2.00	
Dibromochloromethane	ND	2.0	2.00	
1,2-Dibromo-3-Chloropropane	ND	20	2.00	
1,2-Dibromoethane	ND	2.0	2.00	
Dibromomethane	ND	2.0	2.00	
1,2-Dichlorobenzene	ND	2.0	2.00	
1,3-Dichlorobenzene	ND	2.0	2.00	
1,4-Dichlorobenzene	ND	2.0	2.00	
Dichlorodifluoromethane	ND	2.0	2.00	
1,1-Dichloroethane	ND	2.0	2.00	
1,2-Dichloroethane	12	1.0	2.00	
1,1-Dichloroethene	ND	2.0	2.00	
c-1,2-Dichloroethene	ND	2.0	2.00	
t-1,2-Dichloroethene	ND	2.0	2.00	
1,2-Dichloropropane	ND	2.0	2.00	
1,3-Dichloropropane	ND	2.0	2.00	
2,2-Dichloropropane	ND	2.0	2.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5030C
	Method:	GC/MS / EPA 8260B
	Units:	ug/L
Project: OOI		Page 8 of 21

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2.0	2.00	
c-1,3-Dichloropropene	ND	1.0	2.00	
t-1,3-Dichloropropene	ND	1.0	2.00	
Ethylbenzene	240	2.0	2.00	
2-Hexanone	ND	20	2.00	
Isopropylbenzene	94	2.0	2.00	
p-Isopropyltoluene	19	2.0	2.00	
Methylene Chloride	ND	20	2.00	
4-Methyl-2-Pentanone	ND	20	2.00	
Naphthalene	91	20	2.00	
n-Propylbenzene	84	2.0	2.00	
Styrene	ND	2.0	2.00	
1,1,1,2-Tetrachloroethane	ND	2.0	2.00	
1,1,2,2-Tetrachloroethane	ND	2.0	2.00	
Tetrachloroethene	ND	2.0	2.00	
Toluene	6.5	2.0	2.00	
1,2,3-Trichlorobenzene	ND	2.0	2.00	
1,2,4-Trichlorobenzene	ND	2.0	2.00	
1,1,1-Trichloroethane	ND	2.0	2.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	20	2.00	
1,1,2-Trichloroethane	ND	2.0	2.00	
Trichloroethene	ND	2.0	2.00	
Trichlorofluoromethane	ND	20	2.00	
1,2,3-Trichloropropane	ND	10	2.00	
1,2,4-Trimethylbenzene	2.1	2.0	2.00	
1,3,5-Trimethylbenzene	3.8	2.0	2.00	
Vinyl Acetate	ND	20	2.00	
Vinyl Chloride	ND	1.0	2.00	
p/m-Xylene	23	2.0	2.00	
o-Xylene	26	2.0	2.00	
Methyl-t-Butyl Ether (MTBE)	ND	2.0	2.00	
Tert-Butyl Alcohol (TBA)	ND	20	2.00	
Diisopropyl Ether (DIPE)	ND	4.0	2.00	
Ethyl-t-Butyl Ether (ETBE)	ND	4.0	2.00	
Tert-Amyl-Methyl Ether (TAME)	ND	4.0	2.00	
Ethanol	ND	200	2.00	
TPPH	7200	100	2.00	
Gasoline Range Organics (C4-C12)	6500	100	2.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5030C
	Method:	GC/MS / EPA 8260B
	Units:	ug/L
Project: OOI		Page 9 of 21

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	97	78-126	
1,2-Dichloroethane-d4	92	75-135	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	94	80-120	
1,4-Bromofluorobenzene	103	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 5030C
		Method:	GC/MS / EPA 8260B
		Units:	ug/L
Project: OOI			Page 10 of 21

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-GW	**19-06-1989-14-A**	**06/28/19 13:50**	**Aqueous**	**GC/MS PP**	**07/05/19**	**07/05/19 19:35**	**190705L008**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	200	10.0	
Benzene	7.2	5.0	10.0	
Bromobenzene	ND	10	10.0	
Bromochloromethane	ND	10	10.0	
Bromodichloromethane	ND	10	10.0	
Bromoform	ND	50	10.0	
Bromomethane	ND	500	10.0	
2-Butanone	ND	100	10.0	
n-Butylbenzene	78	10	10.0	
sec-Butylbenzene	46	10	10.0	
tert-Butylbenzene	ND	10	10.0	
Carbon Disulfide	ND	100	10.0	
Carbon Tetrachloride	ND	5.0	10.0	
Chlorobenzene	ND	10	10.0	
Chloroethane	ND	50	10.0	
Chloroform	ND	10	10.0	
Chloromethane	ND	100	10.0	
2-Chlorotoluene	ND	10	10.0	
4-Chlorotoluene	ND	10	10.0	
Dibromochloromethane	ND	10	10.0	
1,2-Dibromo-3-Chloropropane	ND	100	10.0	
1,2-Dibromoethane	ND	10	10.0	
Dibromomethane	ND	10	10.0	
1,2-Dichlorobenzene	ND	10	10.0	
1,3-Dichlorobenzene	ND	10	10.0	
1,4-Dichlorobenzene	ND	10	10.0	
Dichlorodifluoromethane	ND	10	10.0	
1,1-Dichloroethane	ND	10	10.0	
1,2-Dichloroethane	ND	5.0	10.0	
1,1-Dichloroethene	ND	10	10.0	
c-1,2-Dichloroethene	ND	10	10.0	
t-1,2-Dichloroethene	ND	10	10.0	
1,2-Dichloropropane	ND	10	10.0	
1,3-Dichloropropane	ND	10	10.0	
2,2-Dichloropropane	ND	10	10.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5030C
	Method:	GC/MS / EPA 8260B
	Units:	ug/L
Project: OOI		Page 11 of 21

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	10	10.0	
c-1,3-Dichloropropene	ND	5.0	10.0	
t-1,3-Dichloropropene	ND	5.0	10.0	
Ethylbenzene	610	10	10.0	
2-Hexanone	ND	100	10.0	
Isopropylbenzene	300	10	10.0	
p-Isopropyltoluene	110	10	10.0	
Methylene Chloride	ND	100	10.0	
4-Methyl-2-Pentanone	ND	100	10.0	
Naphthalene	430	100	10.0	
n-Propylbenzene	300	10	10.0	
Styrene	ND	10	10.0	
1,1,1,2-Tetrachloroethane	ND	10	10.0	
1,1,2,2-Tetrachloroethane	ND	10	10.0	
Tetrachloroethene	ND	10	10.0	
Toluene	ND	10	10.0	
1,2,3-Trichlorobenzene	ND	10	10.0	
1,2,4-Trichlorobenzene	ND	10	10.0	
1,1,1-Trichloroethane	ND	10	10.0	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	100	10.0	
1,1,2-Trichloroethane	ND	10	10.0	
Trichloroethene	ND	10	10.0	
Trichlorofluoromethane	ND	100	10.0	
1,2,3-Trichloropropane	ND	50	10.0	
1,2,4-Trimethylbenzene	1100	10	10.0	
1,3,5-Trimethylbenzene	280	10	10.0	
Vinyl Acetate	ND	100	10.0	
Vinyl Chloride	ND	5.0	10.0	
p/m-Xylene	570	10	10.0	
o-Xylene	22	10	10.0	
Methyl-t-Butyl Ether (MTBE)	ND	10	10.0	
Tert-Butyl Alcohol (TBA)	ND	100	10.0	
Diisopropyl Ether (DIPE)	ND	20	10.0	
Ethyl-t-Butyl Ether (ETBE)	ND	20	10.0	
Tert-Amyl-Methyl Ether (TAME)	ND	20	10.0	
Ethanol	ND	1000	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	95	78-126	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 5030C
		Method:	GC/MS / EPA 8260B
		Units:	ug/L
Project: OOI			Page 12 of 21

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,2-Dichloroethane-d4	91	75-135	
Toluene-d8	106	80-120	
Toluene-d8-TPPH	99	80-120	
1,4-Bromofluorobenzene	103	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-GW	**19-06-1989-14-B**	**06/28/19 13:50**	**Aqueous**	**GC/MS PP**	**07/05/19**	**07/05/19 20:36**	**190705L008**

Parameter	Result	RL	DF	Qualifiers
TPPH	44000	2000	40.0	
Gasoline Range Organics (C4-C12)	41000	2000	40.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Toluene-d8-TPPH	94	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
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Agoura Hills, CA 91301-4316

Date Received: 06/28/19
Work Order: 19-06-1989
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Units: ug/L

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-767-8590**	**N/A**	**Aqueous**	**GC/MS PP**	**07/02/19**	**07/02/19 18:20**	**190702L023**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	20	1.00	
Benzene	ND	0.50	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	1.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.0	1.00	
Bromomethane	ND	50	1.00	
2-Butanone	ND	10	1.00	
n-Butylbenzene	ND	1.0	1.00	
sec-Butylbenzene	ND	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	0.50	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	5.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	10	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	1.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	10	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	1.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	0.50	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	1.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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California Environmental	Date Received:	06/28/19
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Agoura Hills, CA 91301-4316	Preparation:	EPA 5030C
	Method:	GC/MS / EPA 8260B
	Units:	ug/L
Project: OOI		Page 14 of 21

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.0	1.00	
c-1,3-Dichloropropene	ND	0.50	1.00	
t-1,3-Dichloropropene	ND	0.50	1.00	
Ethylbenzene	ND	1.0	1.00	
2-Hexanone	ND	10	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	ND	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	10	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	1.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	1.0	1.00	
1,1,2,2-Tetrachloroethane	ND	1.0	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	1.0	1.00	
1,2,4-Trichlorobenzene	ND	1.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
Trichloroethene	ND	1.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	5.0	1.00	
1,2,4-Trimethylbenzene	ND	1.0	1.00	
1,3,5-Trimethylbenzene	ND	1.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	0.50	1.00	
p/m-Xylene	ND	1.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	1.00	
Diisopropyl Ether (DIPE)	ND	2.0	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1.00	
Ethanol	ND	100	1.00	
TPPH	ND	50	1.00	
Gasoline Range Organics (C4-C12)	ND	50	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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California Environmental		Date Received:	06/28/19
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Agoura Hills, CA 91301-4316		Preparation:	EPA 5030C
		Method:	GC/MS / EPA 8260B
		Units:	ug/L
Project: OOI			Page 15 of 21

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	96	78-126	
1,2-Dichloroethane-d4	95	75-135	
Toluene-d8	99	80-120	
Toluene-d8-TPPH	93	80-120	
1,4-Bromofluorobenzene	98	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/28/19
Work Order: 19-06-1989
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Units: ug/L

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-767-8591**	**N/A**	**Aqueous**	**GC/MS PP**	**07/05/19**	**07/05/19 19:05**	**190705L008**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	20	1.00	
Benzene	ND	0.50	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	1.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.0	1.00	
Bromomethane	ND	50	1.00	
2-Butanone	ND	10	1.00	
n-Butylbenzene	ND	1.0	1.00	
sec-Butylbenzene	ND	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	0.50	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	5.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	10	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	1.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	10	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	1.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	0.50	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	1.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Agoura Hills, CA 91301-4316	Preparation:	EPA 5030C
	Method:	GC/MS / EPA 8260B
	Units:	ug/L
Project: OOI		Page 17 of 21

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.0	1.00	
c-1,3-Dichloropropene	ND	0.50	1.00	
t-1,3-Dichloropropene	ND	0.50	1.00	
Ethylbenzene	ND	1.0	1.00	
2-Hexanone	ND	10	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	ND	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	10	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	1.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	1.0	1.00	
1,1,2,2-Tetrachloroethane	ND	1.0	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	1.0	1.00	
1,2,4-Trichlorobenzene	ND	1.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
Trichloroethene	ND	1.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	5.0	1.00	
1,2,4-Trimethylbenzene	ND	1.0	1.00	
1,3,5-Trimethylbenzene	ND	1.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	0.50	1.00	
p/m-Xylene	ND	1.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	1.00	
Diisopropyl Ether (DIPE)	ND	2.0	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1.00	
Ethanol	ND	100	1.00	
TPPH	ND	50	1.00	
Gasoline Range Organics (C4-C12)	ND	50	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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	Method:	GC/MS / EPA 8260B
	Units:	ug/L
Project: OOI		Page 18 of 21

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	97	78-126	
1,2-Dichloroethane-d4	91	75-135	
Toluene-d8	97	80-120	
Toluene-d8-TPPH	91	80-120	
1,4-Bromofluorobenzene	96	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/28/19
Work Order: 19-06-1989
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Units: ug/L

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-767-8594**	**N/A**	**Aqueous**	**GC/MS PP**	**07/10/19**	**07/10/19 19:17**	**190710L010**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	20	1.00	
Benzene	ND	0.50	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	1.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.0	1.00	
Bromomethane	ND	50	1.00	
2-Butanone	ND	10	1.00	
n-Butylbenzene	ND	1.0	1.00	
sec-Butylbenzene	ND	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	0.50	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	5.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	10	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	1.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	10	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	1.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	0.50	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	1.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5030C
	Method:	GC/MS / EPA 8260B
	Units:	ug/L
Project: OOI		Page 20 of 21

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.0	1.00	
c-1,3-Dichloropropene	ND	0.50	1.00	
t-1,3-Dichloropropene	ND	0.50	1.00	
Ethylbenzene	ND	1.0	1.00	
2-Hexanone	ND	10	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	ND	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	10	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	1.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	1.0	1.00	
1,1,2,2-Tetrachloroethane	ND	1.0	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	1.0	1.00	
1,2,4-Trichlorobenzene	ND	1.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
Trichloroethene	ND	1.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	5.0	1.00	
1,2,4-Trimethylbenzene	ND	1.0	1.00	
1,3,5-Trimethylbenzene	ND	1.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	0.50	1.00	
p/m-Xylene	ND	1.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	1.00	
Diisopropyl Ether (DIPE)	ND	2.0	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1.00	
Ethanol	ND	100	1.00	
TPPH	ND	50	1.00	
Gasoline Range Organics (C4-C12)	ND	50	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5030C
	Method:	GC/MS / EPA 8260B
	Units:	ug/L
Project: OOI		Page 21 of 21

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	99	78-126	
1,2-Dichloroethane-d4	98	75-135	
Toluene-d8	99	80-120	
Toluene-d8-TPPH	92	80-120	
1,4-Bromofluorobenzene	98	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/28/19
Work Order: 19-06-1989
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-5	**19-06-1989-1-D**	**06/28/19 07:39**	**Solid**	**GC/MS LL**	**06/28/19**	**07/06/19 16:12**	**190706L002**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	42	1.00	
Benzene	ND	0.83	1.00	
Bromobenzene	ND	0.83	1.00	
Bromochloromethane	ND	1.7	1.00	
Bromodichloromethane	ND	0.83	1.00	
Bromoform	ND	4.2	1.00	
Bromomethane	ND	17	1.00	
2-Butanone	ND	17	1.00	
n-Butylbenzene	ND	0.83	1.00	
sec-Butylbenzene	ND	0.83	1.00	
tert-Butylbenzene	ND	0.83	1.00	
Carbon Disulfide	ND	8.3	1.00	
Carbon Tetrachloride	ND	0.83	1.00	
Chlorobenzene	ND	0.83	1.00	
Chloroethane	ND	1.7	1.00	
Chloroform	ND	0.83	1.00	
Chloromethane	ND	17	1.00	
2-Chlorotoluene	ND	0.83	1.00	
4-Chlorotoluene	ND	0.83	1.00	
Dibromochloromethane	ND	1.7	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.2	1.00	
1,2-Dibromoethane	ND	0.83	1.00	
Dibromomethane	ND	0.83	1.00	
1,2-Dichlorobenzene	ND	0.83	1.00	
1,3-Dichlorobenzene	ND	0.83	1.00	
1,4-Dichlorobenzene	ND	0.83	1.00	
Dichlorodifluoromethane	ND	1.7	1.00	
1,1-Dichloroethane	ND	0.83	1.00	
1,2-Dichloroethane	ND	0.83	1.00	
1,1-Dichloroethene	ND	0.83	1.00	
c-1,2-Dichloroethene	ND	0.83	1.00	
t-1,2-Dichloroethene	ND	0.83	1.00	
1,2-Dichloropropane	ND	0.83	1.00	
1,3-Dichloropropane	ND	0.83	1.00	
2,2-Dichloropropane	ND	4.2	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 2 of 45

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.7	1.00	
c-1,3-Dichloropropene	ND	0.83	1.00	
t-1,3-Dichloropropene	ND	1.7	1.00	
Ethylbenzene	ND	0.83	1.00	
2-Hexanone	ND	17	1.00	
Isopropylbenzene	ND	0.83	1.00	
p-Isopropyltoluene	ND	0.83	1.00	
Methylene Chloride	ND	8.3	1.00	
4-Methyl-2-Pentanone	ND	17	1.00	
Naphthalene	ND	8.3	1.00	
n-Propylbenzene	ND	1.7	1.00	
Styrene	ND	0.83	1.00	
1,1,1,2-Tetrachloroethane	ND	0.83	1.00	
1,1,2,2-Tetrachloroethane	ND	1.7	1.00	
Tetrachloroethene	ND	0.83	1.00	
Toluene	ND	0.83	1.00	
1,2,3-Trichlorobenzene	ND	1.7	1.00	
1,2,4-Trichlorobenzene	ND	1.7	1.00	
1,1,1-Trichloroethane	ND	0.83	1.00	
1,1,2-Trichloroethane	ND	0.83	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	8.3	1.00	
Trichloroethene	ND	1.7	1.00	
Trichlorofluoromethane	ND	8.3	1.00	
1,2,3-Trichloropropane	ND	1.7	1.00	
1,2,4-Trimethylbenzene	ND	1.7	1.00	
1,3,5-Trimethylbenzene	ND	1.7	1.00	
Vinyl Acetate	ND	8.3	1.00	
Vinyl Chloride	ND	0.83	1.00	
p/m-Xylene	ND	1.7	1.00	
o-Xylene	ND	0.83	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.7	1.00	
Tert-Butyl Alcohol (TBA)	ND	17	1.00	
Diisopropyl Ether (DIPE)	ND	0.83	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.83	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.83	1.00	
Ethanol	ND	420	1.00	
TPPH	ND	42	1.00	
Gasoline Range Organics (C4-C12)	ND	42	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 3 of 45

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	109	79-139	
1,2-Dichloroethane-d4	115	71-155	
1,4-Bromofluorobenzene	95	80-120	
Toluene-d8	100	80-120	
Toluene-d8-TPPH	100	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 4 of 45

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-10	**19-06-1989-2-D**	**06/28/19 07:50**	**Solid**	**GC/MS LL**	**06/28/19**	**07/06/19 16:38**	**190706L002**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	47	1.00	
Benzene	ND	0.93	1.00	
Bromobenzene	ND	0.93	1.00	
Bromochloromethane	ND	1.9	1.00	
Bromodichloromethane	ND	0.93	1.00	
Bromoform	ND	4.7	1.00	
Bromomethane	ND	19	1.00	
2-Butanone	ND	19	1.00	
n-Butylbenzene	ND	0.93	1.00	
sec-Butylbenzene	ND	0.93	1.00	
tert-Butylbenzene	ND	0.93	1.00	
Carbon Disulfide	ND	9.3	1.00	
Carbon Tetrachloride	ND	0.93	1.00	
Chlorobenzene	ND	0.93	1.00	
Chloroethane	ND	1.9	1.00	
Chloroform	ND	0.93	1.00	
Chloromethane	ND	19	1.00	
2-Chlorotoluene	ND	0.93	1.00	
4-Chlorotoluene	ND	0.93	1.00	
Dibromochloromethane	ND	1.9	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.7	1.00	
1,2-Dibromoethane	ND	0.93	1.00	
Dibromomethane	ND	0.93	1.00	
1,2-Dichlorobenzene	ND	0.93	1.00	
1,3-Dichlorobenzene	ND	0.93	1.00	
1,4-Dichlorobenzene	ND	0.93	1.00	
Dichlorodifluoromethane	ND	1.9	1.00	
1,1-Dichloroethane	ND	0.93	1.00	
1,2-Dichloroethane	ND	0.93	1.00	
1,1-Dichloroethene	ND	0.93	1.00	
c-1,2-Dichloroethene	ND	0.93	1.00	
t-1,2-Dichloroethene	ND	0.93	1.00	
1,2-Dichloropropane	ND	0.93	1.00	
1,3-Dichloropropane	ND	0.93	1.00	
2,2-Dichloropropane	ND	4.7	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 5 of 45

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.9	1.00	
c-1,3-Dichloropropene	ND	0.93	1.00	
t-1,3-Dichloropropene	ND	1.9	1.00	
Ethylbenzene	ND	0.93	1.00	
2-Hexanone	ND	19	1.00	
Isopropylbenzene	ND	0.93	1.00	
p-Isopropyltoluene	ND	0.93	1.00	
Methylene Chloride	ND	9.3	1.00	
4-Methyl-2-Pentanone	ND	19	1.00	
Naphthalene	ND	9.3	1.00	
n-Propylbenzene	ND	1.9	1.00	
Styrene	ND	0.93	1.00	
1,1,1,2-Tetrachloroethane	ND	0.93	1.00	
1,1,2,2-Tetrachloroethane	ND	1.9	1.00	
Tetrachloroethene	ND	0.93	1.00	
Toluene	ND	0.93	1.00	
1,2,3-Trichlorobenzene	ND	1.9	1.00	
1,2,4-Trichlorobenzene	ND	1.9	1.00	
1,1,1-Trichloroethane	ND	0.93	1.00	
1,1,2-Trichloroethane	ND	0.93	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	9.3	1.00	
Trichloroethene	ND	1.9	1.00	
Trichlorofluoromethane	ND	9.3	1.00	
1,2,3-Trichloropropane	ND	1.9	1.00	
1,2,4-Trimethylbenzene	ND	1.9	1.00	
1,3,5-Trimethylbenzene	ND	1.9	1.00	
Vinyl Acetate	ND	9.3	1.00	
Vinyl Chloride	ND	0.93	1.00	
p/m-Xylene	ND	1.9	1.00	
o-Xylene	ND	0.93	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.9	1.00	
Tert-Butyl Alcohol (TBA)	ND	19	1.00	
Diisopropyl Ether (DIPE)	ND	0.93	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.93	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.93	1.00	
Ethanol	ND	470	1.00	
TPPH	ND	47	1.00	
Gasoline Range Organics (C4-C12)	ND	47	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 6 of 45

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	109	79-139	
1,2-Dichloroethane-d4	116	71-155	
1,4-Bromofluorobenzene	97	80-120	
Toluene-d8	99	80-120	
Toluene-d8-TPPH	97	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/28/19
Work Order: 19-06-1989
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-15	**19-06-1989-3-D**	**06/28/19 08:02**	**Solid**	**GC/MS LL**	**06/28/19**	**07/06/19 17:04**	**190706L002**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	77	1.00	
Benzene	ND	1.5	1.00	
Bromobenzene	ND	1.5	1.00	
Bromochloromethane	ND	3.1	1.00	
Bromodichloromethane	ND	1.5	1.00	
Bromoform	ND	7.7	1.00	
Bromomethane	ND	31	1.00	
2-Butanone	ND	31	1.00	
n-Butylbenzene	ND	1.5	1.00	
sec-Butylbenzene	ND	1.5	1.00	
tert-Butylbenzene	ND	1.5	1.00	
Carbon Disulfide	ND	15	1.00	
Carbon Tetrachloride	ND	1.5	1.00	
Chlorobenzene	ND	1.5	1.00	
Chloroethane	ND	3.1	1.00	
Chloroform	ND	1.5	1.00	
Chloromethane	ND	31	1.00	
2-Chlorotoluene	ND	1.5	1.00	
4-Chlorotoluene	ND	1.5	1.00	
Dibromochloromethane	ND	3.1	1.00	
1,2-Dibromo-3-Chloropropane	ND	7.7	1.00	
1,2-Dibromoethane	ND	1.5	1.00	
Dibromomethane	ND	1.5	1.00	
1,2-Dichlorobenzene	ND	1.5	1.00	
1,3-Dichlorobenzene	ND	1.5	1.00	
1,4-Dichlorobenzene	ND	1.5	1.00	
Dichlorodifluoromethane	ND	3.1	1.00	
1,1-Dichloroethane	ND	1.5	1.00	
1,2-Dichloroethane	ND	1.5	1.00	
1,1-Dichloroethene	ND	1.5	1.00	
c-1,2-Dichloroethene	ND	1.5	1.00	
t-1,2-Dichloroethene	ND	1.5	1.00	
1,2-Dichloropropane	ND	1.5	1.00	
1,3-Dichloropropane	ND	1.5	1.00	
2,2-Dichloropropane	ND	7.7	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 8 of 45

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	3.1	1.00	
c-1,3-Dichloropropene	ND	1.5	1.00	
t-1,3-Dichloropropene	ND	3.1	1.00	
Ethylbenzene	ND	1.5	1.00	
2-Hexanone	ND	31	1.00	
Isopropylbenzene	ND	1.5	1.00	
p-Isopropyltoluene	ND	1.5	1.00	
Methylene Chloride	ND	15	1.00	
4-Methyl-2-Pentanone	ND	31	1.00	
Naphthalene	ND	15	1.00	
n-Propylbenzene	ND	3.1	1.00	
Styrene	ND	1.5	1.00	
1,1,1,2-Tetrachloroethane	ND	1.5	1.00	
1,1,2,2-Tetrachloroethane	ND	3.1	1.00	
Tetrachloroethene	ND	1.5	1.00	
Toluene	ND	1.5	1.00	
1,2,3-Trichlorobenzene	ND	3.1	1.00	
1,2,4-Trichlorobenzene	ND	3.1	1.00	
1,1,1-Trichloroethane	ND	1.5	1.00	
1,1,2-Trichloroethane	ND	1.5	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	15	1.00	
Trichloroethene	ND	3.1	1.00	
Trichlorofluoromethane	ND	15	1.00	
1,2,3-Trichloropropane	ND	3.1	1.00	
1,2,4-Trimethylbenzene	ND	3.1	1.00	
1,3,5-Trimethylbenzene	ND	3.1	1.00	
Vinyl Acetate	ND	15	1.00	
Vinyl Chloride	ND	1.5	1.00	
p/m-Xylene	ND	3.1	1.00	
o-Xylene	ND	1.5	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	3.1	1.00	
Tert-Butyl Alcohol (TBA)	ND	31	1.00	
Diisopropyl Ether (DIPE)	ND	1.5	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	1.5	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	1.5	1.00	
Ethanol	ND	770	1.00	
TPPH	84	77	1.00	
Gasoline Range Organics (C4-C12)	80	77	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 9 of 45

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	100	79-139	
1,2-Dichloroethane-d4	113	71-155	
1,4-Bromofluorobenzene	96	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/28/19
Work Order: 19-06-1989
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-20	**19-06-1989-4-D**	**06/28/19 08:18**	**Solid**	**GC/MS LL**	**06/28/19**	**07/06/19 17:30**	**190706L002**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	49	1.00	
Benzene	ND	0.97	1.00	
Bromobenzene	ND	0.97	1.00	
Bromochloromethane	ND	1.9	1.00	
Bromodichloromethane	ND	0.97	1.00	
Bromoform	ND	4.9	1.00	
Bromomethane	ND	19	1.00	
2-Butanone	ND	19	1.00	
n-Butylbenzene	ND	0.97	1.00	
sec-Butylbenzene	ND	0.97	1.00	
tert-Butylbenzene	ND	0.97	1.00	
Carbon Disulfide	ND	9.7	1.00	
Carbon Tetrachloride	ND	0.97	1.00	
Chlorobenzene	ND	0.97	1.00	
Chloroethane	ND	1.9	1.00	
Chloroform	ND	0.97	1.00	
Chloromethane	ND	19	1.00	
2-Chlorotoluene	ND	0.97	1.00	
4-Chlorotoluene	ND	0.97	1.00	
Dibromochloromethane	ND	1.9	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.9	1.00	
1,2-Dibromoethane	ND	0.97	1.00	
Dibromomethane	ND	0.97	1.00	
1,2-Dichlorobenzene	ND	0.97	1.00	
1,3-Dichlorobenzene	ND	0.97	1.00	
1,4-Dichlorobenzene	ND	0.97	1.00	
Dichlorodifluoromethane	ND	1.9	1.00	
1,1-Dichloroethane	ND	0.97	1.00	
1,2-Dichloroethane	ND	0.97	1.00	
1,1-Dichloroethene	ND	0.97	1.00	
c-1,2-Dichloroethene	ND	0.97	1.00	
t-1,2-Dichloroethene	ND	0.97	1.00	
1,2-Dichloropropane	ND	0.97	1.00	
1,3-Dichloropropane	ND	0.97	1.00	
2,2-Dichloropropane	ND	4.9	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 11 of 45

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.9	1.00	
c-1,3-Dichloropropene	ND	0.97	1.00	
t-1,3-Dichloropropene	ND	1.9	1.00	
Ethylbenzene	ND	0.97	1.00	
2-Hexanone	ND	19	1.00	
Isopropylbenzene	ND	0.97	1.00	
p-Isopropyltoluene	ND	0.97	1.00	
Methylene Chloride	ND	9.7	1.00	
4-Methyl-2-Pentanone	ND	19	1.00	
Naphthalene	ND	9.7	1.00	
n-Propylbenzene	ND	1.9	1.00	
Styrene	ND	0.97	1.00	
1,1,1,2-Tetrachloroethane	ND	0.97	1.00	
1,1,2,2-Tetrachloroethane	ND	1.9	1.00	
Tetrachloroethene	ND	0.97	1.00	
Toluene	ND	0.97	1.00	
1,2,3-Trichlorobenzene	ND	1.9	1.00	
1,2,4-Trichlorobenzene	ND	1.9	1.00	
1,1,1-Trichloroethane	ND	0.97	1.00	
1,1,2-Trichloroethane	ND	0.97	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	9.7	1.00	
Trichloroethene	ND	1.9	1.00	
Trichlorofluoromethane	ND	9.7	1.00	
1,2,3-Trichloropropane	ND	1.9	1.00	
1,2,4-Trimethylbenzene	ND	1.9	1.00	
1,3,5-Trimethylbenzene	ND	1.9	1.00	
Vinyl Acetate	ND	9.7	1.00	
Vinyl Chloride	ND	0.97	1.00	
p/m-Xylene	ND	1.9	1.00	
o-Xylene	ND	0.97	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.9	1.00	
Tert-Butyl Alcohol (TBA)	ND	19	1.00	
Diisopropyl Ether (DIPE)	ND	0.97	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.97	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.97	1.00	
Ethanol	ND	490	1.00	
TPPH	ND	49	1.00	
Gasoline Range Organics (C4-C12)	ND	49	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 12 of 45

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	106	79-139	
1,2-Dichloroethane-d4	110	71-155	
1,4-Bromofluorobenzene	98	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	100	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 13 of 45

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-25	**19-06-1989-5-D**	**06/28/19 08:42**	**Solid**	**GC/MS OO**	**06/28/19**	**07/08/19 23:45**	**190708L017**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	51	1.00	
Benzene	ND	1.0	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	2.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.1	1.00	
Bromomethane	ND	20	1.00	
2-Butanone	ND	20	1.00	
n-Butylbenzene	ND	1.0	1.00	
sec-Butylbenzene	ND	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	1.0	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	2.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	20	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	2.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	5.1	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	2.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	1.0	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	5.1	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 14 of 45

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2.0	1.00	
c-1,3-Dichloropropene	ND	1.0	1.00	
t-1,3-Dichloropropene	ND	2.0	1.00	
Ethylbenzene	ND	1.0	1.00	
2-Hexanone	ND	20	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	ND	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	20	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	2.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	1.0	1.00	
1,1,2,2-Tetrachloroethane	ND	2.0	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	2.0	1.00	
1,2,4-Trichlorobenzene	ND	2.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
Trichloroethene	ND	2.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	2.0	1.00	
1,2,4-Trimethylbenzene	ND	2.0	1.00	
1,3,5-Trimethylbenzene	ND	2.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	1.0	1.00	
p/m-Xylene	ND	2.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	2.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	20	1.00	
Diisopropyl Ether (DIPE)	ND	1.0	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	1.0	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	1.0	1.00	
Ethanol	ND	510	1.00	
TPPH	ND	51	1.00	
Gasoline Range Organics (C4-C12)	ND	51	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 15 of 45

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	92	79-139	
1,2-Dichloroethane-d4	94	71-155	
1,4-Bromofluorobenzene	101	80-120	
Toluene-d8	99	80-120	
Toluene-d8-TPPH	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/28/19
Work Order: 19-06-1989
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-30	**19-06-1989-6-D**	**06/28/19 08:51**	**Solid**	**GC/MS OO**	**06/28/19**	**07/09/19 00:14**	**190708L017**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	51	1.00	
Benzene	ND	1.0	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	2.1	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.1	1.00	
Bromomethane	ND	21	1.00	
2-Butanone	ND	21	1.00	
n-Butylbenzene	ND	1.0	1.00	
sec-Butylbenzene	ND	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	1.0	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	2.1	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	21	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	2.1	1.00	
1,2-Dibromo-3-Chloropropane	ND	5.1	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	2.1	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	1.0	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	5.1	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 17 of 45

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2.1	1.00	
c-1,3-Dichloropropene	ND	1.0	1.00	
t-1,3-Dichloropropene	ND	2.1	1.00	
Ethylbenzene	ND	1.0	1.00	
2-Hexanone	ND	21	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	ND	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	21	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	2.1	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	1.0	1.00	
1,1,2,2-Tetrachloroethane	ND	2.1	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	2.1	1.00	
1,2,4-Trichlorobenzene	ND	2.1	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
Trichloroethene	ND	2.1	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	2.1	1.00	
1,2,4-Trimethylbenzene	ND	2.1	1.00	
1,3,5-Trimethylbenzene	ND	2.1	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	1.0	1.00	
p/m-Xylene	ND	2.1	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	2.1	1.00	
Tert-Butyl Alcohol (TBA)	ND	21	1.00	
Diisopropyl Ether (DIPE)	ND	1.0	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	1.0	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	1.0	1.00	
Ethanol	ND	510	1.00	
TPPH	ND	51	1.00	
Gasoline Range Organics (C4-C12)	ND	51	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 18 of 45

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	97	79-139	
1,2-Dichloroethane-d4	95	71-155	
1,4-Bromofluorobenzene	100	80-120	
Toluene-d8	99	80-120	
Toluene-d8-TPPH	100	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 19 of 45

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-31.8	**19-06-1989-7-E**	**06/28/19 08:59**	**Solid**	**GC/MS LL**	**06/28/19**	**07/06/19 19:15**	**190706L003**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	2700	50.0	
Benzene	ND	54	50.0	
Bromobenzene	ND	54	50.0	
Bromochloromethane	ND	110	50.0	
Bromodichloromethane	ND	54	50.0	
Bromoform	ND	270	50.0	
Bromomethane	ND	1100	50.0	
2-Butanone	ND	1100	50.0	
n-Butylbenzene	ND	54	50.0	
sec-Butylbenzene	230	54	50.0	
tert-Butylbenzene	ND	54	50.0	
Carbon Disulfide	ND	540	50.0	
Carbon Tetrachloride	ND	54	50.0	
Chlorobenzene	ND	54	50.0	
Chloroethane	ND	110	50.0	
Chloroform	ND	54	50.0	
Chloromethane	ND	1100	50.0	
2-Chlorotoluene	ND	54	50.0	
4-Chlorotoluene	ND	54	50.0	
Dibromochloromethane	ND	110	50.0	
1,2-Dibromo-3-Chloropropane	ND	270	50.0	
1,2-Dibromoethane	ND	54	50.0	
Dibromomethane	ND	54	50.0	
1,2-Dichlorobenzene	ND	54	50.0	
1,3-Dichlorobenzene	ND	54	50.0	
1,4-Dichlorobenzene	ND	54	50.0	
Dichlorodifluoromethane	ND	110	50.0	
1,1-Dichloroethane	ND	54	50.0	
1,2-Dichloroethane	ND	54	50.0	
1,1-Dichloroethene	ND	54	50.0	
c-1,2-Dichloroethene	ND	54	50.0	
t-1,2-Dichloroethene	ND	54	50.0	
1,2-Dichloropropane	ND	54	50.0	
1,3-Dichloropropane	ND	54	50.0	
2,2-Dichloropropane	ND	270	50.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 20 of 45

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	110	50.0	
c-1,3-Dichloropropene	ND	54	50.0	
t-1,3-Dichloropropene	ND	110	50.0	
Ethylbenzene	130	54	50.0	
2-Hexanone	ND	1100	50.0	
Isopropylbenzene	190	54	50.0	
p-Isopropyltoluene	1000	54	50.0	
Methylene Chloride	ND	540	50.0	
4-Methyl-2-Pentanone	ND	1100	50.0	
Naphthalene	ND	540	50.0	
n-Propylbenzene	240	110	50.0	
Styrene	ND	54	50.0	
1,1,1,2-Tetrachloroethane	ND	54	50.0	
1,1,2,2-Tetrachloroethane	ND	110	50.0	
Tetrachloroethene	ND	54	50.0	
Toluene	ND	54	50.0	
1,2,3-Trichlorobenzene	ND	110	50.0	
1,2,4-Trichlorobenzene	ND	110	50.0	
1,1,1-Trichloroethane	ND	54	50.0	
1,1,2-Trichloroethane	ND	54	50.0	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	540	50.0	
Trichloroethene	ND	110	50.0	
Trichlorofluoromethane	ND	540	50.0	
1,2,3-Trichloropropane	ND	110	50.0	
1,2,4-Trimethylbenzene	360	110	50.0	
1,3,5-Trimethylbenzene	1600	110	50.0	
Vinyl Acetate	ND	540	50.0	
Vinyl Chloride	ND	54	50.0	
p/m-Xylene	ND	110	50.0	
o-Xylene	ND	54	50.0	
Methyl-t-Butyl Ether (MTBE)	ND	110	50.0	
Tert-Butyl Alcohol (TBA)	ND	1100	50.0	
Diisopropyl Ether (DIPE)	ND	54	50.0	
Ethyl-t-Butyl Ether (ETBE)	ND	54	50.0	
Tert-Amyl-Methyl Ether (TAME)	ND	54	50.0	
Ethanol	ND	27000	50.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	101	79-139	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 21 of 45

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,2-Dichloroethane-d4	96	71-155	
1,4-Bromofluorobenzene	105	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	100	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-31.8	**19-06-1989-7-E**	**06/28/19 08:59**	**Solid**	**GC/MS OO**	**06/28/19**	**07/09/19 02:11**	**190708L023**

Parameter	Result	RL	DF	Qualifiers
TPPH	320000	14000	250	
Gasoline Range Organics (C4-C12)	250000	14000	250	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	89	79-139	
1,2-Dichloroethane-d4	80	71-155	
1,4-Bromofluorobenzene	98	80-120	
Toluene-d8	99	80-120	
Toluene-d8-TPPH	100	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 22 of 45

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-37	**19-06-1989-8-E**	**06/28/19 09:45**	**Solid**	**GC/MS OO**	**06/28/19**	**07/09/19 01:13**	**190708L023**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	53000	1000	
Benzene	ND	1100	1000	
Bromobenzene	ND	1100	1000	
Bromochloromethane	ND	2100	1000	
Bromodichloromethane	ND	1100	1000	
Bromoform	ND	5300	1000	
Bromomethane	ND	21000	1000	
2-Butanone	ND	21000	1000	
n-Butylbenzene	2100	1100	1000	
sec-Butylbenzene	ND	1100	1000	
tert-Butylbenzene	ND	1100	1000	
Carbon Disulfide	ND	11000	1000	
Carbon Tetrachloride	ND	1100	1000	
Chlorobenzene	ND	1100	1000	
Chloroethane	ND	2100	1000	
Chloroform	ND	1100	1000	
Chloromethane	ND	21000	1000	
2-Chlorotoluene	ND	1100	1000	
4-Chlorotoluene	ND	1100	1000	
Dibromochloromethane	ND	2100	1000	
1,2-Dibromo-3-Chloropropane	ND	5300	1000	
1,2-Dibromoethane	ND	1100	1000	
Dibromomethane	ND	1100	1000	
1,2-Dichlorobenzene	ND	1100	1000	
1,3-Dichlorobenzene	ND	1100	1000	
1,4-Dichlorobenzene	ND	1100	1000	
Dichlorodifluoromethane	ND	2100	1000	
1,1-Dichloroethane	ND	1100	1000	
1,2-Dichloroethane	ND	1100	1000	
1,1-Dichloroethene	ND	1100	1000	
c-1,2-Dichloroethene	ND	1100	1000	
t-1,2-Dichloroethene	ND	1100	1000	
1,2-Dichloropropane	ND	1100	1000	
1,3-Dichloropropane	ND	1100	1000	
2,2-Dichloropropane	ND	5300	1000	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 23 of 45

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2100	1000	
c-1,3-Dichloropropene	ND	1100	1000	
t-1,3-Dichloropropene	ND	2100	1000	
Ethylbenzene	3700	1100	1000	
2-Hexanone	ND	21000	1000	
Isopropylbenzene	3500	1100	1000	
p-Isopropyltoluene	2600	1100	1000	
Methylene Chloride	ND	11000	1000	
4-Methyl-2-Pentanone	ND	21000	1000	
Naphthalene	ND	11000	1000	
n-Propylbenzene	3900	2100	1000	
Styrene	ND	1100	1000	
1,1,1,2-Tetrachloroethane	ND	1100	1000	
1,1,2,2-Tetrachloroethane	ND	2100	1000	
Tetrachloroethene	ND	1100	1000	
Toluene	ND	1100	1000	
1,2,3-Trichlorobenzene	ND	2100	1000	
1,2,4-Trichlorobenzene	ND	2100	1000	
1,1,1-Trichloroethane	ND	1100	1000	
1,1,2-Trichloroethane	ND	1100	1000	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	11000	1000	
Trichloroethene	ND	2100	1000	
Trichlorofluoromethane	ND	11000	1000	
1,2,3-Trichloropropane	ND	2100	1000	
1,2,4-Trimethylbenzene	13000	2100	1000	
1,3,5-Trimethylbenzene	3900	2100	1000	
Vinyl Acetate	ND	11000	1000	
Vinyl Chloride	ND	1100	1000	
p/m-Xylene	3800	2100	1000	
o-Xylene	ND	1100	1000	
Methyl-t-Butyl Ether (MTBE)	ND	2100	1000	
Tert-Butyl Alcohol (TBA)	ND	21000	1000	
Diisopropyl Ether (DIPE)	ND	1100	1000	
Ethyl-t-Butyl Ether (ETBE)	ND	1100	1000	
Tert-Amyl-Methyl Ether (TAME)	ND	1100	1000	
Ethanol	ND	530000	1000	
TPPH	2000000	53000	1000	
Gasoline Range Organics (C4-C12)	1700000	53000	1000	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 24 of 45

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	92	79-139	
1,2-Dichloroethane-d4	83	71-155	
1,4-Bromofluorobenzene	99	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	95	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 25 of 45

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-40	**19-06-1989-9-C**	**06/28/19 10:07**	**Solid**	**GC/MS LL**	**06/28/19**	**07/06/19 17:57**	**190706L002**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	41	1.00	
Benzene	3.2	0.82	1.00	
Bromobenzene	ND	0.82	1.00	
Bromochloromethane	ND	1.6	1.00	
Bromodichloromethane	ND	0.82	1.00	
Bromoform	ND	4.1	1.00	
Bromomethane	ND	16	1.00	
2-Butanone	ND	16	1.00	
n-Butylbenzene	ND	0.82	1.00	
sec-Butylbenzene	ND	0.82	1.00	
tert-Butylbenzene	ND	0.82	1.00	
Carbon Disulfide	ND	8.2	1.00	
Carbon Tetrachloride	ND	0.82	1.00	
Chlorobenzene	ND	0.82	1.00	
Chloroethane	ND	1.6	1.00	
Chloroform	ND	0.82	1.00	
Chloromethane	ND	16	1.00	
2-Chlorotoluene	ND	0.82	1.00	
4-Chlorotoluene	ND	0.82	1.00	
Dibromochloromethane	ND	1.6	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.1	1.00	
1,2-Dibromoethane	ND	0.82	1.00	
Dibromomethane	ND	0.82	1.00	
1,2-Dichlorobenzene	ND	0.82	1.00	
1,3-Dichlorobenzene	ND	0.82	1.00	
1,4-Dichlorobenzene	ND	0.82	1.00	
Dichlorodifluoromethane	ND	1.6	1.00	
1,1-Dichloroethane	ND	0.82	1.00	
1,2-Dichloroethane	ND	0.82	1.00	
1,1-Dichloroethene	ND	0.82	1.00	
c-1,2-Dichloroethene	ND	0.82	1.00	
t-1,2-Dichloroethene	ND	0.82	1.00	
1,2-Dichloropropane	ND	0.82	1.00	
1,3-Dichloropropane	ND	0.82	1.00	
2,2-Dichloropropane	ND	4.1	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 26 of 45

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.6	1.00	
c-1,3-Dichloropropene	ND	0.82	1.00	
t-1,3-Dichloropropene	ND	1.6	1.00	
Ethylbenzene	1.3	0.82	1.00	
2-Hexanone	ND	16	1.00	
Isopropylbenzene	ND	0.82	1.00	
p-Isopropyltoluene	ND	0.82	1.00	
Methylene Chloride	ND	8.2	1.00	
4-Methyl-2-Pentanone	ND	16	1.00	
Naphthalene	9.5	8.2	1.00	
n-Propylbenzene	ND	1.6	1.00	
Styrene	ND	0.82	1.00	
1,1,1,2-Tetrachloroethane	ND	0.82	1.00	
1,1,2,2-Tetrachloroethane	ND	1.6	1.00	
Tetrachloroethene	ND	0.82	1.00	
Toluene	ND	0.82	1.00	
1,2,3-Trichlorobenzene	ND	1.6	1.00	
1,2,4-Trichlorobenzene	ND	1.6	1.00	
1,1,1-Trichloroethane	ND	0.82	1.00	
1,1,2-Trichloroethane	ND	0.82	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	8.2	1.00	
Trichloroethene	ND	1.6	1.00	
Trichlorofluoromethane	ND	8.2	1.00	
1,2,3-Trichloropropane	ND	1.6	1.00	
1,2,4-Trimethylbenzene	ND	1.6	1.00	
1,3,5-Trimethylbenzene	ND	1.6	1.00	
Vinyl Acetate	ND	8.2	1.00	
Vinyl Chloride	ND	0.82	1.00	
p/m-Xylene	ND	1.6	1.00	
o-Xylene	ND	0.82	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.6	1.00	
Tert-Butyl Alcohol (TBA)	ND	16	1.00	
Diisopropyl Ether (DIPE)	ND	0.82	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.82	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.82	1.00	
Ethanol	ND	410	1.00	
TPPH	320	41	1.00	
Gasoline Range Organics (C4-C12)	320	41	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 27 of 45

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	108	79-139	
1,2-Dichloroethane-d4	111	71-155	
1,4-Bromofluorobenzene	98	80-120	
Toluene-d8	98	80-120	
Toluene-d8-TPPH	97	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 28 of 45

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-44	**19-06-1989-10-C**	**06/28/19 10:55**	**Solid**	**GC/MS OO**	**06/28/19**	**07/09/19 00:43**	**190708L017**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	40	1.00	
Benzene	2.1	0.81	1.00	
Bromobenzene	ND	0.81	1.00	
Bromochloromethane	ND	1.6	1.00	
Bromodichloromethane	ND	0.81	1.00	
Bromoform	ND	4.0	1.00	
Bromomethane	ND	16	1.00	
2-Butanone	ND	16	1.00	
n-Butylbenzene	ND	0.81	1.00	
sec-Butylbenzene	1.3	0.81	1.00	
tert-Butylbenzene	ND	0.81	1.00	
Carbon Disulfide	ND	8.1	1.00	
Carbon Tetrachloride	ND	0.81	1.00	
Chlorobenzene	ND	0.81	1.00	
Chloroethane	ND	1.6	1.00	
Chloroform	ND	0.81	1.00	
Chloromethane	ND	16	1.00	
2-Chlorotoluene	ND	0.81	1.00	
4-Chlorotoluene	ND	0.81	1.00	
Dibromochloromethane	ND	1.6	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.0	1.00	
1,2-Dibromoethane	ND	0.81	1.00	
Dibromomethane	ND	0.81	1.00	
1,2-Dichlorobenzene	ND	0.81	1.00	
1,3-Dichlorobenzene	ND	0.81	1.00	
1,4-Dichlorobenzene	ND	0.81	1.00	
Dichlorodifluoromethane	ND	1.6	1.00	
1,1-Dichloroethane	ND	0.81	1.00	
1,2-Dichloroethane	ND	0.81	1.00	
1,1-Dichloroethene	ND	0.81	1.00	
c-1,2-Dichloroethene	ND	0.81	1.00	
t-1,2-Dichloroethene	ND	0.81	1.00	
1,2-Dichloropropane	ND	0.81	1.00	
1,3-Dichloropropane	ND	0.81	1.00	
2,2-Dichloropropane	ND	4.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 29 of 45

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.6	1.00	
c-1,3-Dichloropropene	ND	0.81	1.00	
t-1,3-Dichloropropene	ND	1.6	1.00	
Ethylbenzene	1.2	0.81	1.00	
2-Hexanone	ND	16	1.00	
Isopropylbenzene	5.8	0.81	1.00	
p-Isopropyltoluene	2.3	0.81	1.00	
Methylene Chloride	ND	8.1	1.00	
4-Methyl-2-Pentanone	ND	16	1.00	
Naphthalene	ND	8.1	1.00	
n-Propylbenzene	ND	1.6	1.00	
Styrene	ND	0.81	1.00	
1,1,1,2-Tetrachloroethane	ND	0.81	1.00	
1,1,2,2-Tetrachloroethane	ND	1.6	1.00	
Tetrachloroethene	ND	0.81	1.00	
Toluene	ND	0.81	1.00	
1,2,3-Trichlorobenzene	ND	1.6	1.00	
1,2,4-Trichlorobenzene	ND	1.6	1.00	
1,1,1-Trichloroethane	ND	0.81	1.00	
1,1,2-Trichloroethane	ND	0.81	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	8.1	1.00	
Trichloroethene	ND	1.6	1.00	
Trichlorofluoromethane	ND	8.1	1.00	
1,2,3-Trichloropropane	ND	1.6	1.00	
1,2,4-Trimethylbenzene	1.8	1.6	1.00	
1,3,5-Trimethylbenzene	ND	1.6	1.00	
Vinyl Acetate	ND	8.1	1.00	
Vinyl Chloride	ND	0.81	1.00	
p/m-Xylene	ND	1.6	1.00	
o-Xylene	ND	0.81	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.6	1.00	
Tert-Butyl Alcohol (TBA)	ND	16	1.00	
Diisopropyl Ether (DIPE)	ND	0.81	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.81	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.81	1.00	
Ethanol	ND	400	1.00	
TPPH	2700	40	1.00	
Gasoline Range Organics (C4-C12)	2500	40	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 30 of 45

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	94	79-139	
1,2-Dichloroethane-d4	92	71-155	
1,4-Bromofluorobenzene	102	80-120	
Toluene-d8	104	80-120	
Toluene-d8-TPPH	95	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 31 of 45

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CE Dup #3	**19-06-1989-15-D**	**06/28/19 00:00**	**Solid**	**GC/MS OO**	**06/28/19**	**07/09/19 01:42**	**190708L023**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	57000	1000	
Benzene	ND	1100	1000	
Bromobenzene	ND	1100	1000	
Bromochloromethane	ND	2300	1000	
Bromodichloromethane	ND	1100	1000	
Bromoform	ND	5700	1000	
Bromomethane	ND	23000	1000	
2-Butanone	ND	23000	1000	
n-Butylbenzene	9300	1100	1000	
sec-Butylbenzene	4300	1100	1000	
tert-Butylbenzene	ND	1100	1000	
Carbon Disulfide	ND	11000	1000	
Carbon Tetrachloride	ND	1100	1000	
Chlorobenzene	ND	1100	1000	
Chloroethane	ND	2300	1000	
Chloroform	ND	1100	1000	
Chloromethane	ND	23000	1000	
2-Chlorotoluene	ND	1100	1000	
4-Chlorotoluene	ND	1100	1000	
Dibromochloromethane	ND	2300	1000	
1,2-Dibromo-3-Chloropropane	ND	5700	1000	
1,2-Dibromoethane	ND	1100	1000	
Dibromomethane	ND	1100	1000	
1,2-Dichlorobenzene	ND	1100	1000	
1,3-Dichlorobenzene	ND	1100	1000	
1,4-Dichlorobenzene	ND	1100	1000	
Dichlorodifluoromethane	ND	2300	1000	
1,1-Dichloroethane	ND	1100	1000	
1,2-Dichloroethane	ND	1100	1000	
1,1-Dichloroethene	ND	1100	1000	
c-1,2-Dichloroethene	ND	1100	1000	
t-1,2-Dichloroethene	ND	1100	1000	
1,2-Dichloropropane	ND	1100	1000	
1,3-Dichloropropane	ND	1100	1000	
2,2-Dichloropropane	ND	5700	1000	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 32 of 45

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2300	1000	
c-1,3-Dichloropropene	ND	1100	1000	
t-1,3-Dichloropropene	ND	2300	1000	
Ethylbenzene	30000	1100	1000	
2-Hexanone	ND	23000	1000	
Isopropylbenzene	16000	1100	1000	
p-Isopropyltoluene	11000	1100	1000	
Methylene Chloride	ND	11000	1000	
4-Methyl-2-Pentanone	ND	23000	1000	
Naphthalene	17000	11000	1000	
n-Propylbenzene	18000	2300	1000	
Styrene	ND	1100	1000	
1,1,1,2-Tetrachloroethane	ND	1100	1000	
1,1,2,2-Tetrachloroethane	ND	2300	1000	
Tetrachloroethene	ND	1100	1000	
Toluene	ND	1100	1000	
1,2,3-Trichlorobenzene	ND	2300	1000	
1,2,4-Trichlorobenzene	ND	2300	1000	
1,1,1-Trichloroethane	ND	1100	1000	
1,1,2-Trichloroethane	ND	1100	1000	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	11000	1000	
Trichloroethene	ND	2300	1000	
Trichlorofluoromethane	ND	11000	1000	
1,2,3-Trichloropropane	ND	2300	1000	
1,2,4-Trimethylbenzene	78000	2300	1000	
1,3,5-Trimethylbenzene	20000	2300	1000	
Vinyl Acetate	ND	11000	1000	
Vinyl Chloride	ND	1100	1000	
p/m-Xylene	29000	2300	1000	
o-Xylene	ND	1100	1000	
Methyl-t-Butyl Ether (MTBE)	ND	2300	1000	
Tert-Butyl Alcohol (TBA)	ND	23000	1000	
Diisopropyl Ether (DIPE)	ND	1100	1000	
Ethyl-t-Butyl Ether (ETBE)	ND	1100	1000	
Tert-Amyl-Methyl Ether (TAME)	ND	1100	1000	
Ethanol	ND	570000	1000	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	90	79-139	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 33 of 45

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,2-Dichloroethane-d4	81	71-155	
1,4-Bromofluorobenzene	103	80-120	
Toluene-d8	106	80-120	
Toluene-d8-TPPH	92	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CE Dup #3	**19-06-1989-15-D**	**06/28/19 00:00**	**Solid**	**GC/MS OO**	**06/28/19**	**07/10/19 21:10**	**190710L008**

Parameter	Result	RL	DF	Qualifiers
TPPH	5200000	280000	5000	
Gasoline Range Organics (C4-C12)	4700000	280000	5000	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	102	79-139	
1,2-Dichloroethane-d4	99	71-155	
1,4-Bromofluorobenzene	99	80-120	
Toluene-d8	101	80-120	
Toluene-d8-TPPH	99	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/28/19
Work Order: 19-06-1989
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-779-2084**	**N/A**	**Solid**	**GC/MS LL**	**07/06/19**	**07/06/19 15:20**	**190706L002**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	50	1.00	
Benzene	ND	1.0	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	2.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.0	1.00	
Bromomethane	ND	20	1.00	
2-Butanone	ND	20	1.00	
n-Butylbenzene	ND	1.0	1.00	
sec-Butylbenzene	ND	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	1.0	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	2.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	20	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	2.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	5.0	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	2.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	1.0	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	5.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 35 of 45

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2.0	1.00	
c-1,3-Dichloropropene	ND	1.0	1.00	
t-1,3-Dichloropropene	ND	2.0	1.00	
Ethylbenzene	ND	1.0	1.00	
2-Hexanone	ND	20	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	ND	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	20	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	2.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	1.0	1.00	
1,1,2,2-Tetrachloroethane	ND	2.0	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	2.0	1.00	
1,2,4-Trichlorobenzene	ND	2.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
Trichloroethene	ND	2.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	2.0	1.00	
1,2,4-Trimethylbenzene	ND	2.0	1.00	
1,3,5-Trimethylbenzene	ND	2.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	1.0	1.00	
p/m-Xylene	ND	2.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	2.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	20	1.00	
Diisopropyl Ether (DIPE)	ND	1.0	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	1.0	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	1.0	1.00	
Ethanol	ND	500	1.00	
TPPH	ND	50	1.00	
Gasoline Range Organics (C4-C12)	ND	50	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 36 of 45

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	99	79-139	
1,2-Dichloroethane-d4	93	71-155	
1,4-Bromofluorobenzene	93	80-120	
Toluene-d8	99	80-120	
Toluene-d8-TPPH	98	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 37 of 45

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-779-2086**	**N/A**	**Solid**	**GC/MS LL**	**07/06/19**	**07/06/19 15:46**	**190706L003**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	5000	50.0	
Benzene	ND	100	50.0	
Bromobenzene	ND	100	50.0	
Bromochloromethane	ND	200	50.0	
Bromodichloromethane	ND	100	50.0	
Bromoform	ND	500	50.0	
Bromomethane	ND	2000	50.0	
2-Butanone	ND	2000	50.0	
n-Butylbenzene	ND	100	50.0	
sec-Butylbenzene	ND	100	50.0	
tert-Butylbenzene	ND	100	50.0	
Carbon Disulfide	ND	1000	50.0	
Carbon Tetrachloride	ND	100	50.0	
Chlorobenzene	ND	100	50.0	
Chloroethane	ND	200	50.0	
Chloroform	ND	100	50.0	
Chloromethane	ND	2000	50.0	
2-Chlorotoluene	ND	100	50.0	
4-Chlorotoluene	ND	100	50.0	
Dibromochloromethane	ND	200	50.0	
1,2-Dibromo-3-Chloropropane	ND	500	50.0	
1,2-Dibromoethane	ND	100	50.0	
Dibromomethane	ND	100	50.0	
1,2-Dichlorobenzene	ND	100	50.0	
1,3-Dichlorobenzene	ND	100	50.0	
1,4-Dichlorobenzene	ND	100	50.0	
Dichlorodifluoromethane	ND	200	50.0	
1,1-Dichloroethane	ND	100	50.0	
1,2-Dichloroethane	ND	100	50.0	
1,1-Dichloroethene	ND	100	50.0	
c-1,2-Dichloroethene	ND	100	50.0	
t-1,2-Dichloroethene	ND	100	50.0	
1,2-Dichloropropane	ND	100	50.0	
1,3-Dichloropropane	ND	100	50.0	
2,2-Dichloropropane	ND	500	50.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 38 of 45

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	200	50.0	
c-1,3-Dichloropropene	ND	100	50.0	
t-1,3-Dichloropropene	ND	200	50.0	
Ethylbenzene	ND	100	50.0	
2-Hexanone	ND	2000	50.0	
Isopropylbenzene	ND	100	50.0	
p-Isopropyltoluene	ND	100	50.0	
Methylene Chloride	ND	1000	50.0	
4-Methyl-2-Pentanone	ND	2000	50.0	
Naphthalene	ND	1000	50.0	
n-Propylbenzene	ND	200	50.0	
Styrene	ND	100	50.0	
1,1,1,2-Tetrachloroethane	ND	100	50.0	
1,1,2,2-Tetrachloroethane	ND	200	50.0	
Tetrachloroethene	ND	100	50.0	
Toluene	ND	100	50.0	
1,2,3-Trichlorobenzene	ND	200	50.0	
1,2,4-Trichlorobenzene	ND	200	50.0	
1,1,1-Trichloroethane	ND	100	50.0	
1,1,2-Trichloroethane	ND	100	50.0	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	1000	50.0	
Trichloroethene	ND	200	50.0	
Trichlorofluoromethane	ND	1000	50.0	
1,2,3-Trichloropropane	ND	200	50.0	
1,2,4-Trimethylbenzene	ND	200	50.0	
1,3,5-Trimethylbenzene	ND	200	50.0	
Vinyl Acetate	ND	1000	50.0	
Vinyl Chloride	ND	100	50.0	
p/m-Xylene	ND	200	50.0	
o-Xylene	ND	100	50.0	
Methyl-t-Butyl Ether (MTBE)	ND	200	50.0	
Tert-Butyl Alcohol (TBA)	ND	2000	50.0	
Diisopropyl Ether (DIPE)	ND	100	50.0	
Ethyl-t-Butyl Ether (ETBE)	ND	100	50.0	
Tert-Amyl-Methyl Ether (TAME)	ND	100	50.0	
Ethanol	ND	50000	50.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	98	79-139	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 39 of 45

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,2-Dichloroethane-d4	96	71-155	
1,4-Bromofluorobenzene	97	80-120	
Toluene-d8	99	80-120	
Toluene-d8-TPPH	98	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/28/19
Work Order: 19-06-1989
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-779-2091**	**N/A**	**Solid**	**GC/MS OO**	**07/08/19**	**07/08/19 18:50**	**190708L017**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	50	1.00	
Benzene	ND	1.0	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	2.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.0	1.00	
Bromomethane	ND	20	1.00	
2-Butanone	ND	20	1.00	
n-Butylbenzene	ND	1.0	1.00	
sec-Butylbenzene	ND	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	1.0	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	2.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	20	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	2.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	5.0	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	2.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	1.0	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	5.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 41 of 45

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2.0	1.00	
c-1,3-Dichloropropene	ND	1.0	1.00	
t-1,3-Dichloropropene	ND	2.0	1.00	
Ethylbenzene	ND	1.0	1.00	
2-Hexanone	ND	20	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	ND	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	20	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	2.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	1.0	1.00	
1,1,2,2-Tetrachloroethane	ND	2.0	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	2.0	1.00	
1,2,4-Trichlorobenzene	ND	2.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
Trichloroethene	ND	2.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	2.0	1.00	
1,2,4-Trimethylbenzene	ND	2.0	1.00	
1,3,5-Trimethylbenzene	ND	2.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	1.0	1.00	
p/m-Xylene	ND	2.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	2.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	20	1.00	
Diisopropyl Ether (DIPE)	ND	1.0	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	1.0	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	1.0	1.00	
Ethanol	ND	500	1.00	
TPPH	ND	50	1.00	
Gasoline Range Organics (C4-C12)	ND	50	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 42 of 45

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	99	79-139	
1,2-Dichloroethane-d4	94	71-155	
1,4-Bromofluorobenzene	97	80-120	
Toluene-d8	99	80-120	
Toluene-d8-TPPH	100	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Date Received: 06/28/19
Work Order: 19-06-1989
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Units: ug/kg

Project: OOI

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-779-2092**	**N/A**	**Solid**	**GC/MS OO**	**07/08/19**	**07/08/19 19:20**	**190708L023**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	5000	50.0	
Benzene	ND	100	50.0	
Bromobenzene	ND	100	50.0	
Bromochloromethane	ND	200	50.0	
Bromodichloromethane	ND	100	50.0	
Bromoform	ND	500	50.0	
Bromomethane	ND	2000	50.0	
2-Butanone	ND	2000	50.0	
n-Butylbenzene	ND	100	50.0	
sec-Butylbenzene	ND	100	50.0	
tert-Butylbenzene	ND	100	50.0	
Carbon Disulfide	ND	1000	50.0	
Carbon Tetrachloride	ND	100	50.0	
Chlorobenzene	ND	100	50.0	
Chloroethane	ND	200	50.0	
Chloroform	ND	100	50.0	
Chloromethane	ND	2000	50.0	
2-Chlorotoluene	ND	100	50.0	
4-Chlorotoluene	ND	100	50.0	
Dibromochloromethane	ND	200	50.0	
1,2-Dibromo-3-Chloropropane	ND	500	50.0	
1,2-Dibromoethane	ND	100	50.0	
Dibromomethane	ND	100	50.0	
1,2-Dichlorobenzene	ND	100	50.0	
1,3-Dichlorobenzene	ND	100	50.0	
1,4-Dichlorobenzene	ND	100	50.0	
Dichlorodifluoromethane	ND	200	50.0	
1,1-Dichloroethane	ND	100	50.0	
1,2-Dichloroethane	ND	100	50.0	
1,1-Dichloroethene	ND	100	50.0	
c-1,2-Dichloroethene	ND	100	50.0	
t-1,2-Dichloroethene	ND	100	50.0	
1,2-Dichloropropane	ND	100	50.0	
1,3-Dichloropropane	ND	100	50.0	
2,2-Dichloropropane	ND	500	50.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental	Date Received:	06/28/19
30423 Canwood St., Suite 208	Work Order:	19-06-1989
Agoura Hills, CA 91301-4316	Preparation:	EPA 5035
	Method:	GC/MS / EPA 8260B
	Units:	ug/kg
Project: OOI		Page 44 of 45

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	200	50.0	
c-1,3-Dichloropropene	ND	100	50.0	
t-1,3-Dichloropropene	ND	200	50.0	
Ethylbenzene	ND	100	50.0	
2-Hexanone	ND	2000	50.0	
Isopropylbenzene	ND	100	50.0	
p-Isopropyltoluene	ND	100	50.0	
Methylene Chloride	ND	1000	50.0	
4-Methyl-2-Pentanone	ND	2000	50.0	
Naphthalene	ND	1000	50.0	
n-Propylbenzene	ND	200	50.0	
Styrene	ND	100	50.0	
1,1,1,2-Tetrachloroethane	ND	100	50.0	
1,1,2,2-Tetrachloroethane	ND	200	50.0	
Tetrachloroethene	ND	100	50.0	
Toluene	ND	100	50.0	
1,2,3-Trichlorobenzene	ND	200	50.0	
1,2,4-Trichlorobenzene	ND	200	50.0	
1,1,1-Trichloroethane	ND	100	50.0	
1,1,2-Trichloroethane	ND	100	50.0	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	1000	50.0	
Trichloroethene	ND	200	50.0	
Trichlorofluoromethane	ND	1000	50.0	
1,2,3-Trichloropropane	ND	200	50.0	
1,2,4-Trimethylbenzene	ND	200	50.0	
1,3,5-Trimethylbenzene	ND	200	50.0	
Vinyl Acetate	ND	1000	50.0	
Vinyl Chloride	ND	100	50.0	
p/m-Xylene	ND	200	50.0	
o-Xylene	ND	100	50.0	
Methyl-t-Butyl Ether (MTBE)	ND	200	50.0	
Tert-Butyl Alcohol (TBA)	ND	2000	50.0	
Diisopropyl Ether (DIPE)	ND	100	50.0	
Ethyl-t-Butyl Ether (ETBE)	ND	100	50.0	
Tert-Amyl-Methyl Ether (TAME)	ND	100	50.0	
Ethanol	ND	50000	50.0	
TPPH	ND	5000	50.0	
Gasoline Range Organics (C4-C12)	ND	5000	50.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
		Units:	ug/kg
Project: OOI			Page 45 of 45

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	96	79-139	
1,2-Dichloroethane-d4	93	71-155	
1,4-Bromofluorobenzene	96	80-120	
Toluene-d8	99	80-120	
Toluene-d8-TPPH	101	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-779-2094**	**N/A**	**Solid**	**GC/MS OO**	**07/10/19**	**07/10/19 19:39**	**190710L008**

Parameter	Result	RL	DF	Qualifiers
TPPH	ND	5000	50.0	
Gasoline Range Organics (C4-C12)	ND	5000	50.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	98	79-139	
1,2-Dichloroethane-d4	97	71-155	
1,4-Bromofluorobenzene	93	80-120	
Toluene-d8	100	80-120	
Toluene-d8-TPPH	102	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Project: OOI

Date Received: 06/28/19
Work Order: 19-06-1989
Preparation: N/A
Method: ASTM D-2216 (M)
Units: %

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-5	**19-06-1989-1-A**	**06/28/19 07:39**	**Solid**	**N/A**	**07/01/19**	**07/01/19 16:00**	**J0701MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	12	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-10	**19-06-1989-2-A**	**06/28/19 07:50**	**Solid**	**N/A**	**07/01/19**	**07/01/19 16:00**	**J0701MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	4.7	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-15	**19-06-1989-3-A**	**06/28/19 08:02**	**Solid**	**N/A**	**07/01/19**	**07/01/19 16:00**	**J0701MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	3.5	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-20	**19-06-1989-4-A**	**06/28/19 08:18**	**Solid**	**N/A**	**07/01/19**	**07/01/19 16:00**	**J0701MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	2.9	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-25	**19-06-1989-5-A**	**06/28/19 08:42**	**Solid**	**N/A**	**07/01/19**	**07/01/19 16:00**	**J0701MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	5.4	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-30	**19-06-1989-6-A**	**06/28/19 08:51**	**Solid**	**N/A**	**07/01/19**	**07/01/19 16:00**	**J0701MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	5.2	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-31.8	**19-06-1989-7-A**	**06/28/19 08:59**	**Solid**	**N/A**	**07/01/19**	**07/01/19 16:00**	**J0701MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	20	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-37	**19-06-1989-8-A**	**06/28/19 09:45**	**Solid**	**N/A**	**07/01/19**	**07/01/19 16:00**	**J0701MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	22	0.10	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	N/A
		Method:	ASTM D-2216 (M)
		Units:	%
Project: OOI			Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-40	**19-06-1989-9-A**	**06/28/19 10:07**	**Solid**	**N/A**	**07/01/19**	**07/01/19 16:00**	**J0701MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	21	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CESB15-44	**19-06-1989-10-A**	**06/28/19 10:55**	**Solid**	**N/A**	**07/01/19**	**07/01/19 16:00**	**J0701MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	16	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-05-014-8477**	**N/A**	**Solid**	**N/A**	**07/01/19**	**07/01/19 16:00**	**J0701MOIB1**

Parameter	Result	RL	DF	Qualifiers
Moisture	ND	0.10	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Quality Control - Spike/Spike Duplicate

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: OOI			Page 1 of 2

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-06-1493-32	**Sample**	**Solid**	**GC 50**	**07/01/19**	**07/02/19 04:10**	**190701S02**
19-06-1493-32	**Matrix Spike**	**Solid**	**GC 50**	**07/01/19**	**07/02/19 01:06**	**190701S02**
19-06-1493-32	**Matrix Spike Duplicate**	**Solid**	**GC 50**	**07/01/19**	**07/02/19 01:26**	**190701S02**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	ND	400.0	401.2	100	399.1	100	64-130	1	0-15	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: OOI			Page 2 of 2

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
CESB15-5	**Sample**	**Solid**	**ICP 8300**	**07/01/19**	**07/02/19 16:14**	**190701S05**
CESB15-5	**Matrix Spike**	**Solid**	**ICP 8300**	**07/01/19**	**07/02/19 16:15**	**190701S05**
CESB15-5	**Matrix Spike Duplicate**	**Solid**	**ICP 8300**	**07/01/19**	**07/02/19 16:17**	**190701S05**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Arsenic	2.115	25.00	28.78	107	29.38	109	75-125	2	0-20	
Lead	1.684	25.00	27.28	102	28.23	106	75-125	3	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Sample Duplicate

California Environmental	Date Received: 06/28/19
30423 Canwood St., Suite 208	Work Order: 19-06-1989
Agoura Hills, CA 91301-4316	Preparation: N/A
	Method: ASTM D-2216 (M)
Project: OOI	Page 1 of 1

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
CESB15-5	**Sample**	**Solid**	**N/A**	**07/01/19 00:00**	**07/01/19 16:00**	**J0701MOID1**
CESB15-5	**Sample Duplicate**	**Solid**	**N/A**	**07/01/19 00:00**	**07/01/19 16:00**	**J0701MOID1**

Parameter	Sample Conc.	DUP Conc.	RPD	RPD CL	Qualifiers
Moisture	12.00	12.00	0	0-10	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: OOI			Page 1 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-15-490-3657	**LCS**	**Solid**	**GC 50**	**07/01/19**	**07/02/19 00:45**	**190701B02A**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Diesel	400.0	413.6	103	75-123	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: OOI			Page 2 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-01-002-28084	**LCS**	**Solid**	**ICP 8300**	**07/01/19**	**07/02/19 16:07**	**190701L05**
097-01-002-28084	**LCSD**	**Solid**	**ICP 8300**	**07/01/19**	**07/02/19 16:09**	**190701L05**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Arsenic	25.00	24.78	99	24.21	97	80-120	2	0-20	
Lead	25.00	26.81	107	26.25	105	80-120	2	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 5030C
		Method:	GC/MS / EPA 8260B
Project: OOI			Page 3 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-767-8590	**LCS**	**Aqueous**	**GC/MS PP**	**07/02/19**	**07/02/19 16:48**	**190702L023**
099-12-767-8590	**LCSD**	**Aqueous**	**GC/MS PP**	**07/02/19**	**07/02/19 17:18**	**190702L023**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	51.01	102	52.82	106	80-120	73-127	3	0-20	
Carbon Tetrachloride	50.00	47.70	95	49.71	99	67-139	55-151	4	0-20	
Chlorobenzene	50.00	48.58	97	50.40	101	78-120	71-127	4	0-20	
1,2-Dibromoethane	50.00	54.31	109	54.93	110	80-120	73-127	1	0-20	
1,2-Dichlorobenzene	50.00	49.75	99	50.50	101	63-129	52-140	1	0-20	
1,2-Dichloroethane	50.00	47.23	94	47.66	95	70-130	60-140	1	0-20	
1,1-Dichloroethene	50.00	46.86	94	48.49	97	66-126	56-136	3	0-20	
Ethylbenzene	50.00	50.81	102	53.42	107	80-123	73-130	5	0-20	
Toluene	50.00	49.29	99	50.50	101	80-120	73-127	2	0-20	
Trichloroethene	50.00	50.13	100	51.72	103	80-122	73-129	3	0-20	
Vinyl Chloride	50.00	42.26	85	43.48	87	70-130	60-140	3	0-20	
p/m-Xylene	100.0	100.2	100	104.5	105	75-123	67-131	4	0-25	
o-Xylene	50.00	51.24	102	52.97	106	74-122	66-130	3	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	43.10	86	43.80	88	69-129	59-139	2	0-22	
Tert-Butyl Alcohol (TBA)	250.0	254.1	102	245.0	98	69-129	59-139	4	0-25	
Diisopropyl Ether (DIPE)	50.00	49.02	98	50.63	101	68-128	58-138	3	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	47.13	94	47.82	96	63-135	51-147	1	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	53.21	106	53.79	108	67-133	56-144	1	0-20	
Ethanol	500.0	521.7	104	489.7	98	42-168	21-189	6	0-20	
TPPH	1000	1051	105	1022	102	65-135	53-147	3	0-30	
Gasoline Range Organics (C4-C12)	1000	1035	104	1012	101	65-135	53-147	2	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 5030C
		Method:	GC/MS / EPA 8260B
Project: OOI			Page 4 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-767-8591	**LCS**	**Aqueous**	**GC/MS PP**	**07/05/19**	**07/05/19 17:33**	**190705L008**
099-12-767-8591	**LCSD**	**Aqueous**	**GC/MS PP**	**07/05/19**	**07/05/19 18:04**	**190705L008**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	49.24	98	50.73	101	80-120	73-127	3	0-20	
Carbon Tetrachloride	50.00	44.53	89	46.67	93	67-139	55-151	5	0-20	
Chlorobenzene	50.00	46.94	94	48.06	96	78-120	71-127	2	0-20	
1,2-Dibromoethane	50.00	52.45	105	52.29	105	80-120	73-127	0	0-20	
1,2-Dichlorobenzene	50.00	48.97	98	50.17	100	63-129	52-140	2	0-20	
1,2-Dichloroethane	50.00	44.89	90	44.40	89	70-130	60-140	1	0-20	
1,1-Dichloroethene	50.00	42.91	86	43.99	88	66-126	56-136	2	0-20	
Ethylbenzene	50.00	48.43	97	49.80	100	80-123	73-130	3	0-20	
Toluene	50.00	47.21	94	49.30	99	80-120	73-127	4	0-20	
Trichloroethene	50.00	49.03	98	49.82	100	80-122	73-129	2	0-20	
Vinyl Chloride	50.00	35.30	71	36.37	73	70-130	60-140	3	0-20	
p/m-Xylene	100.0	95.51	96	96.98	97	75-123	67-131	2	0-25	
o-Xylene	50.00	48.41	97	49.32	99	74-122	66-130	2	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	40.18	80	39.76	80	69-129	59-139	1	0-22	
Tert-Butyl Alcohol (TBA)	250.0	245.6	98	241.7	97	69-129	59-139	2	0-25	
Diisopropyl Ether (DIPE)	50.00	45.07	90	45.15	90	68-128	58-138	0	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	43.13	86	42.95	86	63-135	51-147	0	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	50.59	101	50.63	101	67-133	56-144	0	0-20	
Ethanol	500.0	477.1	95	485.6	97	42-168	21-189	2	0-20	
TPPH	1000	1002	100	966.9	97	65-135	53-147	4	0-30	
Gasoline Range Organics (C4-C12)	1000	987.7	99	953.1	95	65-135	53-147	4	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 5030C
		Method:	GC/MS / EPA 8260B
Project: OOI			Page 5 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-767-8594	**LCS**	**Aqueous**	**GC/MS PP**	**07/10/19**	**07/10/19 17:45**	**190710L010**
099-12-767-8594	**LCSD**	**Aqueous**	**GC/MS PP**	**07/10/19**	**07/10/19 18:16**	**190710L010**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	49.79	100	50.08	100	80-120	73-127	1	0-20	
Carbon Tetrachloride	50.00	50.26	101	50.68	101	67-139	55-151	1	0-20	
Chlorobenzene	50.00	48.30	97	49.15	98	78-120	71-127	2	0-20	
1,2-Dibromoethane	50.00	52.56	105	50.04	100	80-120	73-127	5	0-20	
1,2-Dichlorobenzene	50.00	49.75	100	49.81	100	63-129	52-140	0	0-20	
1,2-Dichloroethane	50.00	49.31	99	49.74	99	70-130	60-140	1	0-20	
1,1-Dichloroethene	50.00	48.52	97	49.33	99	66-126	56-136	2	0-20	
Ethylbenzene	50.00	51.37	103	51.60	103	80-123	73-130	0	0-20	
Toluene	50.00	48.70	97	49.77	100	80-120	73-127	2	0-20	
Trichloroethene	50.00	50.21	100	51.79	104	80-122	73-129	3	0-20	
Vinyl Chloride	50.00	46.37	93	47.71	95	70-130	60-140	3	0-20	
p/m-Xylene	100.0	98.66	99	99.40	99	75-123	67-131	1	0-25	
o-Xylene	50.00	50.14	100	50.30	101	74-122	66-130	0	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	43.64	87	42.39	85	69-129	59-139	3	0-22	
Tert-Butyl Alcohol (TBA)	250.0	230.0	92	236.1	94	69-129	59-139	3	0-25	
Diisopropyl Ether (DIPE)	50.00	50.73	101	50.54	101	68-128	58-138	0	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	48.02	96	46.68	93	63-135	51-147	3	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	52.70	105	51.19	102	67-133	56-144	3	0-20	
Ethanol	500.0	479.6	96	505.1	101	42-168	21-189	5	0-20	
TPPH	1000	1023	102	998.0	100	65-135	53-147	2	0-30	
Gasoline Range Organics (C4-C12)	1000	1003	100	983.1	98	65-135	53-147	2	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Project: OOI

Date Received: 06/28/19
Work Order: 19-06-1989
Preparation: EPA 5035
Method: GC/MS / EPA 8260B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-779-2084	**LCS**	**Solid**	**GC/MS LL**	**07/06/19**	**07/06/19 14:02**	**190706L002**
099-12-779-2084	**LCSD**	**Solid**	**GC/MS LL**	**07/06/19**	**07/06/19 14:28**	**190706L002**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	44.33	89	44.70	89	80-120	73-127	1	0-20	
Carbon Tetrachloride	50.00	48.35	97	48.74	97	65-137	53-149	1	0-20	
Chlorobenzene	50.00	47.29	95	47.61	95	80-120	73-127	1	0-20	
1,2-Dibromoethane	50.00	49.27	99	50.58	101	80-120	73-127	3	0-20	
1,2-Dichlorobenzene	50.00	47.17	94	48.47	97	80-120	73-127	3	0-20	
1,2-Dichloroethane	50.00	46.46	93	48.31	97	80-120	73-127	4	0-20	
1,1-Dichloroethene	50.00	46.21	92	45.96	92	68-128	58-138	1	0-20	
Ethylbenzene	50.00	45.74	91	46.29	93	80-120	73-127	1	0-20	
Toluene	50.00	44.97	90	46.04	92	80-120	73-127	2	0-20	
Trichloroethene	50.00	47.10	94	45.87	92	80-120	73-127	3	0-20	
Vinyl Chloride	50.00	44.84	90	45.40	91	67-127	57-137	1	0-20	
p/m-Xylene	100.0	94.84	95	96.23	96	75-125	67-133	1	0-25	
o-Xylene	50.00	45.02	90	46.32	93	75-125	67-133	3	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	39.94	80	41.75	83	70-124	61-133	4	0-20	
Tert-Butyl Alcohol (TBA)	250.0	217.9	87	222.8	89	73-121	65-129	2	0-20	
Diisopropyl Ether (DIPE)	50.00	43.93	88	45.04	90	69-129	59-139	3	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	42.19	84	44.22	88	70-124	61-133	5	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	47.62	95	48.66	97	74-122	66-130	2	0-20	
Ethanol	500.0	494.2	99	446.5	89	51-135	37-149	10	0-27	
TPPH	1000	989.3	99	975.3	98	65-135	53-147	1	0-30	
Gasoline Range Organics (C4-C12)	1000	988.1	99	970.9	97	65-135	53-147	2	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Project: OOI

Date Received: 06/28/19
Work Order: 19-06-1989
Preparation: EPA 5035
Method: GC/MS / EPA 8260B
Page 7 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-779-2086	**LCS**	**Solid**	**GC/MS LL**	**07/06/19**	**07/06/19 14:02**	**190706L003**
099-12-779-2086	**LCSD**	**Solid**	**GC/MS LL**	**07/06/19**	**07/06/19 14:28**	**190706L003**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	44.33	89	44.70	89	80-120	73-127	1	0-20	
Carbon Tetrachloride	50.00	48.35	97	48.74	97	65-137	53-149	1	0-20	
Chlorobenzene	50.00	47.29	95	47.61	95	80-120	73-127	1	0-20	
1,2-Dibromoethane	50.00	49.27	99	50.58	101	80-120	73-127	3	0-20	
1,2-Dichlorobenzene	50.00	47.17	94	48.47	97	80-120	73-127	3	0-20	
1,2-Dichloroethane	50.00	46.46	93	48.31	97	80-120	73-127	4	0-20	
1,1-Dichloroethene	50.00	46.21	92	45.96	92	68-128	58-138	1	0-20	
Ethylbenzene	50.00	45.74	91	46.29	93	80-120	73-127	1	0-20	
Toluene	50.00	44.97	90	46.04	92	80-120	73-127	2	0-20	
Trichloroethene	50.00	47.10	94	45.87	92	80-120	73-127	3	0-20	
Vinyl Chloride	50.00	44.84	90	45.40	91	67-127	57-137	1	0-20	
p/m-Xylene	100.0	94.84	95	96.23	96	75-125	67-133	1	0-25	
o-Xylene	50.00	45.02	90	46.32	93	75-125	67-133	3	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	39.94	80	41.75	83	70-124	61-133	4	0-20	
Tert-Butyl Alcohol (TBA)	250.0	217.9	87	222.8	89	73-121	65-129	2	0-20	
Diisopropyl Ether (DIPE)	50.00	43.93	88	45.04	90	69-129	59-139	3	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	42.19	84	44.22	88	70-124	61-133	5	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	47.62	95	48.66	97	74-122	66-130	2	0-20	
Ethanol	500.0	494.2	99	446.5	89	51-135	37-149	10	0-27	
TPPH	1000	989.3	99	975.3	98	65-135	53-147	1	0-30	
Gasoline Range Organics (C4-C12)	1000	988.1	99	970.9	97	65-135	53-147	2	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental
30423 Canwood St., Suite 208
Agoura Hills, CA 91301-4316

Project: OOI

Date Received: 06/28/19
Work Order: 19-06-1989
Preparation: EPA 5035
Method: GC/MS / EPA 8260B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-779-2091	**LCS**	**Solid**	**GC/MS OO**	**07/08/19**	**07/08/19 16:52**	**190708L017**
099-12-779-2091	**LCSD**	**Solid**	**GC/MS OO**	**07/08/19**	**07/08/19 17:21**	**190708L017**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	48.31	97	46.90	94	80-120	73-127	3	0-20	
Carbon Tetrachloride	50.00	47.70	95	47.08	94	65-137	53-149	1	0-20	
Chlorobenzene	50.00	50.03	100	48.23	96	80-120	73-127	4	0-20	
1,2-Dibromoethane	50.00	51.22	102	50.75	101	80-120	73-127	1	0-20	
1,2-Dichlorobenzene	50.00	50.84	102	49.04	98	80-120	73-127	4	0-20	
1,2-Dichloroethane	50.00	46.11	92	45.69	91	80-120	73-127	1	0-20	
1,1-Dichloroethene	50.00	44.88	90	43.30	87	68-128	58-138	4	0-20	
Ethylbenzene	50.00	51.93	104	49.73	99	80-120	73-127	4	0-20	
Toluene	50.00	50.65	101	48.89	98	80-120	73-127	4	0-20	
Trichloroethene	50.00	50.49	101	48.13	96	80-120	73-127	5	0-20	
Vinyl Chloride	50.00	44.24	88	43.65	87	67-127	57-137	1	0-20	
p/m-Xylene	100.0	106.2	106	101.3	101	75-125	67-133	5	0-25	
o-Xylene	50.00	53.69	107	51.69	103	75-125	67-133	4	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	43.31	87	43.21	86	70-124	61-133	0	0-20	
Tert-Butyl Alcohol (TBA)	250.0	212.4	85	209.5	84	73-121	65-129	1	0-20	
Diisopropyl Ether (DIPE)	50.00	47.91	96	46.72	93	69-129	59-139	3	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	48.64	97	48.22	96	70-124	61-133	1	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	56.21	112	56.24	112	74-122	66-130	0	0-20	
Ethanol	500.0	426.5	85	397.8	80	51-135	37-149	7	0-27	
TPPH	1000	970.0	97	892.2	89	65-135	53-147	8	0-30	
Gasoline Range Organics (C4-C12)	1000	879.4	88	802.7	80	65-135	53-147	9	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
Project: OOI			Page 9 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-779-2092	**LCS**	**Solid**	**GC/MS OO**	**07/08/19**	**07/08/19 16:52**	**190708L023**
099-12-779-2092	**LCSD**	**Solid**	**GC/MS OO**	**07/08/19**	**07/08/19 17:21**	**190708L023**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	48.31	97	46.90	94	80-120	73-127	3	0-20	
Carbon Tetrachloride	50.00	47.70	95	47.08	94	65-137	53-149	1	0-20	
Chlorobenzene	50.00	50.03	100	48.23	96	80-120	73-127	4	0-20	
1,2-Dibromoethane	50.00	51.22	102	50.75	101	80-120	73-127	1	0-20	
1,2-Dichlorobenzene	50.00	50.84	102	49.04	98	80-120	73-127	4	0-20	
1,2-Dichloroethane	50.00	46.11	92	45.69	91	80-120	73-127	1	0-20	
1,1-Dichloroethene	50.00	44.88	90	43.30	87	68-128	58-138	4	0-20	
Ethylbenzene	50.00	51.93	104	49.73	99	80-120	73-127	4	0-20	
Toluene	50.00	50.65	101	48.89	98	80-120	73-127	4	0-20	
Trichloroethene	50.00	50.49	101	48.13	96	80-120	73-127	5	0-20	
Vinyl Chloride	50.00	44.24	88	43.65	87	67-127	57-137	1	0-20	
p/m-Xylene	100.0	106.2	106	101.3	101	75-125	67-133	5	0-25	
o-Xylene	50.00	53.69	107	51.69	103	75-125	67-133	4	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	43.31	87	43.21	86	70-124	61-133	0	0-20	
Tert-Butyl Alcohol (TBA)	250.0	212.4	85	209.5	84	73-121	65-129	1	0-20	
Diisopropyl Ether (DIPE)	50.00	47.91	96	46.72	93	69-129	59-139	3	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	48.64	97	48.22	96	70-124	61-133	1	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	56.21	112	56.24	112	74-122	66-130	0	0-20	
Ethanol	500.0	426.5	85	397.8	80	51-135	37-149	7	0-27	
TPPH	1000	970.0	97	892.2	89	65-135	53-147	8	0-30	
Gasoline Range Organics (C4-C12)	1000	879.4	88	802.7	80	65-135	53-147	9	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

California Environmental		Date Received:	06/28/19
30423 Canwood St., Suite 208		Work Order:	19-06-1989
Agoura Hills, CA 91301-4316		Preparation:	EPA 5035
		Method:	GC/MS / EPA 8260B
Project: OOI			Page 10 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-779-2094	**LCS**	**Solid**	**GC/MS OO**	**07/10/19**	**07/10/19 17:11**	**190710L008**
099-12-779-2094	**LCSD**	**Solid**	**GC/MS OO**	**07/10/19**	**07/10/19 17:41**	**190710L008**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	45.99	92	47.04	94	80-120	73-127	2	0-20	
Carbon Tetrachloride	50.00	47.48	95	47.51	95	65-137	53-149	0	0-20	
Chlorobenzene	50.00	46.07	92	47.94	96	80-120	73-127	4	0-20	
1,2-Dibromoethane	50.00	49.00	98	51.79	104	80-120	73-127	6	0-20	
1,2-Dichlorobenzene	50.00	46.43	93	48.49	97	80-120	73-127	4	0-20	
1,2-Dichloroethane	50.00	46.24	92	48.38	97	80-120	73-127	5	0-20	
1,1-Dichloroethene	50.00	42.66	85	43.14	86	68-128	58-138	1	0-20	
Ethylbenzene	50.00	46.23	92	48.42	97	80-120	73-127	5	0-20	
Toluene	50.00	46.67	93	48.43	97	80-120	73-127	4	0-20	
Trichloroethene	50.00	47.10	94	47.79	96	80-120	73-127	1	0-20	
Vinyl Chloride	50.00	39.78	80	41.05	82	67-127	57-137	3	0-20	
p/m-Xylene	100.0	95.25	95	100.5	100	75-125	67-133	5	0-25	
o-Xylene	50.00	48.29	97	50.91	102	75-125	67-133	5	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	41.61	83	43.42	87	70-124	61-133	4	0-20	
Tert-Butyl Alcohol (TBA)	250.0	193.3	77	203.2	81	73-121	65-129	5	0-20	
Diisopropyl Ether (DIPE)	50.00	48.05	96	49.42	99	69-129	59-139	3	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	46.21	92	47.57	95	70-124	61-133	3	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	51.75	103	53.76	108	74-122	66-130	4	0-20	
Ethanol	500.0	367.0	73	397.1	79	51-135	37-149	8	0-27	
TPPH	1000	920.5	92	938.7	94	65-135	53-147	2	0-30	
Gasoline Range Organics (C4-C12)	1000	895.1	90	850.0	85	65-135	53-147	5	0-30	

Total number of LCS compounds: 21
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Sample Analysis Summary Report

Work Order: 19-06-1989 Page 1 of 1

Method	Extraction	Chemist ID	Instrument	Analytical Location
ASTM D-2216 (M)	N/A	1215	N/A	1
EPA 6010B	EPA 3050B	1080	ICP 8300	1
EPA 8015B (M)	EPA 3550B	1028	GC 50	1
GC/MS / EPA 8260B	EPA 5035	1120	GC/MS LL	2
GC/MS / EPA 8260B	EPA 5035	1178	GC/MS OO	2
GC/MS / EPA 8260B	EPA 5030C	1191	GC/MS PP	2

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Glossary of Terms and Qualifiers

Work Order: 19-06-1989 Page 1 of 1

Qualifiers	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: **19-06-1989**

DATE: JUNE 28, 2019

PAGE: 1 OF 2

LABORATORY CLIENT: CALENVIRO

ADDRESS: 30423 Canwood Street #208

CITY: Agoura Hills STATE: CA ZIP: 91301

TEL: 818-991 1542 E-MAIL:

CLIENT PROJECT NAME / NUMBER: OOI

P.O. NO.: 3029

PROJECT CONTACT: C. Buckley

SAMPLER(S): (PRINT) Buckley CB

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAYS ☐ STANDARD

☐ COELT EDF GLOBAL ID: LOG CODE:

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☒ TPH(g) ☐ GRO 8260	☐ TPH(d) ☐ DRO	TPH ☒ C6-C36 ☒ C6-C44 8015	TPH	BTEX / MTBE ☐ 8260 ☐	VOCs (8260) Full list + Oxy 8260	Oxygenates (8260)	Prep (5035) ☐ En Core ☒ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6	ARSENIC / Lead	MOISTURE		
1	CES B(5-5'	5/28/19	7:39	Soil	5				X		X			X									X	X		
2	15-10'		7:50						X		X			X									X	X		
3	15-15'		8:02						X		X			X									X	X		
4	15-20'		8:18						X		X			X									X	X		
5	15-25'		8:42						X		X			X									X	X		
6	15-30'		8:51						X		X			X									X	X		
7	15-31.8'		8.59		~~4~~				X		X			X									X	X	Hold	
8	15-37'		9:45		4				X		X			X									X	X		
9	15-40'		10:07		4				X		X			X									X	X		
10	15-44'		10:55		4				X		X			X									X	X		

Relinquished by: (Signature) CB	Received by: (Signature/Affiliation) FE	Date: 6-28-19	Time: 16:00
Relinquished by: (Signature) FE	Received by: (Signature/Affiliation) Dannyle FE	Date: 6-28-19	Time: 17:26
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

06/02/14 Revision

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CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: 19-06-1984

DATE: June 28, 2019

PAGE: 2 OF 2

LABORATORY CLIENT: [redacted] CALGUVIRO

ADDRESS: [redacted] 30423 Canwood St 208

CITY: [redacted] Agoura Hills STATE: CA ZIP: [redacted]

TEL: [redacted] 818 991-1540 E-MAIL: [redacted]

CLIENT PROJECT NAME / NUMBER: [redacted] 001

P.O. NO.: 3029 [redacted]

PROJECT CONTACT: [redacted] C. Bulkley

SAMPLER(S): (PRINT) Bulkley CB

REQUESTED ANALYSES

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAYS ☐ STANDARD

☐ COELT EDF GLOBAL ID: [redacted] LOG CODE: [redacted]

SPECIAL INSTRUCTIONS:
[redacted]

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	[redacted]	TPH gas - 8260B	TPH C6-C44	VOCs + Oxy - 8260B	Prop 50 35 TEMP	Lead / Arsenic	moisture	Container Type: 40 mL VOA preserved with HCL — Field Point Names
11	CESB12-GW	6/28/19	12:03p	water	3		X		•	X		X				Turbid
12	CESB13-GW	↓	12:35p	↓	2		X			X		X				↓ Clear
13	CESB14-GW	↓	1:05p	↓	3		X			X		X				
14	CESB15-GW	↓	1:50p	↓	3		X			X		X				Turbid
15	CEDUP#3	5/28/19			3					X		X	X			

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
CB	[signature] EC	6-28-19	16:00
[signature] EC	Dannyle C	6-28-19	17:26

06/02/14 Revision

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eurofins | Calscience

WORK ORDER NUMBER: 19-06-1089

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: CAL ENVIRO

DATE: 06/28/2019

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC6 (CF: -0.2°C); Temperature (w/o CF): 5.1 °C (w/ CF): 4.9 °C; ☐ Blank ☑ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter Checked by: 1053

CUSTODY SEAL:

Cooler ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 1053

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 778

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑ WTC 6-28-19	☐	☐
☐ Sampling date ☐ Sampling time ☑ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☐	☑	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☑	☐	☐
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Acid/base preserved samples - pH within acceptable range	☐	☐	☑
Container(s) for certain analysis free of headspace	☑	☐	☐
☑ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☑ VOAh (13) ☐ VOAna₂ ☐ 100PJ ☐ 100PJna₂ ☐ 125AGB ☐ 125AGBh ☐ 125AGBp ☐ 125PB ☐ 125PBznna (pH__9)
☐ 250AGB ☐ 250CGB ☐ 250CGBs (pH__2) ☐ 250PB ☐ 250PBn (pH__2) ☐ 500AGB ☐ 500AGJ ☐ 500AGJs (pH__2) ☐ 500PB
☐ 1AGB ☐ 1AGBna₂ ☐ 1AGBs (pH__2) ☐ 1AGBs (O&G) ☐ 1PB ☐ 1PBna (pH__12) ☐ _____ ☐ _____ ☐ _____

Solid: ☑ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☑ Sleeve (2) ☐ EnCores® (___) ☑ TerraCores® (3) ☑ 2oz kit ☐ _____ ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na₂** = $Na_2S_2O_3$, **p** = H_3PO_4,
s = H_2SO_4, **u** = ultra-pure, **x** = Na_2SO_3+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 778

Reviewed by: 459

* 471 (8+4)

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APPENDIX V

Long Beach City - Boring Permit

CITY OF LONG BEACH
DEPARTMENT OF HEALTH AND HUMAN SERVICES
BUREAU OF ENVIRONEMTNAL HEALTH
WATER QUALITY PROGRAM
2525 GRAND AVENUE, ROOM 220, LONG BEACH, CALIFORNIA CA 90815
562-570-4132

WELL PERMIT

PERMIT#: ***2599***

DATE ISSUED: ***April 8, 2019***

PROPOSED DATE: ***April 8, 2019***

All work must be completed in accordance with Water Well Bulletin 74-81 and 74-90. PLEASE NOTIFY INSPECTOR 48 HOURS BEFORE DRILLING AND SUBMIT LOG(S) TO vanna.kho@longbeach.gov , OR MAIL AT ADDRESS ABOVE.

Site Address:	***712 N. Baker Street*** ***Long Beach, CA 90806***
Owner:	***OOI Inc.***
Owner Address:	*2852 Gundry Avenue* *Signall Hill, CA 90755* *(562) 595-6440*
Consulting Firm:	***California Environmental***
Consulting Firm Address	*30423 Can wood Street, Suite 208* *Agoura Hills, CA 91301* *(818) 903-6530*
Drilling Company:	***Gregg Drilling, LLC***
Drilling Co. Address:	*2726 Walnut Avenue* *Signal Hill, CA 90755* *(562) 427-6849*
Type of Permit:	***Soil Boring***
Type of Well:	
Total No. of Well/Soil Boring:	***12 Borings***

This permit valid for one year from proposed date above.

Vanna Kho
Cross-Connection/Water Quality

CITY OF LONG BEACH

Date: 4/8/19

Check #: _____

☐ Cash ☒ Credit Card

TO: CASHIER ☐ HE0610 ☐ HE0612 ☐ HE0613 ☐ HE0617 ☒ HE0620 ☐ HE0621 ☐ HE0905A

FROM: BUREAU OF ENVIRONMENTAL HEALTH
SUBJECT: PAYMENT FOR SERVICES RENDERED

CHARLES BUCKLEY W/ CAL ENVIRONMENTAL
NAME/COMPANY

BORING PERMIT FOR 712 N. BAKER ST ON 4/8/19
DESCRIPTION/EVENT/ADDRESS

Clerk Signature: _____

Consumer Protection Program: ☐ 543001 ☐ 543003 ☐ 543004 ☐ 543005 ☐ 710001 ☐ 778004

☐ Non-Profit ☐ Profit ☐ Organizer ☐ FM Organizer $ _____ ☐ _____ Certified FM @ $ _____

☐ TFF ☐ FM TFF ☐ Special Event Mobile FTP $ _____ ☐ _____ Tobacco Facility @ $ _____

_____ Un-Pkgd TFF @ $ _____ _____ Pre-pkgd TFF @ $ _____ _____ Hawkers @ $ _____

☐ 20% Discount Organizer/TFF $ -_____ ☐ TFF Late Fee $ _____ ☐ TFF Field Licensing $ _____

☐ Administrative Citation $ _____ ☐ Demolition $ _____ ☐ _____ Cal Code Booklet @ $ _____

☐ Food Cart/Vehicle Impound ☐ 1st ☐ 2nd ☐ 3rd $ _____ ☐ _____ Copies @ $ _____

☐ Food Facility Walk-thru first 1½ hr. $ _____ ☐ Walk-thru Hourly $_____ ☐ Plan Check Consultation $ _____

☐ Plan Revision $ _____ ☐ Return Check $ _____ ☐ Other: _____

Well Permits: ☐ 543004 ☒ 543005 ☐ New Well Construction ☐ Destruction

☐ _____ Construction of Monitoring Well(s) @ $ _____ X 12 Soil Boring $ 420.00

☐ _____ Well Abandonment/Destruction @ $ _____ ☐ _____ Cathodic Well @ $ _____

☐ _____ Construction of Drinking Water Well(s) @ $ _____ ☐ _____ Water Shut Down Test $ _____

☐ _____ Cross Connection Test/Survey $ _____ ☐ _____ Water Line Clearance $ _____

☐ _____ Cross Connection Test/Survey after Hours $ _____ ☐ _____ Water Line Clearance Sample $ _____

☒ Other: EXPEDITE FEE: $420.00

Hazmat Program: ☐ 543004 ☐ 543005 ☐ 643007 ☐ 778020

☐ UST Removal Report $ _____ ☐ UST Removal Reports – Addt'l. Hrs. $ _____

☐ _____ Site Characterization/Mitigation $ _____ ☐ Noise Variance $ _____

☐ Body Art Practitioner Annual Registration $ _____ ☐ Body Art Event Organizer $ _____

☐ Tattooing ☐ Body Piercing ☐ Branding ☐ Permanent Cosmetic Application ☐ _____ Temporary Body Artist $ _____

Other: _____

$35.00 charge will be added to all returned checks

OFFICE USE ONLY

Sub Total Amount: $ 840.00 **Discount:** -_____ **Total Amount Paid:** $_____

Cashier Signature: _____ **Date:** 4.8.19

White Copy - File Yellow Copy - Customer Pink Copy - Operator

APPENDIX VII

Health and Safety Plan (HASP)

HEALTH AND SAFETY PLAN

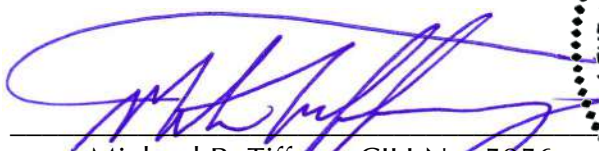
EXCAVATION AND REMOVAL OF SOIL
Oil Operators, Inc. (OOI) Property
712 Baker Street, Long Beach, California 90806

FOR

CALIFORNIA ENVIRONMENTAL
30423 Canwood Street, Suite 208
Agoura Hills, California 91301

Attention: Mr. Charles Buckley

PREPARED BY



Michael R. Tiffany, CIH No. 5056
Certified Industrial Hygienist

ACG Job No. E1906-1315 August 23, 2019

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SITE-SPECIFIC HEALTH AND SAFETY PLAN
for
EXCAVATION AND GRADING OF POTENTIALLY CONTAMINATED SOIL

INTRODUCTION

The purpose of this Health and Safety Plan (HSP) is to provide site-specific health and safety requirements for soil removal work to be conducted by California Environmental at the subject property. This HSP applies to employees of California Environmental (CE), the grading contractor, and their subcontractors (collectively, "contractors"). This Health and Safety Plan is a site-specific addendum to the contractors' corporate Injury and Illness Prevention Programs (IIPPs), which are in effect for this project.

The site is owned by Oil Operators Inc. and was formerly utilized for treatment of oil field production brines and other fluid by-products of oil. The soil removal is being undertaken to remove contamination prior to development. The Remedial Action Plan and previous site assessments contain information on the location and concentration of residual contaminants in soil beneath the clean fill.

Preparation of this Health and Safety Plan is not intended to relieve any contractor, their representatives or any other professionals from their duties and responsibilities with respect to overall site safety for the project. All contractors are responsible for observing all additional health and safety requirements as mandated by Cal/OSHA, the Los Angeles County Fire Department, the South Coast Air Quality Management District, and all other pertinent health and safety rules governing work activities to be conducted at a construction site.

DESCRIPTION OF WORK

The work covered by this HSP involves the removal of 15 feet of petroleum and metals-impacted soil within two former basins, removal and re-compaction of treated soil, and the addition of a cap of clean soil to the northern section of the site. Soil removal includes the excavation, stockpiling, sampling, and loading of soil. Soil will be excavated using an excavator and/or a rubber-tired loader. Scrapers will be used for removal and placement of treated soil. Excavated soil may be temporarily stockpiled on plastic for verification sampling. Soil to be exported will be loaded into trucks and transported to offsite disposal facilities.

Plastic sheeting, water spray, and/or vapor suppression compounds will be used as necessary to reduce fugitive dust emissions.

The objective of this Health and Safety Plan is to provide for proper identification, safe handling and mitigation of contaminated soil that may be encountered during excavation work at the site. To achieve this objective, the following must be accomplished.

- Monitor the working face, excavation, stockpile, and loading area for visible dust emissions, toxic concentrations of dust, explosive or toxic gases, and any changes in materials or conditions.
- Protect workers from hazards that may be encountered during the project.
- Provide for proper identification of contaminated soils.
- Provide for proper handling of contaminated soils.

PHYSICAL HAZARDS

The excavation activities proposed at the subject property may present physical hazards including heavy equipment operations, open excavations, vehicular traffic, and heat stress. These hazards are common to construction work sites and are covered in the contractors' IIPPs.

The following precautions will be observed to protect workers from physical hazards:

- Hard hats and steel-toed boots will be worn at all times.
- Safety glasses will be worn when using impact tools, cutting tools, or grinders.
- Work gloves will be worn when handling equipment or tools.
- High visibility safety vests will be worn by workers on foot in the presence of operating equipment or vehicle traffic.
- Hearing protective devices will be worn in accordance with the contractor's hearing conservation program.
- Equipment will be operated only by trained operators.
- Workers will not enter excavations unless they are sloped and/or shored in accordance with Cal/OSHA regulations.

Excessive exposure to a hot work environment can bring about a variety of heat-induced disorders, including heat stroke, heat exhaustion, cramps, and fainting. Preventative measures in effect for this project include:

- Rest periods in shaded or air-conditioned areas when necessary for the workers to self-limit heat exposure.
- Drinking water in adequate quantity will be provided outside the exclusion zone.
- Site workers will be trained in heat stress recognition and prevention.

Heat stress is unlikely with acclimatized workers in Level D at temperatures below 90 °F. Site workers receive heat stress training as part of HAZWOPER training. If ambient temperatures exceed 90 °F or if Level C PPE is donned then additional heat stress precautions will be implemented.

HAZARD EVALUATION - HAZARDOUS CHEMICALS

Previous investigations conducted at this site have established the presence of metals, volatile organic compounds (VOCs) and petroleum hydrocarbon compounds in soil. **TABLE 1** presents the maximum contaminant levels in site soils and the screening ratio as compared to the Cal/OSHA Permissible Exposure Limit (PEL).

A 2015 site investigation report by Tetra Tech report indicates that the primary contaminants in soil at the subject property are arsenic and lead. Based on Tetra Tech's findings, arsenic up to 120 mg/kg and lead up to 820 mg/kg may be encountered during upcoming excavation activities. Volatile organic compounds and petroleum hydrocarbons are also present on site.

TABLE 1
HAZARD EVALUATION
Chemicals of Concern

Compound	Cal-OSHA PEL mg/m^3	Maximum soil concentration mg/Kg (ppm)	Screening Ratio
Lead	0.05	820	0.16
Arsenic	0.01	120	0.12
Naphthalene	2.62	51	0.0002
Gasoline	900	1500	1.7×10^{-5}
Benzene	3.19	3.8	1.2×10^{-5}
Ethylbenzene	22	3.9	1.8×10^{-6}
Toluene	37	2.6	7.0×10^{-7}
Xylene	435	11	2.5×10^{-7}

Screening ratio = (soil concentration (mg/Kg) x 10 mg/m^3) ÷ PEL ÷ 1 $x10^{-6}$ (mg/Kg)

The screening ratio used to evaluate the hazard of contaminants in airborne dust is the ratio of airborne exposure to the PEL at a total airborne dust loading of 10 mg/m^3, the PEL for nuisance dust. The highest screening ratio present for contaminants on site is lead at 0.16. At the highest lead soil concentration expected to remain at the site (820 mg/Kg), airborne exposure to lead will not exceed the PEL at 10 mg/m^3 total dust. An airborne exposure of 10 mg/m^3 corresponds to visible dust emissions reaching the breathing zone. Keeping the airborne total dust concentration below 10 mg/m^3 will keep lead, arsenic, VOC and petroleum hydrocarbon exposures below their respected PELs. Although the probability of encountering hazardous airborne concentrations of toxic or irritating chemicals at this site is believed to be low, provision is made in this plan for air monitoring to detect such hazards. Appropriate responses in the event that hazardous concentrations are encountered are given below.

Under SCAQMD Rule 1466, dust suppression will be implemented to keep PM10 dust emissions at the property line at less than 0.025 mg/m^3 over ambient. This will keep breathing zone exposures well below PELs.

The chemical contaminants at this site are not expected to present a significant hazard of airborne exposure. There is a slight hazard of ingestion exposure. Compliance with the **PERSONAL HEALTH AND HYGIENE** section of this plan will protect against accidental ingestion of contaminated soil.

CHEMICAL HAZARDS

Lead and arsenic are the primary contaminants of concern at the site. Additional contaminants include volatile organic compounds and petroleum hydrocarbons.

Lead

Lead in its elemental form is a heavy ductile gray metal. It does not corrode or decompose readily, and it melts at relatively low temperatures. These properties made it very useful for such things as soldering pipe joints and electrical connections. Lead compounds were widely used in paints for structural steel, heavy equipment, and pavement striping. Tetraethyl lead was added to gasoline until 1979, resulting in contamination of soil with aerially-deposited lead oxide fume near roadways.

Lead has toxic properties that make it hazardous if inhaled or ingested. The Cal/OSHA PEL for lead is 50 $\mu g/m^3$ (micrograms per cubic meter) of air as an 8-hour Time-Weighted Average (TWA). The Action Level is 30 $\mu g/m^3$. The IDLH Level (Immediately Dangerous to Life & Health) is 100 mg/m^3. The National Ambient Air Quality Standard (NAAQS) for lead is 0.15 $\mu g/m^3$ as a rolling three-month average.

Repeated exposure to airborne lead in excess of the PEL may produce a variety of symptoms, including: weakness, eye irritation, facial pallor, paleness of the eyes, lassitude, insomnia, anemia, tremors, malnutrition, constipation, weakness or paralysis of the wrists and ankles, abdominal pain, nephropathy, encephalopathy, gingival lead line, hypertension, anorexia, and weight loss. The target organs include the central nervous system, kidneys, eyes, blood, gingival tissue, and the gastro-intestinal tract.

Development of lead-related ailments in adults generally takes many years of repeated exposure when the levels are low, but can be more rapid if high concentrations are encountered. High-level exposures can cause acute health effects including seizures, coma, and death within hours or days. Uncontrolled burning of lead-based paint or other lead-containing materials can result in life-threatening exposure.

Arsenic

Exposure to airborne inorganic arsenic may cause lung cancer, and it can be a skin irritant. Inorganic arsenic may also affect your body if swallowed. Arsenic (chemical symbol As) is a naturally occurring semi-metallic element. Many inorganic arsenic compounds are found in the environment, frequently occurring as the sulfide form in complex minerals containing copper, lead, iron, nickel, cobalt, and other metals. Inorganic arsenic compounds were widely used as pesticides from the mid-1800s to the mid-1900s. By the mid 1970s, arsenic use was shifting from pesticides to wood preservatives, and by 1980, wood preservatives were the primary use. Inorganic arsenic compounds are known to be human carcinogens based on sufficient evidence of carcinogenicity in humans. Epidemiological studies and case reports of humans exposed to arsenic compounds for medical treatment, in drinking water, or occupationally have demonstrated that exposure to inorganic arsenic compounds increases the risk of cancer, particularly lung cancer. Inhalation and dermal contact are the primary routes of occupational exposure to arsenic.

Inorganic Arsenic: Although there are many studies of humans exposed to arsenic in air, cases of acute poisoning due to inhalation are exceedingly rare in industry. This suggests that death is not likely to be of concern following acute exposure, even at the very high exposure levels (1-100 mg/m^3 As) found previously in the workplace. Delayed lethality from chronic exposure attributable to increased risk of cardiovascular disease or lung cancer is the primary concern for occupational exposures. Workers exposed to arsenic dusts in air often experience irritation to the mucous membranes of the nose and

throat. This may lead to laryngitis, bronchitis, or rhinitis. The health impact of worker exposure to inorganic arsenic by inhalation is chiefly related to repeated exposures over long periods of time. Skin contact with inorganic arsenic may irritate skin and can be absorbed through intact skin. Exposure by ingestion is generally more hazardous than by inhalation.

Petroleum Hydrocarbons

Petroleum hydrocarbons in the form of gasoline, diesel fuel, or motor oil may be present in site soils. Hydrocarbon vapors can present two types of safety hazards. When ambient temperatures are higher than the flash point of the hydrocarbon material, or if the material is heated to that level during work, a fire or explosion hazard can develop. Respiratory hazards can develop when vapors are generated while workers in an area where natural ventilation is incapable of dispersing the vapor below hazardous levels. A trench is an example of an area where ventilation may be inadequate.

Petroleum hydrocarbons tend to give off vapors that can have a variety of detrimental effects, ranging from mild irritation of tissues to intoxicating effects to serious toxic impacts on major organs. The most significant hazards of heavier hydrocarbons include skin or tissue irritation. They do not tend to produce atmospheric hazards unless heated. The lighter hydrocarbons are much more volatile, and will readily produce hazardous levels of vapors. The vapors of some of the aromatic and aliphatic hydrocarbons are very hazardous.

Volatile Organic Compounds

Volatile organic compounds are typically encountered in proximity to gasoline or diesel fuel production, refining, storage, distribution, or dispensing facilities or where these fuels have been spilled or released to the environment. The hazards chiefly involve the BTEX group (benzene, toluene, ethyl benzene, and xylene) and naphthalene, although other aromatic and aliphatic hydrocarbons are present.

Benzene

Benzene is a known human carcinogen. The most important health hazards are cancer (leukemia), bone marrow effects, and injuries to the blood-forming tissue from chronic low-level exposure. The routes of exposure for benzene are inhalation, skin absorption, ingestion, and skin and/or eye contact. The effects of short-term, acute exposure is skin, eyes, and respiratory irritation; nausea; loss of appetite; dermatitis; and effects on the central nervous system, such as dizziness, headache, lassitude (weakness, exhaustion), and staggered gait. Exposure above the PEL may result in collapse, bronchitis, pneumonia, unconsciousness, and death. The target organs are the eyes, skin, respiratory system, blood, central nervous system, and bone marrow.

Toluene

Exposure to vapors of toluene may cause irritation of the eyes, nose, upper respiratory tract, and skin. Routes of exposure for toluene are inhalation, skin absorption, ingestion, and skin and/or eye contact. Exposure to 200 ppm for 8 hours cause mild fatigue, weakness, confusion, tearing, and a sensation of prickling, tingling, or creeping on the skin that has no objective cause. Exposure to higher concentrations may cause headache, nausea, dizziness, dilated pupils, and euphoria, and in severe cases may cause unconsciousness and death. The liquid is irritating to the eyes and the skin. Contact with the eyes may cause transient corneal damage, conjunctive irritation, and burns if not promptly removed. Repeated and/or prolonged contact with the skin may cause drying, cracking, and dermatitis. Toluene may be absorbed through the skin in toxic amounts. Ingestion causes irritation of the gastrointestinal

tract and may cause effects resembling those from inhalation of the vapor. Chronic overexposure to toluene may cause irreversible liver and kidney injury.

Ethylbenzene

The routes of exposure for ethylbenzene are inhalation, ingestion, and skin and/or eye contact. Ethylbenzene vapor is severely irritating to the eyes and to the mucous membranes of the respiratory system. Sustained inhalation of excessive levels can cause depression of the central nervous system (CNS) characterized by dizziness, headache, narcosis, and coma. Skin contact with liquid ethylbenzene causes irritation; dermatitis and defatting can also develop. The acute oral toxicity of ethylbenzene is low, however, ingestion poses a serious aspiration hazard. Aspirating even a small amount into the lungs can result in extensive edema (lungs filled with fluid) and hemorrhaging of the lung tissue. No systemic effects are suspected at the levels that produce pronounced skin and eye irritation. The established Permissible Exposure Level (PEL) is set well below this intolerable level.

Xylene

Liquid xylenes are a skin irritant and causes itching, dryness, and defatting; prolonged contact may cause blistering. Inhaling xylenes can depress the Central Nervous System (CNS) and can cause dizziness, excitement, drowsiness, incoordination, and staggering gait. Ingesting it can result in gastrointestinal disturbance such as nausea, vomiting, abdominal pain, and possibly hematemesis (vomiting blood). Effects on the eyes, kidneys, liver, lungs, blood, and the CNS are also reported.

Naphthalene

Naphthalene is a polycyclic hydrocarbon and is the primary chemical utilized in moth balls. It has a distinctive odor. Acute exposure to naphthalene is associated with liver damage, hemolytic anemia, and neurological effects. Chronic exposure has been shown to cause cataracts and retinal damage. The International Agency for Research on Cancer classifies naphthalene as possibly carcinogenic to humans and animals. Routes of exposure are inhalation, ingestion, and skin contact.

Dermal Exposure

Repeated or prolonged contact with various chemical compounds can irritate the eyes and/or skin. Certain compounds are readily absorbed through skin and can cause systemic poisoning. However, contact of sufficient duration with chemicals on this project is judged to be unlikely with proper training and skin protection (i.e., gloves). All personnel are required to wear nitrile gloves when handling potential hazardous materials/waste (soil) at the site.

Direct skin contact with chemical compounds should be minimized by washing hands and other parts of the body in contact with the materials with soap and water and rinsing thoroughly. The washing is required at the beginning and end of the shift, during any break and any time skin comes in contact with chemical compounds.

Ingestion Exposure

The ingestion exposure risk is judged to be low for this project. No eating, drinking, or smoking will be allowed in the work zone. All personnel are required to wash their hands at the beginning, during, and end of the work shift, before eating or drinking, and at any time the hands come in contact with chemical compounds.

LEVELS OF PROTECTION

Level D protection is recommended for all work. The protection level will be upgraded if hazardous concentrations of chemicals are encountered in the operator breathing zone. If contaminated soil is exposed, Level C protective clothing is recommended for workers in direct contact with contaminated soil.

Four levels of protection are described as follows:

Level B: A NIOSH approved portable pressure demand self-contained breathing apparatus. Appropriate protective clothing: Chemical splash resistant suit (Saranex-coated Tyvek coveralls) with neoprene gloves and steel-toed neoprene boots. Protective eyewear and hearing protectors where appropriate.

Level C: A NIOSH approved half-face air-purifying respirator with dual P-100 filter cartridges. Appropriate protective clothing: Tyvek coveralls with neoprene or nitrile gloves and steel-toed neoprene boots. Protective eyewear and hearing protectors where appropriate.

Level C (modified): Respiratory protection as for Level C. Appropriate protective clothing: As for Level D. Protective eyewear and hearing protectors where appropriate.

Level D: Work uniform, steel-toed work boots, hard hat, and work gloves. Protective eyewear and hearing protectors where appropriate.

COMMUNITY PROTECTION

The subject site is bounded on the east side by Golden Avenue with single-family residences beyond and on the northeast and southeast corners by parks. The north side of the site is directly adjacent to the 405 freeway. The Los Angeles River lies directly west of the site. Exposure risks to potential residential receptors will be managed during excavation and hauling by emissions controls (dust suppression) and perimeter air monitoring in accordance with SCAQMD Rule 1466 and by track-out prevention and other protocols in accordance with the storm water pollution prevention plan (SWPPP).

Work hours will be 8 AM to 5 PM on weekdays. Any work taking place on Saturdays will be conducted between the hours of 8 AM and 4 PM.

The soil management plan calls for fencing with windscreens and continuous direct-reading real-time ambient monitoring of PM10 concentrations as specified by South Coast Air Quality Management District (SCAQMD) Rule 1466.

AIR MONITORING

PERSONAL EXPOSURE MONITORING

Based on the maximum expected lead and arsenic concentrations in soils at the site (820 and 120 mg/Kg respectively), the action levels for lead (0.03 mg/m^3) and arsenic (0.005 mg/m^3) will not be exceeded if the total dust level in the breathing zone does not exceed the nuisance dust PEL of 10 mg/m^3. Other contaminants including naphthalene are not expected to approach PELs.

Visual observation will be used to monitor the work area for visible emissions of dust. If visible emissions are present, water spray or mist shall be used for dust suppression. If plain water is not effective at controlling visible emissions, the water shall be amended with a wetting agent. If visible dust emissions reach the worker breathing zone, work shall stop until emissions are controlled.

Real-time monitoring of VOC concentrations will be conducted for worker and community health and safety. Monitoring will be conducted during excavating and/or loading, using a MiniRAE or MultiRAE gas monitoring instrument in accordance with SCAQMD rule 1166.

If air sampling for worker exposure is required, air samples will be collected in the worker's breathing zone using battery-powered personal sampling pumps with 37-mm cassettes containing 0.8-µm mixed-cellulose-ester (MCE) filters. Samples will be collected on workers representing the highest anticipated exposures. Samples will be submitted to an AIHA IHLAP-accredited laboratory for analysis of lead and arsenic using inductively-coupled mass spectrometry (ICP). Sampling and analysis will be conducted in accordance with NIOSH Method 7300 or 7303.

Action levels for air monitoring are shown in **TABLE 2** below.

TABLE 2
AIR MONITORING
Action Levels and Action to be Taken

Device	Reading†	Location	Time Period	Action*
Direct Reading Instrument	< 50 ppm VOC	Working face	--	Continue periodic monitoring. Level D.
	> 50 ppm VOC	Working face	> 1 minute	Monitor OBZ. Follow SCAQMD Rule 1166 for vapor suppression.
	>1,000 ppm VOC	OBZ	>1 minute	Upgrade to Level C (modified). Follow SCAQMD Rule 1166 requirements for direct loading or binning of soil
Dust Monitoring	No visible emissions	anywhere	--	Continue monitoring. Level D.
	Visible emissions	anywhere	> 1 minute	Implement dust suppression. Level D.
Laboratory Analysis	≥ 0.5 x PEL for metals	OBZ	full shift	Upgrade to Level C (modified).*

OBZ = Operator Breathing Zone
Upgrade/downgrade in PPE may be made based on the results of air sampling after consulting with the CIH.

PERIMETER MONITORING

Upwind and downwind perimeter air monitoring will be performed during construction activities to ensure that the public will not be exposed to airborne soil contaminated with heavy metals above regulatory limits.

This project is subject to SCAQMD Rule 1466, *Control Of Particulate Emissions From Soils With Toxic Air Contaminants*. A Dust Control Supervisor trained under SCAQMD Rule 403 will be on site during excavation and loading of metals-contaminated soil. Air monitoring and dust suppression will be implemented as follows:

- Notify SCAQMD in accordance with Rule 1466.
- Monitor wind speed and direction with an onsite weather station.
- Continuously monitor airborne particulate concentrations at the perimeter with datalogging instruments.
- Collection of full-shift air samples for metals analysis
- Continuously monitor visible emissions at the working face.
- Compare data with action levels to ensure fugitive dust associated with the remediation remains below the action levels. Should an action level be exceeded, dust suppression techniques will be implemented.
- Record observations and continuous air monitoring data every 15 minutes or less in accordance with SCAQMD Rule 1466. Air monitoring data is automatically datalogged every five minutes.

INSTRUMENTATION

Instrumentation for SCAQMD Rule 1466 air monitoring will consist of the following:

- SCAQMD-approved TSI DustTrak DRX or Aeroqual Dust Sentry aerosol monitors
- Environmental enclosures.
- Auto-zero attachments.
- Omnidirectional heated inlets.
- Dataloggers and cellular modems.
- A datalogging weather station.
- The aerosol monitors will be identical in in make and model; settings; calibration; configuration; and calibration, correction, and correlation factors.

PERIMETER AIR MONITORING ACTION LEVELS

In accordance with SCAQMD Rule 1466, the aerosol monitors will datalog PM10 concentrations every 5 minutes as 15-minute rolling averages. The dust control supervisor will calculate the 2-hour rolling average at the top of every hour and calculate the difference (Δ) between the upwind (ambient) monitor and the higher of the downwind monitors. The Δ value is compared to the action level in **Table 3** below.

TABLE 3
PERIMETER AIR MONITORING ACTION LEVELS

Parameter	Location	Action Level	Action
Visible Dust	Working face	Visible dust plume more than 20 feet from working face.	Increase dust suppression.
PM10	Perimeter	25 $\mu g/m^3$ Δ over upwind (2-hour average)	Increase emissions controls or partial curtailment of operations, reassess dust suppression efforts. Stop work if PM10 remains above action level.
Wind Speed	Site	15 mph (15-minute average) 25 mph (instantaneous)	Stop earth-moving activities, cover stockpiles.

Perimeter air samples for metals will be collected by drawing air through 37-mm diameter cassettes with 0.8-µm mixed-cellulose-ester membrane filters, using hi-volume battery-powered sampling pumps. The sample cassettes will be placed at breathing-zone height at the upwind and downwind perimeter of the work area. The airflow rate will be measured before and after sampling using a calibrated rotometer. The samples will be analyzed for arsenic and lead using inductively-coupled plasma atomic emission spectrometry (ICP-AES) by an AIHA accredited laboratory in accordance with OSHA Method 7303.

SAFETY MANAGEMENT

The contractors' Site Safety Officer (SSO) and Field Site Safety Officer (FSSO) will ensure that all contractor personnel comply with all applicable regulations and requirements of this plan. The SSO will supervise the FSSO and coordinate and cooperate with the contractors' superintendents, foremen, subcontractors, employees, the owner's representative, authorized visitors, and agency representatives.

Site Safety Officer: Charles Buckley (818) 991-1542

Field Site Safety Officer: Greg Buensuceso (805) 341-6538

Dust Control Supervisor: Michael Tiffany, CIH (805) 340-2617

1. Personnel shall be physically able (and mentally willing) to comply with safety requirements.
2. A copy of this health & safety plan shall be kept at the job site and made available to each individual who will work at the site.
3. All contractors and sub-contractors working at the site should have and comply with the following:
    - A corporate Injury & Illness Prevention Plan.
    - A site specific Health and Safety plan.
4. These plans should include and/or address as a separate plan, the following:
    - A written Respiratory Protection program
    - A worker Hazard Communication program
    - A Medical Exposure Monitoring Program
    - A Hearing Conservation Program
5. A tail-gate meeting shall be held to review the safety program at the start of work and periodically as needed.
6. Site workers and visitors shall sign an acknowledgement sheet that confirms that they have read and understand this HSP.
6. Unsafe acts shall be stopped when discovered.
7. Required safety equipment shall be onsite and shall be checked to verify completeness and function prior to being put into service.
8. Any change in site conditions, such as the discovery of previously undefined areas of contamination, will be reviewed by the SSO and this HSP will be amended if necessary.

EXCLUSION ZONE

The exclusion zone shall be as determined by the FSSO and SSO during excavation activities. The FSSO will be responsible for ensuring that unauthorized and unnecessary personnel are excluded from the work zone. Personnel not actively involved in site work activities (other than inspectors from concerned regulatory agencies) shall not be allowed within the exclusion zone. When necessary, work zones will be enclosed, barricaded or otherwise marked off and posted by the FSSO or contractor foreman to prevent the ingress of unauthorized persons and to warn others as to the potential hazards present and to stay clear.

EMERGENCY PROCEDURES

COMMUNICATION PROCEDURES

A site phone will be available to all workers in the event of an emergency. All emergency services can be obtained by calling 911.

EMERGENCY EXITS

All site entrances will be left open to provide for emergency egress during the course of the work but shall be barricaded or marked and inspected periodically to discourage the entrance of unauthorized persons.

EMERGENCY EQUIPMENT

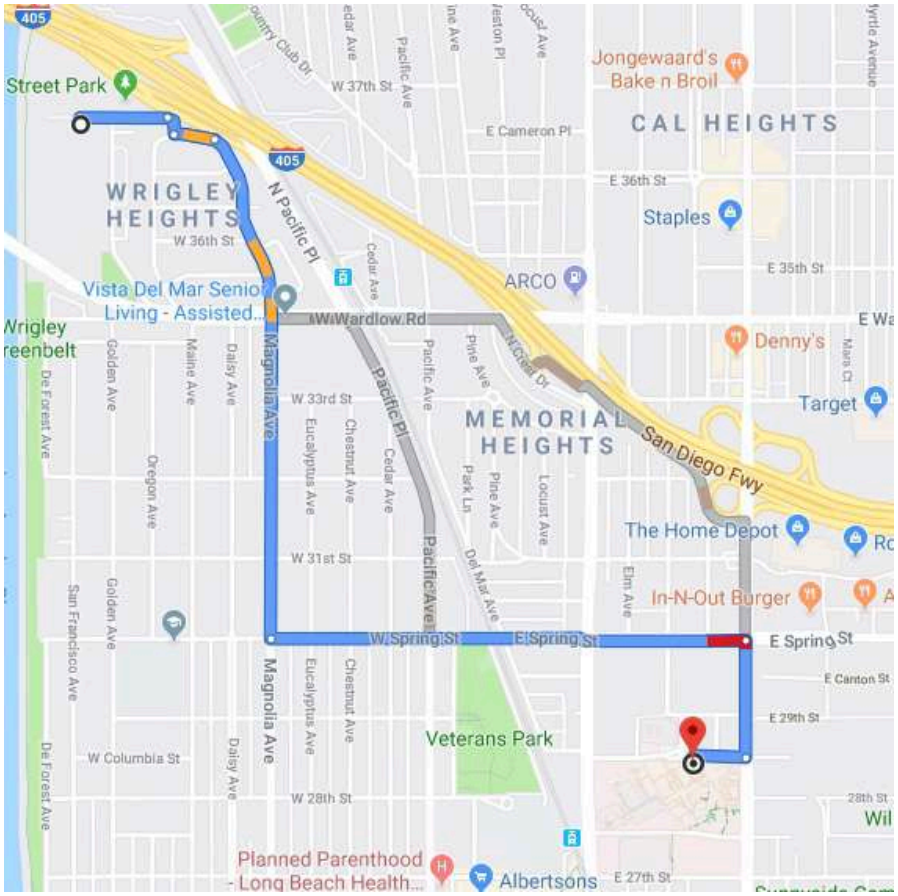
The following emergency equipment will be available onsite:

- A first aid kit.
- A fire extinguisher.

EMERGENCY SERVICES

The address, phone number, and name of the local hospital and medical emergency room will be posted on site. Hospital location and driving directions are shown below. All emergency services can be obtained by dialing 911.

Long Beach Memorial Medical Center
2801 Atlantic Ave., Long Beach, CA 90806
Phone: 562-933-2000



1. Head **EAST** on **Baker Street.**
2. After 0.1 miles the road turns **SLIGHT RIGHT** and becomes **AMBECO RD.**
3. After 175 feet, turn **LEFT** onto **WEST 39th ST.**
4. After 340 feet, road turns **SLIGHT RIGHT** and becomes **MAGNOLIA AVE.**
5. After 0.8 miles, turn **LEFT** onto **W. SPRING ST.**
6. After 0.7 miles, turn **RIGHT** onto **ATLANTIC AVE.**
7. After 0.2 miles, turn **RIGHT** onto **E. COLOMBIA ST.**
8. After 450 feet, the destination is on the **LEFT.**

DECONTAMINATION

Vehicle and equipment decontamination procedures are addressed in the site-specific Soil Management Plan. Personnel decontamination procedures are described below.

The personnel decontamination area will be set up at the exit from the exclusion zone. The decontamination area will be equipped with the following:

- Plastic sheeting to contain fluids and provide a clean surface.
- Buckets with detergent solution and clean water.
- Brushes, sponges, and towels.
- Drinking water.

Level D decontamination procedures:

1. Any disposable PPE, such as nitrile gloves or Tyvek coveralls, shall be removed in the decontamination area and placed into the designated waste containers.
2. All personnel will wash face and hands with detergent and water when prior to eating, drinking, using the restroom, or leaving the site.
3. Equipment or tools will be decontaminated by wet wiping with detergent and water.

SAFETY/TRAINING REQUIREMENTS

Personnel engaging in onsite activities will be properly trained for those activities. All personnel who use respiratory protective equipment will be properly trained in its use and properly fitted to their assigned respirators. All workers required to wear a respirator will be medically cleared. If a worker is or may be exposed above the PEL, they shall be enrolled in a medical surveillance program within 30 days.

All site workers will be trained for hazardous waste operations in accordance with 8CCR §5192, including up-to-date refresher courses. Dust control supervisors will have completed the SCAQMD South Coast Air Basin Fugitive Dust Control Class.

PERSONAL HEALTH AND HYGIENE

1. Personal safety and the safety of fellow workers require that all employees arrive at the job and remain mentally alert. No alcohol or drugs shall be permitted at any job site.
2. Parts of the body that come into contact with toxic or irritating chemicals should be washed immediately with detergent and water.
3. Any cut or abrasion shall be treated immediately. A qualified professional health practitioner shall be consulted if the safety manager deems it necessary.
4. Hands and face shall be washed prior to eating, drinking, using the restroom, or smoking, and at the end of the work shift.
5. No smoking is allowed in the exclusion zone. Smoking will be allowed only in an area designated by the contractor's superintendent.

EQUIPMENT

Personal Safety Equipment

Workers shall have available personal protective safety equipment as follows:

1. Plastic hard hats meeting ANSI standards.
2. Steel-toed work boots.
3. Appropriate hearing protection in accordance with the contractor's hearing conservation program.
4. Safety glasses meeting ANSI standards.
5. High-visibility safety vest for work in areas of vehicular traffic.
6. Work gloves for handling heavy tools or equipment.

Personnel And Environmental Monitoring Equipment

Air monitoring equipment is listed in the Air Monitoring section.

Facility Safety Equipment

The following safety equipment shall be continuously available at the job site in sufficient quantities:

1. Clean water, detergent, and paper towels.
2. First aid kit (10 unit).
3. Fire extinguisher.
4. Site phone.

ACKNOWLEDGEMENT

The undersigned site personnel and visitors acknowledge that they have read and understand the above Site-Specific Health & Safety Plan and are familiar with its provisions.

NAME	COMPANY	SIGNATURE

APPENDIX VIII

TBRG Arsenic Discussion

1. INTRODUCTION

The following section of the RAP addresses the following three (3) comments provided below, which were discussed or referenced in the RWQCB's May 21, 2020 RAP comment letter to OOI (RWQCB RAP Comments) and Tesoro's Response to OOI's Arsenic in Groundwater Presentation Letter to RWQCB, dated August 16, 2019 (Tesoro Response). Further, this RAP section was excerpted from and relied upon statements, comments and opinions provided in OOI's 2018 Expert Witness Report by TBRG (*Tesoro Refining & Marketing Company, LLC vs. County Sanitation District No. 3 of Los Angeles County et al*.) and TBRG's 2019 PowerPoint presentation to the LARWCB – Arsenic Presentation:

- The Brownfield Redevelopment Group, 2018. Expert Witness Report, Oil Operators, Inc. Former Centrally Located Oil-Field Produced Water Treatment Facility, December 4, 2018.

- The Brownfield Redevelopment Group, 2019. Oil Operators Inc. Arsenic Presentation, Los Angeles Regional Water Quality Control Board, March 11, 2019.

The three (3) comments provided in the RWQCB RAP Comments and Tesoro Response are listed below:

1. Tesoro's allegation that, historically, the OOI Basins continuously seeped chemically-contaminated water (oil-field brines/produced water) into the groundwater. Specifically, Tesoro alleged that arsenic (As), if present in the oil-field produced water, migrated from the Basins downward through the Basins unique physical features and into shallow groundwater. (Termed herein as "Contaminant Fate and Transport from the Clay-Lined Basins".)

2. The historical presence of elevated levels of As in the oil-field brines/produced water within the Basins.

3. Fluctuating As concentrations in groundwater monitoring well TMW6 - 2015 through 2020.

2. CONTAMINANT FATE AND TRANSPORT FROM THE CLAY-LINED BASINS

Although this section addresses fate and transport from the Clay-Lined Basins, much of the analysis is applicable to fate and transport of compounds and elements (As) from the former bermed and concrete storage tank area (termed by AMEC as "concrete-lined skimmers" and "Clarifiers".

Tesoro believed that the clay-lined evaporation Basins continuously seeped chemically contaminated water (oil-field brines/produced water) into the groundwater.

Tesoro proposed two (2) time-period based opinions regarding groundwater flow, contaminant migration and groundwater mounding. Tesoro's time-period based opinions, summarized below, were provided for the following two (2) general time periods:

- Mid 1950's to 2006 (Clay-lined Basin Opinion)
- 1926 to the Mid 1950's (Earthen Holding Basin Opinion)

For the first time period (Mid 1950's to 2006), Tesoro provided an opinion (Clay-lined Basin Opinion) that the clay-lined evaporation basins, Basin No. 1 and Basin No. 2 (collectively termed herein as the Basins) continuously seeped chemically-contaminated wastewater into the groundwater and that the migration of the contaminants within the wastewater followed the direction of groundwater flow (reportedly, radially away from the basins due to groundwater mounding underneath the basins and easterly towards Golden Avenue) as reported in various consultants reports from 1987 through 2006, specifically the Jack K. Bryant 1992 report.

Further, for the second time period (1926 through the Mid 1950's), Tesoro provided an opinion (Earthen Holding Basin Opinion) that the earthen oil-field produced water holding basins operated by OOI from the time period of 1926 through the mid 1950's allowed for the infiltration of "billions of gallons of wastewater" into the underlying groundwater causing significant mounding beneath the former OOI earthen basins. Tesoro believed that this mounding then allowed for a continued groundwater flow direction from OOI towards Golden Avenue (the location of the Tesoro gasoline pipeline releases.)

Tesoro's conceptual model for the first time period opinion (Clay-Lined Basin Opinion) is flawed, oversimplified and did not represent actual real-life conditions at the OOI Facility. The following seven (7) salient points, summarized below, will be further discussed herein to elaborate on the problems for the over simplified and unrealistic conceptual model used to form such an opinion:

- Absence of an hydrogeologic characterization prior to the design, construction and placement of an adequate and effective groundwater monitoring well network;

- reliance and uncritical acceptance of previous consultants' limited, inconsistent and inadequate groundwater monitoring well networks;

- reliance and uncritical acceptance of questionable, unexplained and ill-defined varying groundwater flow directions:

- omission of critical Basin physical features (layers such as clay, settled solids and precipitates), which are important in assessing downward vertical movement of oil-field produced water in the Basins;

- absence of an evaluation of contaminant fate and transport parameters and properties within: 1) the Basins; and 2) the soils and groundwater underlying the Basins;

- absence of an evaluation of the unique physical and chemical characteristics of oil-field produced water; and

- absence of evaluation and recognition of the OOI's wastewater treatment plant's reduction of contaminant mass within the wastewater and thus, reduction of the potential for those contaminants to migrate into the subsurface and affect groundwater.

1) Tesoro's conceptual model for the second time period opinion (Earthen Holding Basin Opinion) is also flawed, oversimplified and did not represent actual real-life conditions at the OOI Facility. Further, there was very little scientific and technical data available, for evaluation during this second time period, to form a credible opinion regarding: 1) downward vertical movement of oil-field produced water in the Basins; and 2) the actual presence of groundwater mounding. Many of the aforementioned first opinion points also affect this second opinion; however, three (3) additional points that only affect the second opinion are provided below:

    - Omission of the real-life problematic operation of infiltration basins-clogging - especially in this oil-field produced water treatment plant and hydrogeologic setting. Infiltration basins typically fail (clog) owing to the accumulation of settled solids and sediments that develop into a vertical low hydraulic conductivity barrier, which restricts the downward flow of the wastewater into the subsurface soils;

    - Omission of the magnitude of on-going daily and annual maintenance that was required to preclude such accumulation of settled solids and clogging in the earthen holding basins; and

    - Omission of the unique property of oil-field produced water – its ability to create a self-sealing layer at the bottoms of wastewater basins, which could preclude produced water infiltration or greatly reduce the rate of infiltration.

In summary, reliance on a conceptual fate and transport model that is flawed, oversimplified and does not account for real-life operating conditions at and underneath the Basins and the OOI Facility dos nor provide for credible multiple lines of evidence approach that would support the downward vertical migration of contaminants in the Basins' water. In fact, the two (2) aforementioned hypothetical models: 1) of an infiltration basin; and 2) of an earthen and unlined holding basin did not include the actual construction characteristics of the OOI Facility Basins and the unique features and internal physical and chemical processes that govern contaminant fate and transport within oil-field produced water evaporation basins. (See the Conceptual Cross-Section of Basin No. 1 provided herein.)

2.1 BASINS' PHYSICAL FEATURES

The Tesoro hypothetical models did not include important contaminant fate and transport mechanisms that govern operation of the Basins:

- Precipitation layer
- Settled solid layer
- Clay liner

These aforementioned Basin physical features (layers) are important in assessing downward vertical movement of Basin water (oil-field produced water), if any, and downward vertical migration of contaminants in the Basin water. Significant attenuation with depth can occur in the Basins owing to the presence of these layers. These layers can exhibit low vertical hydraulic conductivity and permeability and these layers have the potential to adsorb contaminants into their respective matrices.

2.1.1 RWQCB – PERMEABILITY TEST - NO ADVERSE IMPACT TO GROUNDWATER QUALITY

In fact, in 1982 the RWQCB provided a letter to OOI that acknowledged receipt of a permeability test conducted on an OOI clay-lined basin in accordance with Chapter VI, pages 52-62 Soil Testing for Engineers. The results of the permeability test indicated that the permeability of the basin was 0 cm/sec after 118 hours. Thus, no leakage or infiltration occurred during the test. The RWQCB, Raymond M. Hertel, Executive Officer, stated the following: "We do not believe that the installation of this proposed wastewater holding basin will result in any adverse impact to the groundwater quality or the vicinity." (Hertel, 1982.)

- Hertel, Raymond M., 1982, *"Proposed Wastewater Holding Basin at 712 Baker Street, Long Beach (CI 6147, BII1-81)"*, Received by H.P. Keller, January 18, 1982.

2.1.2 BASIN'S LEVEES – PERMEABILITIES

EMCON, stated in their February 1981 report (page 6), the following regarding the Basin's containment potential of the levees and their permeabilities:

> *"The containment potential of existing levees was tested by an in-field constant head permeability method at locations P-1 through P-3 (see Drawing 2). A 1- to 3-foot interval of borehole was sealed and surcharged with water through a 4-inch diameter riser pipe. Test data yielded permeabilities in the levees ranging from $1x10^{-3}$ to $8x10^{-6}$ cm/sec (see Appendix B)."*

2.2 CONTAMINANT FATE AND TRANSPORT PARAMETERS AND PROPERTIES

The Tesoro hypothetical models did not include the evaluation of the following eighteen-(18) contaminant fate and transport parameters and properties as provided below. (See Carr et al., 2010; API, 2010; Odencrantz, et al., 1991.) Any credible allegation that the clay-lined evaporation Basins continuously seeped chemically-contaminated water (oil-field brines/produced water) into the groundwater would have to address these contaminant fate and transport parameters and properties.

Hydrologic Parameters:

Basins

- Precipitation
- Evaporation
- Seepage/Infiltration

Vadose Zone

- Moisture Storage

Groundwater

- Groundwater Flow Direction and Velocity

Contaminant Fate and Transport Parameters:

Basins:

- Volatilization
- Biodegradation

Vadose Zone:

- Vapor Phase Diffusion
- Sorption/Desorption
- Aqueous Phase Advection
  Collectively termed – "Phase Partitioning"

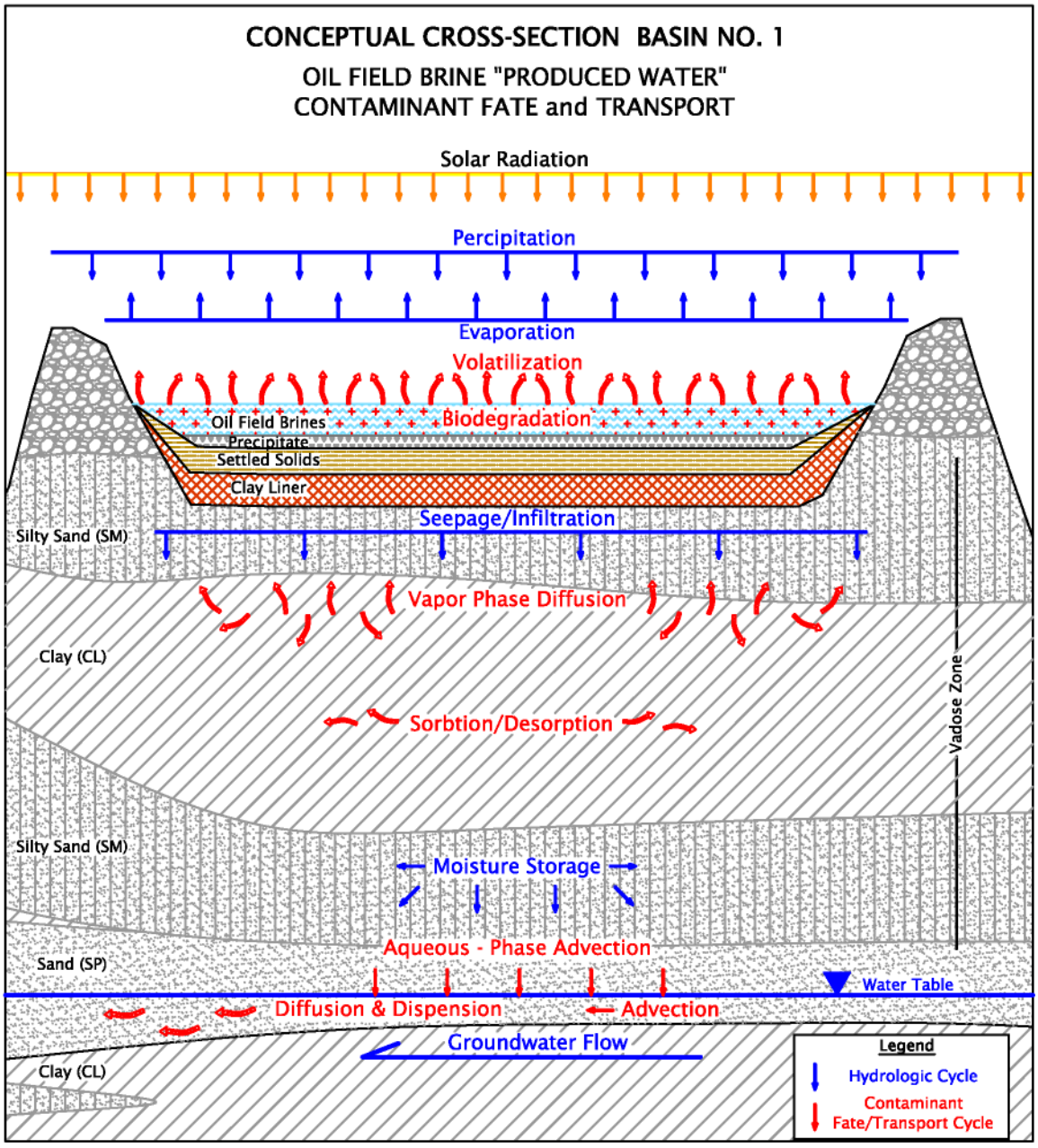
Groundwater

- Diffusion
- Dispersion
- Advection

Contaminant Properties:

- Solubility
- Organic carbon water partition coefficient
- Henrys constant
- Air diffusion coefficient
- molecular weight

Please see the conceptual model below for a further understanding of the aforementioned contaminant fate and transport parameters and properties.



2.3 HETEROGENEITY EFFECTS

Tesoro's opinions and the hypothetical models relied upon, did not include the evaluation of subsurface heterogeneity and its effects to contaminant fate and transport in the subsurface at the OOI Facility.

Previous consultants (QST Environmental, Inc. and Brycon, LLC) indicated the presence of a continuous clay layer at the OOI Facility beneath the Basins. Further, Brycon noted the heterogeneity by describing the stratified sequences of sands and silts, which appeared to be laterally discontinuous and the presence of a second clay layer that lied approximately twelve (12) feet beneath the first clay layer.

In 1981, Emcon provided the following permeability test results for soil samples collected at various depths at the OOI Facility:

Boring	Depth Feet	Soil Classification	Permeability cm/sec
1	18.5 to 19	Clay	$1x10^{-7}$
4	18.5 to 20	Clay	$1x10^{-6}$
7	13.5 to 15	Clay	$4x10^{-7}$
9	13.5-15	Clay	$6x10^{-6}$
P-1	6.5-7	Clay	$8x10^{-6}$

As a reference, EPA requires a hydraulic conductivity of $1x10^{-7}$ cm/sec for liner soils used at solid waste landfills (EPA 40CFR §258.40).

Further the EPA provided these lower liner design comments for hazardous waste land disposal units in the 40 CFR § 264.221 Design and operating requirements (Vol. 57 No. 19 Wednesday, January 29, 1992 p 3462 RCRA Revision Checklist 100):

> *"The lower component must be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component were to occur. The lower component must be constructed of at least 3 feet (91 cm) of compacted soil material with a hydraulic conductivity of no more than $1x10^{-7}$ cm/sec"* (EPA,1992).

API stated the following regarding the effects of heterogeneity to contaminant fate and transport of oil-field produced water in its publication *Modeling Study of Produced Water Release Scenarios:*

> *"Heterogeneity, most often caused by the layering of different sediment or soil types within a vadose zone, is more common in nature than not. Heterogeneity affects the distribution of chloride and other solutes through its strong influence on dispersion and hydraulic conductivity. One of the most common simplifying assumptions employed by consultants, regulators and guidance manuals is the assumption of homogeneity. However, a clay lens 1 meter thick found 3 meters below an oil-field produced water release in a sandy soil will have a profound effect on the migration of chloride through the vadose zone. Heterogeneity can increase the attenuation of a release and help mitigate the effects on ground water quality"* (API, 2005).

2.4 OIL-FIELD BRINES/PRODUCED WATER

Oil-field produced water is a complex composition of organic and inorganic compounds (minerals). It's a mixture of injected water, formation water, hydrocarbons and treating chemicals (production chemicals). The USGS described produced water as any water produced from a hydrocarbon well (oil and gas), including flowback water (which contains fracturing fluid and proppant), formation water, injected fluids, water condensing from the gas phase and any

mixtures of the above (Engle et al., 2014). The hypothetical models used by Tesoro did not include the evaluation of the unique physical and chemical characteristics of oil-field produced water, which can affect the water's behavior and interaction with OOI Facility soils and groundwater. The following provides a summary of the compounds within produced water and the unique physical/chemical characteristics of produced water - including microorganisms for biodegradation and the unique property of viscosity, which differs greatly from typical "holding pond" water.

- Viscosity
- Guar gum
- Clay Bentonite – a clay mineral (sodium montmorillonite), expands when it comes in contact with water
- Proppants - Sand
- Salt
- Oil and grease – free oil; dispersed oil dissolved oil
- Paraffins/waxes
- Organic polymers - colloidal form
- Precipitated solids
- Formation solids
- Suspended solids/particulates
- Gypsum Ca (SO4)
- Lime Ca (OH)2
- Barite
- Organophilic Clay
- Anions and Cations -producing salts- NaCl
- Calcium Carbonate
- Calcium Hydroxide
- Calcium Chloride
- Various polymers
- Microorganisms

Note: The USGS believed that microorganisms in oil-field produced water could be used to mitigate potential contaminants and is studying these microbial populations in various areas within the United States (Engle et al., 2014).

2.4.1 OOI'S WASTEWATER PROCESS: REDUCTION OF CONTAMINANT MASS

Since the mid 1950's, OOI operated an oil-field produced water wastewater treatment plant that included biological, chemical and physical (mechanical) processes (collectively termed herein mass reduction processes) that reduced contaminant mass within the wastewater and thus, reduced the amount of those contaminants (such as VOCs) available for migration (if any) into the subsurface and affect groundwater. Wastewater, as reported by OOI was always removed off-site either by discharge in the Los Angeles River or by discharge in the local sanitation district's wastewater pipelines for treatment at a publicly owned treatment works facility. As with other industrial wastewater treatment facilities, VOCs are destroyed or removed from the wastewater through these mass reduction processes. As described by the SWRCB and various

consultants (see SWRCB and consultant's quotes below), the OOI waste treatment plant included the following mass reduction elements:

- A high "discharge energy" brine pipeline that discharged waste water into the Basins;
- circulation of wastewater through Basins and ancillary treatment equipment;
- skimming to remove oil for recycling;
- biodegradation within skimming basins and the Basins;
- in-Basin water aerator(s); and
- precipitation in the evaporation basins.

The SWRCB provided (in SWRCB's Geotracker web site (SL2044M1596) for the OOI Facility) the following historical operation description regarding OOI's waste water treatment plant:

> *"OOI is a non-profit cooperative organization of numerous oil companies, operators and individuals that operate wells in the Long beach/Signal Hill are. OOI owns the subject property and has operated onsite water treatment facilities since 1926 to treat produced water (production Brines) and other fluid recovered during oil production. The aforementioned process removed oil and sediment from the water allowing the treated water to be disposed of offsite. As a byproduct of this process, low grade oil was recovered for recycling."*
>
> *"In the mid 1950's, a water treatment plant was constructed onsite consisting of five circular concrete skimming basins and associated pumps, tanks, pipelines and other facilities. The treatment plant was located north of the two large rectangular basins, referred to as Basins 1 and 2" (*SWRCB, 2018).

Further, AEMC in its 1991 report, pages 2, 3 and 5, stated the following regarding wastewater processing at the OOI Facility:

> *"From 1926 to the mid 1950's, oil brine was piped to unlined sumps at the Oil Operators, Inc, north and south properties. After water was evaporated, the remaining sludge was either drummed or left in treatment sumps (Ecology and Environment, July 30, 1990). In the mid 1950's, a water treatment plant was built on-site, which covers the majority of the south site and included Basin 1 and 2 evaporation ponds, five circular skimming ponds and other accessory tanks were built on-site."*
>
> *"Brine delivered by pipeline is treated by circulation through a series of separation and skimming ponds."*
>
> *"Five (5) clay-lined basins were constructed for evaporation at the south end of the site and five concrete-lined skimmers are located in the center of the site with associated tanks, berms, oil-water separators, pump house, etc."* (AEMC, 1991).

Finally, Brycon in its 2002 report, on page 2 stated the following regarding OOI Facility wastewater treatment:

"Basin 1 is a large square settling basin in the south-central portion of the 20-acre 00I property. It contains residual oily solids that settled out of oil production brine water processed through the site over the last several decades. Basin 1 received influent water in the northeast corner through an inlet pipe. Solids were allowed to settle out of the water. From there the water was pumped into the skimming basins where oil was skimmed off the water surface and natural biodegradation of organics was encouraged through oxygen infusion. Following several stages of skimming, the relatively clean water was sent to Basin 2 to await disposal to the sanitation district. Various salts precipitated out of the water in this last stage" (Brycon, 2002).

2.5 OOI EARTHEN HOLDING BASIN OPERATIONS: 1926 TO MID-1950'S

Tesoro believed that the earthen oil-field produced water holding basins operated by OOI from the time period of 1926 through the mid1950's allowed for the infiltration of "billions of gallons of wastewater" into the underlying groundwater causing significant mounding beneath the former OOI earthen basins. Tesoro believed that this mounding then allowed for a continued groundwater flow direction from OOI towards Golden Avenue (the location of the Tesoro gasoline pipeline releases.)

Tesoro's opinions were not based on any physical lines of evidence such as an adequate groundwater monitoring well network and subsurface soil pore-liquid data (from unsaturated zone pre-liquid samplers) during that time period.

Based on a review of available OOI Facility groundwater data, no groundwater contour maps that support groundwater mounding, and no consultant's interpretation of groundwater mounding were found. A hydrogeologic/groundwater monitoring based physical line of evidence that supported groundwater mounding beneath the basin was not found. Typically, one would have prepared a groundwater contour map that would have illustrated a radial groundwater flow pattern emanating from a basin – i.e., groundwater flowing away from a basin in all cardinal directions.

Further, Tesoro did not account for the real-life problematic operation of infiltration basins-especially in this oil field produced water treatment and hydrogeologic setting. In reality, infiltration basins typically fail. The basins clog owing to the accumulation of settled solids and sediments that develop into a vertical low hydraulic conductivity barrier, which restricts the downward flow of the wastewater into the subsurface soils. This clogging allows for the retention of water in the basin rather than allowing the water to percolate downwards into the subsurface. On-going and annual maintenance is required within earthen infiltration basins to preclude such accumulation of settled solids.

A discussion of the real-life operational problems with unlined earthen basins, as described by the California Stormwater Quality Association (CASQA) is provided in the next section below.

2.5.1 REAL-LIFE OPERATIONAL PROBLEMS - CLOGGING

The CASQA provided a description and brief discussion, in its TC-11 Fact Sheet Infiltration Basin, dated January 2003, of the challenging problems and failures associated with infiltration

basins in California (basins deigned to allow for percolation/infiltration into the subsurface.) The following paragraphs summarize the following CASQA key concerns for infiltration basins:

- Basin Siting
- Geotechnical Investigation
- Maintenance

2.5.1.1 **BASIN SITING**

CASQA indicated that the key element in siting infiltration basins was the identification of sites with appropriate soil and hydrogeologic properties, which are both critical to the infiltration basin's long-term performance. CASQA indicated that one infiltration study conducted in Prince George's County, Maryland reported that all of the infiltration basins investigated clogged within 2 years. CASQA believed that these failures were for the most part due to: 1) allowing infiltration at sites with rates of less than 0.5 in/hr.; 2) basing siting on soil type rather than field infiltration tests; and 3) poor construction practices that resulted in soil compaction of the basin invert (CASQA, 2003).

CASQA provide the following statement in their TC-11 Fact Sheet:

> *"Infiltration basins can be challenging to apply on many sites, however, because of soils requirements. In addition, some studies have shown relatively* ***high failure rates*** *compared with other management practices."*
>
> *"****Difficult to restore functioning*** *of infiltration basins once clogged."*
>
> *"Determine soil type (consider RCS soil type 'A, B or C' only) from mapping and consult USDA soil survey tables to review other parameters such as the* ***amount of silt and clay***, ***presence of a restrictive layer*** *or seasonal high-water table, and estimated permeability. The soil should not have more than 30% clay or more than 40% of clay and silt combined. Eliminate sites that are clearly unsuitable for infiltration."*

2.5.1.2 **GEOTECHNICAL INVESTIGATION**

CASQA indicated that a geotechnical investigation should be conducted to provide a complete understanding as to how the impounded water in the basin stormwater runoff will move into the soil (horizontally or vertically) and if there were any geological conditions that could inhibit the movement of water.

CASQA recommend that at least three (3) in-hole conductivity tests should be performed using USBR 7300-89 or Bouwer Rice procedures (the latter if groundwater is encountered within the boring). Two (2) tests should be conducted at different locations within the proposed basin and the third (3) test should be conducted down gradient by no more than approximately 10 meters. The tests should measure permeability in the side slopes and the bed within a depth of 3 meters of the invert.

2.5.1.3 MAINTENANCE

CASQA indicated that regular maintenance was critical to the successful operation of infiltration basins. CASQA recommended the following operation and maintenance activities for infiltration basins to preclude clogging and eventually complete failure:

1. Inspections and maintenance to ensure that water infiltrates into the subsurface completely (recommended infiltration rate of 72 hours or less) and that vegetation is carefully managed to prevent creating mosquito and other vector habitats.
2. Observe drain time for the design storm after completion or modification of the facility to confirm that the desired drain time has been obtained.
3. Schedule semiannual inspections for beginning and end of the wet season to identify potential problems such as erosion of the basin side slopes and invert, standing water, trash and debris, and **sediment accumulation**.
4. Remove accumulated trash and debris in the basin at the start and end of the wet season.
5. Inspect for **standing water** at the end of the wet season.
6. Trim vegetation at the beginning and end of the wet season to prevent establishment of woody vegetation and for aesthetic and vector reasons.
7. Remove **accumulated sediment** and re-grade when the accumulated sediment volume exceeds 10% of the basin.
8. If erosion is occurring within the basin, vegetate immediately and stabilize with an erosion control mulch or mat until vegetation cover is established.
9. To avoid reversing soil development, scarification or other disturbance should only be performed when there are **actual signs of clogging**, rather than on a routine basis. Always remove **deposited sediments** before scarification, and use a hand-guided rotary tiller, if possible, or a disc harrow pulled by a very light tractor.

Finally, CASQA made the following statement in its TC-11 Fact Sheet regarding the high failure rate of infiltration basins:

> *"One cost concern associated with infiltration practices is the maintenance burden and longevity. If improperly maintained,* ***infiltration basins have a high failure rate (water will not percolate)****. Thus, it may be necessary to replace the basin with a different technology after a relatively short period of time."*

2.5.2 SELF-SEALING PROPERTIES OF OIL FIELD-PRODUCED WATER

As discussed herein, oil field-produced water is a complex chemical mixture that is frequently not well understood and this lack of understanding of its properties complicates the evaluation of its behavior and movement within oil-field wastewater treatment basins and the subsurface. Produced water contains chemical equilibrium systems that shift with changes in temperature and pressure and cause reactions to occur. These reactions may result in mineral scales being formed, solid hydrocarbon deposition (paraffin formation) and changes in pH. In addition, produced water does not normally contain oxygen. Some of its components are in a chemically reduced state and will react with oxygen if the water is allowed to contact air. This can result in deposition of iron compounds and elemental sulfur (Produced Water 101, 2017.)

An additional factor that was not accounted for and thus, not explained in the Tesoro opinion, was the one commonly overlooked and unique property of oil field produced water – self-sealing of basin bottoms. As discussed herein, oil field-produced water contains a high amount of solids (bentonite clay, guar gum, colloids and paraffin/wax) that provide a unique self-sealing property owing to the presence of these solids. In particular, bentonite has strong colloidal properties and its volume increases several times when it comes into contact with water, creating a gelatinous and viscous/plastic-like material. The unique properties of bentonite (hydration, swelling, water absorption, viscosity, thixotropy) make it a valuable material for oil well drilling. It is used to seal the borehole walls, to remove drill cuttings and to lubricate the cutting head or drill bit. This sealing property can also occur in evaporation basins and seal the bottom and berm walls of a basin.

The aforementioned solid materials (and combinations of these solids) in the produced water settle to the bottom of the basin and the vertical hydrostatic forces of the overlying produced water compact these solids forming a sealing layer at the bottom of the basin. This compaction is also accompanied by the swelling of the bentonite clay solids, which provides for additional sealing of this layer of solids and underlying layers such as native soil. Bentonite possesses strong colloidal properties and its volume increases several times when it comes into contact with water, creating a gelatinous and viscous/plastic-like material.

In fact, bentonite is used as a sealing material in the construction and rehabilitation of landfills to ensure the protection of groundwater from the landfill contaminants. Bentonite is the active protective layer of geosynthetic clay liners used commonly in landfill construction in the United States.

Tesoro did not account for this self-sealing property and the resultant self-sealing bottom layer in the basin when he provided his mounding opinion – which required the assumption of infiltration (over 80 billion gallons of water from 1925 through 1995) of the oil-field produced water through the basin and the underlying soils and then to groundwater. The presence of such a solids-comprised sealing layer could preclude produced water infiltration or greatly reduce the rate of infiltration.

2.6 DISCUSSION OF THE TWO TESORO CONCEPTUAL MODELS

Tesoro's conceptual models for the two (2) OOI Facility operational time period opinions: 1) Clay-Lined Basin Opinion; and 2) Earthen Holding Basin Opinion) were flawed, oversimplified and did not represent actual real-life conditions at the OOI Facility.

The opinions did not acknowledge:

1) The lack of historical data; and
2) the uncertainty of the existing and available groundwater data.

Further these opinions reflect a poor understanding of the following:

1) oil-field evaporation basins;
2) produced water;
3) oil-field wastewater treatment plants;
4) hydrogeologic characterization;

5) groundwater monitoring and well networks;
6) errors inherent to groundwater contouring and interpreting groundwater flow directions;
7) factors affecting gradients and groundwater flow;
8) processes that influence the fate and transport of contaminants within the basins and the subsurface.

The two (2) models and associated opinions did not account for the numerous factors, as discussed in all of the subsections of Section 2 of this report, that affect the behavior of oil-field produced water and suspected contaminants within the produced water. Any technically credible and valid opinion regarding the produced water's behavior within the basins and the underlying subsurface soils and groundwater would have to, at the very least, be based on site-specific scientific tests or applicable research that measured and evaluated the substantial numbers of influencing factors or at least, reflected on the reality for the claims represented in the two (2) opinions.

These numerous influencing and predicating factors should have been evaluated using the following or a combination thereof:

- OOI Facility field measurements (scientific tests);
- literature-supported values (scientific research);
- oil-field case studies that were similar to OOI's operations; and
- field-verified computer models/simulations.

In the absence of such scientific testing and research, the researcher (expert) would have to provide a subjective opinion(s) based on the real-life experiences of the expert at sites and conditions similar to the OOI Facility. Quite simply, these subjective opinions were not provided as real-life experienced-based opinions, even though such scientific testing was absent to account for the effects of the numerous influencing factors and conditions at the OOI Facility.

3. THE HISTORICAL PRESENCE OF ELEVATED LEVELS OF AS IN THE OIL-FIELD BRINES/PRODUCED WATER WITHIN THE BASINS.

OOI applied generator knowledge to its waste streams over the course of its operations. As previously discussed herein, OOI operated, since the mid 1950's, an oil-field produced water wastewater treatment plant that included mass reduction processes, which reduced contaminant mass within the wastewater and thus, reduced the amount of those contaminants (such as VOCs) available for migration (if any) into the subsurface and affect groundwater. Further, metals at low concentrations were adsorbed onto sludge within the Basins and the concrete clarifiers. Wastewater, as reported by OOI was always removed off-site either by discharge in the Los Angeles River or by discharge in the local sanitation district's wastewater pipelines for treatment at a publicly owned treatment works facility. If arsenic was in the wastewater, then the As was removed off the OOI facility through these discharges. In any event, there are some historical records that indicate OOI utilized generator knowledge to characterize the waste streams at the wastewater treatment facilities.

3.1 GENERATOR KNOWLEDGE

As provided by EPA in its website below, generator knowledge is a fundamental factor in defining wastes.

> https://www.epa.gov/hwgenerators/frequent-questions-about-implementing-hazardous-waste-generator-improvements-final-rule#determinations

EPA stated the following regarding acceptable generator knowledge:

> *"To make an accurate determination that the waste is a listed hazardous waste, acceptable knowledge that can be used includes waste origin, composition, the process producing the waste, feedstock and other reliable and relevant information."*
>
> *"To make an accurate determination that the waste is a characteristic hazardous waste, the generator must apply knowledge of the hazard characteristic of the waste in light of the materials or the processes used to generate the waste.*"

EPA provided the following descriptions for "Acceptable Generator Knowledge":

- process knowledge (e.g., information about chemical feedstocks and other inputs to the production process);
- knowledge of products, by-products, and intermediates produced by the manufacturing process;
- chemical or physical characterization of wastes;
- information on the chemical and physical properties of the chemicals used or produced by the process or otherwise contained in the waste;
- testing that illustrates the properties of the waste;
- or other reliable and relevant information about the properties of the waste or its constituents.

Although the EPA indicated that testing the waste was acceptable if there was inadequate generator knowledge, the current accepted testing program set forth by RCRA: Test Methods for Evaluating Solid/Physical Chemical Methods – SW-846, was not in existence prior to 1980. In 1980, EPA published the first edition of test Methods for Evaluating Solid Waste (SW-846). Thus, accurate and reliable test data for the OOI Facility influent waste stream was not available for Tesoro and others to make any opinions regarding the chemical characteristics of the influent wastewater.

3.2 1982 OIL FIELD PRODUCED WASTEWATER CHARACTERIZATION

In 1982, Cash & Associates Engineers (Cash) submitted a letter with oil field wastewater analytical results to the Materials Transportation Bureau, Office of Pipeline Safety and Regulations (Bureau) to describe the results of a 24-hour composite sample collected at the inlet of OOI's treatment plant. Cash indicated that the wastewater within OOI's pipelines was not a hazardous waste.

The following As results were provided to the Bureau:

- July 27-28, 1981 Untreated Composite Sample - <0.05 mg/L of As
- August 10-11, 1982 Untreated Composite Sample - 0.37 mg/L of As

Additional wastewater data can be found in Cash's 1982 report:

- Cash & Associates Engineers, 1982, Oil Field Waste water Pipelines, October 15, 1982.

3.3 1987 JAYKIM ENGINEERS, INC. SUMP SLUDGE ANALYSES

On July 28, 1987 Jaykim Engineers, Inc (Jaykim) provide a brief letter/report to OOI regarding the analytical results of sump sludge samples ("Bottom Sludge Composite"):

- Jaykim Engineers, Inc., 1987, Oil Operators, Inc.- Sump Sludge Analyses, July 28, 1987.

The Bottom Sludge Composite sample inorganic analysis detected As at a concentration of 8.0 mg/kg. This As concentration is low and provides another line of evidence supporting the low As-concentration nature of OOI wastewater (oil-field produced water) and materials and sediments within the OOI wastewater. Further, as demonstrated by this composite sample analytical result, the residual oily solids (sludges) produced by the OOI oil-field produced water treatment exhibited low As concentrations.

In conclusion, Jaykim stated the following regarding all the inorganic analytical testing results:

> *"The total threshold limit concentration (TTLC) of the inorganic persistent and bio-accumulative toxic substances is below the limits set in section 66699 of article 11 of chapter 30 of California Title 22."*

3.4 AEMC SUBSURFACE CHARACTERIZATION – NO AS MIGRATION TO DEEP SOILS AND GROUNDWATER

In 1991 American Environmental Management Corporation (AEMC) conducted a subsurface characterization to assess the feasibility of cleanup and development of OOI. AEMC concluded that As in soil was limited to small areas within the bermed storage tank area (termed by AMEC as "concrete-lined skimmers" and "Clarifiers") and should not pose a threat to groundwater and could remain in place. In fact, the highest concentration of As detected in soils was at a sample collected at 1 feet bgs at the location of the Clarifiers: hand-augered soil boring HA-3 was excavated to a terminal depth of 10 feet bgs and soil sample analytical results for the five (5) and ten (10) feet samples were reported below 10 mg/kg, (See Summary Table below.) Additional

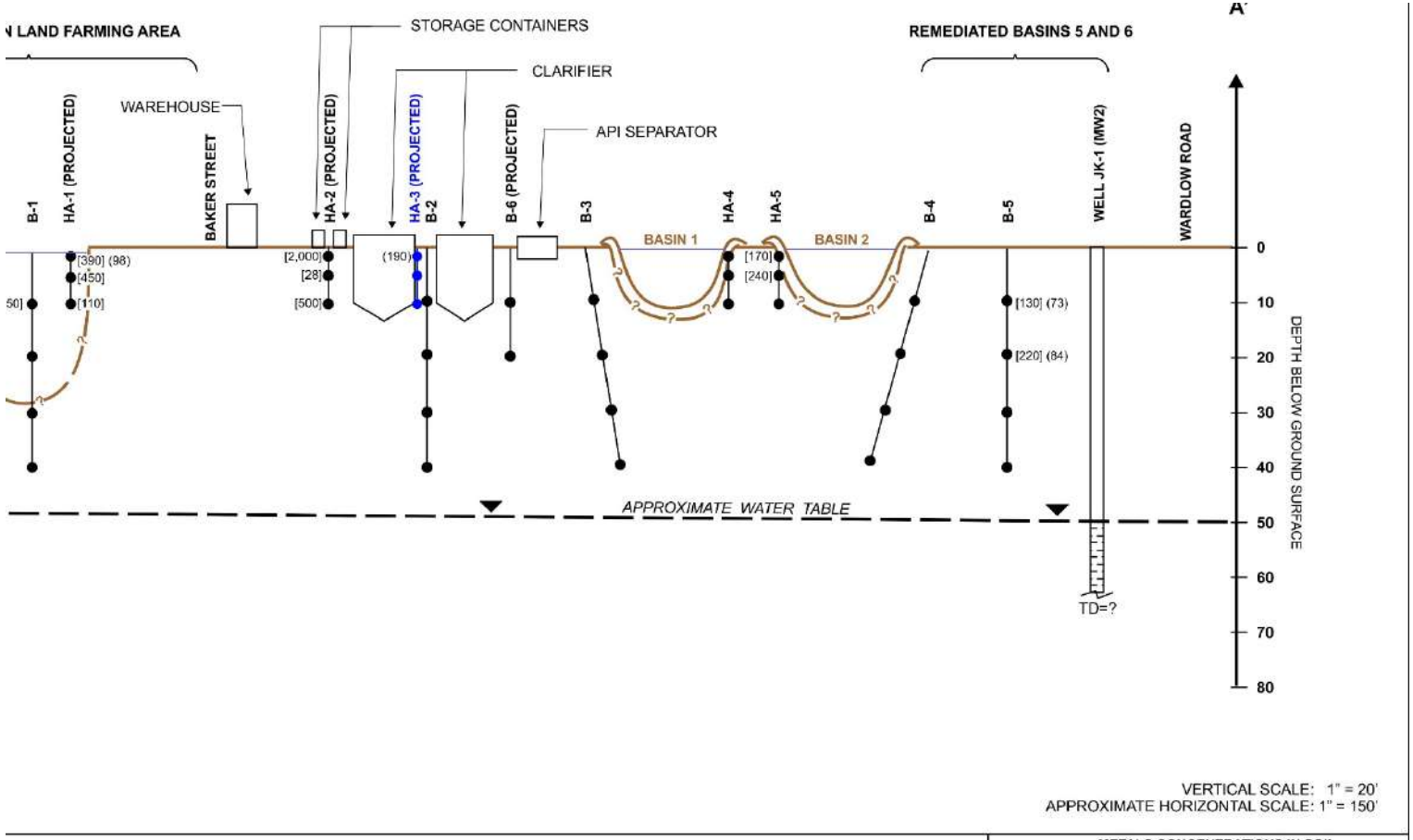
soil samples collected and analyzed throughout OOI were either ND or below 100 mg/Kg. In summary, the AMEC As soil analytical data revealed: 1) soil As concentrations, were detected above 10 mg/Kg, attenuated with depth; 2) numerous low (<10 mg/Kg) and ND results in the vicinity of Basins and the concrete-lined skimmers/Clarifiers; 3) an As numeric average concentration of 2.65 mg/Kg for the soil samples collected at 35 to 40 feet bgs; and 3) no migration of As within soils, sludge and oil field-produced water into groundwater.

The AMEC subsurface soil data support the fact that even if low concentrations of As were within soils, sludge and oil field-produced water at OOI's Basins and concrete-lined skimmers/Clarifiers, the As **did not partition** from the soil, sludge and oil field-produced water and **did not migrate** vertically downwards to groundwater, which was approximately at 50 feet bgs. (AMEC reported that depth to groundwater at OOI ranged from 41 to 56 feet bgs.) Lastly, As was not detected in the ten (10) groundwater samples collected and analyzed from the ten (10) on-Site groundwater monitoring wells.

Additional TPH and As soil and groundwater data can be found in AMEC's 1991 report:

- American Environmental Management Corporation, 1991, Subsurface Characterization Report of the Southern Portion of Oil Operators, Inc., 712 West Baker Street, Long Beach, California, December 12, 1991.

An AMEC 1991 report cross-section (Figure 5 in the AMEC 1991 report) illustrating the soil boring location and soil sampling locations with As concentrations is provided for quick reference:



VERTICAL SCALE: 1" = 20'
APPROXIMATE HORIZONTAL SCALE: 1" = 150'

.TS PER MILLION (ppm > 10X STLC)
PARTS PER MILLION (ppm > 10X STLC)

lanagement Corporation, 1991, Subsurface Characterization Report of the Southern Portion of Oil Operators, Inc., ıg Beach, California, December 12, 1991.

METALS CONCENTRATIONS IN SOIL
Oil Operators, Inc.
714 West Baker Street
Long Beach, California

The Brownfield Redevelopment Group Co
26741 Portola Parkway, Suite 1E #691
Foothill Ranch, CA 92610-1763
(949) 474-1929

File: Cross-section 2
July 2020

Figure 5

A summary of the AMEC As soil analytical results is provided in the following table:

Oil Operators Inc.
Subsurface Characterization Report
American Environmental Management Corporation
December 12, 1991

No. of Samples	Sample ID On Figure 5	Location at OOI Former Basins, Clarifiers and Storage Containers	Arsenic Concentration mg/Kg	Arsenic Concentration 35 to 40 feet bgs
1	B1-10	Bioremediation	6.6	
2	B1-20	Land Farming Area	2.6	
3	B1-30	North of Baker St.	1.1	
4	B1-40	Settling Pond	5.3	5.3
5	B2-10	Between the 5 Former	1.7	
6	B2-20	Concrete Clarifiers	6.0	
7	B2-30		1.5	
8	B2-40		2.4	2.4
9	B3-10	Basin 1	10	
10	B3-20	Angle Boring	1.1	
11	B3-30		1.8	
12	B3-40		3.7	3.7
13	B4-10	Basin 2	2.9	
14	B4-20	Angle Boring	9.9	
15	B4-30		1.3	
16	B4-40		0.94	0.94
17	B5-10	South Section	73	
18	B5-20	of OOI	84	
19	B5-30	Former Basins 5 and 6	2.9	
20	B5-35		0.93	0.93
21	B6-10	Storage House	5.9	
22	B6-20	SE of Concrete Clarifiers	2.4	
23	HA1-1	Bioremediation	98	
24	HA1-5	Land Farming Area	9.3	
25	HA1-10	North of Baker St.	18	

26	HA2-1	Aboveground	43	
27	HA2-5	Storage Containers	2.5	
28	HA2-10	NW Corner/Section	20	
29	HA3-1	Aboveground	190	
30	HA3-5	Storage Containers	5.8	
31	HA3-10	NW Corner/Section	2.3	
32	HA4-1	Basin No. 1	16	
33	HA4-5		9.7	
34	HA4-10		49	
35	HA5-1	Basin No. 2	12	
36	HA5-5		37	
37	HA5-10		9.0	
Numeric Avg. of all Samples:			**20.26**	
Numeric Avg. of Samples at 35 to 40 Feet bgs:				**2.65**

Notes:

See Figure 5 of AEMC Report for Locations of Soil Samples

Arsenic analyzed by EPA Method 6010

mg/Kg - milligrams per kilogram - reported for all results

Source - Subsurface Characterization Report
Of the Southern Portion of
Oil Operators,
Inc.
712 West Baker Street
Long Beach, California
by American Environmental Management Corporation
December 12,
1991

Analytical Results demonstrate attenuation with depth.

Surface analytical results (HA3-1) appear to be the result of historical pesticide and herbicide application.

3.5 BEDROCK ENGINEERING -SAMPLING OF RESIDUAL OILY SOLIDS- 2018

Bedrock Engineering (Bedrock) is currently conducting remediation activities at Basin 1 of the OOI Facility. The remediation activities are being performed in accordance with the September 22, 2003 "Corrective Action Plan for Basin 1 at the Oil Operators Incorporated Property, Long Beach, California" prepared by Brycon, LLC. This corrective action plan (CAP) was reviewed and approved by the City of Long Beach Department of Health and Human Services (LBDHHS). The remediation work is also being performed under Permit to Operate No. 10-03-01 issued by the LBDHHS, Division of Hazardous Materials, dated October 7, 2003.

On October 15, 2018, Bedrock prepared a 3rd Quarter 2018 Quarterly Monitoring Report for Basin 1 (Basin 1 Qtly Report) that summarized the CAP work performed during the 3rd Quarter 2018. In the Basin 1 Qtly Report Bedrock stated the following:

> *"Basin 1, the subject of this remediation, is a large square settling basin that contained residual oily solids that settled out of the oil production brine water processed throughout the site over the last several decades. Basin 2 received relatively clean water after it had gone through various stages of skimming. In Basin 2, the water was held until it was released to the sanitation district for disposal. Additional smaller basins were historically present south of Basins 1 and 2. These smaller basins were closed in 1986 and 1987."*

Bedrock reported that OOI was conducting the remediation work since 2001 to satisfy the requirements of an order to remove/remediate the contents of Basin. Bedrock indicated that the LBDHHS and CRWQCB's approval of work plans spanned the time frame from 2002 to 2003. A permit to remove water was issued in early 2003 and a permit to remove the oily semi-solids was issued in October 2003.

Further, Bedrock reported that during the 4th Quarter of 2003 and First Quarter of 2004 activity on the OOI Facility focused on removal of water within the Basin 1 followed by drying of materials with on-site soils. Reportedly, this work was completed to prepare the basin materials for bioremediation.

In the Basin 1 Qtly Report Bedrock stated the following regarding the remediation process and the historical results since 2004:

> *"Since the First Quarter 2004 the site has been undergoing active bioremediation. This is facilitated by actively working the soils to infuse maximum concentration of oxygen and continued monitoring of moisture levels to insure that levels are within acceptable parameters. Work has been promulgated on a continuous basis with the exception of periods of inclement weather which are documented in previous reports."*

> *"During the second quarter 2012 the area utilized for bioremediation purposes was expanded. The new Area was identified as Area 3. The expansion was made possible due to the demolition and removal of 5 large circular concrete structures and associated equipment that were present north of Basin 1. Material to be treated in Area 3 is removed from Basins 1 and 2 and placed into Area 3 at not to exceed depth of 10". Active remediation takes place in this new layer."*

> *"The results of laboratory analysis confirmed previous assertions that the oily materials in Basin 1 are consistent with crude oil chemistry as opposed to refined petroleum products, solvents or other chemicals. The findings are consistent*

with the use of the property as a treatment facility for water generated during crude oil production. The LBDHHS's review of the Basin 1 analytical results emphasized that the sediment in the area of the inlet pipe to Basin 1 is of concern. The sediment was found to contain somewhat elevated levels of the metals arsenic, chromium and nickel."

On July 24, August 24 and September 20, 2018 Bedrock collected soil samples from Basins 1 and 2 as well as Area 3 for laboratory analysis:

- Total petroleum hydrocarbon (TPH) by EPA Method 8015-M.
- VOCs by EPA Method 8260B
- Metals by EPA Methods 6010B and 7471A

All samples were obtained from a depth of 8" below ground surface, which was within the upper lift of soil. The upper lift is considered to be at a minimum the top 9" of soil. Soil samples were collected from the basins at random locations, throughout the entire site.

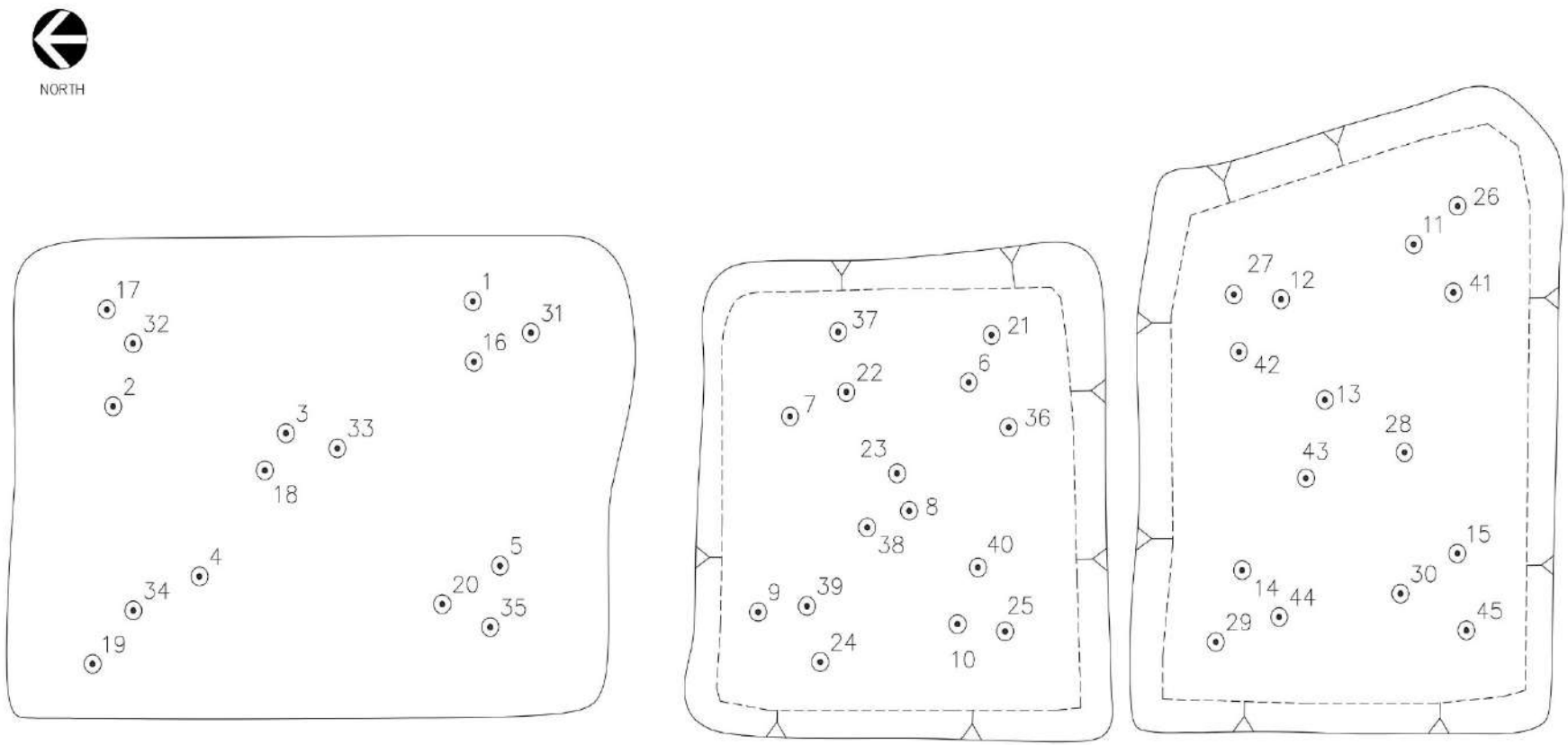


FIGURE 3

LEGEND

⊙ APPROXIMATE SOIL SAMPLE LOCATION

3 rd. QUARTER 2018

PLAN PREPARED BY:
BEDROCK ENGINEERING

BASIN 1 AND 2, AREA 3
SAMPLING LOCATION MAP

OIL OPERATORS INC.
712 WEST BAKER STREET

PROJECT MGR.:	DRAWN BY:
M. T. WILSON	M. T. WILSON

4. FLUCTUATING AS CONCENTRATIONS IN GROUNDWATER MONITORING WELL TMW6 - 2015 THROUGH 2020.

Order of magnitude As concentrations fluctuations (Fluctuations) were observed in groundwater monitoring well TMW6 from September 2015 through December 2019. (Reportedly, the first two [2] groundwater monitoring quarters of 2020 were not conducted owing to the COVID-19 State and Federal restrictions.) These fluctuations appear to conform to OOI's Cozzarelli Effect Conceptual Model (CECM) that described "Dynamic Plume Conditions", which resulted in the steady and continual migration of Fe-Reducing Zones and Transition Zones - thus, the resultant Fluctuations. Further, these Fluctuations appear to be a result of metabolites (a key marker of the CECM) causing Fe and As mobilization in the groundwater.

CECM metabolites will be briefly discussed below and a more in-depth discussion of the metabolites and their effects on Fe and As mobilization in groundwater can be found in the following documents:

- Bekins, B.A., I.M. Cozzarelli, M.L. Erickson, R.A Steenson and K..A. Thorn. 2016. Crude Oil Metabolites in Groundwater at Two Spill Sites. *Groundwater* 54: 681-691.

TMW6's location is near the reported 800 µg/L TPH (g) contour line as observed in Brycon-MW2. (See Bedrock Engineering December 2019 – Quarterly Groundwater Monitoring Report.) The residual amount of TPH(g) in the vicinity of TMW6 provides an ideal source of nonvolatile dissolved organic carbon (NVDOC), which are transformation products of the TPH(g) and any lesser concentrations of other types of TPH present in the groundwater. These partial transformation products form a plume of metabolites in the vicinity of TMW6 and combined with the depletion of electron accepting capacity of solid phase Fe oxides and hydroxides on the aquifer sediments provide for these Fluctuations.

The concept of metabolite plumes, which are rarely, if at all, monitored in typical groundwater monitoring, programs is new to the environmental industry and a brief description of these metabolites' characteristics is important to the understanding of the Fluctuations in TMW6 and temporal Fluctuations throughout the OOI site.

Metabolites at and in the vicinity of TMW6:

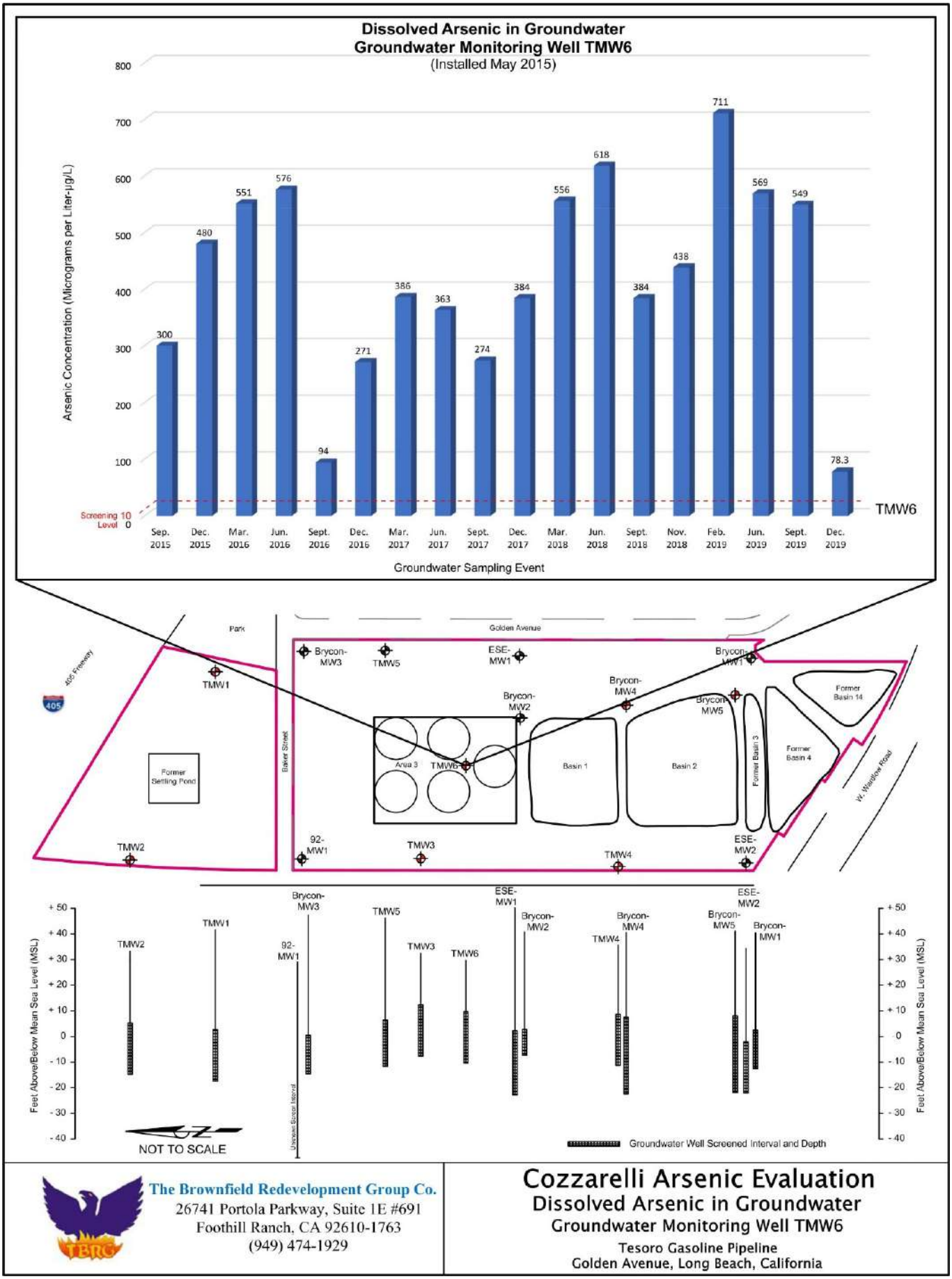
- Intermediate end product of metabolism
- Small molecules
- Compounds that form as transformation products
- Alcohols, organic acids, aldehydes, ketones, esters and complex structures with multiple oxygen molecules
- Term unresolved complex mixture is (UCM) used of these compounds, which can't be matched to mass spectral libraries using GC/MS.

- Partial oxidation products that form from biodegradation reactions.
- *"Petroleum-derived oxidation products are one of the least well-understood components of petroleum releases."*
- Mores soluble than the parent petroleum hydrocarbons- due to their greater polarity and low volatility.
- Total concentrations of transformation products can exceed BTEX concentrations by several orders of magnitude.
- Consume electron-accepting of the contaminated aquifer – which results in the slowing of biodegradation of contaminants of concern
- Metabolite concentrations in groundwater can be approximated based on the nonvolatile dissolved organic carbon (NVDOC) content of groundwater.
- Most of the NVDOC consists of partial transformation products.
- NVDOC – fraction consisting of the dissolved organic carbon remaining after purging of the volatile dissolved organic carbon (VDOC).
- Shortcomings in current analytical methods in detecting metabolite plumes in groundwater.
- NVDOC plumes can extend well beyond the limit of the dissolved-phase benzene (BTEX) plume in groundwater.
- Metabolites with TMW2 and TMW6 causing Fe and As mobilization into groundwater.
- Benzene can degrade anaerobically under iron reducing conditions.

A quick review of the CESM is provided below:

Naturally occurring As is bound to Iron (Fe)-hydroxides in the aquifer materials (soil). If the groundwater geochemistry is altered to a "reducing condition" then the Fe-hydroxides are released into the groundwater (dissolved phase). The release of Fe-hydroxides to groundwater also allows the As to be released to the groundwater. Flux(s) of anthropogenic organic carbon (e.g., TPH-gasoline), and resultant metabolites plume from residual petroleum hydrocarbons, into the groundwater promotes Fe (III) hydroxide reduction, which releases Fe and As into the groundwater. In addition, dynamic plume conditions (a key marker of CECM) reflected by the steady and continual migration of the Fe-Reducing zone and transitions zones cause these Fluctuations.

Fluctuations in TMW6 can be easily observed in the following figure:



The Brownfield Redevelopment Group Co.
26741 Portola Parkway, Suite 1E #691
Foothill Ranch, CA 92610-1763
(949) 474-1929

Cozzarelli Arsenic Evaluation

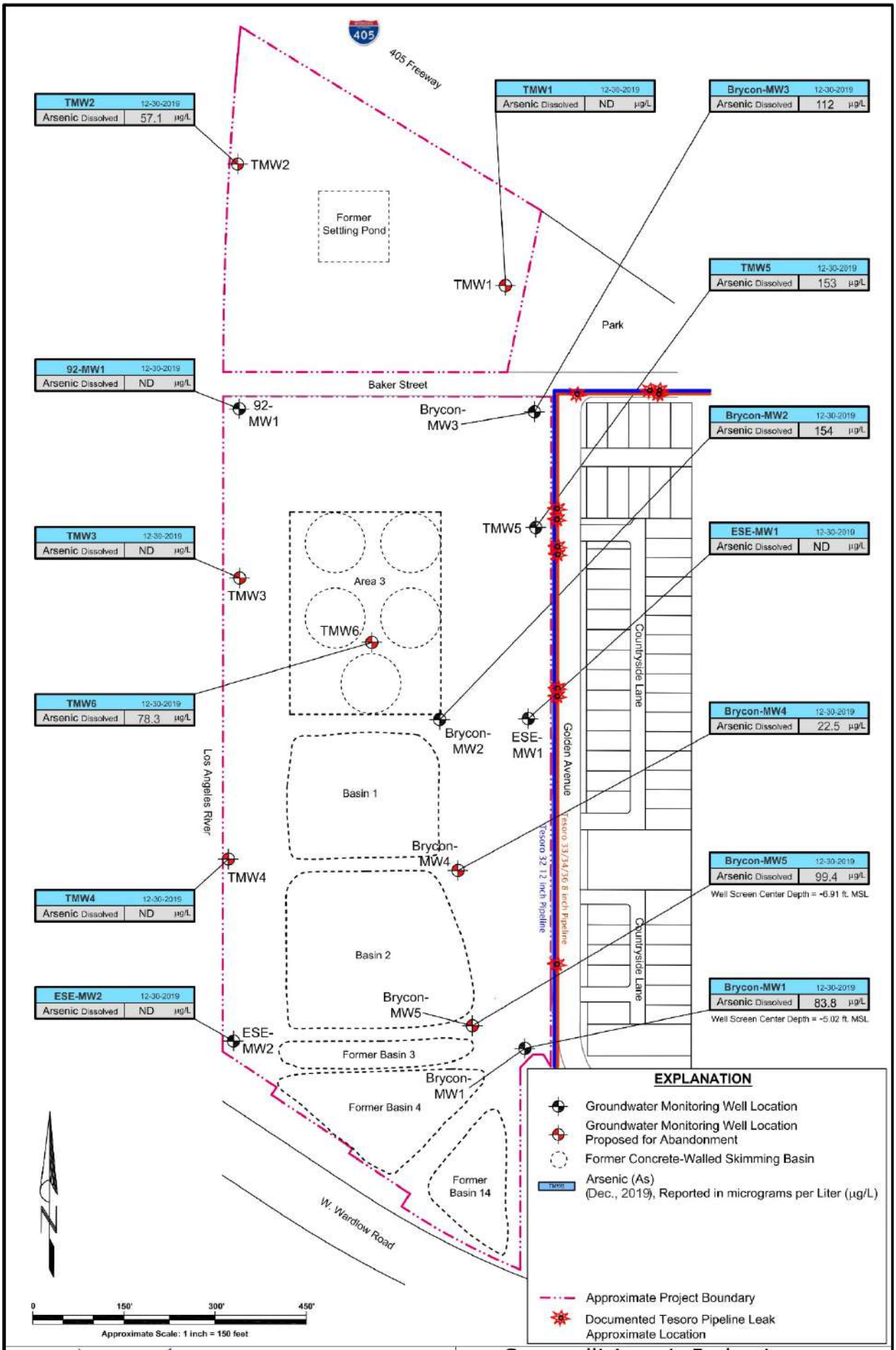
Dissolved Arsenic in Groundwater

Groundwater Monitoring Well TMW6

Tesoro Gasoline Pipeline
Golden Avenue, Long Beach, California

As concentrations have ranged from a high of 711 µg/L in February 219 to a low of 78.3 µg/L in December 2019. Once again, dynamic plume conditions, and resultant Fluctuations, are a key salient marker in the CECM.

In addition, in December 2019 the As concentrations in TMWS at 78.3 µg/L were lower or approximately equal to As concentrations in Brycon MW1 located approximately 800 feet southeast of TMW6 and southeast of the Basins and the former oil field-produced water treatment area. Please see the figure below that illustrates the 83.8 µg/L As concentration on the southwest corner of the OOI Facility at Brycon MW-1.



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Cozzarelli Arsenic Evaluation

Arsenic in Groundwater
12-30-2019
Tesoro Gasoline Pipeline Leak
Golden Avenue, Long Beach, California

In conclusion, the following scope of work should be implemented at OOI for the further evaluation of these Fluctuations and field verification of CECM:

- Develop and optimize a short-term groundwater monitoring program that supports and verifies the CECM.

- Develop and optimize a long-term management program for the naturally occurring As in aquifer sediments.

5. References

American Environmental Management Corporation, 1991, Subsurface Characterization Report of the Southern Portion of Oil Operators, Inc., 712 West Baker Street, Long Beach, California, December 12, 1991.

American Petroleum Institute, 2005, Modeling of Produced Water Release Scenarios, API Publication Number 4734, January 2005.

Bedrock Engineering, 2018, Quarterly Monitoring Report for Basin 1 Land Treatment of Petroleum Hydrocarbon -Impacted Soil, Oil Operators, Inc Property, 712 West Baker Street, Long beach, California, October 15, 2018.

Bedrock Engineering, 2019, December 2019– Quarterly Groundwater Monitoring at the Oil Operators Property, 712 West Baker Street, Long Beach, California, January 15, 2020.

Bekins, B.A., I.M. Cozzarelli, M.L. Erickson, R.A Steenson and K..A. Thorn, 2016, Crude Oil Metabolites in Groundwater at Two Spill Sites. *Groundwater* 54: 681-691.

Bryant, Jack K and Associates, 1992, Oil Operators South Site: Acetone, Benzene, Dichloroethane Contamination, August 11, 1992.

Brycon, LLC, 2002, Basin 1 Characterization Report, Oil Operators Property, 712 West Baker Street, Long beach, California, November 21, 2002.

Brycon, LLC, 2014, September 2014 – Quarterly Groundwater Monitoring at the Oil Operators Property, 712 West Baker Street, Long Beach, California, October 15, 2014.

Brycon, LLC, 2010, Report on Additional Site Characterization Oil Operators Inc., 712 West Baker Street, Long Beach, California, SCP Case No. 0093; SCPID No. 2-44MOO, November 15, 2015.

Brycon, LLC, 2015, September 2015 – Quarterly Groundwater Monitoring at the Oil Operators Property, 712 West Baker Street, Long Beach, California, October 15, 2015.

Burdick, Donald L and Leffker, Willam L., Petrochemicals for the Nontechnical Person, PennWell Publishing Company, 1993.

California Stormwater Quality Association (CASQA), 2003, California Stormwater Best Management practices (BMP) Hand Book, New development and Redevelopment, TC-11 Fact Sheet Infiltration Basin, January 2003. https://www.casqa.org/sites/default/files/BMPHandbooks/TC-11.pdf (accessed November 2018).

Carr, Danial B., Levy, Laurent C., Horneman, Allan H., 2010, Vadose Zone Profiling to Better Understand Processes Related to Vapor Intrusion, Air and Waste Management Association, September 29, 2010. https://clu-in.org/download/contaminantfocus/vi/vadose%20zone%20profiling%20to%20better.pdf (accessed November 2018).

Cash & Associates Engineer, 1982 Oil Field Waste water Pipelines, October 15, 1982.

The Brownfield Redevelopment Group, 2018. Expert Witness Report, Oil Operators, Inc. Former Centrally Located Oil-Field Produced Water Treatment Facility, December 4, 2018.

The Brownfield Redevelopment Group, 2019. Oil Operators Inc. Arsenic Presentation, Los Angeles Regional Water Quality Control Board, March 11, 2019.

EMCON, 1981. Hydrogeolgic Investigation, Industrial Waste Transfer Station, Long Beach, California, February 1981.

Engle, M.A., Cozzarelli, I.M., and Smith, B.D., 2014, USGS investigations of water produced during hydrocarbon reservoir development: U.S. Geological Survey Fact Sheet 2014–3104, 4 p., https://dx.doi.org/10.3133/fs20143104 (accessed November 2018).

EPA, 1978, Surface Impoundments and their Effects on Ground-Water Quality in the United States – A preliminary Survey, EPA 570/9-78-004, June 1978.

EPA, 1986, SW-846 Third Edition of Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, November 1986.

EPA, 1992, Liners and Leak Detection Systems for Hazardous Waste Land Disposal Units, RCRA Revision Checklist 100, Vol. 57 No. 19 Wednesday, January 29, 1992 p 3462.

EPA, 1993 Clarification of the Regulatory Determination for Wastes from the Exploration, Development and Production of Crude Oil, Natural Gas and Geothermal Energy, Federal Register, Vol.58, No. 53; March 22, 1993.

EPA, 2002, Exemption of Oil and Gas Exploration and Production Wastes from Federal Hazardous Waste Regulations, 2002.

EPA, Office of Resource Conservation and Recovery (ORCR), Office of Solid Waste and Emergency Response (OSWRER), Memorandum – Review of State Oil and Natural Gas Exploration, Development, and Production (E&P) Solid waste management Regulations, April 1, 2014.
https://www.epa.gov/sites/production/files/2016-04/documents/state_summaries_040114.pdf (Accessed November 2018)

EPA, 2016, Software ProUCL version 5.1 (ProUCL 5.1), Statistical Software for Environmental Applications for Data Sheets with and without Nondetect Observations, October 2015.
https://www.epa.gov/land-research/proucl-software

EPA, "Frequent Questions About Implementing the Hazardous Waste Generator Improvements Rule," Hazardous Waste Generators, U.S. EPA, April 12, 2018

https://www.epa.gov/hwgenerators/frequent-questions-about-implementing-hazardous-waste-generator-improvements-final-rule#determinations (Accessed November 2018)

Hertel, Raymond M., 1982, *"Proposed Wastewater Holding Basin at 712 Baker Street, Long Beach (CI 6147, BII1-81)"*, Received by H.P. Keller, January 18, 1982.

Jaykim Engineers, Inc., 1987. Quarterly Monitoring Report, Land Treatment Operation, Oil Operators, Inc. Long Beach, California, October 15, 1987.

"Produced Water 101." *The Produced Water Society*, Produced Water Society, 2017, http://www.producedwatersociety.com/producedwater-101/ (accessed November 2018).

QST Environmental, Inc. Site Assessment and Summary and Remedial Action Plan for the Oil Operators Inc, Property in Long beach, California, December 2, 1998.

RWQCB, 2020, Comments on the Draft Conceptual Remedial Action Plan, Oil Operators, Inc. 712 Baker Street, Long Beach, California (SCP No. 0093; Site ID No. 2044M00), May 21, 2010.

SWRCB, "Oil Operators, Inc. (SL2044M1596)." *State Water Resources Control Board GeoTracker*, State of California, 2015, https://geotracker.waterboards.ca.gov/profile_report.asp?global_id=SL2044M1596 (accessed August 2018).

Tesoro Refining & Marketing Company LLC, 2019, Response to Oil Operator's, Inc. Presentation regarding Arsenic in OOI Groundwater, Golden Avenue Site in Long Beach, CA (SCP Case No. 0093A, Site ID No. 2040420), August 16, 2019.

40 C.F.R § 264.221 (1992)

https://www.epa.gov/sites/production/files/2016-03/documents/fr100.pdf (accessed November 2018)

APPENDIX IX

Soil Reuse Criteria – SFRWQCB 2006

California Regional Water Quality Control Board
San Francisco Bay Region

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D R A F T

TECHNICAL REFERENCE DOCUMENT

CHARACTERIZATION AND REUSE OF PETROLEUM HYDROCARBON IMPACTED SOIL AS INERT WASTE

October 20, 2006

1.0 INTRODUCTION

Staff of the San Francisco Bay Regional Water Quality Control Board (Water Board) has prepared a ***draft*** technical reference document entitled *Characterization and Reuse of Petroleum Hydrocarbon Impacted Soil as Inert Waste* (Interim Final – October 2006). This document presents a method for characterizing non-hazardous petroleum hydrocarbon impacted soil that is proposed for reuse (or disposal) on the same contiguous property where it was generated (i.e., "**on-site**"). Furthermore, the document presents petroleum hydrocarbon testing requirements and conditions/restrictions for the soil reuse. The testing requirements and restrictions are intended to address human and ecological health concerns and protect the beneficial uses of waters of the State.

The Water Board typically considers requests for on-site reuse of soil based on the overall threats to human and environmental health and water quality. Such threats are a function of petroleum constituent concentrations, toxicity, soil volume, contaminant mass, and the reuse location among others. The intent of this document is to assure that the reuse (or disposal) of PHIS is protective of human and environmental health and the beneficial uses of waters of the State by establishing testing requirements and conditions for reuse.

The petroleum hydrocarbon standards applied in this document meet risk-based screening levels for industrial and residential reuse. Furthermore, the standards are intended to demonstrate that the soil is inert as defined in Title 27, Section 20230 of the California Code of Regulations with respect to the water quality objectives set forth in the San Francisco Bay Regional Water Quality Control Board's Water Quality Control Plan. Due to these conditions, the Water Board does not intend to issue Waste Discharge Requirements (WDRs) or WDR waivers for soil reuse in accordance with this document.

For the purpose of this document petroleum hydrocarbon impacted soil (PHIS) is defined as soil impacted with gasolines and/or middle distillates, including diesel, kerosene, and jet fuel, collectively referred to as "diesel". Inert waste is defined in Title 27, Section 20230 of the California Code of Regulations, to be “a subset of solid waste that does not contain hazardous waste or soluble pollutants at concentrations in excess of applicable water quality objectives, and does not contain significant quantities of decomposable waste”. On-site refers to the same contiguous property where the PHIS was generated.

This document does not apply to hazardous waste, nor does it apply to the off-site reuse or disposal of soil, or the import of soil for construction or other uses. The Department of Toxic Substances Control has prepared an Information Advisory that addresses the import of fill material on sensitive lands (DTSC, Oct. 2001).

This guidance is intended to address the reuse of soils impacted with gasolines and middle distillate fuels. It is not intended to address reuse of soils impacted with heavier petroleum products (e.g., fuel oil Nos. 4, 5, and 6, lubricating oils, motor oil, etc.) or any other contaminant. Used motor oil, hydraulic fluids and other common types of heavy petroleum products/wastes may contain significant amounts of polynuclear aromatic hydrocarbons (PAHs), heavy metals, polychlorinated biphenyls (PCBs), chlorinated solvents, pesticides, volatile organic compounds (VOCs) and other potentially harmful chemicals. Evaluation of soil impacted with heavy petroleum hydrocarbons or other contaminants for reuse should be based on a more complete assessment of potential constituents and exposure concerns.

In order to expedite reuse issues, this document is intended to establish a “self-certification” process whereby the property owner and waste discharger retain the necessary documentation, but no formal approval by Water Board staff is provided. For sites under Water Board oversight, documentation (see Section 6.0) must be submitted to the Water Board staff case handler. For sites not under Water Board oversight, documentation should be retained by the property owner and waste discharger and provided to the Water Board only upon request.

This document is <u>not</u> intended to establish policy or regulation. Use of this document is entirely optional on the part of the discharger. This document provides conservative guidance to streamline the request/approval process for on-site soil reuse. Site-specific decisions made by the Water Board or other lead agencies regarding the reuse of PHIS and/or the management of impacted or suspect soil may supersede the guidance provided in this document. Conversely, this document is not intended to supersede any site-specific Water Board or other lead agency decisions regarding cleanup, cleanup standards, or reuse of impacted soil.

This document will be periodically updated as needed. Please send comments in writing to the contact noted below. Water Board staff overseeing work at a specific site should be contacted prior to use of this document in order to ensure that the document is applicable to the site and that the user has the most up-to-date version available.

For further information, please contact:

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2.0 DEFINITIONS

Petroleum Hydrocarbon Impacted Soil (PHIS) is defined as soil impacted with gasolines (C_6 - C_{12}) and/or middle distillates (C_9 - C_{25}) including diesel, kerosene, and jet fuel, collectively referred to as "diesel".

Inert Waste is defined in the California Code of Regulations, Division 2, Title 27, Subdivision 1, Chapter 3, Subchapter 2, Article 2, Section 20230, to be “a subset of solid waste that does not contain hazardous waste or soluble pollutants at concentrations in excess of applicable water quality objectives, and does not contain significant quantities of decomposable waste”.

Water Quality Objectives are those specified in the San Francisco Bay Regional Water Quality Control Board’s Water Quality Control Plan (Basin Plan)

On-Site refers to the same contiguous property where the PHIS was generated.

3.0. CONDITIONS FOR REUSE

3.1 Restrictions

1. The PHIS proposed for reuse must be inert waste as defined in Title 27, Section 20230 (e.g., non-hazardous solid waste that does not contain soluble pollutants of any kind in excess of applicable water quality objectives).

2. The proposed reuse location must be on-site (e.g., the same contiguous property where the PHIS was generated). The Department of Toxic Substances Control and local regulatory agencies should be contacted for proposed off-site reuse or disposal at non-permitted (e.g., landfill) locations.

3.2 Site Conditions

The proposed reuse location shall meet the following conditions to the extent practicable. In all cases, the discharger shall demonstrate that the reuse location is protective of beneficial uses of waters of the State in a manner consistent with Title 27.

1. Separation from Ground Water: The PHIS shall be placed at least five feet above the highest anticipated level of ground water.

2. Separation from Surface Water: The PHIS shall be placed at least 100 feet from the nearest surface water body.

3. Flood Plain Protection: The PHIS shall be protected against 100-year peak stream flows as defined by the County flood control agency.

4. Cover and Erosion Protection: The PHIS shall be buried at least three feet beneath the surface grade. It shall also be capped with erosion-resistant materials such as compacted soil, rock, asphalt, concrete, etc. The PHIS shall be protected from erosion and exposure at the ground surface for as long as it remains in place and has detectable concentrations of petroleum hydrocarbons.

5. Property Owner Acknowledgement: By written correspondence to Water Board staff, the owner of the property where the PHIS is proposed for reuse shall acknowledge their acceptance of the placement of the PHIS and any maintenance required to comply with the above conditions.

4.0 SAMPLING AND CHARACTERIZATION

All stockpiled soil must be characterized in accordance with the methodology set forth in the most recently promulgated edition of "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846", U.S. Environmental Protection Agency (EPA SW-846).

4.1. Sampling Frequency

Procedures in EPA Publication SW-846 provide a method for determining the mean concentration of a given contaminant within a soil mass and the appropriate number of samples necessary to calculate this mean to within a specified confidence level. Initial sampling should generate a minimum number of samples/analyses as described below. Additional sample analyses may be required to meet the confidence levels specified in EPA SW-846, therefore, archiving of samples may be appropriate. Archived samples must be appropriately preserved and analyzed within maximum holding times.

The minimum number of discrete samples necessary to adequately characterize the PHIS shall be determined in accordance with the statistical procedure in EPA SW-846. The following schedule can be used to estimate the minimum number of samples necessary to meet the statistical requirements in EPA SW-846, in most cases. If the number of samples collected is fewer than indicated in the following schedule, then the statistical basis for the deviation must be provided.

- Stockpiles less than 500 cubic yards: One sample for every 25 cubic yards (*e.g., 20 samples for a 500 cubic yard stockpile*).

- Stockpiles from 500 to 1,000 cubic yards: Twenty (20) samples plus one sample for every 100 cubic yards in excess of the initial 500 cubic yards (*e.g., 25 samples for a 1000 cubic yard stockpile*).

- Stockpiles from 1,000 to 10,000 cubic yards: Twenty-five (25) samples plus one sample for every 500 cubic yards in excess of the initial 1,000 cubic yards (*e.g., 43 samples for a 10,000 cubic yard stockpile*).

- Stockpiles greater than 10,000 cubic yards: Forty-three (43) samples plus one sample for every 5,000 cubic yards in excess of the initial 10,000 cubic yards (*e.g., 61 samples for a 100,000 cubic yard stockpile*).

Table 1 and Figure 1 illustrate the relationship between soil volume and the minimum number of samples provided in the above schedule.

4.2 Discrete vs. Composite Sampling

The statistical method in EPA SW-846 assumes that contaminants are heterogeneously distributed within the soil mass and that hotspots exist and are of concern. Composite sampling is not well suited for identifying hotspots because of the "dilution" or

"averaging" effect of mixing samples to create a single composite. Furthermore, composite sampling is not appropriate when sampling for volatile organic compounds, due to the losses inherent in the composite mixing process. Therefore, discrete sampling is required for volatile compounds.

Additionally, the statistical method in EPA SW-846 requires a reasonably accurate measure of sample variability in order to estimate a reasonably accurate confidence interval (CI) about the mean for each constituent in the soil mass. Variability between composite sample results tends to be muted due to the averaging effect of the mixing process, which generally leads to a falsely narrow CI about the mean. It is the upper limit of the CI that is compared to the regulatory limit to determine if a sufficient number of samples have been collected to identify hotspots and capture the true range of contaminant concentrations. Therefore, if contaminants are heterogeneously distributed, and if hotspots are a concern, composite sampling is not appropriate and discrete sampling is required.

4.3 Sample Location

Sample locations should be random, uniform, or biased toward hotspot areas, based on professional judgment and field screening indications.

4.4 Analyses

A two-tiered evaluation approach is required to determine if soil is suitable for reuse under this guidance. Therefore, two types of sample analyses may be required. The Tier 1 analyses consist of measuring the total concentrations of contaminants in the soil. The Tier 2 analyses consist of measuring the leachable concentration of contaminants from the soil. Section 5.0 discusses how the results from the Tier 1 and 2 analyses are evaluated.

Tier 1 Analyses

The Tier 1 analyses necessary to adequately characterize the PHIS shall be in accordance with protocol described below and in Table 2 (attached).

a. Gasolines ($C_6 - C_{12}$)

Soils impacted with gasolines shall be analyzed using the DHS/EPA Method 8015 modified to quantify the total petroleum hydrocarbons (TPH) through the carbon range C_6 to C_{12}. The minimum laboratory reporting limit for this method of analysis shall be no greater than 10 mg/kg. Additionally, soil sample results for TPH shall be ranked from highest concentration to lowest. The highest 25% of samples for TPH (minimum of four samples) shall be further analyzed using EPA Method 8021, 8260B (or equivalent) to quantify the concentrations of benzene, toluene, ethylbenzene, total xylenes (BTEX), methyl-tertiary butyl ether (MtBE) and other fuel oxygenates as required on a case-by-case basis. The minimum

laboratory reporting limit for volatile organic compounds in soil using EPA method 8021, 8260B (or equivalent), shall be no greater than 5 ug/kg.

b. Middle Distillates ($C_9 – C_{25}$)

Soils impacted with middle distillate petroleum fuels such as diesel shall be analyzed using the DHS/EPA Method 8015 modified to quantify the total petroleum hydrocarbons through the carbon range C_9 to C_{25}. The minimum laboratory reporting limit for this method of analysis shall be no greater than 10 mg/kg. Additionally, soil sample results for TPH shall be ranked from highest concentration to lowest. The highest 25% of samples for TPH (minimum of four samples) shall be further analyzed using EPA Method 8021, 8260B (or equivalent) to quantify the concentrations of BTEX and naphthalene. Analysis for MtBE and other fuel oxygenates may be required on a case-by-case basis. The minimum laboratory reporting limit for volatile organic compounds in soil using EPA method 8021, 8260B (or equivalent), shall be no greater than 5 ug/kg.

Tier 2 Analyses

The Tier 2 analyses necessary to adequately characterize the PHIS shall be in accordance with protocol described below and in Table 3 (attached).

a. Gasolines ($C_6 – C_{12}$)

The same 25% of soil samples with the highest TPH concentrations as ranked in the Tier 1 analyses (minimum of four samples) shall be extracted using the Synthetic Precipitation Leaching Procedure (SPLP). Procedures for the SPLP are described in EPA SW-846 (EPA Method 1312). The SPLP extract shall be analyzed for gasolines using DHS/EPA Method 8015 modified to quantify the total petroleum hydrocarbons in the carbon range C_6 through C_{12}, BTEX, MtBE and other fuel oxygenates as required on a case-by-case basis using Method 8021, 8260B (or equivalent). The minimum laboratory reporting limit for this method of analysis for gasolines in water shall be no greater than 100 ug/L. The minimum laboratory reporting limit for volatile organic compounds in water using EPA method 8021, 8260B (or equivalent), shall be no greater than 1.0 ug/L.

b. Middle Distillates ($C_9 – C_{25}$)

The same 25% of soil samples with the highest TPH concentrations as ranked in the Tier 1 analyses (minimum of four samples) shall be analyzed using the SPLP described above. The SPLP extract shall be analyzed for diesel using DHS/EPA Method 8015 modified to quantify the total petroleum hydrocarbons in the carbon range C_9 through C_{25}, plus BTEX and naphthalene using Method 8021, 8260B (or equivalent). The minimum laboratory reporting limit for this method of analysis for middle distillates in water shall be no greater than 100 ug/L. The minimum laboratory reporting limit for volatile organic compounds in water using EPA method 8021, 8260B (or equivalent), shall be no greater than 1.0 ug/L.

5.0 EVALUATION CRITERIA AND REGULATORY LIMITS

There are three types of regulatory limits applicable to the reuse of PHIS. These include 1) the Not-to-Exceed soil concentration limits, 2) the Tier 1 soil concentration limits, and 3) the Tier 2 leachate concentration limits. The Tier 1 and Not-to-Exceed soil limits are listed in Table 2 and the Tier 2 leachate limits are listed in Table 3.

5.1 Evaluation Process

Figure 2 illustrates the process for determining if the PHIS is acceptable for reuse in accordance with this guidance.

Category 1

After ranking the soil results from highest to lowest, if the highest concentration for each constituent does not exceed the Tier 1 soil limits (Table 2), then no further evaluation is necessary and the soil is suitable for reuse in accordance with this document.

Category 2

Conversely, if any constituent concentration exceeds the Not-to-Exceed soil limits (Table 2), then the soil is **not** suitable for reuse, without further remedial action, such as hotspot removal or treatment, confirmation sampling, and re-evaluation.

Category 3

If the soil does not fall into categories 1 or 2, then the 95% upper confidence limit (UCL) of the mean, as computed from the soil characterization data for each constituent, can be used for comparison to the applicable regulatory limits for each constituent.

Tier 1 Soil Limits:

If the 95% UCL of the mean for any constituent exceeds its Tier 1 soil concentration limit listed in Table 2 (but is less than its Not-to-Exceed soil limit per Category 2 restrictions), then the Tier 2 leachability analyses described in section 4.4 must be performed.

Tier 2 Leachate Limits:

If the 95% UCL of the mean of the leachate concentrations, for any constituent, exceeds its Tier 2 leachate limit listed in Table 3, then the soil is **not** suitable for reuse in accordance with this document, without further remedial action and re-evaluation.

5.2 Computing the 95% UCL of the Mean

The 95% UCL of the mean must be determined for each constituent of concern after an appropriate number of samples has been collected from the stockpiled soil (see Section 4.1). If a data set is not normally distributed, it must be appropriately transformed. Guidance on determining the 95% UCL of the mean is found in EPA SW-846 (see Section 4.0) and in the EPA publication titled "Supplemental Guidance to RAGS: Calculating the Concentration Term" as presented in "Risk Assessment Guidance for Superfund (RAGS) Volume I, Human Health Evaluation Manual", publication 9285.7, May 1992.

6.0 REPORTING REQUIREMENTS

For sites under Water Board oversight, a technical report, containing the compliance information summarized below, must be submitted to the Water Board staff case handler for review and placement in the public record. For sites not under Water Board oversight, the compliance documentation must be retained by the property owner and waste discharger and provided to the Water Board only upon request:

1. Source of the PHIS (e.g., gas station, tank farm, refinery, industrial facility, etc.)
2. An estimate of the volume of impacted soil
3. A description of the contaminant(s) (e.g., gasoline, diesel, aviation fuel, etc.)
4. A description of the sampling methodology and the sample location/selection process
5. A plot plan detailing the stockpile and sample locations
6. A copy of all sample results, chain of custody documents, and QA/QC supporting data (electronic format preferred)
7. A one-page summary table of the laboratory results for the stockpile sampling
8. Statistical calculations for all stockpiles
9. A tabular comparison of the statistical results for each constituent for each stockpile to the Table 2 and Table 3 regulatory limits
10. A statement signed by the discharger/responsible party and a registered professional certifying compliance with the restrictions, site conditions, sampling and analysis, and evaluation criteria described in this guidance
11. Description and map of the reuse location and site
12. A statement signed by the property owner acknowledging the reuse of the impacted soil on his/her property and responsibility for maintaining compliance with the conditions of this guidance

Attachments: Attachment 1 - Table 1, Figure 1
Attachment 2 - Tables 2 & 3
Attachment 3 - Figure 2
Attachment 4 - References

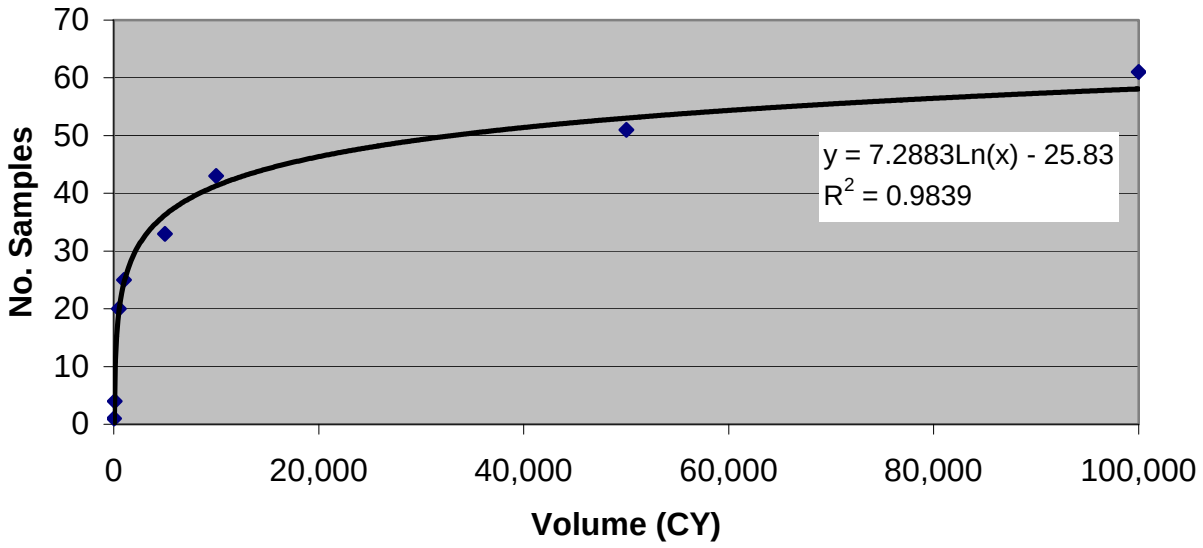
ATTACHMENT 1

Table 1. Number of Samples per Soil Volume in Cubic Yards (cy)

	< 500 cy	500 to 1,000 cy	1,000 to 10,000 cy	10,000 to 100,000 cy	> 100,000 cy
Frequency[1]	1 per 25 cy	1 per 100 cy	1 per 500 cy	1 per 5,000 cy	1 per 5,000 cy
Min. No. Samples	2 to 20	20 to 25	25 to 43	43 to 61	> 61

[1] Frequency is for the portion of the stockpile within the specified volume range.

Figure 1: Relationship of No. Samples to Soil Volume



ATTACHMENT 2

Table 2: Tier 1 Analytical Methods and Concentration Limits for Gasoline and Diesel[1] in Soil

Contaminant	Constituent of Concern	Carbon Range	Preparation Method[3]	DHS/EPA Method of Analysis[3]	Soil Concentration Limits[4] (mg/kg)	Not To Exceed Limits[5] (mg/kg)
Gasoline	TPH-Gasoline	C_6-C_{12}	3550	8015M	100	400
Diesel	TPH Diesel	C_9-C_{25}	3550	8015M	100	400
Gasoline/Diesel	Benzene		5030	8021/8260B	0.044	0.18
Gasoline/Diesel	Toluene		5030	8021/8260B	2.9	100
Gasoline/Diesel	Ethylbenzene		5030	8021/8260B	3.3	390
Gasoline/Diesel	Xylenes		5030	8021/8260B	2.3	310
Gasoline	MtBE[2]		5030	8021/8260B	0.023	2
Diesel	Naphthalene		5030	8021/8270	0.46	1.5

1. Includes comparable middle distillates ($C_9 – C_{25}$) including diesel, kerosene, and jet fuel.
2. Testing for other fuel oxygenates may be required on a case-by-case basis.
3. Or equivalent laboratory method.
4. Soil concentration limits may be compared to the 95% upper confidence limit of the mean calculated from the stockpile sample data for each constituent. Soil concentration limits are based on the lowest Environmental Screening Level ("ESL") as presented in the Region 2 Technical Document, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final, February 2005, Appendix 1, Volume 2, Table A-1 for protection of 1) human health via drinking water consumption, 2) human health via direct contact, 3) human health via indoor air exposure, or 4) nuisance concerns. Additional assumptions include residential landuse, groundwater is a source of drinking water, and soils are shallow (< 10 feet). Soil concentration limits for TPH as gasoline & diesel are based on gross contamination ceiling (i.e., nuisance) limits. Soil concentration limits for BTEX and MtBE are based on a generalized leaching model for the protection of groundwater as a potential source of drinking water. Soil concentration limits for naphthalene are based on protection of human health via indoor air exposure. Updates to the Region 2 ESLs will supersede the concentration limits listed in this table.
5. Soil not-to-exceed limits must be compared to individual stockpile sample results for each constituent. Soil not-to-exceed limits are based on the second lowest ESL as presented in the Region 2 Technical Document, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final, February 2005, Appendix 1, Volume 2, Table A-1 for protection of 1) human health via drinking water consumption, 2) human health via direct contact, 3) human health via indoor air exposure, or 4) nuisance concerns. Additional assumptions include residential landuse, groundwater is a source of drinking water, and soils are shallow (< 10 feet). Soil not-to-exceed limits for TPH as gasoline & diesel, BTEX, MtBE, and naphthalene are based on protection of human health via direct exposure. Updates to the Region 2 ESLs will supersede the concentration limits listed in this table.

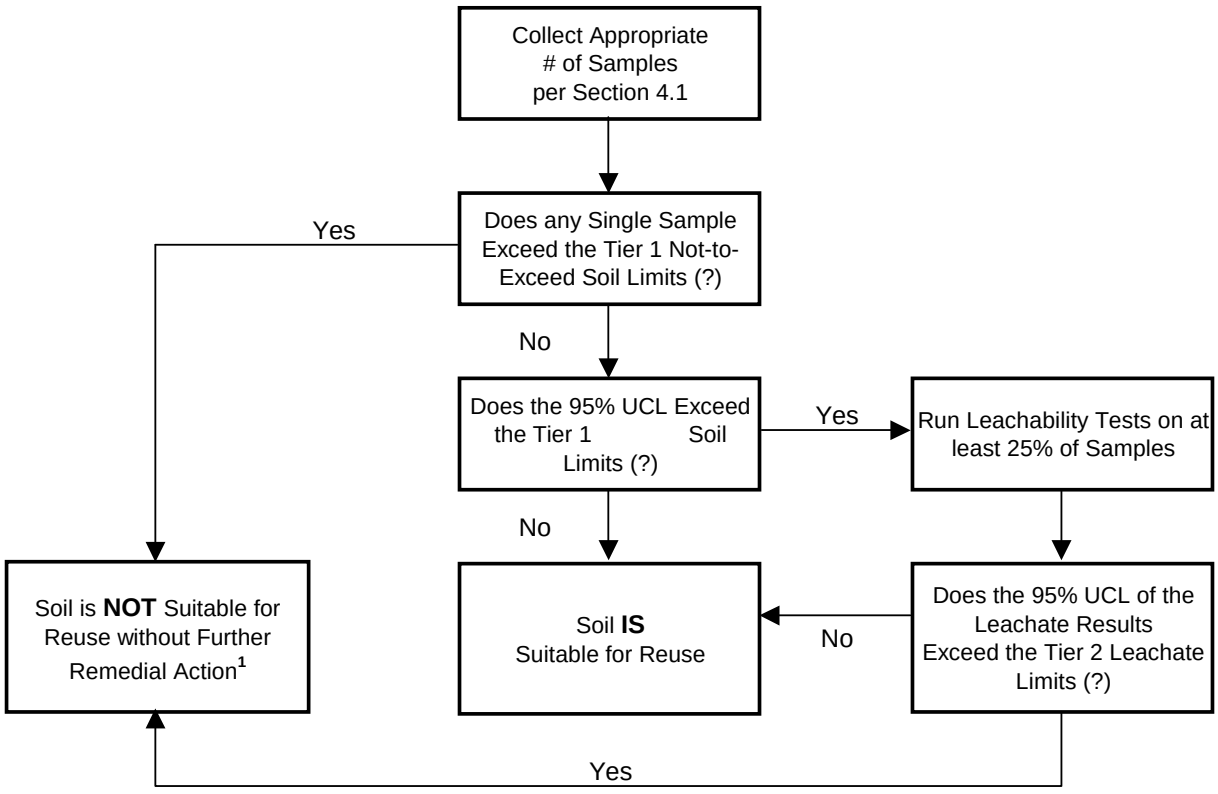
Table 3: Tier 2 Analytical Methods and Concentration Limits for Gasoline and Diesel[1] Leachable Extract

Contaminant	Constituent of Concern	Extraction Method	Carbon Range	Preparation Method[3]	DHS/EPA Method of Analysis[3]	Leachate Concentration Limits[4] (ug/l)
Gasoline	TPH-Gas	SPLP	C_6-C_{12}	3510	8015M	100
Diesel	TPH-Diesel	SPLP	C_9-C_{25}	3510	8015M	100
Gasoline/Diesel	Benzene	SPLP		5030	8021/8260B	1.0
Gasoline/Diesel	Toluene	SPLP		5030	8021/8260B	40
Gasoline/Diesel	Ethylbenzene	SPLP		5030	8021/8260B	30
Gasoline/Diesel	Xylenes	SPLP		5030	8021/8260B	20
Gasoline	MtBE[2]	SPLP		5030	8021/8260B	5
Diesel	Naphthalene	SPLP		5030	8021/8270	17

1. Includes comparable middle distillates ($C_9 – C_{25}$) including diesel, kerosene, and jet fuel.
2. Testing for other fuel oxygenates may be required on a case-by-case basis.
3. Or equivalent laboratory method.
4. The leachate concentration limits for all constituents are based on the lowest groundwater screening level that is protective of nuisance odors or human health (via drinking water or indoor air impacts), as presented in the Region 2 Environmental Screening Levels ("ESLs") Technical Document, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final, February 2005, Appendix 1, Volume 2, Table F-1a (groundwater is a current or potential drinking water resource). Updates to the Region 2 ESLs will supersede the concentration limits listed in this table.

ATTACHMENT 3

Figure 2: Evaluation Process for Reuse of Non-Hazardous PHIS



[1] Additional remedial action may include removal and/or treatment of the hotspot with additional confirmation sampling and re-evaluation.

ATTACHMENT 4

References:

1. California Code of Regulations, Division 2, Title 27, Subdivision 1, *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*.

2. California Department of Toxic Substances Control, Information Advisory, *Clean Imported Fill Material*, October 2001.

3. California Regional Water Quality Control Board, San Francisco Bay Region, *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, Interim Final, February 2005.

4. San Francisco Bay Regional Water Quality Control Board, *Water Quality Control Plan*, June 1995.

5. San Francisco Bay Regional Water Quality Control Board, Technical Memorandum, *Regulatory Status of Soils Excavated During Installation, Maintenance, or Repair of Underground Equipment*, April 1995.

6. State Water Resources Control Board, Chapter 15 Program Note #8, *Management of Petroleum Contaminated Soils*, November 1993.

7. U.S. Environmental Protection Agency, *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, Publication SW-846, Third Edition, 1986.

8. U.S. Environmental Protection Agency, *Supplemental Guidance to RAGS: Calculating the Concentration Term*, Publication 9285.7-081, May 1992.

9. U.S. Environmental Protection Agency, Region 9, *Preliminary Remediation Goals*, November 2000.