SFPP Norwalk Pump Station
Norwalk, California

Biosparging Effectiveness Evaluation and Recommendations – South-Central Area

Final

February 2019

Kinder Morgan, Inc.

SFPP Norwalk Pump Station, Norwalk, California

Project No:	705305
Document Title:	Biosparging Effectiveness Evaluation and Recommendations – South-Central Area
Revision:	Final
Date:	February 2019
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The material and data presented in this report were prepared consistent with current and generally accepted consulting principles and practices. This work was supervised by the following Jacobs licensed professional.

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February 21, 2019
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Acronyms and Abbreviations

µg/L	microgram(s) per liter
%PV	percent pore volume
%RE	percent reference emitter
1,2-DCA	1,2-dichloroethane
API	American Petroleum Institute
ASTM	ASTM International
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and total xylenes
CH_4	methane
CH2M	CH2M HILL Engineers, Inc., now part of Jacobs Engineering Group Inc.
C_6H_{14}	hexane
CO_2	carbon dioxide
COC	contaminant of concern
CPT	cone penetrometer testing
CSM	conceptual site model
DFSP	Defense Fuel Support Point
DOT	Department of Transportation
DPT	direct-push technology
DRO	diesel-range organics
EPA	U.S. Environmental Protection Agency
EVS	Earth Volumetric Studio 2018.11
ft/day	feet per day
ft/ft	foot per foot
gpm	gallon(s) per minute
GPS	global positioning system
Gregg	Gregg Drilling and Testing, Inc. of Signal Hill, California
GRO	gasoline-range organics
IDW	investigation-derived waste
JP-4	jet propellant 4
JP-5	jet propellant 5
JP-8	jet propellant 8
Jacobs	Jacobs Engineering Group Inc.
Kinder Morgan	Kinder Morgan, Inc.
lb	pound(s)
LEL	lower explosive limit
LIF	laser-induced fluorescence

LNAPL	light nonaqueous phase liquid(s)
mg/kg	milligram(s) per kilogram
msl	mean sea level
MTBE	methyl tertiary butyl ether
NSZD	natural source zone depletion
O_2	oxygen
PFS	pore fluid saturation
PID	photoionization detector
PTS Labs	PTS Laboratories, Inc.
QA	quality assurance
QC	quality control
RE	reference emitter
RWQCB	Regional Water Quality Control Board, Los Angeles Region
site	SFPP Norwalk Pump Station, located within the Defense Fuel Support Point, at 15306 Norwalk Boulevard, Norwalk, California
SVE	soil vapor extraction
TBA	tertiary butyl alcohol
TestAmerica	TestAmerica Laboratories
TFE	total fluids extraction
TPH	total petroleum hydrocarbons
TPH-d	total petroleum hydrocarbons quantified as diesel
TPH-fp	total petroleum hydrocarbons quantified as fuel product
TPH-g	total petroleum hydrocarbons quantified as gasoline
TPH-j	total petroleum hydrocarbons quantified as jet fuel
USA	Underground Service Alert
USCS	Unified Soil Classification System
UV	ultraviolet
UVOST	Ultraviolet Optical Screening Tool
VOA	volatile organic analyte
VOC	volatile organic compound
xG	times the acceleration of gravity
ZOI	zone of influence

1. Introduction

This report presents the findings of an investigation performed by CH2M HILL Engineers, Inc. (CH2M), now part of Jacobs Engineering Group Inc. (Jacobs), to characterize light nonaqueous phase liquid (LNAPL) in the uppermost groundwater zone to the top of the Bellflower aquitard in the south-central area of the SFPP Norwalk Pump Station, located within the Defense Fuel Support Point (DFSP), at 15306 Norwalk Boulevard, Norwalk, California (site). This investigation was performed after approximately 2 years (14,216 cumulative hours of operation, 9,889 hours of downtime) of biosparging and soil vapor extraction (SVE) operations. In this report, the results from this investigation are compared to the results from a similar investigation performed in 2011 and 2012, prior to initiating biosparging operations in the south-central area of the site, to support evaluation of remedial performance.

1.1 Investigation Objectives

The investigation was designed to meet the following objectives:

- Evaluate the vertical distribution of LNAPL in the uppermost groundwater zone in the south-central area of the site after approximately 2 years of biosparging and SVE operations.
- Further evaluate the lithology of the uppermost groundwater zone where LNAPL occurs.
- Evaluate changes to LNAPL composition and saturation since initiating onsite south-central biosparging operations:
  - Compare laser-induced fluorescence (LIF) borings before and after biosparging
  - Compare soil analytical results before and after biosparging
  - Compare undisturbed soil core observations before and after biosparging
  - Evaluate analytical trends and spatial distribution of dissolved groundwater related to LNAPL phase change observations in the south-central onsite area over the course of remedial operations
- Provide overall site remedial performance in relation to site goals and relative to a narrative of site operations:
  - Hydraulic containment and dissolved-phase extraction, total fluids extraction (TFE) systems
  - LNAPL recovery (various approaches)
  - Vapor extraction, SVE
  - Biodegradation

1.2 Scope of Work

The scope of field and laboratory work consisted of the following activities:

- Collected an LNAPL sample from one existing monitoring well proximal to the south-central area of the site and applied the LNAPL sample to the LIF tool—the Ultraviolet Optical Screening Tool (UVOST)—to assess the responsiveness of the tool to the site-specific LNAPL and to qualitatively assess the LNAPL type as compared to the library of UVOST responses provided by Dakota Technologies, the developer of UVOST.
- Advanced a paired cone penetrometer testing (CPT)/LIF tool at six locations to the top of the Bellflower aquitard to assess lithology and vertical LNAPL distribution within the uppermost groundwater zone in the south-central area of the site and one offsite location (referred to as the south-central location).

- Collected discrete core samples from at least two depths at four locations adjacent to CPT/LIF borings selected based on LIF responses. Discrete core samples were analyzed by an analytical laboratory and geotechnical laboratory.
- Collected soil samples at seven locations within the shallow saturated zone. Collected up to seven samples per boring for analytical laboratory analyses.
- Analyzed soil samples at an offsite laboratory for total petroleum hydrocarbons (TPH) and volatile organic compounds (VOCs).
- Photographed intact soil cores collected across the LNAPL smear zone at four CPT/LIF locations under white and ultraviolet (UV) light.
- Analyzed soil core samples at an offsite geotechnical laboratory for water and LNAPL pore fluid saturation (PFS).
- Analyzed three additional soil core subsamples selected based on the LIF and PFS data from the initial soil cores for free product mobility.

2. Site Setting and Background

This section summarizes relevant project background information including site description, site hydrogeologic conditions, and previous investigations conducted at the site.

2.1 Site Description

The DFSP facility is located at 15306 Norwalk Boulevard in Norwalk, California (Figure 1). Kinder Morgan, Inc. (Kinder Morgan) had equipment on 2 acres at the DFSP facility and has easements for its pipelines along the southern and eastern boundaries of the facility. Previously, Kinder Morgan operated a pump station near the south-central area of the site. The pump station was decommissioned in 2001, but three pipelines heading eastward along the southern boundary of the DFSP facility (one of which bends at the southeast corner of the facility and continues northward within the eastern easement) remain in service, and they continue to convey refined petroleum fuels including gasoline, diesel, and jet fuel. The pipelines were fitted with two block valves along a 24-inch-diameter pipeline; one block valve was the "intermediate 24-inch block valve" located in the south-central area of the site. Between the third quarter of 2016 and the second quarter of 2017, these pipelines were modified to remove all equipment such as valves and connections, which included the intermediate 24-inch block valve, so that the pipelines now span across the site in a continuous manner. The other block valve, which is located offsite near the southeastern area of the site and is referred to as the "southeastern 24-inch block valve" or "offsite 24-inch block valve," was not removed.

2.2 Site Hydrogeologic Conditions

The uppermost groundwater zone in the site vicinity is a semi-perched unit between depths of approximately 25 and 50 feet below ground surface (bgs). The estimated horizontal hydraulic gradients during the April 2018 groundwater monitoring event ranged from approximately 0.0019 to 0.0137 foot per foot (ft/ft). Groundwater flow at the site is primarily converging toward the groundwater depressions in the south-central area, except in the western offsite area where westward flow appears to dominate. This change in flow direction suggests a groundwater divide in the western offsite area, likely caused by pumping in the south-central and southeastern areas. A 2010 Groundwater Capture Report (AMEC Geomatrix, 2010) concluded that groundwater extraction rates totaling 10 gallons per minute (gpm) from five wells along the southern boundary are sufficient to achieve capture of the dissolved-phase extent and limit the potential for further offsite migration of contaminants of concern (COCs) as well as capturing existing COCs in groundwater offsite. Currently, approximately seven wells operate with total pumping rates between 5 and 10 gpm.

Hydraulic conductivity of the uppermost groundwater zone has been reported to range between 12 and 73 feet per day (ft/day) in the south-central area to 20 to 60 ft/day in the southeastern area (AMEC Geomatrix, 2010). Lithology within the uppermost zone consists of poorly graded sand, silty sand, clayey sand, and sandy silt. The average porosity of the uppermost zone is approximately 0.25. Based on the hydraulic gradients and conductivities, groundwater velocities are approximately 0.09 to 4 ft/day in the uppermost groundwater aquifer.

The uppermost groundwater zone overlies the Bellflower aquitard of the Lakewood Formation. Based on lithologic logs from previous assessments at and near the site, the Bellflower aquitard lies between depths of approximately 50 and 80 feet bgs beneath the site, and consists of predominantly clay, silty clay, and sandy clay with some interbedded sand with silt (CH2M, 2011).

The Exposition aquifer underlies the Bellflower aquitard between depths of approximately 80 and 220 feet bgs. The potentiometric surface in the Exposition aquifer is approximately 20 feet lower than that in the semi-perched uppermost groundwater zone. This relatively consistent difference in hydraulic heads between the semi-perched upper groundwater zone and the Exposition aquifer indicates that the Bellflower aquitard inhibits the vertical movement of groundwater in the site area. The horizontal hydraulic gradient in the Exposition aquifer beneath the site area has had a magnitude of approximately 0.001 ft/ft and a generally southeastward direction (CH2M, 2011).

The generally southeastward direction of the horizontal hydraulic gradient (and interpreted direction of horizontal groundwater flow) in the Exposition aquifer is roughly opposite the general direction of interpreted groundwater flow in the uppermost groundwater zone. These distinctly different hydraulic conditions consistently observed over time above and below the Bellflower aquitard support the interpretation that the Bellflower aquitard in this area comprises a unit that is laterally continuous and has a relatively low bulk vertical hydraulic conductivity (CH2M, 2011).

2.3 Previous Investigations, Conceptual Site Model, and Remedial Narrative

Subsurface assessments have been performed at the DFSP facility since 1986. Groundwater monitoring wells and TFE remediation wells have been installed at the site for monitoring and as components of groundwater remediation systems, respectively. The investigations have evaluated and interpreted the distribution of the LNAPL-phase and dissolved-phase fuel hydrocarbons in soil and groundwater beneath the DFSP facility and at offsite properties to the south, west, and east.

This section summarizes the primary contaminant (LNAPL), remedial objectives (to put remedial efforts into context), a narrative of relevant site activities, relevant aspects of the conceptual site model (CSM), and remedial performance.

2.3.1 Primary Contaminant Summary (LNAPL)

In July 2008, Geomatrix Consultants, Inc. (now known as AMEC Geomatrix, Inc.) evaluated the potential distribution of the “smear zone” in the south-central area. The smear zone in the central part of the south-central area LNAPL plume is interpreted to have a maximum thickness of approximately 14 feet and to lie between elevations of approximately 38 and 52 feet above mean sea level (msl). The smear zone in the southeastern area is interpreted to be approximately 6 feet thick and lies between elevations of approximately 43 and 49 feet msl. Based on data available and reviewed to date, the vertical distribution of residual LNAPL interpreted in both the south-central and southeastern areas lies within the uppermost groundwater zone and an appreciable distance (on the order of 10 feet) above the base of the uppermost groundwater zone and the top of the Bellflower aquitard.

As noted in site semiannual groundwater monitoring reports, the principal chemical constituents of concern detected in groundwater included TPH (including TPH quantified as gasoline [TPH-g], diesel fuel [TPH-d], jet propellant 4 [JP-4], jet propellant 5 [JP-5], and jet propellant 8 [JP-8]); benzene, toluene, ethylbenzene, and total xylenes (collectively known as BTEX); 1,2-dichloroethane (1,2-DCA); tertiary butyl alcohol (TBA); and methyl tertiary butyl ether (MTBE). As part of the standard monitoring program for this site, TPH analyzed using extraction sample preparation has been quantified against a standard of site fuel collected from the remediation system for the north-central area of the site (fuel product [fp]) and reported as TPH-fp. The original LNAPL source at this site was a combination of diesel and gasoline type LNAPL, which is the majority of detected constituents (TPH-g and TPH-d) in the groundwater. TPH-d, JP-4, and/or JP-5 analyses have been performed, but those constituents are not part of the standard monitoring program. Section 4.1.3 contains additional details regarding the constituents detected at the site in both groundwater and soil.

LNAPL at the site no longer has the potential to migrate in the south-central and southeastern areas based on the following lines of evidence summarized in the *Light Non-Aqueous Phase Liquid Conceptual Site Model Update, Defense Fuel Support Point Norwalk, California* (dated March 21, 2018) (CH2M, 2018):

- The horizontal and vertical distribution of LNAPL at this site is well defined.
- The mobile LNAPL extent at the site has significantly decreased over time, which indicates LNAPL is not migrating at the site and is stable.
- Laboratory testing of site soils indicates only residual LNAPL is present within the sampled interval.
- LNAPL baildown test indicates LNAPL transmissivities are close to residual saturation and only a small fraction of the total LNAPL adjacent to these wells remains mobile or recoverable. Additional LNAPL recovery will have minimal measurable effect on the LNAPL mobility.
- Most of the wells containing LNAPL at the site exhibit exaggerated LNAPL thickness behavior due to aquifer heterogeneities.
- Changes in groundwater elevation, in part due to variations in precipitation, can cause LNAPL thickness in wells to fluctuate due to perched or confined LNAPL behavior. However, increases or decreases in LNAPL thickness are not necessarily related to changes in LNAPL mobility.
- Dissolved-phase hydrocarbon concentrations in groundwater generally have decreased over time, particularly along the periphery of the plumes, indicating that the LNAPL extent is stable or shrinking.
- Similarly, the plume footprints have remained stable, also indicating that the LNAPL footprint is stable or shrinking.

Although the majority of the remaining LNAPL is at or near residual saturation and cannot migrate, what remains is a potential source of dissolved-phase COCs. The focus of continued site operations is aimed at addressing this remaining residual LNAPL.

2.3.2 Summary of Remedial Objectives

The remedial objectives for the site are as follows:

- Contaminant mass containment (groundwater extraction)
- Desaturation of aquifer (groundwater aquifer for greater vapor extraction influence)
- Contaminant mass removal (SVE, biosparging, and LNAPL extraction)
- Contaminant phase change (SVE and biosparging)

2.3.3 Historical Groundwater Levels and LNAPL in the Uppermost Groundwater Zone

LNAPL above and below the position of the water table in the uppermost groundwater zone is a recognized feature of the CSM for the site. Historical groundwater elevations in the uppermost groundwater zone have ranged from approximately 32 to 56 feet msl since 1990. During the second quarter of 2018, groundwater elevations in the uppermost groundwater zone ranged from approximately 35 to 43 feet msl (Jacobs, 2018b).

Since approximately 2005, the uppermost groundwater zone has experienced a decline in groundwater elevation (Exhibit 1). This decline is most likely attributed to an overall decline in annual precipitation. Due to this decline, the distance between SVE well screens and the primary LNAPL vapors has increased. The SVE system performs best when this distance is relatively small; therefore, it is anticipated that the decline in groundwater levels may cause reduced performance with time. In addition, the increase in distance from the ground surface to the water table likely reduces the amount of oxygen exchange in subsurface soils. Biosparging efforts effectively mitigate both issues, adding a sustained flow of oxygen to promote biodegradation, as well as increase vapor movement in the subsurface.

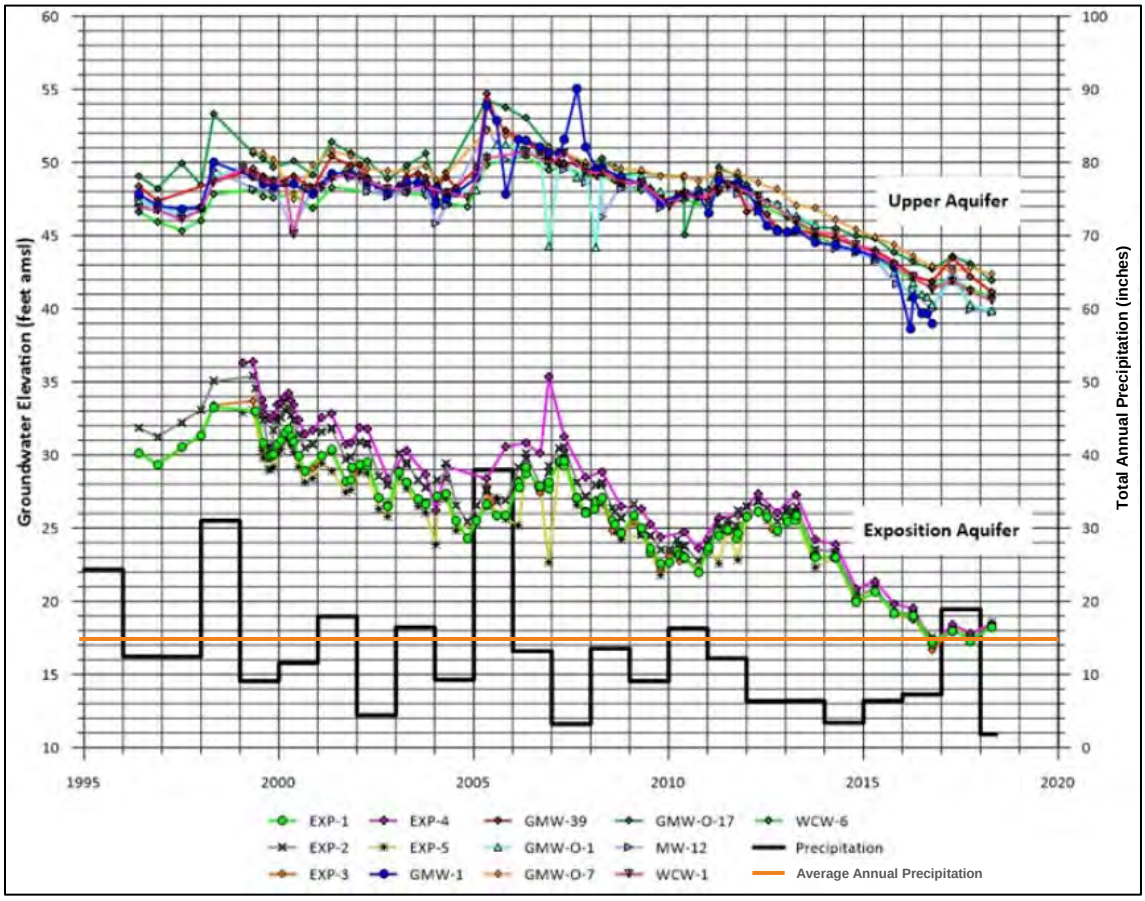

Exhibit 1. Site Hydrographs for the Uppermost Groundwater Zone and Exposition Aquifer
Select wells were chosen that represent overall conditions for each aquifer (Jacobs 2018a).

LNAPL thicknesses measured in the monitoring wells have ranged from a sheen (less than the smallest measurable thickness of 0.01 foot using an optical oil/water interface probe) to as much as approximately 17 feet (MW-SF-2 in the south-central area in 1997). Groundwater and free product (in-well LNAPL) recovery and SVE activities implemented since 1990 have substantially reduced the areal distribution and in-well thickness of the free product. Free product is currently measured at thicknesses of approximately 1 foot or less in a subset of wells in which product was originally detected.

2.3.4 Historical Remedial Narrative and Performance

Exhibit 2 provides a general timeline of the remedial history at the site.

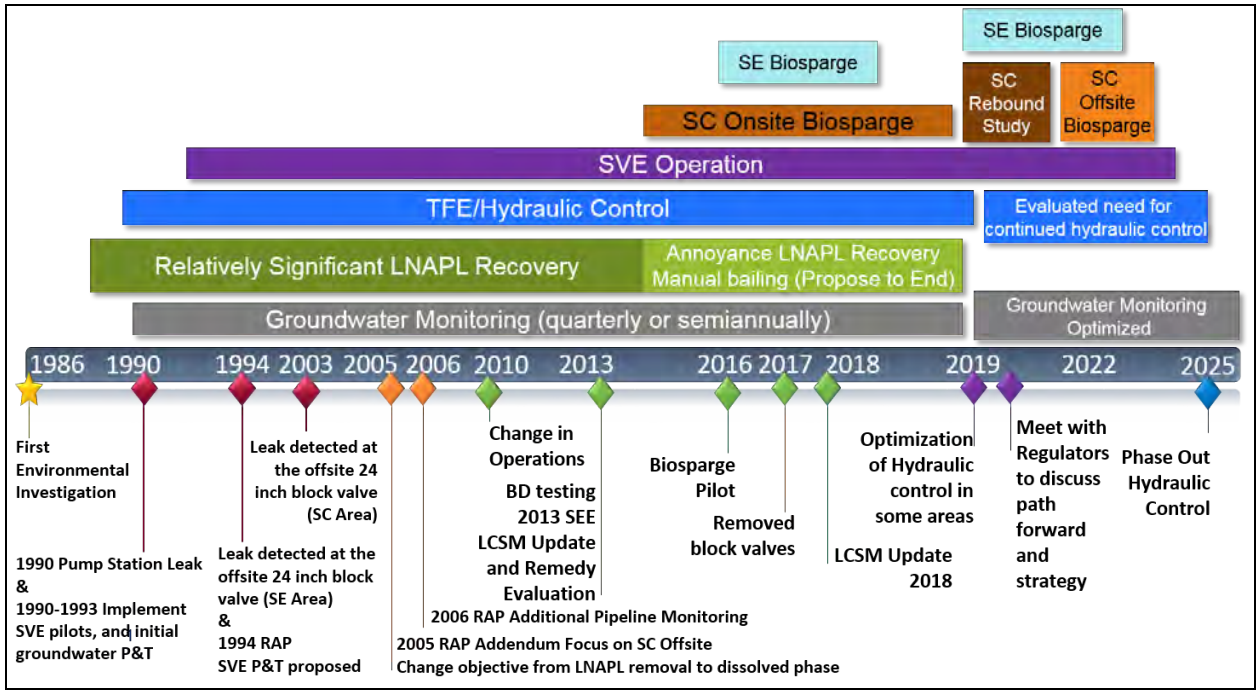

Exhibit 2. Norwalk Site Timeline
Past and Planned Future Operations since Initial Investigation in 1986

Key highlights that correlate with observed changes in remedial progress from the site timeline include:

- TFE and SVE operations from approximately 1993 to present
- Relatively steady decreases in groundwater elevations from 2005 until present
- Change in operation and system optimization in 2010
- Biosparge system pilot startup in January 2016

2.3.4.1 LNAPL Mass Removal Overview

Remedial systems at the site are generally measured and evaluated on a sitewide basis, although the contaminant plumes are variable and spatially distinct. For example, SVE systems recover vapors in a common header that conveys vapors to a treatment system where performance monitoring data are collected. This centralized approach can mask localized trends (for example, the operation of the onsite south-central biosparge system). Nevertheless, these data are valuable in evaluating relative progress at the site, and remedies in specific areas may be complete and ready to transition to monitoring only even though contaminant concentrations and mass are still being removed in other areas.

Since 1995, nearly 4.0 million pounds (lb) of LNAPL (or product equivalent) mass has been removed from the subsurface. The mass removed is calculated based on four components: vapor extraction, LNAPL extraction, water extraction (dissolved phase), and biodegradation. One notable addition to the historical mass recovery plot (Exhibit 3), in comparison with previous presentations of data from the site, is the inclusion of the biodegradation mass removal, which is described in detail later in this section. It should be noted that a detailed summary of remedial operations and mass removal data is provided in the *Third Quarter 2018 Remediation Progress Report* (Jacobs, 2018c).

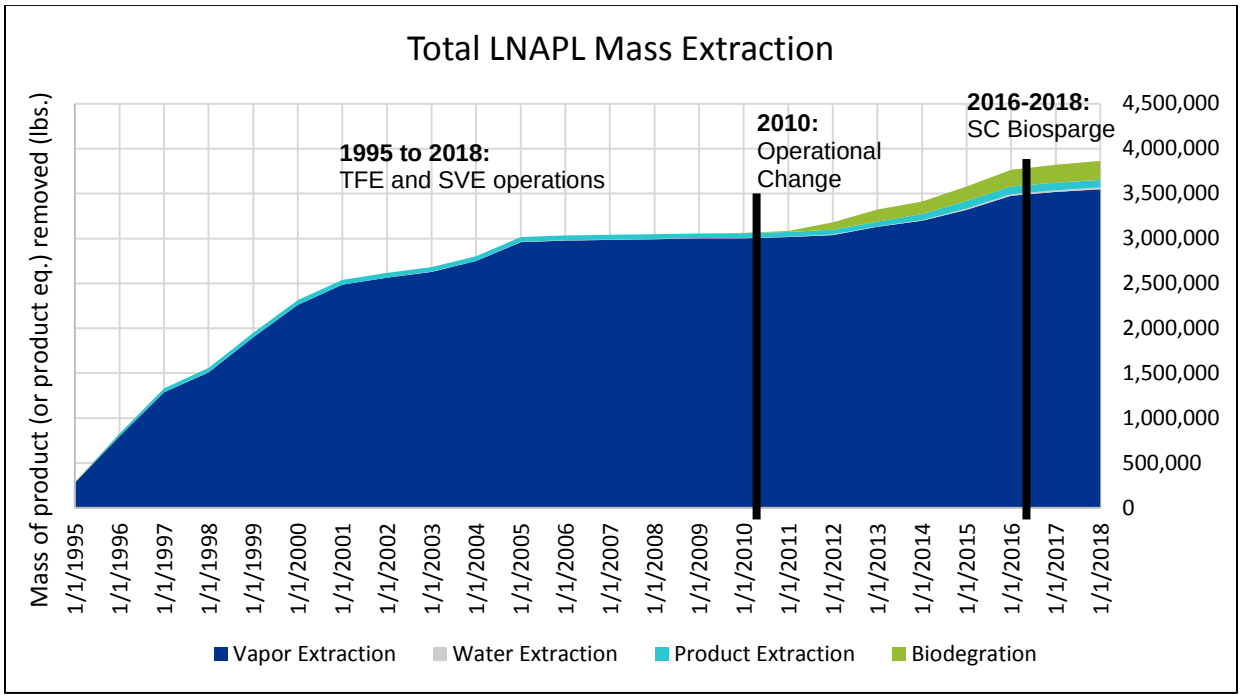

Exhibit 3. Total LNAPL Mass Extraction (Vapor, Water, Product, and Biodegradation) since Operational Data Collection Began

As illustrated in Exhibit 3, near asymptotic mass removal conditions were observed starting in 2005 and continued until 2010. Starting in 2010, mass recovery increased. This increase is partially due to optimization of the remedial systems at the site (for example, replacement of wells and headers, installation of new wells and remedial systems), and to improvements in the data collection (for example, a change in vapor mass extraction estimation from using a lower explosive limit [LEL] meter, converted to equivalent mass as hexane, to using photoionization detector [PID] vapor sampling results converted to equivalent mass as hexane as well as the inclusion of estimated contaminated mass biodegraded in place). Another significant factor that contributed to the increase of mass recovery between 2010 and 2016 was the persistent decline in water levels at the site, which has exposed more of the previously submerged contaminated zone. More recently, the biosparging system in operation from approximately 2016 to 2018 has caused a relatively small increase in mass recovery. The mass recovery at the site is anticipated to trend toward asymptotic conditions with small temporary increases as the remaining impacted areas of the site are treated using biosparging technologies.

2.3.4.2 Biodegradation Analysis

Historically, mass removal rates have focused on contaminant mass removed (LNAPL, dissolved, and vapor phase); however, an additional component of contaminant mass biodegraded in-place also accounts for a significant portion of contaminant mass removal historically, and this will become more important as the site transitions to natural source zone depletion (NSZD).

An evaluation of LNAPL biodegradation was performed using SVE operational and field data (run time, vacuum, wellfield air flow, dilution, effluent air oxygen [expressed as O_2] percentage, effluent air carbon dioxide [CO_2] percentage, and effluent air TPH) from 2010 to 2018 since data for these calculations has been regularly collected. NSZD studies have shown that the biodegradation of LNAPL in the subsurface generates methane (CH_4) and CO_2, and consumes O_2 in the vadose zone (CRCCARE, 2018). These gaseous components have been monitored at the site and can be used to stoichiometrically calculate biodegradation rates, and subsequently, masses over time. Based on the analysis, a cumulative biodegradation mass in pounds (lb) was calculated for both CO_2 and O_2.

Calculation of a biodegradation rate is based on the following stochiometric ratio, which assumes LNAPL at the site has an average molecular weight similar to hexane (C_6H_{14}) and is fully oxidized to CO_2 by oxygen:

$$2C_6H_{14}+19O_2=12CO_2+14H_2O$$

Based on this relationship, for every pound of O_2 depleted from atmospheric background (22 percent as determined by the maximum oxygen concentration measured at the site), 0.283 lb of hexane/LNAPL equivalent has been degraded. Additionally, based on this relationship, for every pound of CO_2 captured by the SVE system, 0.326 lb of hexane/LNAPL equivalent has been degraded.

A comparison of the two methods for calculating the biodegraded mass illustrates the validity of the calculation with 160,000 lb degraded based on CO_2 mass recovered, or 210,000 lb degraded based on oxygen depletion. The difference between these results is expected and is likely the result of variations in measurement error and atmospheric leakage of degradation products to the atmosphere that are not captured by the SVE system. The biodegradation rate based on O_2 depletion is illustrated in Exhibits 3 and 4. As illustrated in Exhibit 4, the mass of LNAPL biodegraded is approximately two orders of magnitude greater than the mass of liquid product removed, and accounts for approximately one-quarter of all mass removed since 2010. This trend highlights the significant role biodegradation and NSZD play in LNAPL mass removal at this site, as well as the significant role they can play as the site transitions to NSZD.

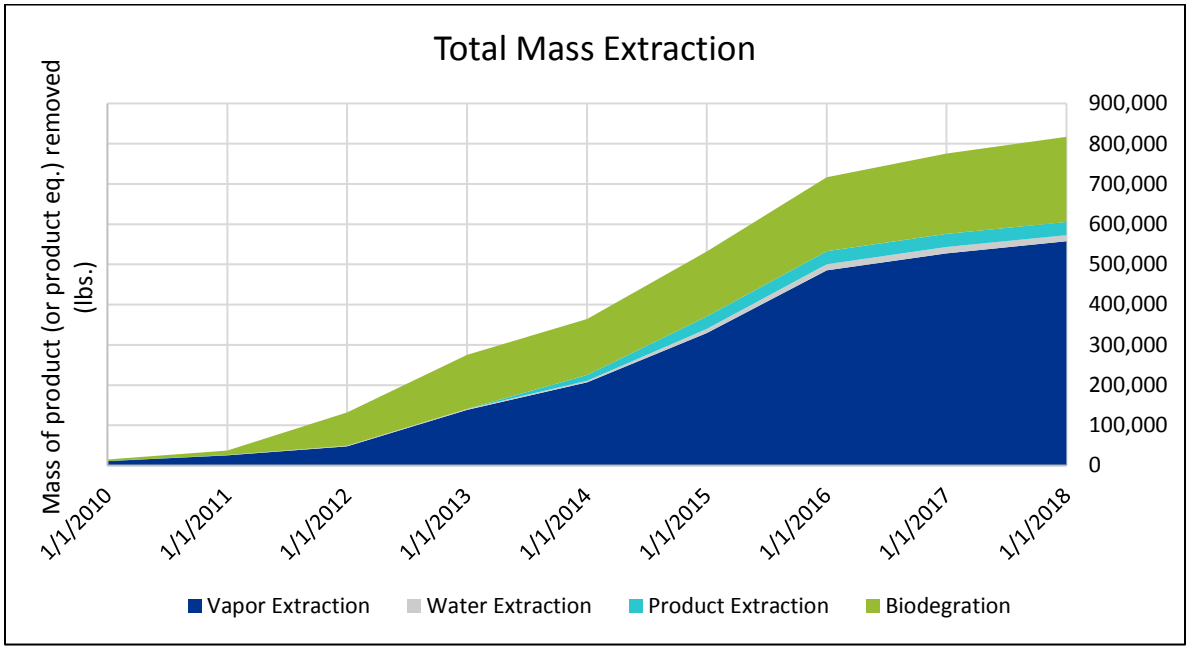

Exhibit 4. Total Mass Extraction (Vapor, Water, Product, and Biodegradation) from 2010 to 2018

2.3.4.3 Vapor Mass Recovery Over Time

Exhibit 5 illustrates the vapor mass recovery rate over time as well as the cumulative vapor mass recovered to date; the graph has been annotated to illustrate the significant remedial changes noted above. Of primary focus for this report is the initial increase followed by steady decrease in vapor recovery rate following the startup and continuous operation of the south-central biosparge system.

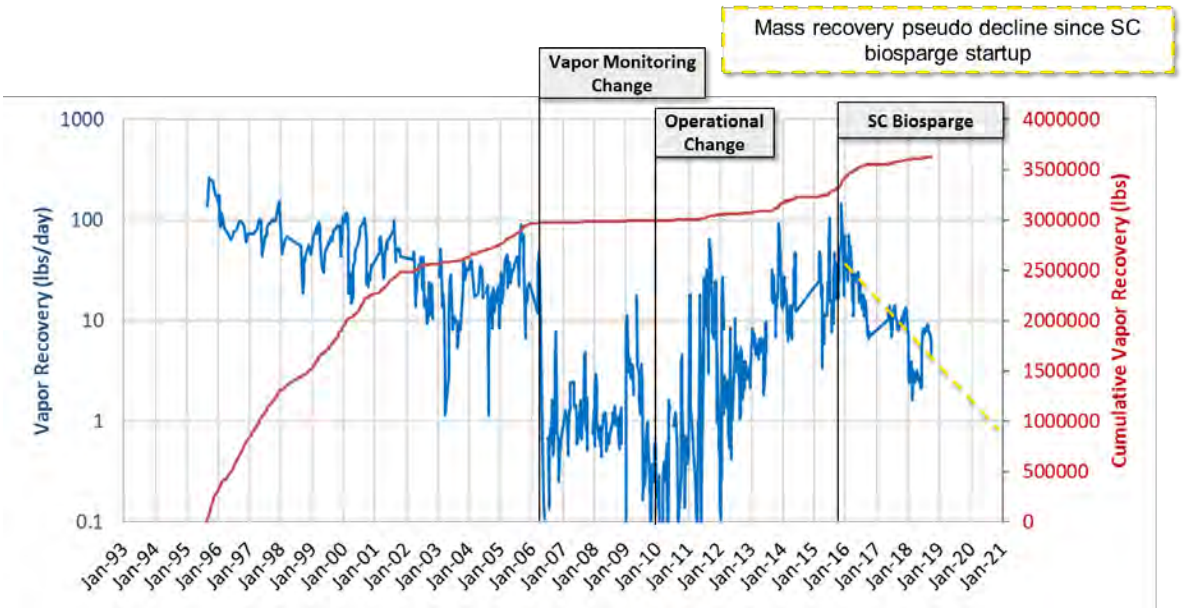

Exhibit 5. Vapor Mass Recovery Rate Over Time

2.3.4.4 Vapor Mass Recovery Decline Curve

Exhibit 6 illustrates the vapor mass recovery rate versus the cumulative vapor mass recovered in a typical decline curve configuration; the operational efficiency is also illustrated in this exhibit.

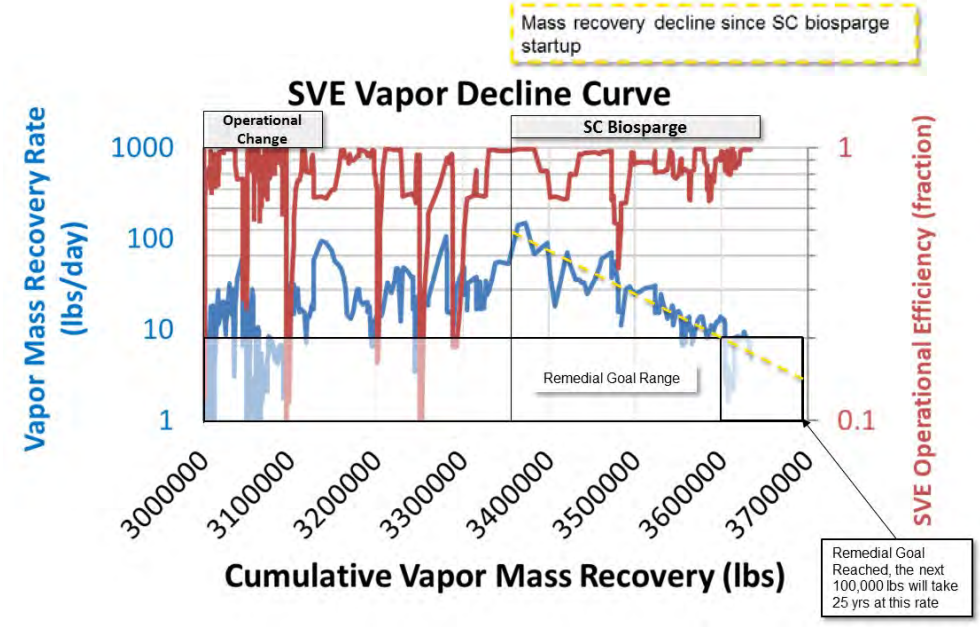

Exhibit 6. Vapor Removal Decline Curve and Remedial Performance

The range of data presented in Exhibit 6 is from approximately 2006 (corresponding to 3,000,000 cumulative pounds of mass removed), as well as the first significant remedial change at the site since the startup of the remedial system (that is, the optimization of the site remedial systems, which started in approximately 2010). Although masked by sitewide trends, the mass removed (approximately 250,000 pounds) since the startup of the south-central biosparge system over a period of 2 to 3 years is nearly as much mass as was removed in the previous 10 years of SVE operations alone. In addition, the steadily declining mass recovery curve is indicative of the biosparge system achieving remedial goals, with recent vapor recovery rates ranging only from 1 to 10 lb per day (less than 3,000 lb per year).

2.3.4.5 Dissolved-Phase Compositional Change Observations

Exhibit 7 illustrates the compositional change in effluent groundwater, which is one of the primary benefits of biosparging technology. Compositional change is achieved through the disproportional degradation and removal of the more soluble compounds in site LNAPL (such as BTEX). Groundwater extracted at the site is sampled monthly as part of National Pollutant Discharge Elimination System permitting requirements, and the results provide a broad assessment of overall dissolved groundwater trends at the site, as the entire impacted area is sampled at regular intervals. Generally, TPH gasoline- and diesel-range dissolved-phase concentrations ranged between 1,000 and 100,000 micrograms per liter (µg/L) prior to the startup of the south-central biosparge system. Within 1 year of the study, dissolved-phase concentrations decreased by approximately two orders of magnitude, now ranging from non-detect to approximately 1,000 µg/L. Again, these data represent comprehensive sitewide groundwater concentration ranges, while this study was only focused on a limited area.

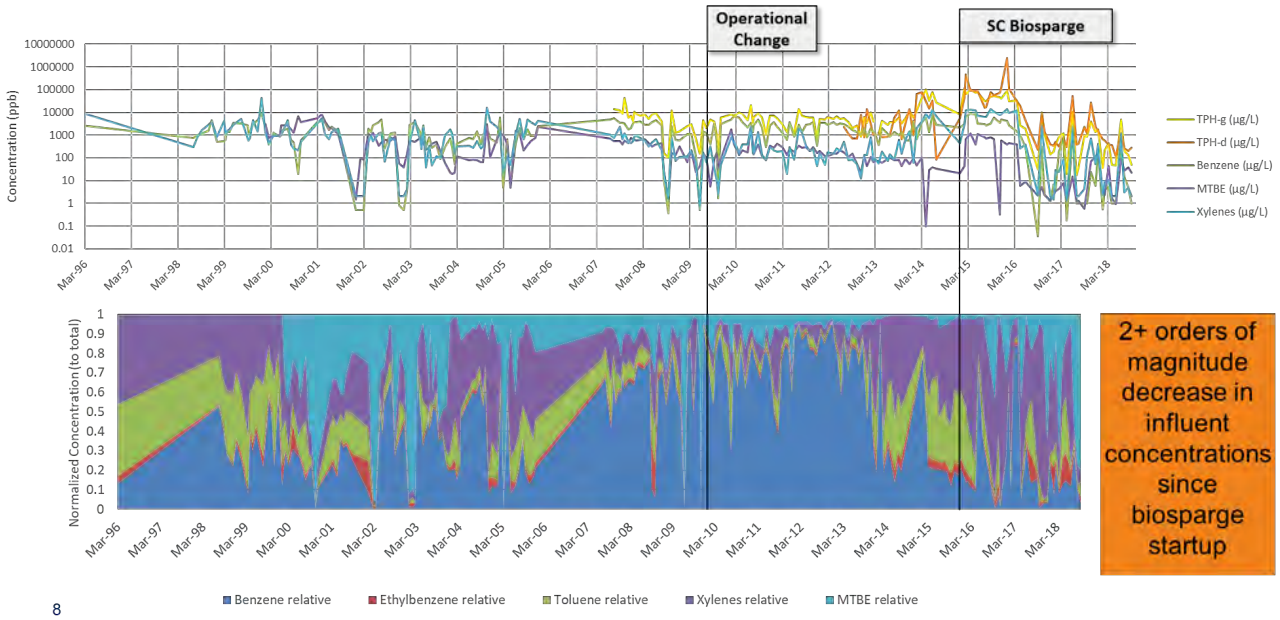

Exhibit 7. Compositional Change in Effluent Groundwater Wells

2.3.4.6 Summary of Remedial Performance Observations

In summary, the primary remedial performance observations include the following:

- Near asymptotic mass removal conditions were observed starting in 2005, as illustrated in Exhibit 3.
- Increases in mass recovery corresponding to both a falling water table (primary cause) and ongoing system optimization (secondary cause) were observed.
- The biosparge system influence is observed within mass recovery trends – trends indicate an initial increase in mass recovery in early 2016 followed by a significantly faster-than-historical decrease of mass recovery as the biosparge system depleted the contaminant mass in the treatment area. This trend illustrates how the biosparge system has achieved remedial goals based on decline curve analysis.
- Concentration decreases and phase change in dissolved-phase effluent correlate with declines in mass recovery, also supporting the effectiveness of the biosparging system.

Some of these trends are evident in Exhibit 3; however, they are more clearly emphasized in the vapor mass recovery decline curves (Exhibits 5, 6, and 7).

2.3.5 2011 CPT/LIF Pre-Biosparge Investigation Summary

An initial CPT/LIF investigation was performed by CH2M (now Jacobs) in October 2011 to evaluate the vertical distribution of LNAPL in the uppermost groundwater zone and the top of the Bellflower aquitard in the south-central and southeastern areas. Overall, the LIF responses and historical groundwater and LNAPL elevations in proximal wells demonstrate that the LNAPL smear zone generally occurred between 26 and 32 feet bgs, at or near the water table and capillary fringe, and that LNAPL does not occur in the deeper part of the uppermost groundwater zone or within the deeper Bellflower aquitard. The smear zone was identified at average depths of approximately 27 to 31 feet bgs in the south-central area, and 22 to 32 feet bgs in the southeastern area. Soil samples were collected from the LNAPL smear zone and were analyzed for TPH, VOCs, and fluid (water and LNAPL) saturation to evaluate LNAPL mobility and recoverability. The results of the free product mobility tests indicated that most of the remaining LNAPL is at residual saturation and is not readily recoverable via hydraulic means.

In December 2015, Kinder Morgan completed installation of a horizontal biosparge well (BS-01), as shown on Figure 2. Pilot testing of BS-01 commenced in early January 2016 and continued through October 2016. Pilot testing indicated an approximate zone of influence (ZOI) of between 50 and 200 feet from the well screen (CH2M, 2017). Because of biosparge operations, LNAPL thicknesses were significantly reduced in 21 monitoring and remediation wells. The average reduction in LNAPL thickness in all wells was 1.95 feet during the 10-month pilot study. In addition, dissolved-phase TPH-g, TPH-d, benzene, and MTBE concentrations were significantly reduced during the test period. Based on these results, Kinder Morgan concluded that the south-central biosparge system should be operated continuously.

2.3.6 Historical Groundwater and Select Soil Analytical Data Compilation

In November 2018, all historical groundwater data were compiled and analyzed using C Tech's Earth Volumetric Studio 2018.11 (EVS). Specifically, dissolved-phase TPH (notated as TPH-gasoline-range organics [GRO]/diesel-range organics [DRO]) and BTEX were analyzed in the south-central area of the site. In addition, soil analytical data (pre- and post-biosparging) for borings near horizontal biosparge well BS-01 were compiled and analyzed. A detailed methodology for how the data were analyzed is available in Section 3.9. Results of the analysis are presented in Section 4.3.

3. Investigation Methods

This section summarizes the field and laboratory activities performed to achieve the project objectives.

3.1 Pre-Field Activities

Prior to commencing field activities, CH2M (now Jacobs) performed the following work:

- Notified the City of Norwalk and California Regional Water Quality Control Board, Los Angeles Region (RWQCB) prior to commencing the planned field activities.
- Marked the proposed boring locations in accordance with the work plan.
- Notified Underground Service Alert (USA; DigAlert).
- Retained Spectrum Geophysics of Burbank, California, a private utility locator, to perform a geophysical survey to screen the planned drilling locations for potential underground utilities or buried objects.
- Obtained well/boring construction permits for drilling from the County of Los Angeles Department of Public Health – Environmental Health Division (Appendix A).

3.2 LNAPL Sampling

An LNAPL sample was collected on July 23, 2018, from well GMW-O-12. The sample was provided to Gregg Drilling and Testing, Inc. (Gregg) of Signal Hill, California, to assess the responsiveness of the LIF tool to be used during the CPT/LIF borings, and to perform qualitative evaluation of the waveform signature for each LNAPL sample. The sample was collected with a disposable bailer and transferred to 40-milliliter glass volatile organic analyte (VOA) vials.

3.3 CPT/LIF Borings

Jacobs retained Gregg to advance CPT/LIF borings at six locations to characterize the lithology of the uppermost groundwater zone to the top of the underlying Bellflower aquitard, and the vertical hydrocarbon distribution within the uppermost groundwater zone. Gregg performed the CPT/LIF work from July 23 through 27, 2018, with a Jacobs field geologist providing oversight. Five of the locations were within the south-central area of the site (CPT-LIF-1B, -2B, -3B, -6B, and -7B), and one location was offsite and south of the south-central area (CPT-LIF-4B, included in south-central area discussion for simplicity). CPT-LIF-1B through -4B are located within 5 feet of the previous CPT/LIF borings advanced during the 2011 CPT/LIF investigation. CPT-LIF-6B and -7B are new locations that were not included in the 2011 investigation. The six locations are shown on Figure 2.

At each location, a boring was advanced using a CPT rig equipped with a UVOST module (that is, the LIF tool). Each of these borings extended through the uppermost groundwater zone and up to 5 feet into soil comprising the Bellflower aquitard. The LIF tool was quality control (QC) tested by analyzing a reference standard provided by Dakota Technologies, Inc., consisting of a proprietary fuel blend, with a known reference emitter (RE) percentage of 100, prior to field scans. The same reference standard used for the 2011 investigation was used for the 2018 investigation. Continuous LIF measurements were reported in percent reference emitter (%RE). Waveform signatures were periodically obtained to assess the quality/type of hydrocarbon present (gasoline, jet fuel, degree of weathering, and so on).

Prior to borehole advancement, the boring locations were cleared to a depth of approximately 10 feet bgs by Gregg using hand-auger methods to check for the presence of subsurface obstructions.

Downhole equipment and non-disposable sampling equipment were steam-cleaned or cleaned with an Alconox-water solution and rinsed twice with potable water prior to use between each borehole location.

3.4 Soil Sampling

The results of the CPT/LIF borings were used to select locations for collecting discrete-depth soil samples from collocated borings. The discrete-depth soil samples were collected using direct-push technology (DPT) methods at investigation locations (CPT-LIF-1B to -4B) for chemical and physical properties analyses. Gregg collected the samples from July 25 through 27, 2018, under the direction of a Jacobs field geologist.

Soil core samples were initially proposed to be collected from up to two depth intervals exhibiting the highest %RE response, as indicated by the UVOST logs. However, because maximum %RE was significantly lower for all borings when compared to the 2011 investigation (less than 10 percent of the 2011 %RE at all borings), soil core samples were collected from approximately the same depth intervals as the samples collected during the 2011 investigation. Furthermore, CPT-LIF-6B and -7B also exhibited %RE UVOST responses less than 10 percent at all depths. Borings CPT-LIF-6B and -7B were not part of the initial 2011 investigation; they were added to the drilling program to confirm the absence of LNAPL to the north of the expected ZOI of the south-central biosparge well using LIF technology. As such, no samples were not collected at these two locations.

The discrete-depth soil samples were split and sent to one of two laboratories (TestAmerica Laboratories [TestAmerica] and PTS Laboratories, Inc. [PTS Labs]) for chemical and geotechnical analysis, respectively, as described in Sections 3.5 and 3.6. Samples were collected for chemical analysis by DPT methods in nominal 2-inch-diameter, 2-foot-long acetate sleeves. Soil samples analyzed for VOCs and TPH-g were collected as grab samples from the acetate sleeves using EnCore samplers. Soil samples analyzed for TPH-d and TPH quantified as jet fuel (TPH-j) were contained in acetate sleeves and capped. All collected samples were labeled, placed in a cooler with ice, and then shipped or hand-delivered by Jacobs staff to TestAmerica in Irvine, California, using standard chain-of-custody procedures. Geotechnical samples were collected as intact soil cores in 1-foot-long acetate sleeves that were immediately capped, placed on blue ice-packs to preserve pore fluids representative of the smear zone, and then shipped to PTS Labs using standard chain-of-custody procedures. Care was taken to minimize the disturbance of the core samples during sample collection and preservation.

Additional soil samples (not collocated with CPT/LIF borings) were collected using DPT methods from seven other locations in the south-central area (SB-1B through SB-7B) for chemical analysis and comparison to similar samples collected from borings advanced in 2012 that were used to supplement the *2013 Conceptual Site Model and Proposed Alternate Interim Remedy for Soil, Groundwater, and LNAPL* (CH2M, 2013a). The new borings, with location identifiers amended with the suffix “B”, were located within 5 feet of the original 2012 borings. Samples were collected in 5-foot increments starting at 5 feet bgs and terminating just above the water table, which was encountered at approximately 30 to 35 feet bgs. Soil samples analyzed for VOCs and TPH-g were collected as grab samples from the acetate sleeves using EnCore samplers. Soil samples analyzed for TPH-d and TPH-j were contained in acetate sleeves and capped. All collected samples were labeled, placed in a cooler with ice, and then shipped or hand-delivered by Jacobs staff to TestAmerica in Irvine, California, using standard chain-of-custody procedures.

Soil lithology was interpreted and described by a Jacobs field geologist under the direction of a State of California Licensed Professional Geologist. Soil lithology was interpreted using the visual manual procedures of ASTM International (ASTM) D2488, which are based on the Unified Soil Classification System (USCS) guidance. Color, moisture content, grain size, and other pertinent soil characteristics were recorded on boring logs. In addition, soil was tested in the field for the presence of VOCs using a PID and standard headspace screening methods.

3.5 Soil Sample Chemistry Analysis

The discrete-depth soil samples from four CPT/LIF locations and the seven additional soil borings were analyzed by TestAmerica for the following parameters:

- TPH-d, TPH-g, and TPH-j ranges by U.S. Environmental Protection Agency (EPA) Method SW8015B modified
- VOCs by EPA Method SW8260B

The following samples were used for quality assurance/quality control (QA/QC) purposes:

- One duplicate soil sample was collected and analyzed for the same suite of analytes listed above.
- A laboratory-provided temperature blank was maintained with each cooler containing soil samples.

3.6 Soil Core Physical Analysis

Intact soil core samples from the five CPT/LIF locations submitted to PTS arrived within the specified temperature range. The 1-foot-long acetate cores were initially cut vertically into two halves and were photographed under white and UV light. Select samples were then analyzed for the following parameters based on the results of the field CPT/LIF data and visual analysis of the core photographs to represent higher potential LNAPL saturation across a range of finer-grained and coarser-grained materials:

- Core subsamples were analyzed for PFS (including air, water, and LNAPL) using ASTM Method D425M/Dean-Stark Method, and were analyzed for bulk density, grain density, and porosity using American Petroleum Institute (API) Method RP40.
- Core subsamples were analyzed for grain-size distribution by sieve and laser diffraction using ASTM Method D422/4464M.
- Three select samples were analyzed for free product mobility using centrifuge at 25 times the acceleration of gravity (xG) to provide an assessment of the LNAPL mobility in the sample. The three samples were selected after reviewing the PFS results for the initial samples to represent maximum LNAPL saturations across both finer- and coarser-grained materials.

3.7 Boring Abandonment and Survey

After completion of the CPT/LIF borings and soil sampling, each boring was plugged and abandoned by backfilling to the surface with cement-bentonite grout placed through a tremie pipe from the bottom of the boring to approximately ground surface. The ground surface at each boring location was repaired to reasonably match surrounding conditions.

Following completion of the field investigation, the location of each boring (northing and easting coordinates) was attained by Jacobs personnel using a mapping-grade, sub-meter accuracy, hand-held global positioning system (GPS) unit (Trimble GeoHX 6000). CPT/LIF boring and other soil boring coordinates are presented in Appendix B**.**

3.8 Investigation-Derived Waste Management

Investigation-derived waste (IDW) generated during field activities included soil cuttings, decontamination water, and disposable sampling supplies and personal protective equipment (such as nitrile gloves). Soil cuttings and decontamination rinse water were containerized in Department of Transportation (DOT)-approved 55-gallon drums. Two drums containing soil cuttings and one drum containing wastewater were labeled and temporarily stored at the site pending analytical results for waste classification and eventual disposal by Kinder Morgan's waste hauling contractor (Clean Harbors Environmental Services, Inc.) (Appendix C). The IDW was characterized as nonhazardous waste. General refuse (such as disposable sampling supplies and used gloves) was disposed of onsite as municipal trash.

3.9 Dissolved-Phase Analytical Analysis

Historical dissolved-phase groundwater analytical data were condensed using the maximum value per year, per well, for each analyte. The maximum value was chosen to quantify the largest plume extent plausible for any given year (approximately 1986 to 2018). The plume extent volume, average concentration, and center of mass were analyzed over time. Plumes were contoured down to the following levels for the analyte: TPH-GRO/DRO >1,000 µg/L, benzene >10 µg/L, toluene and ethylbenzene >2 µg/L, and xylenes >5 µg/L. These contours are relatively conservative, isolating the representative majority of the plume where the center of mass resides and volume of contaminant in question likely necessitates continued remedial action. Horizontal-vertical anisotropy values were set to 15.0 and kriging resolution was set to 100 feet x 100 feet x 20 feet. Time-series data in EVS was set to interpolate and extrapolate; therefore, high concentrations within plume boundaries are assumed to dissipate with time. The plumes were constrained to the aqueous phase of the subsurface (approximately >40 feet bgs) and above the Bellflower aquitard of the Lakewood Formation (approximately <50 feet bgs). Therefore, each plume is representative of the saturated subsurface (approximately 10 feet in thickness) in the uppermost groundwater zone. Volumetric outputs were generated and analyzed for each constituent (e.g., benzene). The results of the analysis are detailed in Section 4.3.

4. Investigation Results

This section provides a summary of chemical and physical laboratory analytical results, field data, and field observations that support the performance of the biosparge system in the south-central area.

4.1 Lithology and Vertical Hydrocarbon Distribution

The lithology of the uppermost groundwater zone, presence of the underlying Bellflower aquitard, and the vertical distribution of LNAPL in the uppermost groundwater zone were evaluated using the following lines of evidence:

- Results from the six CPT/LIF borings (CPT-LIF-1B to -4B and CPT-LIF-6B to -7B) that were advanced to maximum total depths ranging from 49.37 to 60.20 feet bgs (Table 1)
- Visual observations of the soil samples collected during discrete-depth soil sampling
- Physical analysis of the intact soil cores by PTS Labs

The CPT and LIF graphical data are shown next to each of the five borings on Figure 3.

Second quarter 2018 groundwater elevations, historical high and low groundwater elevations, and historical high and low LNAPL elevations are included in Table 2. Generally, when water table elevations are low, and in some instances at a historical low, LNAPL thicknesses tend to increase in wells due to perched or unconfined conditions in the subsurface. These increased thickness observations are exaggerated and are caused by head and density differences between the LNAPL and groundwater, and therefore, do not represent the function of LNAPL mobility. Additional details can be found in the LNAPL CSM Update (submitted March 21, 2018) (CH2M, 2018).

Lithologic descriptions are presented in the boring logs provided in Appendix D. CPT logs with the interpreted subsurface lithology are provided in Appendix E. LIF response data, with respect to depth and LIF waveforms from the detected petroleum hydrocarbons, are provided in Appendix F.

4.1.1 Lithology

The uppermost groundwater zone is approximately 50 feet thick and was found to be underlain by the Bellflower aquitard at all six CPT/LIF locations. The lithology encountered during CPT/LIF and discrete-depth soil sampling within the uppermost zone consisted of silty sand, clayey sand, and sandy silt. Of particular note in the uppermost groundwater zone, there is a fine-grained lens present in all CPT borings in the vicinity of 30 feet bgs. This lens tends to cause site LNAPL to become perched or confined, exaggerating LNAPL well thickness in adjacent wells that contain LNAPL and limiting treatability in this zone (CH2M, 2018).

The top of the Bellflower aquitard was encountered from 47 to 50 feet bgs at the six CPT/LIF borings, which is consistent with previous investigations. The interpreted Bellflower aquitard consists of moist, fine-grained units of clays and silts interbedded with relatively coarser-grained materials (silty sand and clayey sand).

4.1.2 Vertical LNAPL Distribution

Prior to advancing the LIF borings, an LNAPL sample collected from well GMW-O-12 was tested using the LIF probe; the LNAPL obtained an LIF response of 181.6 %RE. Waveform testing of the LNAPL was compared to standard LIF responses for gasoline, diesel, jet fuel, and combined fuels provided by Dakota Technologies (Appendix F). The sample had an LIF response consistent with gasoline- and diesel-range hydrocarbons.

LIF responses within the upper 10 feet at each boring appear artificially high and can be attributed to disturbed soil from utility clearance activities. UVOST %RE in the six CPT/LIF borings at depths greater

than 10 feet bgs ranged from approximately 0.7 %RE in CPT-LIF-4B at 27 feet bgs to 7.3 %RE in CPT-LIF-1B at 30.9 feet bgs (Table 1). The LIF waveforms for the LIF data from the six CPT/LIF locations also had responses consistent with gasoline and diesel ranges.

4.1.3 LNAPL Chemistry

The chemical composition of adsorbed-phase petroleum hydrocarbon constituents present at the assessment locations was evaluated as part of this investigation. The results from chemical analysis of the four CPT/LIF collocated soil borings (CPT-LIF-1B to -4B) and seven additional soil borings (SB-1B to SB-7B) were reviewed. The TPH carbon chain chemistry results are summarized in Table 3. The TPH-g, TPH-d, and VOC chemistry results for the LNAPL and soil samples are summarized in Tables 3 and 4, respectively. Chemical analytical data were evaluated and qualified by a Jacobs chemist; a summary of validated results is provided in Table 5. Analytical laboratory reports are provided in Appendix G.

Soil samples collected in the south-central area (CPT-LIF-1B to -4B) analyzed for TPH were primarily found to contain hydrocarbons in the C4 to C22 range, which corresponds to the gasoline/diesel range. TPH-d range hydrocarbons generally dominate the overall TPH percentage.

4.2 LNAPL Changes

LNAPL distribution and mobility in the uppermost groundwater zone within the south-central area of the site was evaluated. Soil petro-physical properties are summarized in Table 6. The PTS Labs laboratory reports are provided in Appendix H. Appendix H also includes electronic copies of the soil core photographs. Table 6 also provides a summary of the mean grain-size description from the PTS Labs grain-size analysis and includes the full particle size distribution data.

The interpretation of the additional data discussed in this section supports previous analysis, which indicate the remaining LNAPL at the site is primarily residual, immobile, and cannot be effectively recovered hydraulically (Jacobs, 2018c).

4.2.1 LNAPL Distribution

The soil core photographs provide indications of LNAPL presence where fluorescence occurred under a UV lamp at PTS Labs. In general, fluorescence was weak but notable under UV light. As indicated by photographically visible UV fluorescence, LNAPL was observed in 1 of 13 samples (CPT-LIF-1B-33). A small lens of fluorescence, less than 1 inch in thickness, was identified at approximately 33.3 feet bgs.

The soil core UV fluorescence data were used in combination with the CPT (lithology) and LIF (in situ fluorescence) data to select the three intact soil core subsamples for PFS analysis. A graphical presentation of the LNAPL saturations is provided next to the CPT/LIF logs on Figure 4 to allow a visual correlation between the LNAPL saturations, lithology obtained from CPT, and in situ UV fluorescence response (in units of %RE) from LIF.

The maximum LNAPL PFS at the south-central area was measured to be 9.0 percent pore volume (%PV) at CPT-LIF-1B-27 at a depth of 27.1 feet bgs, which corresponds to silty soil. LNAPL saturations at the other depths at CPT-LIF-1B through -4B ranged from 0.2 to 3.8 %PV and correspond to a range of fine sand to silty soil.

The correlation between in situ UV fluorescence measured with the LIF probe and LNAPL saturation measured at the laboratory is shown on Figure 4. Figure 4 shows all data and a 1:1 line correlating LNAPL saturation (%PV) with UV fluorescence (% RE). Similar to the findings in 2011, no noticeable trend is observed in this dataset.

4.2.2 LNAPL Distribution and Centrifuge Results

The initial PFS data were used in combination with the CPT, grain-size distribution, and LIF data to select three intact core subsamples for LNAPL free product mobility analysis using a centrifuge. The samples were selected to represent maximum LNAPL saturations across both finer- and coarser-grained materials as follows:

- **CPT-LIF-2B-27.5 (27.6 feet bgs) with 1.2 %PV LNAPL saturation.** Selected to evaluate a sample with moderate LNAPL percentage that corresponds to a fine sand.
- **CPT-LIF-1B-27 (27.1 feet bgs) with 9.0 %PV LNAPL.** Selected to evaluate the highest LNAPL that corresponds to a silt.
- **CPT-LIF-4B-28 (28.1 feet bgs) with 2.9 %PV LNAPL saturation.** Selected to evaluate the highest LNAPL that corresponds to a fine sand.

The actual depths of the samples used for mobility testing were selected to be as close as possible to the initial PFS sample depths. Actual versus target sample depths varied slightly due to soil volume constraints at the target sample depths. The quantity of LNAPL that drained after centrifuging the samples at 25 xG was used to provide an assessment of the LNAPL mobility in the sample. PFS was measured at the end of the mobility test program.

The initial and final LNAPL saturations estimated after centrifuging the samples at 25 xG were identical, indicating that the LNAPL in the samples was not mobile and at residual LNAPL saturation.

The results of the free product mobility tests indicate that the majority of the remaining LNAPL is at residual saturations and is not recoverable using the TFE technology that is currently implemented at the south-central and southeastern areas, as previously reported in the 2011 investigation.

4.2.3 Comparison of 2011 and 2018 LIF Responses

LIF data from the original LIF sampling event in 2011 was compared to the LIF responses observed in 2018. The 2018 borings were located as close as possible to the original 2011 boring locations to evaluate the presence of hydrocarbons after conducting biosparging in the south-central area for approximately 2 years. The 2011 LIF logs and the collocated 2018 LIF logs are shown on Figure 5 (Sheets 1 through 4). Cores collected at comparable depths and locations in 2011 and 2018 are displayed on Figure 6 (Sheets 1 through 3). The results are summarized in the following sections.

4.2.3.1 CPT/LIF UVOST Response

The CPT-LIF UVOST responses at each boring are summarized as follows:

- **CPT-LIF-1/ -1B (~ 25 feet from BS-01).** In 2011, the maximum LIF response observed at this location was 64.6 %RE at 28.6 feet bgs. The LIF response at this depth has been reduced to 3.4 %RE based on 2018 findings. The maximum LIF response observed in 2018 was 7.3 %RE at 30.9 feet bgs. This shows a significant decrease in hydrocarbons at this location.
- **CPT-LIF-2/ -2B (~ 20 feet from BS-01).** In 2011, the maximum LIF response observed at this location was 30.6 %RE at 25.1 feet bgs. The LIF response at this depth has been reduced to 1.0 %RE based on 2018 findings. The maximum LIF response observed in 2018 was 2.4 %RE at 29.8 feet bgs. This shows a significant decrease in hydrocarbons at this location.
- **CPT-LIF-3/ -3B (~ 25 feet from BS-01).** In 2011, the maximum LIF response observed at this location was 36.4 %RE at 28.8 feet bgs. The LIF response at this depth has been reduced to 1.1 %RE based on 2018 findings. The maximum LIF response observed in 2018 was 1.6 %RE at 47.5 feet bgs. This shows a significant decrease in hydrocarbons at this location.

- **CPT-LIF-4/ -4B (~ 200 feet from BS-01).** In 2011, the maximum LIF response observed at this location was 20.4 %RE at 27.6 feet bgs. The LIF response at this depth has been reduced to 0.8 %RE based on 2018 findings. The maximum LIF response observed in 2018 was 4.8 %RE at 28.9 feet bgs. This shows a significant decrease in hydrocarbons at this location.

Based on LIF response results, the distance from the BS-01 well screen does not appear to be a significant factor in reducing %RE, provided the CPT/LIF boring is within the ZOI.

4.2.3.2 Core Photos

Based on soil core photographs (Figure 6), there is a noticeable qualitative decrease in fluorescence from 2011 to 2018 for the following borings:

- CPT-LIF-1/CPT-LIF-1B at 29 feet bgs
- CPT-LIF-3/CPT-LIF-3B at 29 feet bgs
- CPT-LIF-4/CPT-LIF-4B at 26 feet bgs

The noticeable decrease in fluorescence from 2011 to 2018 is indicative of a decrease in subsurface hydrocarbons at the specified depths.

4.3 Analytical Data Trend Analysis

4.3.1 Bulk Soil Analytical Reduction Results

Bulk soil analytical trends were analyzed near the horizontal biosparge well (BS-01) at the south-central area of the site. The goal of the analysis was to compare bulk analytical soil data pre-biosparging and post-biosparging. Bulk soil samples were collected from the full vertical interval (approximately 5 to 35 feet bgs) at soil borings; however, for simplicity and illustrative purposes, the example results provided in Exhibit 8 focus on the maximum impacted interval, which typically occurs in the vicinity of 30 feet bgs (the horizontal biosparge well screen is located at approximately 45 feet bgs). Additional intervals are summarized in Table 4 and follow the same general trend as these example intervals. It should be noted that comparative data for borings SB-8 and SB-9 were not collected in 2018 as these borings are located within the southeastern treatment area, but the results are provided to illustrate the treatability of these areas with this technology in the future.

The following boring pairs are the focus of this section:

- SB-1 and SB-1B
- SB-2 and SB-2B
- SB-3 and SB-3B
- SB-4 and SB-4B
- SB-5 and SB-5B
- SB-6 and SB-6B
- SB-7 and SB-7B

As shown in Exhibit 8, soil analytical data (benzene) post-biosparging in the maximum concentration depth interval has decreased significantly (98.5 to 100 percent reduction). Toluene, ethylbenzene, and xylenes exhibit similar reduction trends:

- Toluene (98 to 100 percent)
- Ethylbenzene (99 to 100 percent)
- Xylene (99 to 100 percent)

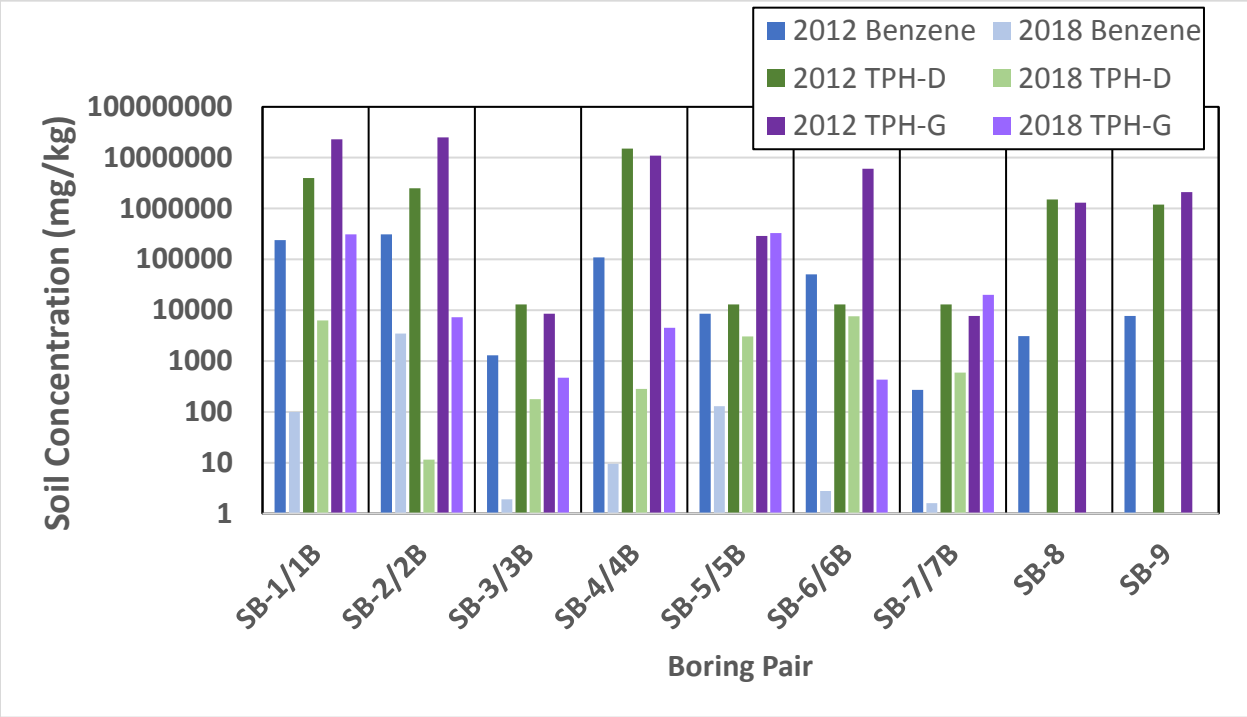

Exhibit 8. Soil Analytical Data (Benzene, TPH-g, and TPH-d), Results for Borings Near the ZOI of Biosparge Well BS-01

Results represent sample intervals closest to 30 feet bgs where maximum concentration is typically present. Note that borings SB-8 and SB-9 are present in areas where biosparging is proposed.

As anticipated, the primary objective of the biosparge system operation was to reduce or eliminate the more volatile constituents within the LNAPL present at the site (that is, a phase change), and this objective has been achieved based on these observations.

Changes in LNAPL as a complex mixture were also evaluated using bulk parameters such as TPH-d and TPH-g, and while some reductions in these overall concentrations are anticipated, biosparging technology is not intended to completely eliminate TPH-d and TPH-g concentrations.

Trend results for TPH-d and TPH-g were variable in reduction in the maximum concentration depth interval. TPH-d ranged from 62 to 100 percent reduction, while TPH-g ranged from a 12 percent reduction to no reduction at SB-5B and SB-7B (approximately 25 to 50 feet from the biosparge well), respectively. The remaining soil sample locations indicate reductions in TPH-g from 95 to 100 percent. The lack of reduction in TPH-g in SB-5B and SB-7B at the maximum concentration depth interval (adjacent to 30 feet bgs) is due to variations in the soil type the LNAPL is distributed within (the soils are very fine-grained at 30 feet bgs at these particular borings, and therefore less amenable to biosparge treatment). Additionally, comparing the full range of depths at these two locations before and after biosparging shows decreases in TPH-g concentrations of at least half an order of magnitude. Biosparge technology is

primarily used to achieve phase change (that is, removal of the more soluble constituents such as benzene); therefore, less dramatic reductions in TPH-d and TPH-g are not a significant concern.

Overall, the results of the replicate soil sampled prior to and following biosparging operations show a dramatic reduction in VOCs indicating that significant LNAPL phase change has occurred in the south-central treatment area. This reduction is further supported in the observed dissolved-phase decreases as discussed in the following section.

4.3.2 Dissolved-Phase Analytical Results and Mass Distribution Trends

Dissolved-phase reductions can be evaluated on an individual well level; however, a review of the dissolved-phase spatial statistics in the south-central area (onsite and offsite) provides a concise overview of sitewide trends in relation to remedial operations.

Exhibit 9 illustrates the average spatial dissolved-phase concentrations in the south-central area (onsite and offsite) of several key constituents over time. Concentrations are plotted on a logarithmic scale.

In the period during only TFE and SVE operations (approximately 25 years from 1990 to 2015), concentrations of benzene and TPH-GRO/DRO have remained relatively constant, averaging approximately 2,000 and 10,000 µg/L, respectively. During the same period, ethylbenzene, toluene, and xylene decreased gradually by approximately a factor of 2. Since the startup of the south-central biosparge system (less than 3 years), only slight decreases in TPH-GRO/DRO have been observed, as anticipated (that is, due to the phase change objective at the site). Benzene has decreased by over a factor of 2, while ethylbenzene, toluene, and xylene have all decreased by approximately a half an order of magnitude. These trends are relative to the entire south-central area, as the offsite and onsite area plumes are comingled; therefore, the overall concentrations are biased slightly high as some concentrations are included outside the target treatment zone.

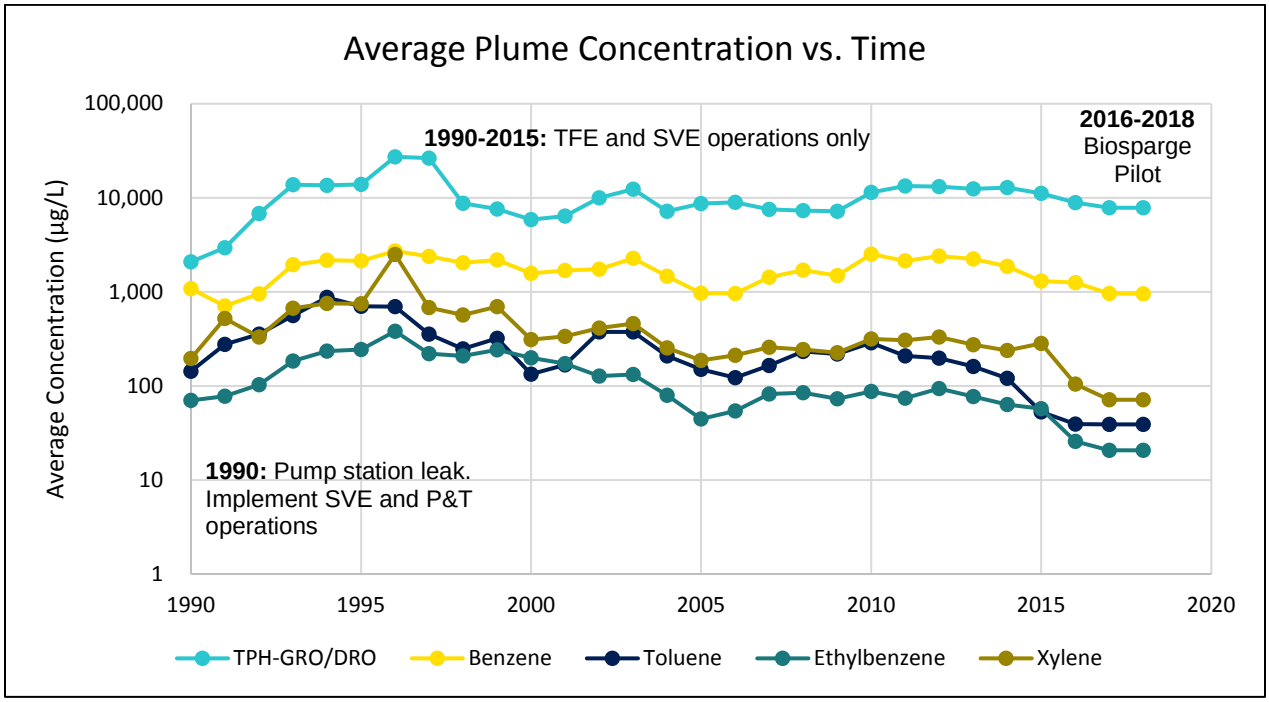

Exhibit 9. Average Spatial Dissolved-Phase Plume Concentration Over Time

In addition to evaluating the average plume concentration, Exhibit 10 illustrates the average relative dissolved-phase plume volume over time, where volume is presented linearly. Initially, with the operation of the TFE and SVE systems between 1990 and 2005, the dissolved plume extent was reduced through hydraulic containment. However, since 2005, the dissolved-phase extent has reached asymptotic conditions (little observable change in extent since 2005), suggesting the TFE and SVE systems have reached asymptotic conditions. These asymptotic conditions persisted until the start of the biosparge study, which reduced the extent of the dissolved-phase plume between 10 and 40 percent (the approximate volume within the biosparge treatment area relative to the entire impacted area). TFE and SVE systems have aided in the reduction of impacted soil volume.

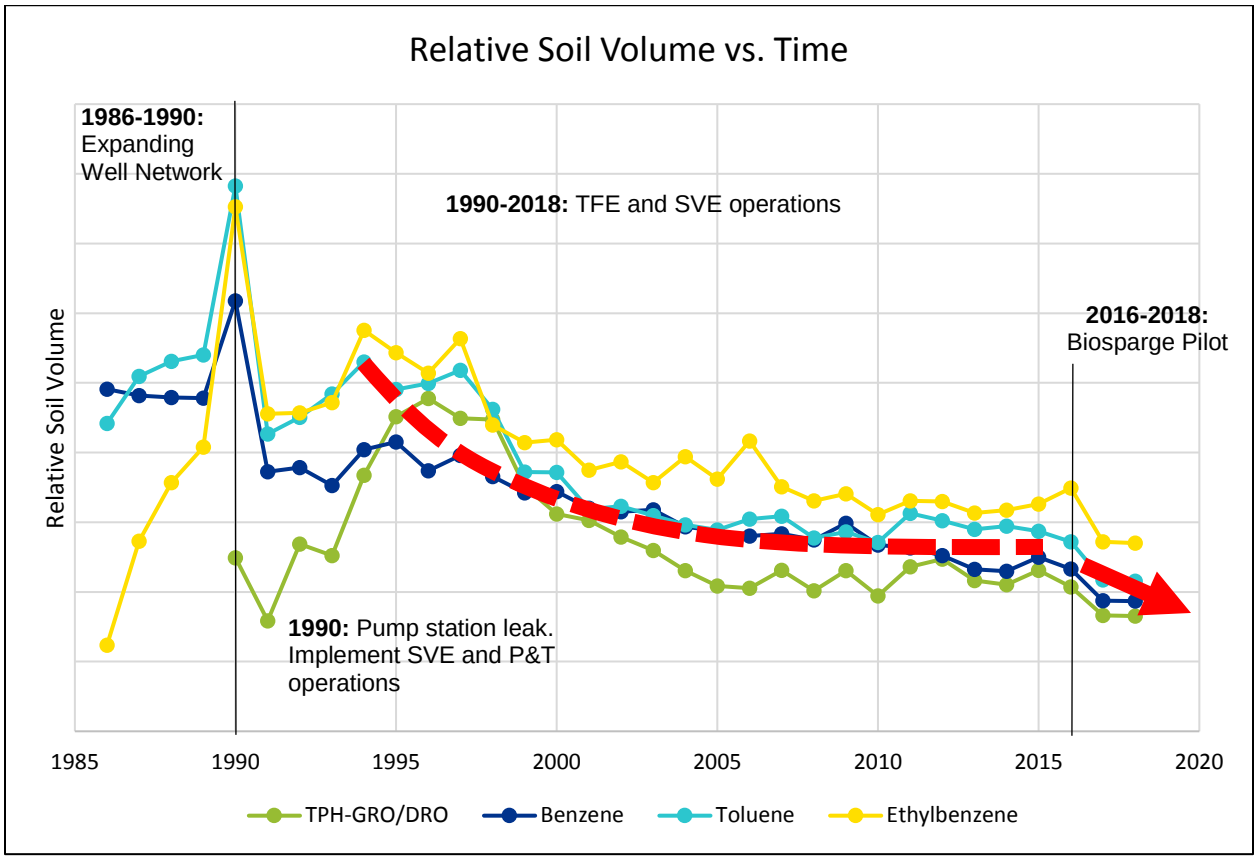

Exhibit 10. Relative Soil Volume (Saturated) of Plumes Over Time
Red dashed lines and arrows indicate general trends.

Specifically, within the south-central biosparge study area of influence, trends from select wells illustrate the dramatic reduction in dissolved-phase concentration over the past 3 years of biosparge operation. Exhibit 11 illustrates the pre-, post-, and percent reduction of dissolved benzene concentrations in wells within and adjacent to the onsite south-central biosparge treatment area. With the exception of wells that have been abandoned, are outside the treatment influence, where data were not available, or that are located on the upgradient edge of the treatment extent, benzene concentrations have been reduced by 90 percent or more due to the biosparge system operation. Similar trends are observed in ethylbenzene, toluene, xylenes, and MTBE.

Well	Maximum Pre-Sparge Benzene (µg/L)	Maximum Pre-Sparge Benzene (Date)	Maximum Post-Sparge Benzene (µg/L)	Maximum Post-Sparge Benzene (Date)	Biosparge Reduction (percent)	Notes
GMW-9	20,000	4/13/2011	0.5	5/15/2018	100%	
GMW-28	22,000	4/28/2004	0.5	4/19/2018	100%	
MW-SF-1	13,000	11/3/2004	0.5	4/19/2018	100%	
GMW-1	13,000	11/27/1996	0.56	10/6/2016	100%	
GMW-O-23	22,000	10/8/2010	0.99	4/20/2018	100%	
GMW-25	9,700	10/13/2011	0.5	4/19/2018	100%	
MW-SF-4	8,900	10/7/2010	0.5	4/20/2018	100%	
GMW-O-10	8,300	11/16/1999	0.5	4/18/2018	100%	
GMW-O-3	4,900	1/11/1994	0.5	4/18/2018	100%	
MW-SF-15	11,000	10/14/2011	2.1	4/20/2018	100%	
MW-SF-6	15,000	10/8/2010	5.5	4/20/2018	100%	
GMW-29	8,900	7/8/2004	260	3/15/2016	97%	
MW-SF-9	3,200	3/11/2003	96	4/14/2016	97%	
GMW-O-14	14,000	10/11/2013	640	4/20/2018	95%	
GMW-O-21	19,000	10/8/2010	1,000	4/20/2018	95%	
MW-O-2	17,000	10/11/2013	9,400	10/6/2017	45%	Upgradient of biosparge system, included in proposed offsite treatment
GMW-22	20,000	4/20/2012	16,000	See Notes	See Notes	Well abandoned, see adjacent well GMW-25 reductions
GWR-3	11,000	10/8/2010	9,100	See Notes	See Notes	Well abandoned, see adjacent well GMW-9 reductions
MW-SF-2	21,000	10/5/2010	18,000	See Notes	See Notes	Well abandoned, see adjacent well SF-6 reductions

Exhibit 11. South-Central Onsite Area Dissolved-Phase Benzene Reductions

5. Conclusions and Recommendations

In 2018, a soil investigation was performed in the south-central area of the site to facilitate a comparative study of subsurface conditions after more than 2 years of biosparging. Biosparging operations began in 2016 and are ongoing. The 2018 investigation entailed advancing CPT/LIF and DPT soil borings adjacent to concomitant (baseline) borings drilled in 2011 and 2012 to collect data and samples. Based on the parameters and subsurface characteristics evaluated as part of this study, the volume and distribution of LNAPL (and related dissolved-phase and vapor concentrations and extents) in the south-central area of the site significantly decreased after biosparging was implemented. The results of this study indicate that the south-central biosparge system has achieved the remedial objectives outlined in the *Horizontal Biosparge System Construction and Pilot Test Work Plan* (CH2M, 2013b).

5.1 Investigation Findings/Lines of Evidence

The following lines of evidence presented in this report demonstrate the destruction of LNAPL and reduction of related contamination within the south-central area biosparge ZOI:

- **LNAPL measured in site wells.** Recent groundwater monitoring activities demonstrate a decreasing trend in the presence and thickness of free product measured in site wells. LNAPL was not observed in monitoring wells located in the south-central area during the first semiannual 2018 groundwater monitoring event in April (Jacobs, 2018b).
- **Results of the 2013 CSM and 2018 LNAPL CSM Update.** Conclusions presented in both the 2013 CSM (CH2M, 2013a) and the 2018 LNAPL CSM Update (CH2M, 2018) indicate LNAPL at this site is predominantly present as residual saturation. The additional findings in this report continue to support this conclusion.
- **Sitewide mass removal evaluation.** This includes:
  - Near asymptotic mass removal conditions observed starting in 2005 and a change in vapor mass extraction estimation from using an LEL meter converted to equivalent mass as hexane to vapor mass extraction estimation using a PID converted to equivalent mass as hexane.
  - Increases in mass recovery corresponding to both a falling water table (primary cause) and system optimization occurring in 2010.
  - An initial increase in mass recovery followed by a significantly faster-than-historical decrease of mass recovery following the startup of the biosparge system in the south-central area. The biosparge system has achieved remedial goals based on decline curve analysis.
  - Concentration decrease and phase change in dissolved-phase effluent concentrations.
- **Biodegradation analysis.** LNAPL biodegradation (based on 2010 to 2018 SVE operational data) is approximately two orders of magnitude greater than the mass of liquid product removed from the site since 1995.
- **Vertical distribution of LNAPL.** Based on 2018 CPT/LIF data, the depth interval exhibiting the highest UVOST %RE is between 26 and 30 feet bgs, similar to 2011. However, %RE decreased significantly at every depth interval in every CPT/LIF boring from 2011 to 2018.
- **Pore fluid saturation (PFS).** LNAPL PFS decreased at all CPT/LIF locations from 2011 to 2018, except at one depth interval sample collected at one boring in 2018 (CPT-LIF-1B-27).
- **Free product mobility.** Similar to results from 2011, 2018 free product mobility testing demonstrated that PFS did not change after centrifuging at 25 xG, indicating that LNAPL is present as residual saturation.
- **Soil core photography.** There was a significant qualitative decrease in fluorescence from cores photographed under UV light collected from CPT/LIF borings in 2018 compared to photographs from 2011.

- **Soil analytical data trend analysis.** Soil analytical data post-biosparging has decreased significantly for almost all analytes (greater than 98 percent reduction in VOCs). Although not the primary goal, significant reductions in TPH-g and TPH-d were also observed. Limited fine-grain intervals showed lesser reductions in TPH-g and TPH-d concentrations; however, phase change was still observed in these intervals.
- **Groundwater analytical data trend analysis.** The trend analysis indicates a 90 percent or greater reduction in benzene for wells located within the biosparge treatment zone. Similar reductions were observed for other VOCs.
- **Dissolved-phase spatial statistics.** The statistics support decreases in average dissolved-phase plume concentration and volume due to the operation of the biosparge system.

5.2 Recommendations

Based on the conclusions of this study, the following recommendations are presented for consideration:

- Develop a “Remedy Transition Plan” that will outline the phased approach for transitioning from active remediation (that is, biosparging, SVE, and groundwater extraction) in the south-central area to an NSZD remedy. The Remedy Transition Plan will include an NSZD performance monitoring plan (Contingency Plan) describing the conditions that would trigger implementation of contingency actions if specific performance criteria are not achieved following cessation of active remediation. The Contingency Plan will include, but will not be limited to, the following elements:
  - Identification of a contingency well network for monitoring dissolved-phase stability along with an updated groundwater sampling and reporting schedule.
  - A decision support tool (for example, a decision tree) for managing LNAPL occurring in wells, with criteria for implementing additional LNAPL recovery, as needed.
  - Criteria (such as mass flux rates) for mitigating dissolved-phase concerns (for example, restarting the hydraulic control system).
- The effectiveness of the south-central biosparge system supports the basis for implementation and operation of additional horizontal biosparge systems at the site, including in the southeastern area (the system has been installed, startup is pending) and in the south-central offsite (residential) area, which will require design and installation of one or more paired (stacked) horizontal biosparge/SVE lines. It is expected that those areas of the site are likely to achieve remedial goals in less than 3 years using this technology. Future biosparging systems will follow a similar assessment upon completion of biosparging.

6. References

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Tables

Table 1. Summary of CPT/LIF Data

SFPP Norwalk Pump Station, Norwalk, California

Boring ID	Date	Total Boring Depth (feet bgs)	Depth to Top of Aquitard (feet bgs)	UVOST Fluorescence (%RE) Maximum	Depth (feet bgs)	Secondary 1	Depth (feet bgs)	Secondary 2	Depth (feet bgs)	Product Fingerprint at Maximum Fluorescence (closest match)
South-Central Area										
CPTLIF-1	10/12/2011	62.8	50	64.6	28.6	38.4	30.4	36.2	31.0	Gasoline/Diesel
CPTLIF-1B	7/24/2018	52.82	49	9.5	0.02	3.2	28.5	7.3	30.9	Gasoline/Diesel
CPTLIF-2	10/13/2011	62.3	49	30.6	25.1	17.1	30.4	4.8	28.7	Gasoline/Diesel
CPTLIF-2B	7/24/2018	53.64	49	2.4	29.80	1.25	21.3	1.8	28.0	Gasoline/Diesel
CPTLIF-3	10/13/2011	62.3	49	36.4	28.8	-	-	-	-	Gasoline/Diesel
CPTLIF-3B	7/23/2018	60.20	49	2.9	0.13	1.3	26.5	1.6	47.5	Gasoline/Diesel
CPTLIF-4	10/12/2011	62.5	48	20.4	27.6	5.7	28.3	-	-	Gasoline/Diesel
CPTLIF-4B	7/24/2018	54.13	49	9.8	0.07	4.8	28.9	-	-	Gasoline/Diesel
CPTLIF-6B	7/23/2018	50.69	49	7.3	0.15	5.0	2.2	3.2	29.5	Gasoline/Diesel
CPTLIF-7B	7/23/2018	49.37	49	2.0	0.02	1.3	6.5	-	-	Gasoline/Diesel

Notes:

Gray shading = 2011 investigation data

Yellow shading = Artificially high LIF response due to hand augering

- = not applicable

%RE = percent of reference emitter

bgs = below ground surface

CPT = cone penetrometer testing

ID = identification

LIF = laser-induced fluorescence

LNAPL = light nonaqueous phase liquid

UVOST = ultraviolet optical sensing tool

Table 2. Summary of Groundwater Elevations and Product Thickness Near LIF Boreholes (South-Central)

SFPP Norwalk Pump Station, Norwalk, California

							Screened Interval		2Q18 Conditions				Historical High Depth to Product			Historical Low Depth to Water			Historical Maximum Product Thickness		
Location ID	Ground Surface Elevation (feet msl)	Approximate Top of Response (feet bgs)	Approximate Bottom of Response (feet bgs)	Top of LNAPL Smear Zone (Based on Nearby Well)	Bottom of LNAPL Smear Zone (Based on Nearby Well)	Nearby Well	TOS (feet bgs)	BOS (feet bgs)	Depth to Groundwater (feet bgs)	TOC Elevation (feet msl)	Product Thickness (feet)	Groundwater Elevation (feet msl)	Historical High Depth to Top of Product (feet bgs)	Product Thickness (feet)	Date	Historical Low Depth to Water (feet bgs)	Product Thickness (feet)	Date	Depth to Top of Product (feet bgs)	Product Thickness (feet)	Date
CPTLIF-1	74.9	27.5	31	22.61	49.05	MW-SF-13	20.00	40.00	32.76	73.40	--	39.14	22.61	3.27	8/15/08	49.05	0.00	8/28/07	27.81	5.85	10/19/15
CPTLIF-1B		28	31																		
CPTLIF-2	74.8	24.5	31	19.79	48.92	MW-SF-3	25.00	40.00	35.49	78.12	--	39.31	19.79	6.64	8/10/93	48.92	1.61	5/2/05	19.79	6.64	8/10/93
CPTLIF-2B		28	31																		
CPTLIF-3	75.2	28	29	26.04	47.82	MW-SF-10	10.30	29.90	Dry	76.53	--	Dry	26.04	0.04	4/11/11	47.82	0.04	4/11/11	27.03	0.14	10/4/10
CPTLIF-3B		47	50																		
CPTLIF-4	74.3	27	29	24.81	52.47	GMW-O-14	20.00	50.00	33.90	74.08	--	39.96	24.81	0.03	12/31/1997	52.47	0.00	8/1/05	26.93	0.30	6/21/1993
CPTLIF-4B		28	29.5																		

Notes:

CPTLIF-6B and CPTLIF-7B were not included in this table as they were completed outside the treatment area and did not observe significant LIF or LNAPL signatures.

bgs = below ground surface

BOS = bottom of screen

btoc = below top of casing

ID = identification

LIF = laser-induced fluorescence

msl = mean sea level

TOC = top of casing

TOS = top of screen

*feet below top of casing

Table 3. Summary of Soil TPH Carbon Chain Results

SFPP Norwalk Pump Station, Norwalk, California

	Compound	Carbon Range	CPT-LIF-1B-29 (mg/kg) 29 feet bgs	CPT-LIF-101B-29 (FD) (mg/kg) 29 feet bgs	CPT-LIF-1B-31 (mg/kg) 31 feet bgs	CPT-LIF-2B-25 (mg/kg) 25 feet bgs	CPT-LIF-2B-30.5 (mg/kg) 30.5 feet bgs	CPT-LIF-3B-28 (mg/kg) 28 feet bgs	CPTLIF-3B-30.5 (mg/kg) 30.5 feet bgs	CPT-LIF-4B-27 (mg/kg) 27 feet bgs	CPT-LIF-4B-29.5 (mg/kg) 29.5 feet bgs	SB-1B-5 (mg/kg) 5.0 feet bgs	SB-1B-10 (mg/kg) 10.0 feet bgs	SB-1B-15 (mg/kg) 15.0 feet bgs	SB-1B-20 (mg/kg) 20.0 feet bgs
South-Central Area	Gasoline	C4-C12	2.5	63	<0.41	0.18 J	1.0	<0.42	<0.41	27 J	0.30 J	<0.41	<0.43	<0.40	<0.43
	Diesel	C8-C18	220	270	6.0	4.1 J	<5.0	6.1	<5.0	<5.0	11	<5.0	<5.0	<5.0	<5.0
		C13-C22	240	290	6.1	5.1	<5.0	11.0	3.1 J	3.4 J	17	4.8 J	2.8 J	<5.0	<5.0
		C23-C40	18	19	<3.7	6.0	5.1	31 B	<5.0	6.4	23	24	13	<2.6	<3.1

	Compound	Carbon Range	SB-1B-25 (mg/kg) 25.0 feet bgs	SB-1B-30 (mg/kg) 30.0 feet bgs	SB-2B-5 (mg/kg) 5.0 feet bgs	SB-2B-10 (mg/kg) 10.0 feet bgs	SB-2B-15 (mg/kg) 15.0 feet bgs	SB-2B-20 (mg/kg) 20.0 feet bgs	SB-2B-25 (mg/kg) 25.0 feet bgs	SB-2B-30 (mg/kg) 30.0 feet bgs	SB-2B-35 (mg/kg) 35.0 feet bgs	SB-3B-5 (mg/kg) 5.0 feet bgs	SB-3B-10 (mg/kg) 10.0 feet bgs	SB-3B-15 (mg/kg) 15.0 feet bgs	SB-3B-20 (mg/kg) 20.0 feet bgs
South-Central Area	Gasoline	C4-C12	<0.30	310	<0.55 J	<0.42	<0.54	<0.42	<0.50	7.3 J	<0.36	<0.58	<0.37	<0.37	<0.33
	Diesel	C8-C18	3.2 J	2,600	<5.0	<5.0	<4.8	<4.9	<5.0	3.2 J	2.8 J	<4.8	4.8 J	<4.9	2.7 J
		C13-C22	3.8 J	1,800	2.7 J	4.7 J	<4.8	3.5 J	5.3	2.6 J	3.1 J	<4.8	11	5.6	3.6 J
		C23-C40	<7.0	51	9.9	22	<3.2	<6.0	36	<3.2	<3.6	3.8 JB	89	<7.1	<4.3

	Compound	Carbon Range	SB-3B-25 (mg/kg) 25.0 feet bgs	SB-3B-30 (mg/kg) 30.0 feet bgs	SB-4B-5 (mg/kg) 5.0 feet bgs	SB-4B-10 (mg/kg) 10.0 feet bgs	SB-4B-15 (mg/kg) 15.0 feet bgs	SB-4B-20 (mg/kg) 20.0 feet bgs	SB-4B-25 (mg/kg) 25.0 feet bgs	SB-4B-30 (mg/kg) 30.0 feet bgs	SB-4B-35 (mg/kg) 35.0 feet bgs	SB-5B-5 (mg/kg) 5.0 feet bgs	SB-5B-10 (mg/kg) 10.0 feet bgs	SB-5B-15 (mg/kg) 15.0 feet bgs	SB-5B-20 (mg/kg) 20.0 feet bgs
South-Central Area	Gasoline	C4-C12	<0.36	<0.47	<0.47	<0.35	<0.33	<0.39	<0.43	4.5 J	310	<0.49	<0.41	<0.49	<0.49
	Diesel	C8-C18	<4.9	28	<5.0	<5.0	<5.0	2.6 J	8.3	89	1,200	7.6 J	3.9 J	<4.9	13
		C13-C22	<4.9	58	<5.0	<5.0	<5.0	3.0 J	22	84	850	16	9.0	<4.9	25
		C23-C40	<3.0	31	<3.5	3.1 JB	<3.2	<4.1	<14	25	36	100 B	57	<4.0	120

	Compound	Carbon Range	SB-5B-25 (mg/kg) 25.0 feet bgs	SB-5B-30 (mg/kg) 30.0 feet bgs	SB-6B-5 (mg/kg) 5.0 feet bgs	SB-6B-10 (mg/kg) 10.0 feet bgs	SB-6B-15 (mg/kg) 15.0 feet bgs	SB-6B-20 (mg/kg) 20.0 feet bgs	SB-6B-25 (mg/kg) 25.0 feet bgs	SB-6B-30 (mg/kg) 30.0 feet bgs	SB-6B-35 (mg/kg) 35.0 feet bgs	SB-7B-5 (mg/kg) 5.0 feet bgs	SB-7B-10 (mg/kg) 10.0 feet bgs	SB-7B-15 (mg/kg) 15.0 feet bgs	SB-7B-20 (mg/kg) 20.0 feet bgs
South-Central Area	Gasoline	C4-C12	<0.32	330	<0.57	<0.38	<0.52	<0.33	0.30 J	<0.43	<0.38	<0.48	<0.33	<0.39	<0.38
	Diesel	C8-C18	3.3 J	1,100	6.5	6.6	2.6 J	3.5 J	420	2,100	<4.9	<5.0	<5.0	<5.0	<5.0
		C13-C22	8.8	940	11	13	4.5 J	4.7 J	600	2,700	<4.9	2.9 J	3.8 J	<5.0	<5.0
		C23-C40	<8.2	27	31 B	37 B	<9.5	<5.5	33	130	<3.4	14 B	14 B	7.0	6.1

	Compound	Carbon Range	SB-7B-25 (mg/kg) 25.0 feet bgs	SB-7B-30 (mg/kg) 30.0 feet bgs	SB-7B-35 (mg/kg) 35.0 feet bgs
South-Central Area	Gasoline	C4-C12	<0.40	20 J	<0.36
	Diesel	C8-C18	<5.0	260	3.3 J
		C13-C22	3.8 J	160	4.3 J
		C23-C40	6.8	11	5.7

Notes:

Results are reported in mg/kg.

Carbon ranges for gasoline and diesel as defined by TestAmerica analytical laboratory.

< = not detected above lab reporting limits

* = lab qualifier requalified due to data quality

B = compound found in blank sample

bgs = below ground surface

FD = field duplicate

J = less than RL, greater than or equal to MDL

MDL = method detection limit

mg/kg = milligram(s) per kilogram

RL = reporting limit

TPH = total petroleum hydrocarbons

Table 4. Summary of Soil Analytical Results and Comparison to LIF Data

SFPP Norwalk Pump Station, Norwalk, California

					TPH by EPA Method 8015B Modified (mg/kg)				Volatile Organic Compounds by EPA Method SW8260B (mg/kg)								
Sample Location	Sample Date	Sample ID	Sample Depth (feet)	UVOST Fluorescence[a] (%RE)	C4-C12	C8-C18	C13-C22	C23-C40	Benzene	Toluene	Ethyl-benzene	Total Xylenes[b]	MTBE	TBA	DIPE	ETBE	TAME
CPT-LIF-1B	7/27/2018	CPT-LIF-1B-29	29	1.6	**2.5**	**220**	**240**	**18**	**0.011**	**0.014**	**0.065**	**0.14**	<0.0040	**0.017 J**	<0.0040	<0.0040	<0.0040
CPT-LIF-1B	7/27/2018	CPT-LIF-101B-29	29	-	**63**	**270**	**290**	**19**	**0.0086**	**0.011**	**0.044**	**0.1**	<0.0038	**0.019 J**	<0.0038	<0.0038	<0.0038
CPT-LIF-1B	7/27/2018	CPT-LIF-1B-31	31	6.6	<0.41	**6.0**	**6.1**	<3.7	<0.0018	<0.0018	<0.0018	<0.0035	<0.0044	<0.088	<0.0044	<0.0044	<0.0044
CPT-LIF-2B	7/25/2018	CPT-LIF-2B-25	25	0.8	**0.18 J**	**4.1 J**	**5.1**	**6.0**	<0.0018	<0.0018	<0.0018	<0.0037	**0.025**	**0.099**	<0.0046	<0.0046	<0.0046
CPT-LIF-2B	7/25/2018	CPT-LIF-2B-30.5	30.5	2.3	**1.0**	<5.0	<5.0	**5.1**	<0.0019	<0.0019	<0.0019	<0.0037	<0.0046	<0.093	<0.0046	<0.0046	<0.0046
CPT-LIF-3B	7/25/2018	CPT-LIF-3B-28	28	1.3	<0.42	**6.1**	**11.0**	**31 B**	<0.0023	<0.0023	<0.0023	<0.0046	<0.0058	<0.12	<0.0058	<0.0058	<0.0058
CPT-LIF-3B	7/25/2018	CPT-LIF-3B-30.5	30.5	1.2	<0.41	<5.0	**3.1 J**	<5.0	<0.0015	<0.0015	<0.0015	<0.0030	<0.0037	<0.075	<0.0037	<0.0037	<0.0037
CPT-LIF-4B	7/25/2018	CPT-LIF-4B-27	27	0.7	**27 J**	<5.0	**3.4 J**	**6.4**	<0.0016	<0.0016	**0.0008 J**	**0.018**	<0.0041	<0.081	<0.0041	<0.0041	<0.0041
CPT-LIF-4B	7/25/2018	CPT-LIF-4B-29.5	29.5	2.0	**0.30 J**	**11**	**17**	**23**	**0.0048 J**	**0.11 J**	**0.63 J**	**8.1 J**	<0.0054	**0.024 J**	<0.0054	<0.0054	<0.0054
SB-1B	7/25/2018	SB-1B-5	5	-	<0.41	<5.0	**4.8 J**	**24**	<0.0022	<0.0022	<0.0022	<0.0044	<0.0055	<0.11	<0.0055	<0.0055	<0.0055
SB-1B	7/25/2018	SB-1B-10	10	-	<0.43	<5.0	**2.8 J**	**13**	<0.0018	<0.0018	<0.0018	<0.0036	<0.0046	<0.091	<0.0046	<0.0046	<0.0046
SB-1B	7/27/2018	SB-1B-15	15	-	<0.40	<5.0	<5.0	<2.6	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.10	<0.0050	<0.0050	<0.0050
SB-1B	7/27/2018	SB-1B-20	20	-	<0.43	<5.0	<5.0	<3.1	<0.0022	<0.0022	<0.0022	<0.0043	<0.0054	<0.11	<0.0054	<0.0054	<0.0054
SB-1B	7/27/2018	SB-1B-25	25	-	<0.30	**3.2 J**	**3.8 J**	<7.0	<0.0016	<0.0016	<0.0016	<0.0033	<0.0041	<0.081	<0.0041	<0.0041	<0.0041
SB-1B	7/27/2018	SB-1B-30	30	-	**310**	**2,600**	**1,800**	**51**	<0.10	<0.10	<0.10	<0.20	<0.25	<5.0	<0.25	<0.25	<0.25
SB-2B	7/25/2018	SB-2B-5	5	-	<0.55 J	<5.0	**2.7 J**	**9.9**	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.10	<0.0050	<0.0050	<0.0050
SB-2B	7/25/2018	SB-2B-10	10	-	<0.42	<5.0	**4.7 J**	**22**	<0.0028	<0.0028	<0.0028	<0.0056	<0.0070	<0.14	<0.0070	<0.0070	<0.0070
SB-2B	7/26/2018	SB-2B-15	15	-	<0.54	<4.8	<4.8	<3.2	<0.0025	<0.0025	<0.0025	<0.0051	<0.0063	<0.13	<0.0063	<0.0063	<0.0063
SB-2B	7/26/2018	SB-2B-20	20	-	<0.42	<4.9	**3.5 J**	<6.0	<0.0041	<0.0041	<0.0041	<0.0082	<0.010	<0.20	<0.010	<0.010	<0.010
SB-2B	7/26/2018	SB-2B-25	25	-	<0.50	<5.0	**5.3**	**36**	<0.0029	<0.0029	<0.0029	<0.0057	<0.0072	<0.14	<0.0072	<0.0072	<0.0072
SB-2B	7/26/2018	SB-2B-30	30	-	**7.3 J**	**3.2 J**	**2.6 J**	<3.2	**3.5**	**3.4**	**0.48**	**3.1**	<0.21	<4.3	<0.21	<0.21	<0.21
SB-2B	7/26/2018	SB-2B-35	35	-	<0.36	**2.8 J**	**3.1 J**	<3.6	<0.0019	<0.0019	<0.0019	<0.0038	<0.0048	<0.096	<0.0048	<0.0048	<0.0048
SB-3B	7/26/2018	SB-3B-5	5	-	<0.58	<4.8	<4.8	**3.8 JB**	<0.0023	<0.0023	<0.0023	<0.0045	<0.0057	<0.11	<0.0057	<0.0057	<0.0057
SB-3B	7/26/2018	SB-3B-10	10	-	<0.37	**4.8 J**	**11**	**89**	<0.0020	<0.0020	<0.0020	<0.0039	<0.0049	<0.098	<0.0049	<0.0049	<0.0049
SB-3B	7/26/2018	SB-3B-15	15	-	<0.37	<4.9	**5.6**	<7.1	<0.0017	<0.0017	<0.0017	<0.0035	<0.0043	<0.087	<0.0043	<0.0043	<0.0043
SB-3B	7/26/2018	SB-3B-20	20	-	<0.33	**2.7 J**	**3.6 J**	<4.3	<0.0016	<0.0016	<0.0016	<0.0032	<0.0040	<0.079	<0.0040	<0.0040	<0.0040
SB-3B	7/26/2018	SB-3B-25	25	-	<0.36	<4.9	<4.9	<3.0	<0.0020	<0.0020	<0.0020	<0.0040	<0.0049	<0.099	<0.0049	<0.0049	<0.0049
SB-3B	7/26/2018	SB-3B-30	30	-	<0.47	**28**	**58**	**31**	<0.0019	<0.0019	<0.0019	<0.0038	<0.0048	<0.096	<0.0048	<0.0048	<0.0048
SB-4B	7/27/2018	SB-4B-5	5	-	<0.47	<5.0	<5.0	<3.5	<0.0024	<0.0024	<0.0024	<0.0048	<0.0060	<0.12	<0.0060	<0.0060	<0.0060
SB-4B	7/27/2018	SB-4B-10	10	-	<0.35	<5.0	<5.0	**3.1 JB**	<0.0019	<0.0019	<0.0019	<0.0038	<0.0047	<0.095	<0.0047	<0.0047	<0.0047
SB-4B	7/27/2018	SB-4B-15	15	-	<0.33	<5.0	<5.0	<3.2	<0.0021	<0.0021	<0.0021	<0.0043	<0.0054	<0.11	<0.0054	<0.0054	<0.0054
SB-4B	7/27/2018	SB-4B-20	20	-	<0.39	**2.6 J**	**3.0 J**	<4.1	<0.0018	<0.0018	<0.0018	<0.0035	<0.0044	<0.088	<0.0044	<0.0044	<0.0044
SB-4B	7/27/2018	SB-4B-25	25	-	<0.43	**8.3**	**22**	<14	<0.0018	<0.0018	<0.0018	<0.0036	<0.0044	<0.089	<0.0044	<0.0044	<0.0044
SB-4B	7/27/2018	SB-4B-30	30	-	**4.5 J**	**89**	**84**	**25**	**0.0095**	**0.27**	**0.2**	**1.0**	**0.0010 J**	<0.075	<0.0037	<0.0037	<0.0037
SB-4B	7/27/2018	SB-4B-35	35	-	**310**	**1,200**	**850**	**36**	<0.083	**0.42**	**1.4**	**10**	<0.21	<4.2	<0.21	<0.21	<0.21
SB-5B	7/25/2018	SB-5B-5	5	-	<0.49	**7.6 J**	**16**	**100 B**	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.099	<0.0050	<0.0050	<0.0050
SB-5B	7/25/2018	SB-5B-10	10	-	<0.41	**3.9 J**	**9.0**	**57**	<0.0021	<0.0021	<0.0021	<0.0041	<0.0052	<0.10	<0.0052	<0.0052	<0.0052
SB-5B	7/26/2018	SB-5B-15	15	-	<0.49	<4.9	<4.9	<4.0	<0.0036	<0.0036	<0.0036	<0.0072	<0.0090	<0.18	<0.0090	<0.0090	<0.0090
SB-5B	7/26/2018	SB-5B-20	20	-	<0.49	**13**	**25**	**120**	<0.0031	<0.0031	<0.0031	<0.0063	<0.0078	<0.16	<0.0078	<0.0078	<0.0078
SB-5B	7/26/2018	SB-5B-25	25	-	<0.32	**3.3 J**	**8.8**	<8.2	<0.0017	<0.0017	<0.0017	<0.0034	<0.0042	<0.084	<0.0042	<0.0042	<0.0042
SB-5B	7/26/2018	SB-5B-30	30	-	**330**	**1,100**	**940**	**27**	<0.13	<0.13	<0.13	<0.26	<0.33	<6.6	<0.33	<0.33	<0.33
SB-6B	7/25/2018	SB-6B-5	5	-	<0.57	**6.5**	**11**	**31 B**	<0.0030	<0.0030	<0.0030	<0.0060	<0.0076	<0.15	<0.0076	<0.0076	<0.0076
SB-6B	7/25/2018	SB-6B-10	10	-	<0.38	**6.6**	**13**	**37 B**	<0.0019	<0.0019	<0.0019	<0.0038	<0.0048	<0.096	<0.0048	<0.0048	<0.0048
SB-6B	7/26/2018	SB-6B-15	15	-	<0.52	**2.6 J**	**4.5 J**	<9.5	<0.0021	<0.0021	<0.0021	<0.0042	<0.0053	<0.11	<0.0053	<0.0053	<0.0053
SB-6B	7/26/2018	SB-6B-20	20	-	<0.33	**3.5 J**	**4.7 J**	<5.5	<0.0016	<0.0016	<0.0016	<0.0031	<0.0039	<0.078	<0.0039	<0.0039	<0.0039
SB-6B	7/26/2018	SB-6B-25	25	-	**0.30 J**	**420**	**600**	**33**	<0.0021	<0.0021	<0.0021	<0.0041	<0.0052	<0.10	<0.0052	<0.0052	<0.0052
SB-6B	7/26/2018	SB-6B-30	30	-	<0.43	**2,100**	**2,700**	**130**	<0.0028	<0.0028	<0.0028	<0.0056	<0.0070	<0.14	<0.0070	<0.0070	<0.0070
SB-6B	7/26/2018	SB-6B-35	35	-	<0.38	<4.9	<4.9	<3.4	<0.0027	<0.0027	<0.0027	<0.0053	<0.0066	<0.13	<0.0066	<0.0066	<0.0066
SB-7B	7/25/2018	SB-7B-5	5	-	<0.48	<5.0	**2.9 J**	**14 B**	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.099	<0.0050	<0.0050	<0.0050
SB-7B	7/25/2018	SB-7B-10	10	-	<0.33	<5.0	**3.8 J**	**14 B**	<0.0019	<0.0019	<0.0019	<0.0037	<0.0047	<0.093	<0.0047	<0.0047	<0.0047
SB-7B	7/25/2018	SB-7B-15	15	-	<0.39	<5.0	<5.0	**7.0**	<0.0018	<0.0018	<0.0018	<0.0037	<0.0046	<0.092	<0.0046	<0.0046	<0.0046
SB-7B	7/25/2018	SB-7B-20	20	-	<0.38	<5.0	<5.0	**6.1**	<0.0023	<0.0023	<0.0023	<0.0046	<0.0057	<0.11	<0.0057	<0.0057	<0.0057
SB-7B	7/25/2018	SB-7B-25	25	-	<0.40	<5.0	**3.8 J**	**6.8**	<0.0020	<0.0020	<0.0020	<0.0041	<0.0051	<0.10	<0.0051	<0.0051	<0.0051
SB-7B	7/25/2018	SB-7B-30	30	-	**20 J**	**260**	**160**	**11**	<0.0016	<0.0016	<0.0016	<0.0031	<0.0039	<0.078	<0.0039	<0.0039	<0.0039
SB-7B	7/25/2018	SB-7B-35	35	-	<0.36	**3.3 J**	**4.3 J**	**5.7**	<0.0020	<0.0020	<0.0020	<0.0039	<0.0049	<0.099	<0.0049	<0.0049	<0.0049

Notes:

[a] Max UVOST fluorescence from sample interval.

[b] The total xylenes result is the sum of m,p-xylenes and o-xylenes when detected.

Results are reported in mg/kg.

2,200 Represents data detected above the laboratory reporting limit.

- = no data

< = not detected above lab reporting limits

%RE = percent of reference emitter

B = compound found in blank sample

DIPE = di-isopropyl ether

EPA = United States Environmental Protection Agency

ETBE = ethyl tertiary butyl ether

ID = identification

J = less than RL, greater or equal to MDL

LIF = laser-induced fluorescence

mg/kg = milligram(s) per kilogram

MTBE = methyl tertiary butyl ether

TAME = tertiary amyl methyl ether

TBA = tertiary butyl alcohol

TPH = total petroleum hydrocarbons

UVOST = ultraviolet optical sensing tool

Table 4. Summary of Soil Analytical Results and Comparison to LIF Data

SFPP Norwalk Pump Station, Norwalk, California

					Volatile Organic Compounds by EPA Method SW8260B (mg/kg)								
Sample Location	**Sample Date**	**Sample ID**	**Sample Depth (feet)**	**UVOST Fluorescence[a] (%RE)**	**1,2,4-Trimethylbenzene**	**1,3,5-Trimethylbenzene**	**Isopropylbenzene**	**Naphthalene**	**n-Butylbenzene**	**n-Propylbenzene**	**p-Isopropyltoluene**	**sec-Butylbenzene**	**Styrene**
CPT-LIF-1B	7/27/2018	CPT-LIF-1B-29	29	1.6	**0.1**	**0.028**	**0.0059**	**0.049**	**0.0058**	**0.015**	<0.0016	**0.0021 J**	<0.0016
CPT-LIF-1B	7/27/2018	CPT-LIF-101B-29	29	-	**0.067**	**0.018**	**0.0037**	**0.031**	**0.0033 J**	**0.009**	<0.0015	**0.0013 J**	<0.0015
CPT-LIF-1B	7/27/2018	CPT-LIF-1B-31	31	6.6	<0.0018	<0.0018	<0.0018	<0.0044	<0.0044	<0.0018	<0.0018	<0.0044	<0.0018
CPT-LIF-2B	7/25/2018	CPT-LIF-2B-25	25	0.8	<0.0018	<0.0018	<0.0018	<0.0046	<0.0046	<0.0018	<0.0018	<0.0046	<0.0018
CPT-LIF-2B	7/25/2018	CPT-LIF-2B-30.5	30.5	2.3	<0.0019	**0.0018 J**	<0.0019	<0.0046	**0.0024 J**	<0.0019	<0.0019	<0.0046	<0.0019
CPT-LIF-3B	7/25/2018	CPT-LIF-3B-28	28	1.3	<0.0023	<0.0023	<0.0023	<0.0058	<0.0058	<0.0023	<0.0023	<0.0058	<0.0023
CPT-LIF-3B	7/25/2018	CPT-LIF-3B-30.5	30.5	1.2	<0.0015	<0.0015	<0.0015	<0.0037	<0.0037	<0.0015	<0.0015	<0.0037	<0.0015
CPT-LIF-4B	7/25/2018	CPT-LIF-4B-27	27	0.7	**0.056**	**0.04**	<0.0016	**0.03**	**0.015**	**0.0010 J**	**0.002**	<0.0041	<0.0016
CPT-LIF-4B	7/25/2018	CPT-LIF-4B-29.5	29.5	2.0	**4.0 J**	**4.4 J**	<0.0022	**0.22 J**	**0.91 J**	**0.49 J**	**0.34 J**	**0.082 J**	<0.0022
SB-1B	7/25/2018	SB-1B-5	5	-	<0.0022	<0.0022	<0.0022	<0.0055	<0.0055	<0.0022	<0.0022	<0.0055	<0.0022
SB-1B	7/25/2018	SB-1B-10	10	-	<0.0018	<0.0018	<0.0018	<0.0046	<0.0046	<0.0018	<0.0018	<0.0046	<0.0018
SB-1B	7/27/2018	SB-1B-15	15	-	<0.0020	<0.0020	<0.0020	<0.0050	<0.0050	<0.0020	<0.0020	<0.0050	<0.0020
SB-1B	7/27/2018	SB-1B-20	20	-	<0.0022	<0.0022	<0.0022	<0.0054	<0.0054	<0.0022	<0.0022	<0.0054	<0.0022
SB-1B	7/27/2018	SB-1B-25	25	-	<0.0016	<0.0016	<0.0016	<0.0041	<0.0041	<0.0016	<0.0016	<0.0041	<0.0016
SB-1B	7/27/2018	SB-1B-30	30	-	<0.10	**0.47**	<0.10	<0.25	<0.25	<0.10	**0.14**	<0.25	<0.10
SB-2B	7/25/2018	SB-2B-5	5	-	<0.0021	<0.0021	<0.0020	<0.0053	<0.0050	<0.0020	<0.0020	<0.0050	<0.0020
SB-2B	7/25/2018	SB-2B-10	10	-	<0.0028	<0.0028	<0.0028	<0.0070	<0.0070	<0.0028	<0.0028	<0.0070	<0.0028
SB-2B	7/26/2018	SB-2B-15	15	-	<0.0025	<0.0025	<0.0025	<0.0063	<0.0063	<0.0025	<0.0025	<0.0063	<0.0025
SB-2B	7/26/2018	SB-2B-20	20	-	<0.0041	<0.0041	<0.0041	<0.010	<0.010	<0.0041	<0.0041	<0.010	<0.0041
SB-2B	7/26/2018	SB-2B-25	25	-	<0.0029	<0.0029	<0.0029	<0.0072	<0.0072	<0.0029	<0.0029	<0.0072	<0.0029
SB-2B	7/26/2018	SB-2B-30	30	-	**0.37**	**0.1**	<0.085	**0.22**	<0.21	<0.085	<0.085	<0.21	<0.085
SB-2B	7/26/2018	SB-2B-35	35	-	<0.0019	<0.0019	<0.0019	<0.0048	<0.0048	<0.0019	<0.0019	<0.0048	<0.0019
SB-3B	7/26/2018	SB-3B-5	5	-	<0.0023	<0.0023	<0.0023	<0.0057	<0.0057	<0.0023	<0.0023	<0.0057	<0.0023
SB-3B	7/26/2018	SB-3B-10	10	-	<0.0020	<0.0020	<0.0020	<0.0049	<0.0049	<0.0020	<0.0020	<0.0049	<0.0020
SB-3B	7/26/2018	SB-3B-15	15	-	<0.0017	<0.0017	<0.0017	<0.0043	<0.0043	<0.0017	<0.0017	<0.0043	<0.0017
SB-3B	7/26/2018	SB-3B-20	20	-	<0.0016	<0.0016	<0.0016	<0.0040	<0.0040	<0.0016	<0.0016	<0.0040	<0.0016
SB-3B	7/26/2018	SB-3B-25	25	-	<0.0020	<0.0020	<0.0020	<0.0049	<0.0049	<0.0020	<0.0020	<0.0049	<0.0020
SB-3B	7/26/2018	SB-3B-30	30	-	<0.0019	<0.0019	<0.0019	<0.0048	<0.0048	<0.0019	<0.0019	<0.0048	<0.0019
SB-4B	7/27/2018	SB-4B-5	5	-	<0.0024	<0.0024	<0.0024	<0.0060	<0.0060	<0.0024	<0.0024	<0.0060	<0.0024
SB-4B	7/27/2018	SB-4B-10	10	-	<0.0019	<0.0019	<0.0019	<0.0047	<0.0047	<0.0019	<0.0019	<0.0047	<0.0019
SB-4B	7/27/2018	SB-4B-15	15	-	<0.0021	<0.0021	<0.0021	<0.0054	<0.0054	<0.0021	<0.0021	<0.0054	<0.0021
SB-4B	7/27/2018	SB-4B-20	20	-	<0.0018	<0.0018	<0.0018	<0.0044	<0.0044	<0.0018	<0.0018	<0.0044	<0.0018
SB-4B	7/27/2018	SB-4B-25	25	-	<0.0018	<0.0018	<0.0018	<0.0044	<0.0044	<0.0018	<0.0018	<0.0044	<0.0018
SB-4B	7/27/2018	SB-4B-30	30	-	**0.096**	**0.14**	**0.0074**	**0.0017 J**	<0.0037	**0.015**	**0.0045**	**0.0024 J**	**0.0009 J**
SB-4B	7/27/2018	SB-4B-35	35	-	**6.2**	**5.4**	**0.31**	**0.13 J**	**1.5**	**1.0**	**0.4**	**0.36**	<0.083
SB-5B	7/25/2018	SB-5B-5	5	-	<0.0020	<0.0020	<0.0020	<0.0050	<0.0050	<0.0020	<0.0020	<0.0050	<0.0020
SB-5B	7/25/2018	SB-5B-10	10	-	<0.0021	<0.0021	<0.0021	<0.0052	<0.0052	<0.0021	<0.0021	<0.0052	<0.0021
SB-5B	7/26/2018	SB-5B-15	15	-	<0.0036	<0.0036	<0.0036	<0.0090	<0.0090	<0.0036	<0.0036	<0.0090	<0.0036
SB-5B	7/26/2018	SB-5B-20	20	-	<0.0031	<0.0031	<0.0031	<0.0078	<0.0078	<0.0031	<0.0031	<0.0078	<0.0031
SB-5B	7/26/2018	SB-5B-25	25	-	<0.0017	<0.0017	<0.0017	<0.0042	<0.0042	<0.0017	<0.0017	<0.0042	<0.0017
SB-5B	7/26/2018	SB-5B-30	30	-	<0.13	**0.068 J**	<0.13	**2.8**	<0.33	<0.13	<0.13	<0.33	<0.13
SB-6B	7/25/2018	SB-6B-5	5	-	<0.0030	<0.0030	<0.0030	<0.0076	<0.0076	<0.0030	<0.0030	<0.0076	<0.0030
SB-6B	7/25/2018	SB-6B-10	10	-	<0.0019	<0.0019	<0.0019	<0.0048	<0.0048	<0.0019	<0.0019	<0.0048	<0.0019
SB-6B	7/26/2018	SB-6B-15	15	-	<0.0021	<0.0021	<0.0021	<0.0053	<0.0053	<0.0021	<0.0021	<0.0053	<0.0021
SB-6B	7/26/2018	SB-6B-20	20	-	<0.0016	<0.0016	<0.0016	<0.0039	<0.0039	<0.0016	<0.0016	<0.0039	<0.0016
SB-6B	7/26/2018	SB-6B-25	25	-	<0.0021	<0.0021	<0.0021	<0.0052	<0.0052	<0.0021	<0.0021	<0.0052	<0.0021
SB-6B	7/26/2018	SB-6B-30	30	-	<0.0028	<0.0028	<0.0028	<0.0070	<0.0070	<0.0028	<0.0028	<0.0070	<0.0028
SB-6B	7/26/2018	SB-6B-35	35	-	<0.0027	<0.0027	<0.0027	<0.0066	<0.0066	<0.0027	<0.0027	<0.0066	<0.0027
SB-7B	7/25/2018	SB-7B-5	5	-	<0.0020	<0.0020	<0.0020	<0.0050	<0.0050	<0.0020	<0.0020	<0.0050	<0.0020
SB-7B	7/25/2018	SB-7B-10	10	-	<0.0019	<0.0019	<0.0019	<0.0047	<0.0047	<0.0019	<0.0019	<0.0047	<0.0019
SB-7B	7/25/2018	SB-7B-15	15	-	<0.0018	<0.0018	<0.0018	<0.0046	<0.0046	<0.0018	<0.0018	<0.0046	<0.0018
SB-7B	7/25/2018	SB-7B-20	20	-	<0.0023	<0.0023	<0.0023	<0.0057	<0.0057	<0.0023	<0.0023	<0.0057	<0.0023
SB-7B	7/25/2018	SB-7B-25	25	-	<0.0020	<0.0020	<0.0020	<0.0051	<0.0051	<0.0020	<0.0020	<0.0051	<0.0020
SB-7B	7/25/2018	SB-7B-30	30	-	<0.0016	**0.0008 J**	<0.0016	<0.0039	<0.0039	<0.0016	<0.0016	<0.0039	<0.0016
SB-7B	7/25/2018	SB-7B-35	35	-	<0.0020	<0.0020	<0.0020	<0.0049	<0.0049	<0.0020	<0.0020	<0.0049	<0.0020

Notes:

[a] Max UVOST fluorescence from sample interval.

[b] The total xylenes result is the sum of m,p-xylenes and o-xylenes when detected.

Results are reported in mg/kg.

2,200 Represents data detected above the laboratory reporting limit.

- = no data

< = not detected above lab reporting limits

%RE = percent of reference emitter

B = compound found in blank sample

DIPE = di-isopropyl ether

EPA = United States Environmental Protection Agency

ETBE = ethyl tertiary butyl ether

J = less than RL, greater or equal to MDL

LIF = laser-induced fluorescence

mg/kg = milligram(s) per kilogram

MTBE = methyl tertiary butyl ether

TAME = tertiary amyl methyl ether

TBA = tertiary butyl alcohol

TPH = total petroleum hydrocarbons

UVOST = ultraviolet optical sensing tool

Table 5. Soil Sample Validation Findings

SFPP Norwalk Pump Station, Norwalk, California

Well ID	Sample ID	Sample Date	Method	Analyte	Result Value	Result Value Unit	Final Qualifier	Validation Reason
CPT-LIF-3B	CPT-LIF-3B-30.5-072518	7/25/2018	8015B	TPH-Oil (C23-C40)	6	mg/kg	U	LB<RL
CPT-LIF-4B	CPT-LIF-4B-27-072518	7/25/2018	8015B	TPH-Gasoline (C4-C12)	27000	µg/kg	J	>ICLinearRange
CPT-LIF-4B	CPT-LIF-4B-29.5-072518	7/25/2018	8260B	1,2,4-Trimethylbenzene	4000	µg/kg	J	>ICLinearRange, Sur>UCL
CPT-LIF-4B	CPT-LIF-4B-29.5-072518	7/25/2018	8260B	1,3,5-Trimethylbenzene	4400	µg/kg	J	>ICLinearRange, Sur>UCL
CPT-LIF-4B	CPT-LIF-4B-29.5-072518	7/25/2018	8260B	Benzene	4.8	µg/kg	J	Sur>UCL
CPT-LIF-4B	CPT-LIF-4B-29.5-072518	7/25/2018	8260B	Ethylbenzene	630	µg/kg	J	Sur>UCL
CPT-LIF-4B	CPT-LIF-4B-29.5-072518	7/25/2018	8260B	m,p Xylene	4400	µg/kg	J	>ICLinearRange, Sur>UCL
CPT-LIF-4B	CPT-LIF-4B-29.5-072518	7/25/2018	8260B	Naphthalene	220	µg/kg	J	Sur>UCL
CPT-LIF-4B	CPT-LIF-4B-29.5-072518	7/25/2018	8260B	n-Butylbenzene	910	µg/kg	J	>ICLinearRange, Sur>UCL
CPT-LIF-4B	CPT-LIF-4B-29.5-072518	7/25/2018	8260B	n-Propyl benzene	490	µg/kg	J	Sur>UCL
CPT-LIF-4B	CPT-LIF-4B-29.5-072518	7/25/2018	8260B	o-Xylene	3700	µg/kg	J	>ICLinearRange, Sur>UCL
CPT-LIF-4B	CPT-LIF-4B-29.5-072518	7/25/2018	8260B	p-Isopropyltoluene	340	µg/kg	J	Sur>UCL
CPT-LIF-4B	CPT-LIF-4B-29.5-072518	7/25/2018	8260B	sec-Butylbenzene	82	µg/kg	J	Sur>UCL
CPT-LIF-4B	CPT-LIF-4B-29.5-072518	7/25/2018	8260B	Tertiary-Butyl Alcohol (T-Butanol)	24	µg/kg	J	Sur>UCL
CPT-LIF-4B	CPT-LIF-4B-29.5-072518	7/25/2018	8260B	Toluene	110	µg/kg	J	Sur>UCL
CPT-LIF-4B	CPT-LIF-4B-29.5-072518	7/25/2018	8260B	Xylenes, Total	8100	µg/kg	J	Sur>UCL
SB-2B	SB-2B-5-072518	7/25/2018	8015B	TPH-Gasoline (C4-C12)	550	µg/kg	UJ	Sur<LCL
SB-7B	SB-7B-30-072518	7/25/2018	8015B	TPH-Gasoline (C4-C12)	20000	µg/kg	J	>ICLinearRange
CPT-LIF-1B	CPT-LIF-1B-29-072718	7/27/2018	8015B	TPH-Oil (C23-C40)	18	mg/kg		LB<RL
CPT-LIF-1B	CPT-LIF-1B-31-072718	7/27/2018	8015B	TPH-Oil (C23-C40)	3.7	mg/kg	U	LB<RL
SB-1B	SB-1B-15-072718	7/27/2018	8015B	TPH-Oil (C23-C40)	2.6	mg/kg	U	LB<RL
SB-1B	SB-1B-20-072718	7/27/2018	8015B	TPH-Oil (C23-C40)	3.1	mg/kg	U	LB<RL
SB-1B	SB-1B-25-072718	7/27/2018	8015B	TPH-Oil (C23-C40)	7	mg/kg	U	LB<RL
SB-1B	SB-1B-30-072718	7/27/2018	8015B	TPH-Oil (C23-C40)	51	mg/kg		LB<RL
SB-2B	SB-2B-15-072618	7/26/2018	8015B	TPH-Oil (C23-C40)	3.2	mg/kg	U	LB<RL

Table 5. Soil Sample Validation Findings

SFPP Norwalk Pump Station, Norwalk, California

Well ID	Sample ID	Sample Date	Method	Analyte	Result Value	Result Value Unit	Final Qualifier	Validation Reason
SB-2B	SB-2B-20-072618	7/26/2018	8015B	TPH-Oil (C23-C40)	6	mg/kg	U	LB<RL
SB-2B	SB-2B-25-072618	7/26/2018	8015B	TPH-Oil (C23-C40)	36	mg/kg		LB<RL
SB-2B	SB-2B-30-072618	7/26/2018	8015B	TPH-Gasoline (C4-C12)	7300	µg/kg	J	>ICLinearRange
SB-2B	SB-2B-30-072618	7/26/2018	8015B	TPH-Oil (C23-C40)	3.2	mg/kg	U	LB<RL
SB-2B	SB-2B-35-072618	7/26/2018	8015B	TPH-Oil (C23-C40)	3.6	mg/kg	U	LB<RL
SB-3B	SB-3B-10-072618	7/26/2018	8015B	TPH-Oil (C23-C40)	89	mg/kg		LB<RL
SB-3B	SB-3B-15-072618	7/26/2018	8015B	TPH-Oil (C23-C40)	7.1	mg/kg	U	LB<RL
SB-3B	SB-3B-20-072618	7/26/2018	8015B	TPH-Oil (C23-C40)	4.3	mg/kg	U	LB<RL
SB-3B	SB-3B-25-072618	7/26/2018	8015B	TPH-Oil (C23-C40)	3	mg/kg	U	LB<RL
SB-3B	SB-3B-30-072618	7/26/2018	8015B	TPH-Oil (C23-C40)	31	mg/kg		LB<RL
SB-3B	SB-3B-5-072618	7/26/2018	8015B	TPH-Oil (C23-C40)	3.8	mg/kg	U	LB<RL
SB-4B	SB-4B-10-072718	7/27/2018	8015B	TPH-Oil (C23-C40)	3.1	mg/kg	U	LB<RL
SB-4B	SB-4B-15-072718	7/27/2018	8015B	TPH-Oil (C23-C40)	3.2	mg/kg	U	LB<RL
SB-4B	SB-4B-20-072718	7/27/2018	8015B	TPH-Oil (C23-C40)	4.1	mg/kg	U	LB<RL
SB-4B	SB-4B-25-072718	7/27/2018	8015B	TPH-Oil (C23-C40)	14	mg/kg	U	LB<RL
SB-4B	SB-4B-30-072718	7/27/2018	8015B	TPH-Gasoline (C4-C12)	4500	µg/kg	J	>ICLinearRange
SB-4B	SB-4B-30-072718	7/27/2018	8015B	TPH-Oil (C23-C40)	25	mg/kg		LB<RL
SB-4B	SB-4B-35-072718	7/27/2018	8015B	TPH-Oil (C23-C40)	36	mg/kg		LB<RL
SB-4B	SB-4B-5-072718	7/27/2018	8015B	TPH-Oil (C23-C40)	3.5	mg/kg	U	LB<RL
SB-5B	SB-5B-15-072618	7/26/2018	8015B	TPH-Oil (C23-C40)	4	mg/kg	U	LB<RL
SB-5B	SB-5B-20-072618	7/26/2018	8015B	TPH-Oil (C23-C40)	120	mg/kg		LB<RL
SB-5B	SB-5B-25-072618	7/26/2018	8015B	TPH-Oil (C23-C40)	8.2	mg/kg	U	LB<RL
SB-5B	SB-5B-30-072618	7/26/2018	8015B	TPH-Oil (C23-C40)	27	mg/kg		LB<RL
SB-6B	SB-6B-15-072618	7/26/2018	8015B	TPH-Oil (C23-C40)	9.5	mg/kg	U	LB<RL
SB-6B	SB-6B-20-072618	7/26/2018	8015B	TPH-Oil (C23-C40)	5.5	mg/kg	U	LB<RL

Table 5. Soil Sample Validation Findings

SFPP Norwalk Pump Station, Norwalk, California

Well ID	Sample ID	Sample Date	Method	Analyte	Result Value	Result Value Unit	Final Qualifier	Validation Reason
SB-6B	SB-6B-25-072618	7/26/2018	8015B	TPH-Oil (C23-C40)	33	mg/kg		LB<RL
SB-6B	SB-6B-30-072618	7/26/2018	8015B	TPH-Oil (C23-C40)	130	mg/kg		LB<RL
SB-6B	SB-6B-35-072618	7/26/2018	8015B	TPH-Oil (C23-C40)	3.4	mg/kg	U	LB<RL
CPT-LIF-1B	CPT-LIF-101B-29-072718	7/27/2018	8015B	TPH-Oil (C23-C40)	19	mg/kg		LB<RL

Notes:

µg/kg = microgram(s) per kilogram

ICLinear Range = linear range

ID = identification

J = Reported value may not be accurate or precise because detected value was less than the laboratory reporting limit but greater than the method detection limit, or due to a quality control exceedance.

LB = laboratory blank

mg/kg = milligram(s) per kilogram

RL = reporting limit

TPH = total petroleum hydrocarbons

U = Analyte was analyzed for but not detected at the specified detection limit

Table 6. Summary of Soil Physical Properties and Measured Fluorescence

SFPP Norwalk Pump Station, Norwalk, California

Sample ID	Depth Tested (feet)	Density		Porosity, %Vb[a]	Pore Fluid Saturations, % Pv				Mean Grain Size Description	Fluorescence (%RE)
					Initial Fluid Saturation[b]		Centrifuge at 25 X G[c]			
		Dry Bulk (g/cc)	Grain (g/cc)	Total	Water	LNAPL	Water	LNAPL		
Analytical Method		API RP 40		API RP 40	API RP 40, ASTM D425M, Dean-Stark				ASTM D422/D4464M	Laser-Induced Fluorescence
South-Central Area										
CPT-LIF-1B-27	27.1	1.3	2.7	51.7	59.2	9.0	27.4	9.0	Silt	1.5
CPT-LIF-1B-28	28.25	1.6	2.7	42.1	46.4	1.4	-	-	Fine Sand	3.2
CPT-LIF-1B-29.5	29.6	1.4	2.7	48.7	66.3	0.3	-	-	Silt	1.6
CPT-LIF-1B-31	31.25	1.5	2.7	44.8	76.3	0.4	-	-	Silt	6.6
CPT-LIF-1B-33	33.1	1.4	2.7	49.1	8.0	0.3	-	-	Fine Sand	1.6
CPT-LIF-2B-23	23.45	1.3	2.7	50	7.9	0.5	-	-	Fine Sand	0.7
CPT-LIF-2B-25.5	25.6	1.4	2.7	50.1	75.4	3.8	-	-	Silt	0.8
CPT-LIF-2B-27.5	27.6	1.3	2.7	50.5	75.7	1.2	34.1	1.2	Fine Sand	1.7
CPT-LIF-2B-29.5	29.6	1.3	2.7	50.6	41.9	0.3	-	-	Fine Sand	2.4
CPT-LIF-3B-27	27.3	1.3	2.7	50.9	15.6	1.3	-	-	Fine Sand	1
CPT-LIF-3B-29	29.3	1.5	2.7	45.8	37.2	1	-	-	Fine Sand	1.3
CPT-LIF-4B-26	26.3	1.5	2.7	42.8	33.4	0.2	-	-	Fine Sand	1
CPT-LIF-4B-28	28.1	1.4	2.7	45.4	39.9	2.9	24.0	2.9	Fine Sand	4.9

Notes:

[a] Total Porosity = no pore fluids in place; all interconnected pore channels; Air Filled = pore channels not occupied by pore fluids

[b] Initial pore fluid saturation prior to centrifuge of samples

[c] Pore fluid saturation after centrifuge at 25 times the force of gravity (25xG)

%RE = percent of reference emitter

- = no data

API = American Petroleum Institute

ASTM = American Society for Testing and Materials

g/cc = grams per cubic centimeter

ID = identification

LNAPL = light nonaqueous phase liquid

Pv = pore volume

Figures

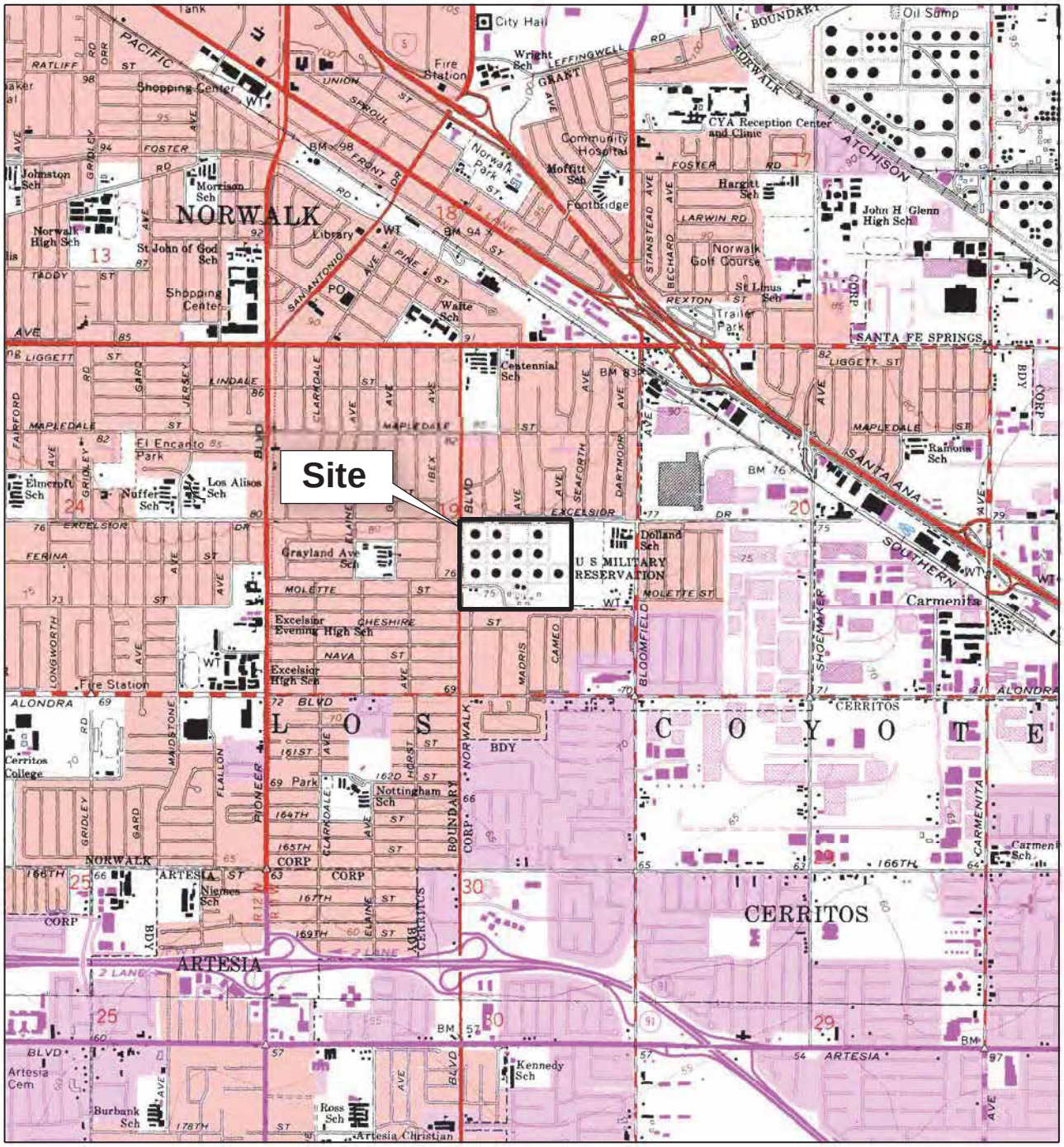

Figure 1. Site Location Map
SFPP Norwalk Pump Station
Norwalk, California

BASEMAP MODIFIED FROM U.S.G.S. 7.5 MINUTE QUADRANGLE MAP
LOS ALAMITOS 1964, CALIFORNIA. PHOTO-REVISED 1981.
WHITTIER 1965, CALIFORNIA. PHOTO-REVISED 1981.

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Legend

- Soil Boring Location
- CPT/LIF Location
- Horizontal Biosparge Well (Dashed Line Depicts Approximate Lateral Extent of Well Screen)

Imagery Source:
Google Earth March 16, 2017.

N

0 25 50 100
Feet

1 inch = 50 feet

Figure 2. South-Central Soil Boring and CPT/LIF Locations
SFPP Norwalk Pump Station
Norwalk, California

R:\ENBG\00_PROJ\K\KINDERMORGAN\NORWALK\MAPFILES\2018\FIGURE_1_SB_CPT_LIF_NEW_LOCATIONS.MXD AESPEJO 8/20/2018

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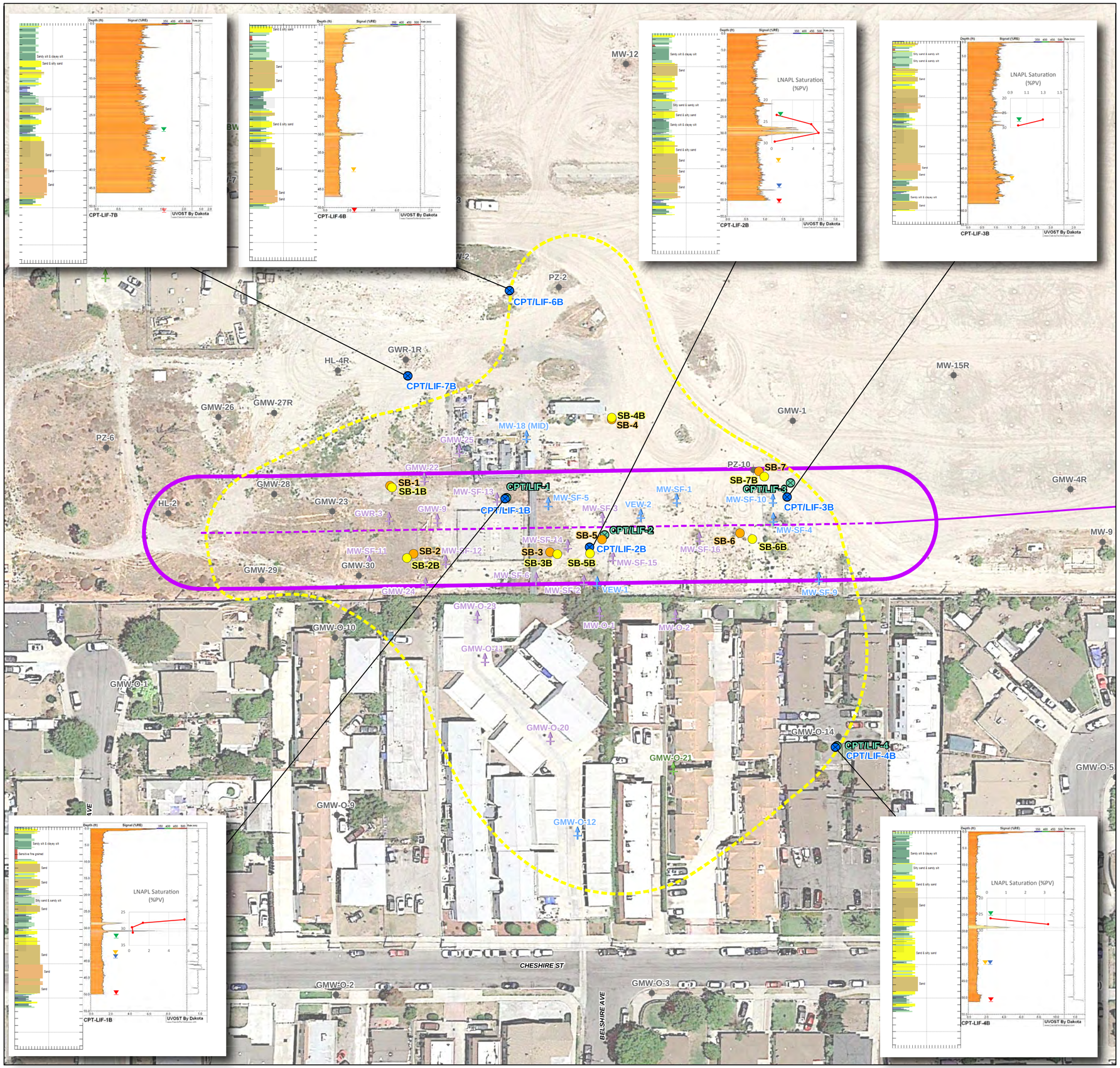

LEGEND

- Existing Groundwater Monitoring Well
- Kinder Morgan Combined Soil Vapor and Total Fluids Extraction Wells
- Kinder Morgan Soil Vapor Extraction Wells
- Kinder Morgan Total Fluids and/or Groundwater Extraction Wells
- Soil Boring Location - July 2018
- Soil Boring Location - September 2012
- CPT/LIF Location - July 2018
- CPT/LIF Location - October 2011
- Inferred Historical Extent of LNAPL Zone (Smear Zone) from LNAPL Characterization Work Plan (AMEC Geomatrix, 2010)
- Horizontal Biosparge Well (Dashed Line Depicts Approximate Lateral Extent of Well Screen)
- Estimated Zone of Influence
- 2Q18 Groundwater Elevations (ft amsl)
- Historic High LNAPL Elevations (ft amsl)
- Historic Low Groundwater Elevations (ft amsl)
- Historic Low Groundwater Elevations (ft amsl)

Imagery Source:
Google Earth June 8, 2018.

N

0 30 60 120
Feet

1 inch = 60 feet

Figure 3. CPT/LIF Responses
SFPP Norwalk Pump Station
Norwalk, California

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R:\ENBG\00_PROJ\KIKINDERMORGAN\NORWALK\MAPFILES\2018\FIGURE_3_SB_CPT_LIF_RESPONSES.MXD AESPEJO 12/26/2018
705305CH.EC.03 Figure _ CPT_LIF_Responses

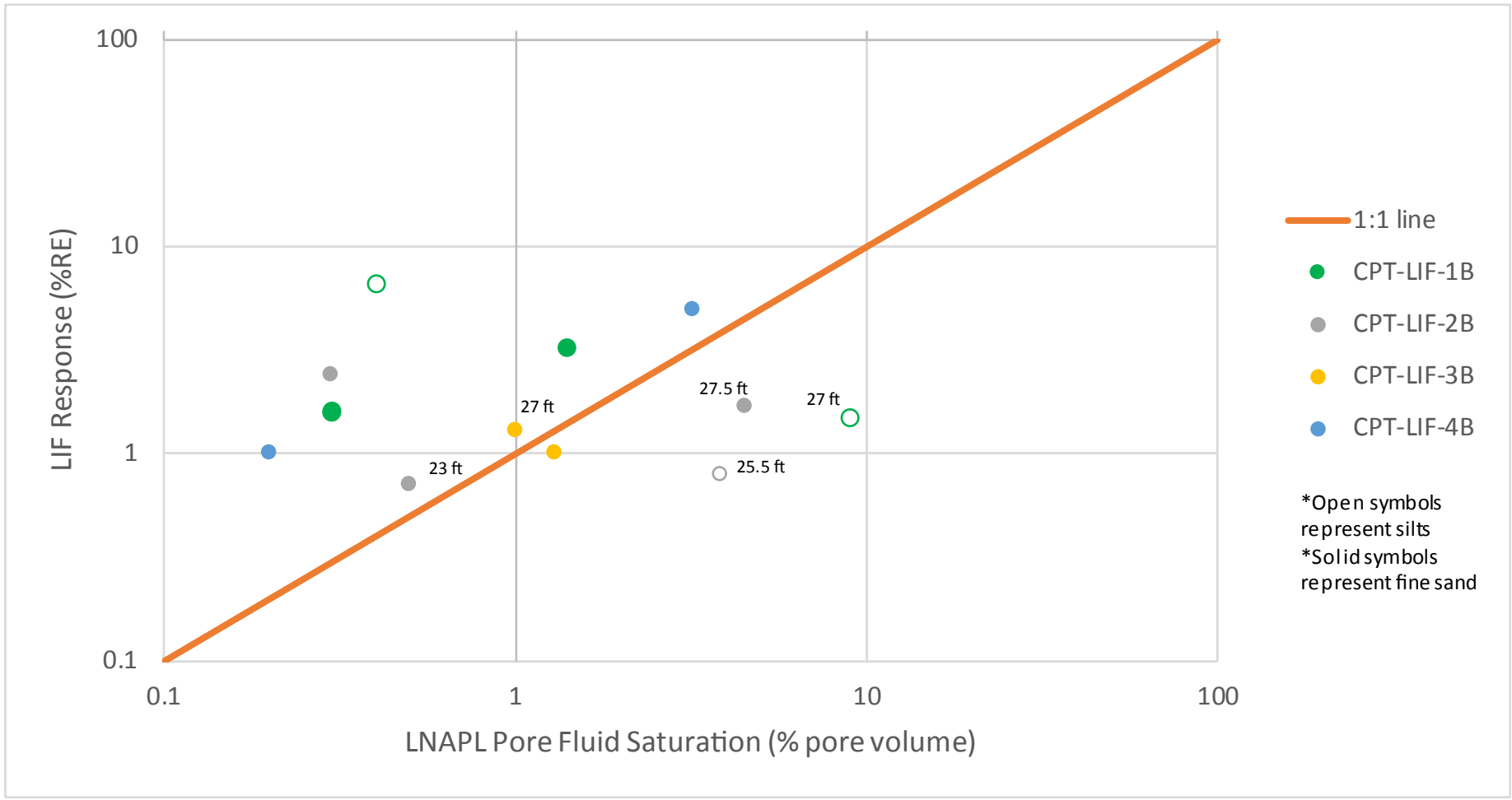

Figure 4. Correlation of LIF Response with LNAPL Saturation
SFPP Norwalk Pump Station
Norwalk, California

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2011

2018

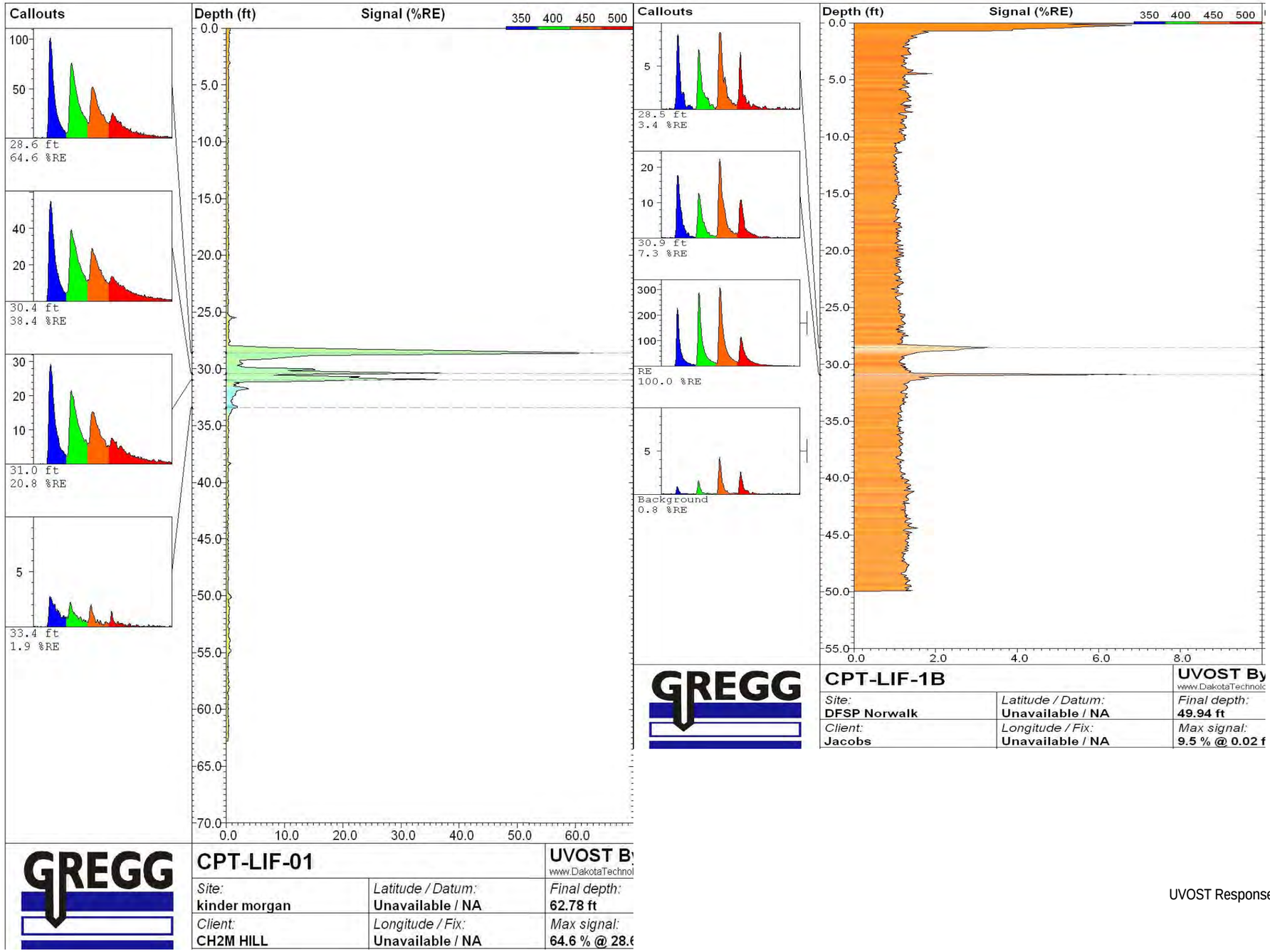

Figure 5.
UVOST Response 2011 and 2018 (Sheet 1 of 4)
SFPP Norwalk Pump Station
Norwalk, California

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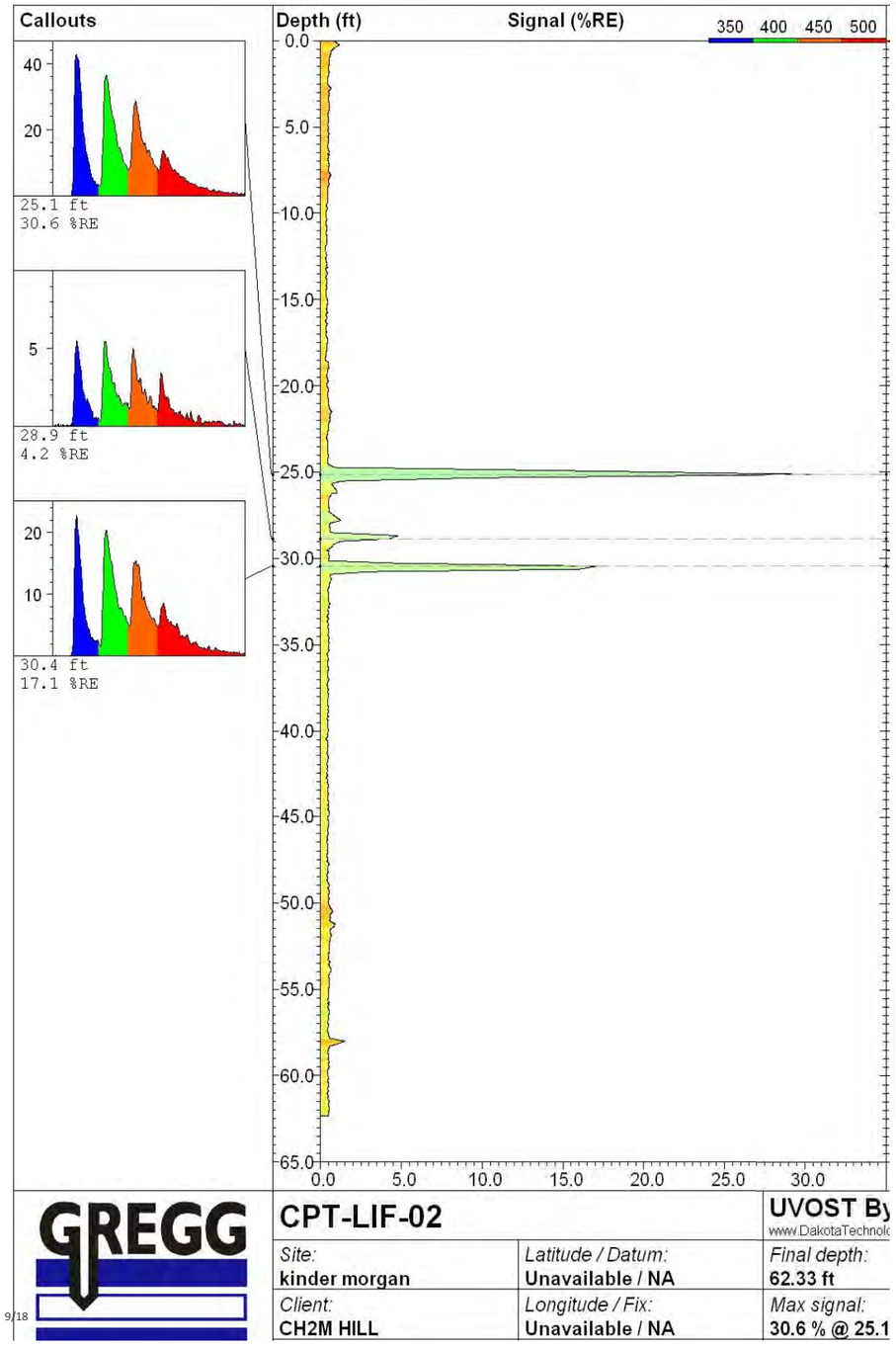
2011

2018



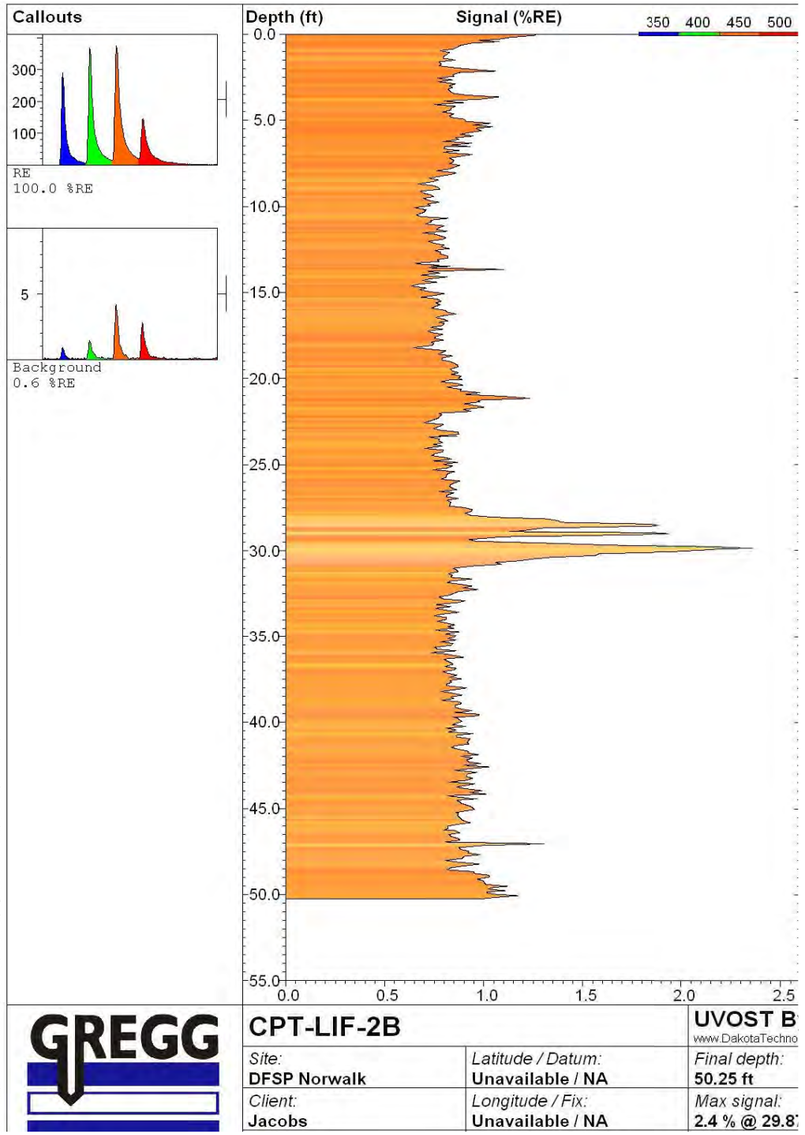


Figure 5.
UVOST Response 2011 and 2018 (Sheet 2 of 4)
SFPP Norwalk Pump Station
Norwalk, California

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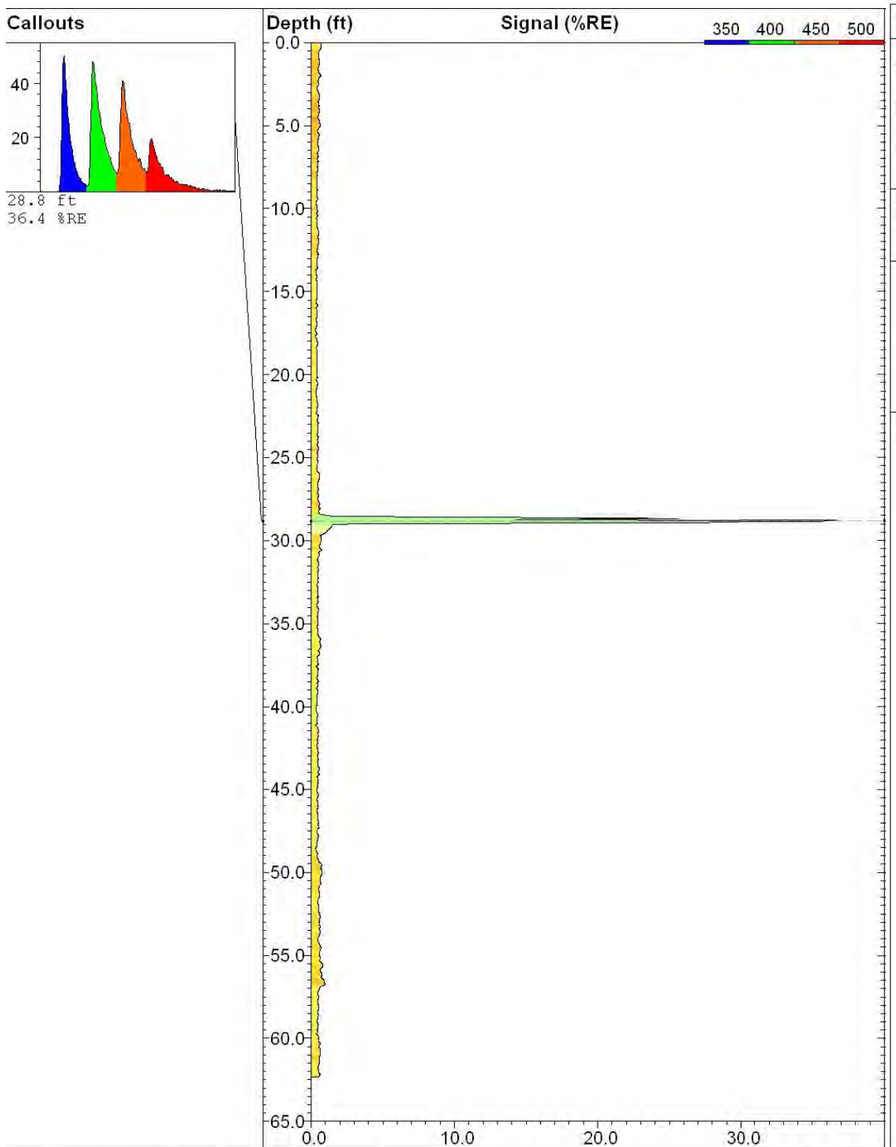
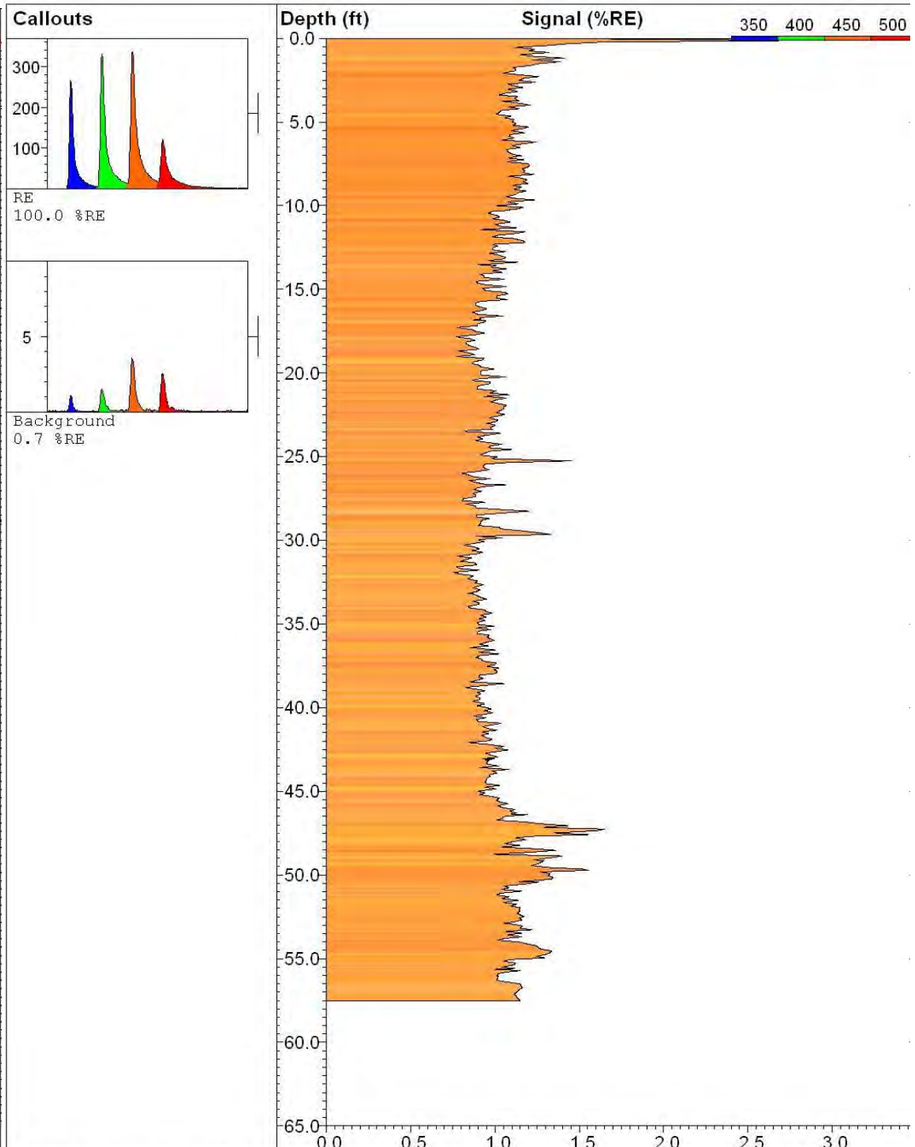
2011



GREGG

CPT-LIF-03		UVOST By www.DakotaTechnol
Site: **kinder morgan**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **62.33 ft**
Client: **CH2M HILL**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **36.9 % @ 28.7**

2018



GREGG

CPT-LIF-3B		UVOST B www.DakotaTechnc
Site: **DFSP Norwalk**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **57.52 ft**
Client: **Jacobs**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **2.9 % @ 0.13**

Figure 5.
UVOST Response 2011 and 2018 (Sheet 3 of 4)
SFPP Norwalk Pump Station
Norwalk, California

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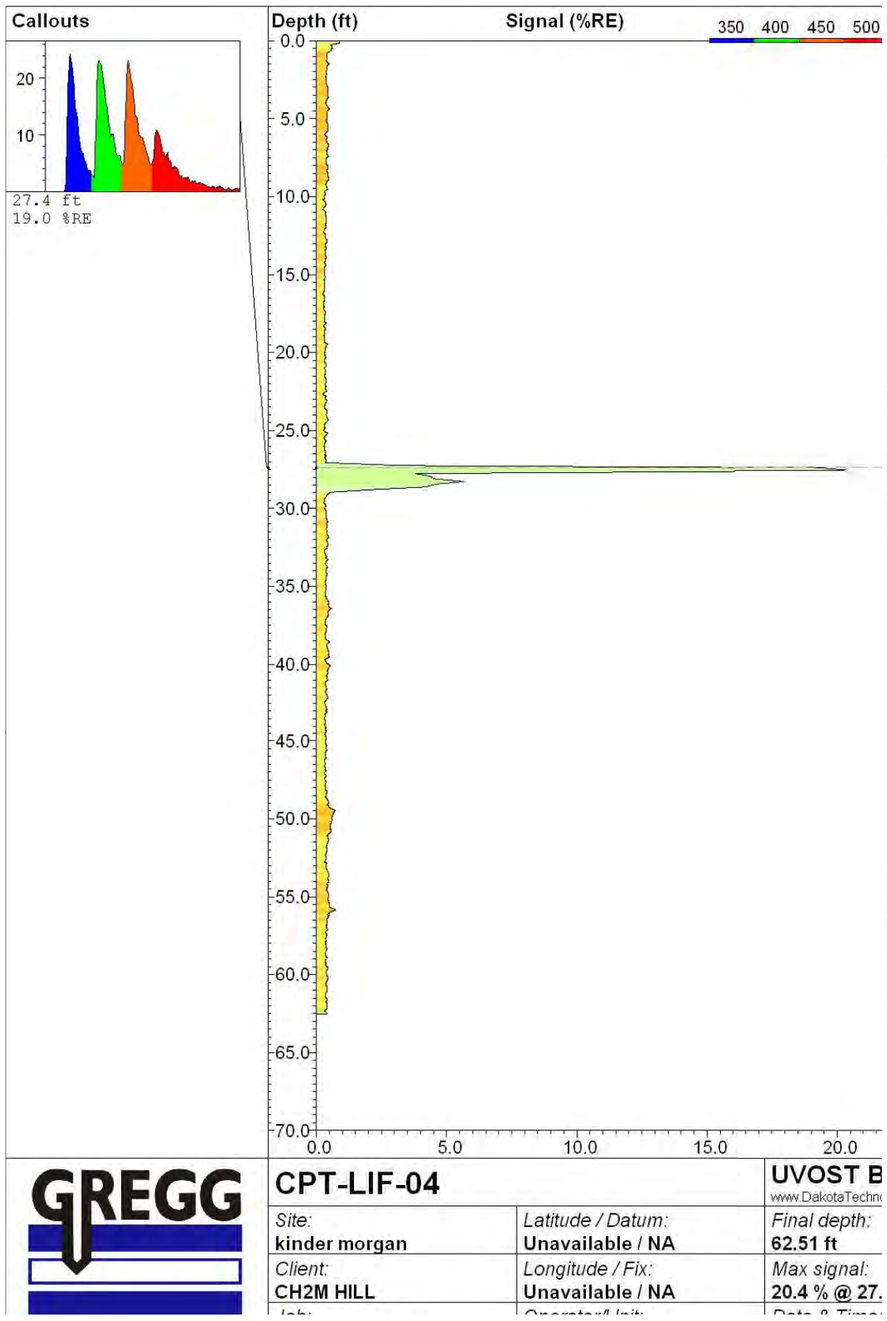
2011



2018

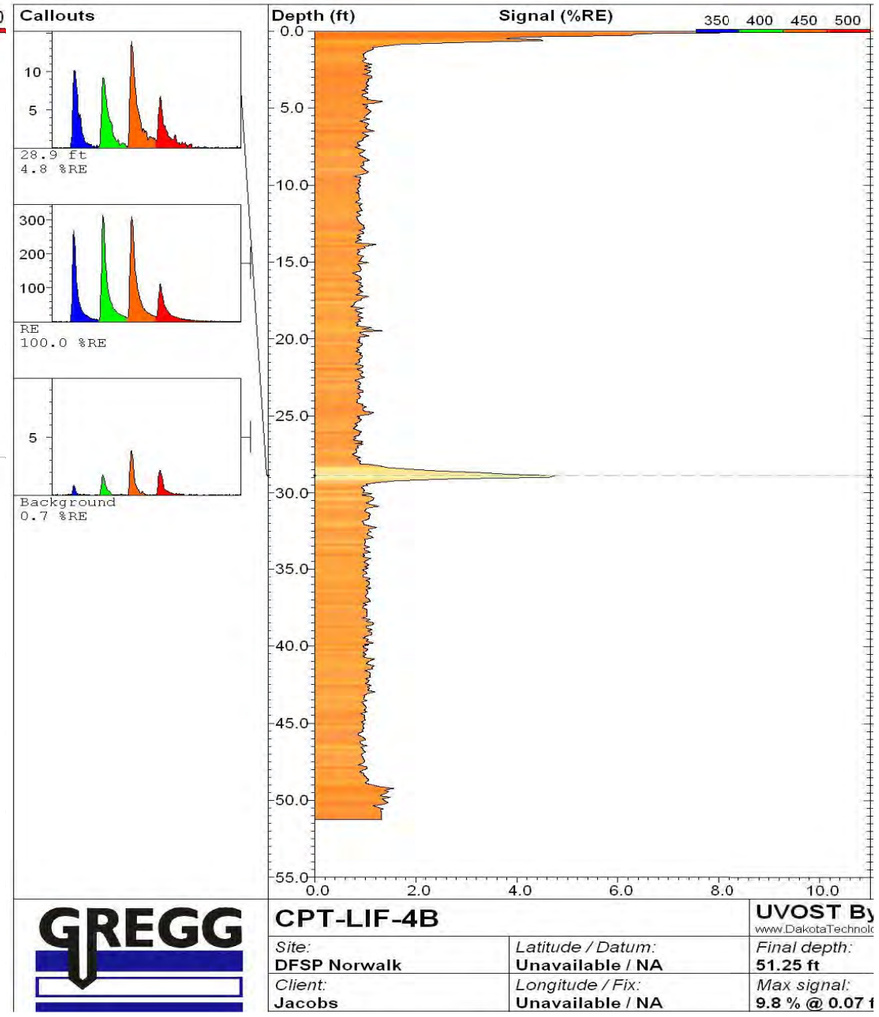


Figure 5.
UVOST Response 2011 and 2018 (Sheet 4 of 4)
SFPP Norwalk Pump Station
Norwalk, California

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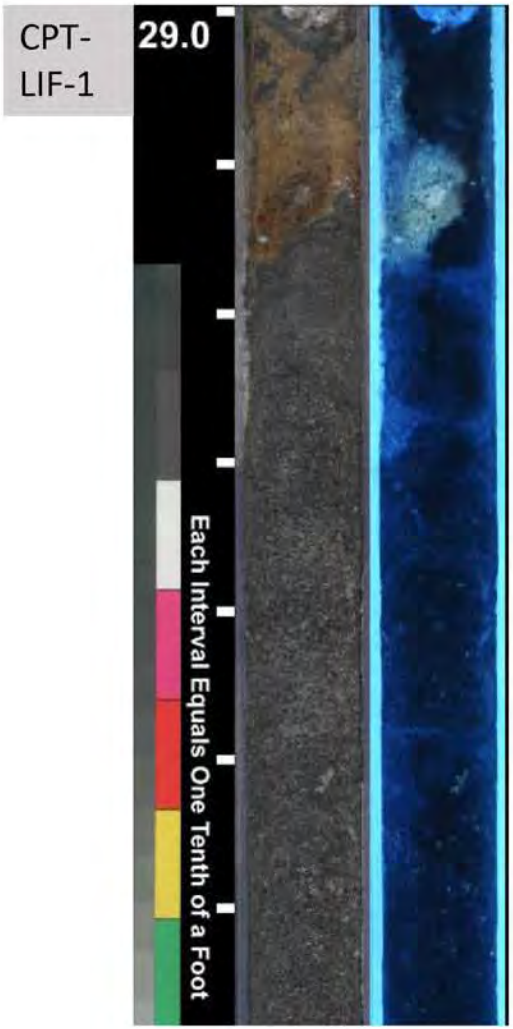
2011



2018

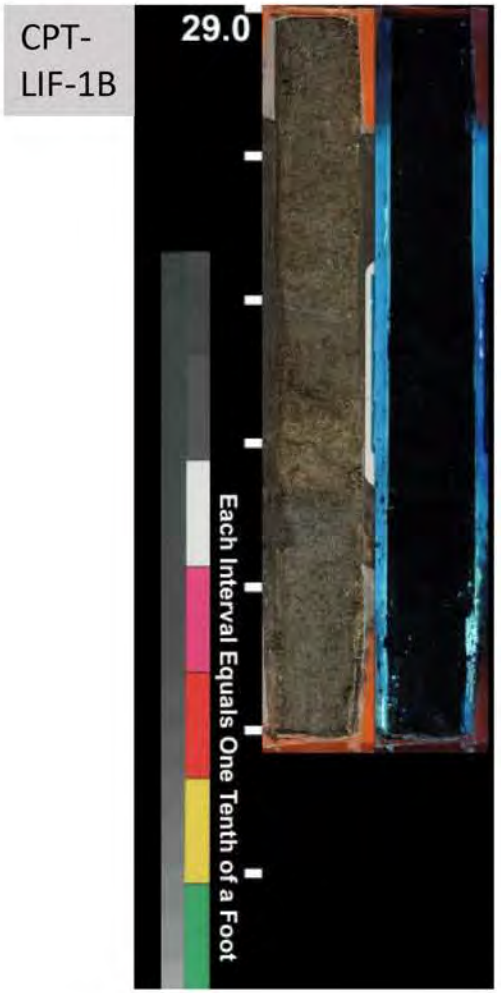


Figure 6. Core Photos 2011 and 2018
(Sheet 1 of 3)
SFPP Norwalk Pump Station
Norwalk, California

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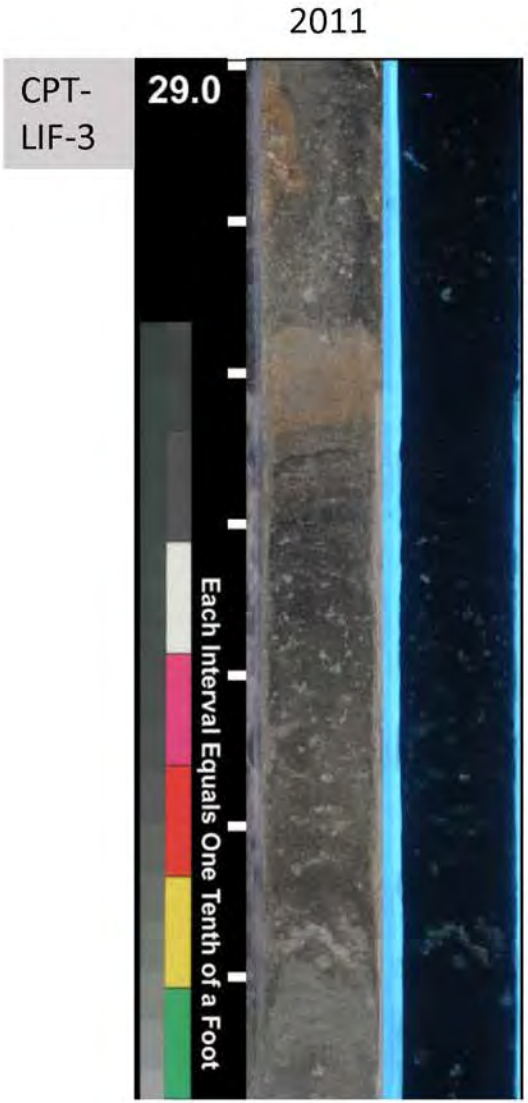

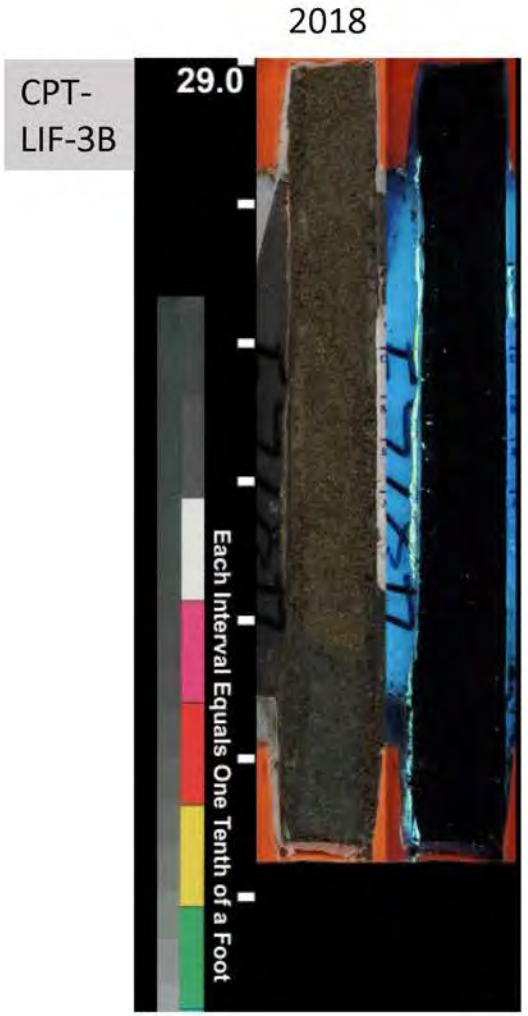

Figure 6. Core Photos 2011 and 2018
(Sheet 2 of 3)
SFPP Norwalk Pump Station
Norwalk, California

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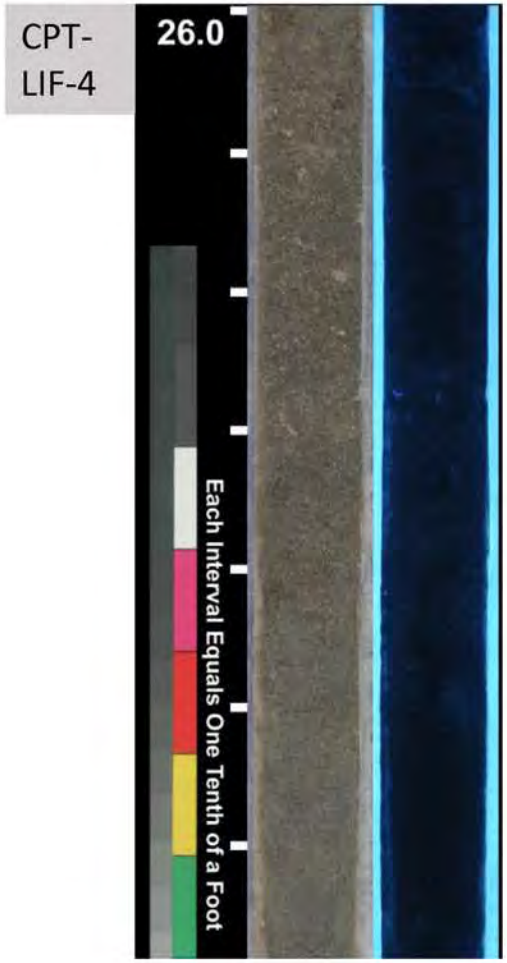
2011



2018

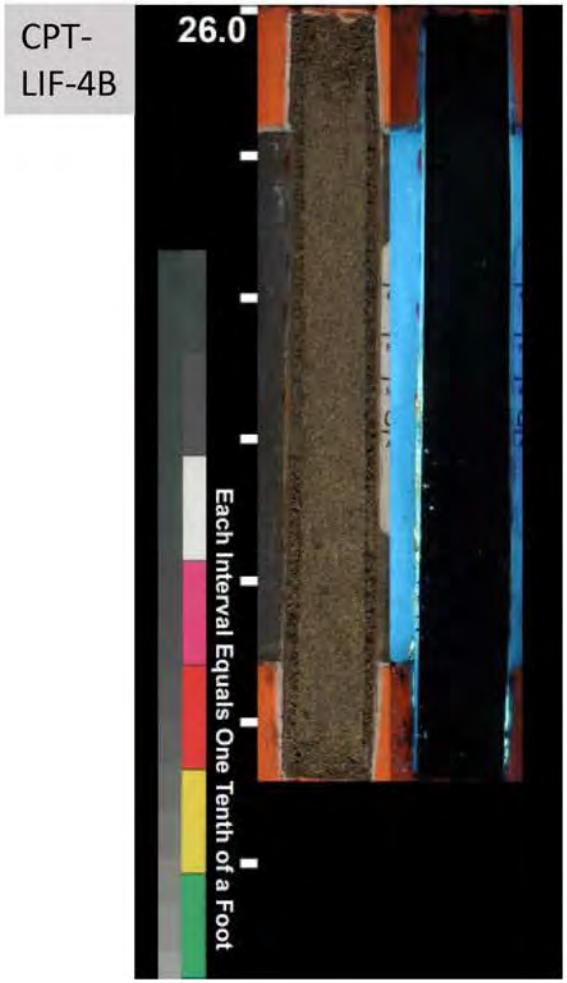


Figure 6. Core Photos 2011 and 2018
(Sheet 3 of 3)
SFPP Norwalk Pump Station
Norwalk, California

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Appendix A
Well Permit

ENVIRONMENTAL HEALTH

Drinking Water Program

5050 Commerce Drive, Baldwin Park, CA 91706
Telephone: (626) 430-5420 • { HYPERLINK "http://publichealth.lacounty.gov/eh/ep/dw/dw_main.htm" }

Work Plan Approval

WORK SITE ADDRESS	CITY	ZIP	EMAIL ADDRESS
15306 Norwalk Blvd	Norwalk	90650	eric.davis@ch2m.com

NOTICE:

- WORK PLAN APPROVALS ARE VALID FOR 180 DAYS. 30 DAY EXTENSIONS OF WORK PLAN APPROVALS ARE CONSIDERED ON AN INDIVIDUAL (CASE-BY-CASE) BASIS AND MAY BE SUBJECT TO ADDITIONAL PLAN REVIEW FEES (HOURLY RATE AS APPLICABLE).
- WORK PLAN MODIFICATIONS MAY BE REQUIRED IF WELL AND GEOLOGIC CONDITIONS ENCOUNTERED AT THE SITE INSPECTION ARE FOUND TO DIFFER FROM THE SCOPE OF WORK PRESENTED TO THE DEPARTMENT OF PUBLIC HEALTH—DRINKING WATER PROGRAM.
- WORK PLAN APPROVALS ARE LIMITED TO COMPLIANCE WITH THE CALIFORNIA WELL STANDARDS AND THE LOS ANGELES COUNTY CODE AND DOES NOT GRANT ANY RIGHTS TO CONSTRUCT, RENOVATE, OR DECOMMISSION ANY WELL. THE APPLICANT IS RESPONSIBLE FOR SECURING ALL OTHER NECESSARY PERMITS SUCH AS WATER RIGHTS, PROPERTY RIGHTS, COASTAL COMMISSION APPROVALS, USE COVENANTS, ENCROACHMENT PERMISSIONS, UTILITY LINE SETBACKS, CITY/COUNTY PUBLIC WORKS RIGHTS OF WAY, ETC.
- THIS PERMIT IS NOT COMPLETE UNTIL ALL OF THE FOLLOWING REQUIREMENTS ARE SIGNED BY THE DEPUTY HEALTH OFFICER. WORK SHALL NOT BE INITIATED WITHOUT A WORK PLAN APPROVAL STAMPED BY THE DEPARTMENT OF PUBLIC HEALTH—DRINKING WATER PROGRAM.

TO BE COMPLETED BY DEPARTMENT OF PUBLIC HEALTH—DRINKING WATER PROGRAM:

X	WORK PLAN APPROVED FOR: 1 Soil Boring/Exp. Hole	**PERMIT NUMBER:**	SR0151185	**DATE:**	7-12-2018

ADDITIONAL APPROVAL CONDITIONS:

- Work plan approval is issued for scope of work submitted to the Drinking Water Program. Any modifications to the scope of work will require additional work plan review.
- Ensure the boring/exploration hole is backfilled within 24 hours of boring construction.
- Ensure to backfill using a tremie pipe under pressure or equivalent equipment with approved cement grout, proceeding upward from the bottom of the boring/exploration hole.
- Ensure soil borings are sealed per California Well Standards 74-90
  - Cement grout mix ratio of 5-6 gallons of water per 94-pound bag of Portland cement.
  - Up to 6% of Bentonite may be added to the cement-based mix.
  - No hydrated Bentonite chips
- Borings/Exploration holes must comply with all applicable requirements published in the California Well Standards (Bulletins 74-81 and 74-90) and the Los Angeles County Code, Title 11.

APPROVED BY:

Belinda Larsen, REHS
21515 Vanowen St. Ste. 116
Canoga Park, Ca 91303
(818) 593-7308

5838

ENVIRONMENTAL HEALTH

Drinking Water Program

5050 Commerce Drive, Baldwin Park, CA 91706
Telephone: (626) 430-5420 • { HYPERLINK "http://publichealth.lacounty.gov/eh/ep/dw/dw_main.htm" }

Work Plan Approval

WORK SITE ADDRESS	CITY	ZIP	EMAIL ADDRESS
15306 Norwalk Blvd	Norwalk	90650	eric.davis@ch2m.com

NOTICE:

- WORK PLAN APPROVALS ARE VALID FOR 180 DAYS. 30 DAY EXTENSIONS OF WORK PLAN APPROVALS ARE CONSIDERED ON AN INDIVIDUAL (CASE-BY-CASE) BASIS AND MAY BE SUBJECT TO ADDITIONAL PLAN REVIEW FEES (HOURLY RATE AS APPLICABLE).
- WORK PLAN MODIFICATIONS MAY BE REQUIRED IF WELL AND GEOLOGIC CONDITIONS ENCOUNTERED AT THE SITE INSPECTION ARE FOUND TO DIFFER FROM THE SCOPE OF WORK PRESENTED TO THE DEPARTMENT OF PUBLIC HEALTH—DRINKING WATER PROGRAM.
- WORK PLAN APPROVALS ARE LIMITED TO COMPLIANCE WITH THE CALIFORNIA WELL STANDARDS AND THE LOS ANGELES COUNTY CODE AND DOES NOT GRANT ANY RIGHTS TO CONSTRUCT, RENOVATE, OR DECOMMISSION ANY WELL. THE APPLICANT IS RESPONSIBLE FOR SECURING ALL OTHER NECESSARY PERMITS SUCH AS WATER RIGHTS, PROPERTY RIGHTS, COASTAL COMMISSION APPROVALS, USE COVENANTS, ENCROACHMENT PERMISSIONS, UTILITY LINE SETBACKS, CITY/COUNTY PUBLIC WORKS RIGHTS OF WAY, ETC.
- THIS PERMIT IS NOT COMPLETE UNTIL ALL OF THE FOLLOWING REQUIREMENTS ARE SIGNED BY THE DEPUTY HEALTH OFFICER. WORK SHALL NOT BE INITIATED WITHOUT A WORK PLAN APPROVAL STAMPED BY THE DEPARTMENT OF PUBLIC HEALTH—DRINKING WATER PROGRAM.

TO BE COMPLETED BY DEPARTMENT OF PUBLIC HEALTH—DRINKING WATER PROGRAM:

X	WORK PLAN APPROVED FOR: 10 Soil Borings/Exp. Hole	**PERMIT NUMBER:**	SR0151183	**DATE:**	7-12-2018

ADDITIONAL APPROVAL CONDITIONS:

- Work plan approval is issued for scope of work submitted to the Drinking Water Program. Any modifications to the scope of work will require additional work plan review.
- Ensure the boring/exploration hole is backfilled within 24 hours of boring construction.
- Ensure to backfill using a tremie pipe under pressure or equivalent equipment with approved cement grout, proceeding upward from the bottom of the boring/exploration hole.
- Ensure soil borings are sealed per California Well Standards 74-90
  - Cement grout mix ratio of 5-6 gallons of water per 94-pound bag of Portland cement.
  - Up to 6% of Bentonite may be added to the cement-based mix.
  - No hydrated Bentonite chips
- Borings/Exploration holes must comply with all applicable requirements published in the California Well Standards (Bulletins 74-81 and 74-90) and the Los Angeles County Code, Title 11.

APPROVED BY:

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21515 Vanowen St. Ste. 116
Canoga Park, Ca 91303
(818) 593-7308

5838

Appendix B
Surveyed Boring Coordinates

CPT/LIF and Soil Boring Survey
KMEP SFPP - 15306 Norwalk Blvd.

ID	WGS84		NAD83 State Plane Feet Zone	
	Latitude	Longitude	Easting	Northing
CPT/LIF-1B	33.891595	-118.071140	6540079.79	1782937.07
CPT/LIF-2B	33.891477	-118.070892	6540155.08	1782894.06
CPT/LIF-3B	33.891600	-118.070312	6540331.06	1782938.70
CPT/LIF-4B	33.890988	-118.070170	6540374.09	1782715.93
CPT/LIF-6B	33.892104	-118.071127	6540083.89	1783122.40
CPT/LIF-7B	33.891896	-118.071426	6539993.14	1783046.54
SB-1B	33.891623	-118.071471	6539979.30	1782947.17
SB-2B	33.891451	-118.071428	6539992.38	1782884.56
SB-3B	33.891460	-118.070986	6540126.47	1782887.88
SB-4B	33.891794	-118.070827	6540174.78	1783009.40
SB-5B	33.891462	-118.070891	6540155.45	1782888.52
SB-6B	33.891497	-118.070414	6540300.01	1782901.35
SB-7B	33.891650	-118.070380	6540310.52	1782956.81

Appendix C
Waste Manifest

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-217271-1
Client Project/Site: KMEP/SFPP Norwalk Site
Revision: 1

For:
CH2M Hill, Inc.
6 Hutton Centre Drive, Suite 700
Santa Ana, California 92707

Attn: Eric Davis

Authorized for release by:
8/16/2018 10:10:04 AM

Dennis Tran, Project Manager I
(949)261-1022
dennis.tran@testamericainc.com

Table of Contents

Sample Summary

Client: CH2M Hill, Inc.
Project/Site: KMEP/SFPP Norwalk Site

TestAmerica Job ID: 440-217271-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-217271-1	IDW-1-W-080318	Water	08/03/18 11:00	08/03/18 12:20
440-217271-6	IDW-2-S-080318 COMPOSITE	Solid	08/03/18 11:05	08/03/18 12:20
440-217271-11	IDW-3-S-080318 COMPOSITE	Solid	08/03/18 11:10	08/03/18 12:20

Job ID: 440-217271-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-217271-1

Comments
Revised report to correct 8260B reporting two sets of results for sample 6.

Receipt
The samples were received on 8/3/2018 12:20 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.6º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
Method(s) 8015B: Insufficient 8015-DRO sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch preparation batch 440-491744 and analytical batch 440-491931. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch: (LCS 440-491744/2-A)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method(s) 6020: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 440-492231 and analytical batch 440-492524 were outside control limits for Barium, Antimony, Zinc and Vanadium. The associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 6020: The following samples were diluted due to the nature of the sample matrix: IDW-2-S-080318 COMPOSITE (440-217271-6) and IDW-3-S-080318 COMPOSITE (440-217271-11). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method(s) 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-491744. 3510C_IVWT 8015B

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample ID: IDW-1-W-080318
Date Collected: 08/03/18 11:00
Date Received: 08/03/18 12:20

Lab Sample ID: 440-217271-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			08/08/18 17:22	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			08/08/18 17:22	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			08/08/18 17:22	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			08/08/18 17:22	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			08/08/18 17:22	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			08/08/18 17:22	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			08/08/18 17:22	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/08/18 17:22	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/08/18 17:22	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/08/18 17:22	1
1,2,4-Trimethylbenzene	**6.1**		0.50	0.25	ug/L			08/08/18 17:22	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			08/08/18 17:22	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			08/08/18 17:22	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			08/08/18 17:22	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			08/08/18 17:22	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			08/08/18 17:22	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			08/08/18 17:22	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			08/08/18 17:22	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			08/08/18 17:22	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/08/18 17:22	1
2-Chlorotoluene	ND		0.50	0.25	ug/L			08/08/18 17:22	1
4-Chlorotoluene	ND		0.50	0.25	ug/L			08/08/18 17:22	1
Benzene	ND		0.50	0.25	ug/L			08/08/18 17:22	1
Bromobenzene	ND		0.50	0.25	ug/L			08/08/18 17:22	1
Bromochloromethane	ND		0.50	0.25	ug/L			08/08/18 17:22	1
Bromodichloromethane	ND		0.50	0.25	ug/L			08/08/18 17:22	1
Bromoform	ND		1.0	0.40	ug/L			08/08/18 17:22	1
Bromomethane	ND		0.50	0.25	ug/L			08/08/18 17:22	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/08/18 17:22	1
Chlorobenzene	ND		0.50	0.25	ug/L			08/08/18 17:22	1
Chloroethane	ND		1.0	0.40	ug/L			08/08/18 17:22	1
Chloroform	ND		0.50	0.25	ug/L			08/08/18 17:22	1
Chloromethane	ND		0.50	0.25	ug/L			08/08/18 17:22	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			08/08/18 17:22	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/08/18 17:22	1
Dibromochloromethane	ND		0.50	0.25	ug/L			08/08/18 17:22	1
Dibromomethane	ND		0.50	0.25	ug/L			08/08/18 17:22	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/08/18 17:22	1
Isopropyl Ether (DIPE)	ND		0.50	0.25	ug/L			08/08/18 17:22	1
Ethyl-t-butyl ether (ETBE)	ND		0.50	0.25	ug/L			08/08/18 17:22	1
Hexachlorobutadiene	ND		0.50	0.25	ug/L			08/08/18 17:22	1
Isopropylbenzene	**0.96**		0.50	0.25	ug/L			08/08/18 17:22	1
m,p-Xylene	**4.0**		1.0	0.50	ug/L			08/08/18 17:22	1
Methylene Chloride	ND		2.0	0.88	ug/L			08/08/18 17:22	1
Methyl-t-Butyl Ether (MTBE)	ND		0.50	0.25	ug/L			08/08/18 17:22	1
Naphthalene	**2.3**		1.0	0.40	ug/L			08/08/18 17:22	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/08/18 17:22	1
N-Propylbenzene	**0.79**		0.50	0.25	ug/L			08/08/18 17:22	1
o-Xylene	**0.46**	**J**	0.50	0.25	ug/L			08/08/18 17:22	1

Client Sample ID: IDW-1-W-080318
Date Collected: 08/03/18 11:00
Date Received: 08/03/18 12:20

Lab Sample ID: 440-217271-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	**1.7**		0.50	0.25	ug/L			08/08/18 17:22	1
sec-Butylbenzene	**1.4**		0.50	0.25	ug/L			08/08/18 17:22	1
Styrene	ND		0.50	0.25	ug/L			08/08/18 17:22	1
Tert-amyl-methyl ether (TAME)	ND		0.50	0.25	ug/L			08/08/18 17:22	1
tert-Butyl alcohol (TBA)	**280**		10	5.0	ug/L			08/08/18 17:22	1
tert-Butylbenzene	ND		0.50	0.25	ug/L			08/08/18 17:22	1
Tetrachloroethene	ND		0.50	0.25	ug/L			08/08/18 17:22	1
Toluene	ND		0.50	0.25	ug/L			08/08/18 17:22	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			08/08/18 17:22	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/08/18 17:22	1
Trichloroethene	ND		0.50	0.25	ug/L			08/08/18 17:22	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			08/08/18 17:22	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/08/18 17:22	1
Xylenes, Total	**4.5**		1.0	0.50	ug/L			08/08/18 17:22	1
1,3,5-Trimethylbenzene	**8.3**		0.50	0.25	ug/L			08/08/18 17:22	1
Ethylbenzene	**0.93**		0.50	0.25	ug/L			08/08/18 17:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*80 - 120*		*08/08/18 17:22*	*1*
Dibromofluoromethane (Surr)	*87*		*76 - 132*		*08/08/18 17:22*	*1*
Toluene-d8 (Surr)	*108*		*80 - 128*		*08/08/18 17:22*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	**4400**		500	250	ug/L			08/13/18 22:20	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*65 - 140*		*08/13/18 22:20*	*10*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
ORO (C23-C36)	**0.90**		0.54	0.11	mg/L		08/06/18 17:35	08/07/18 15:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*72*		*45 - 120*	*08/06/18 17:35*	*08/07/18 15:18*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (C13-C22)	**9.1**		2.7	0.54	mg/L		08/06/18 17:35	08/07/18 22:05	5
C8 - C18	**9.6**		2.7	0.54	mg/L		08/06/18 17:35	08/07/18 22:05	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		08/06/18 11:40	08/07/18 16:36	1
Arsenic	**75**		1.0	0.50	ug/L		08/06/18 11:40	08/07/18 16:36	1
Barium	**33**		1.0	0.50	ug/L		08/06/18 11:40	08/07/18 16:36	1
Beryllium	ND		0.50	0.25	ug/L		08/06/18 11:40	08/07/18 16:36	1
Cadmium	ND		1.0	0.25	ug/L		08/06/18 11:40	08/07/18 16:36	1
Chromium	**2.1**		2.0	0.50	ug/L		08/06/18 11:40	08/07/18 16:36	1
Cobalt	ND		1.0	0.50	ug/L		08/06/18 11:40	08/07/18 16:36	1
Copper	**7.9**		2.0	0.50	ug/L		08/06/18 11:40	08/07/18 16:36	1

Client Sample ID: IDW-1-W-080318

Lab Sample ID: 440-217271-1

Date Collected: 08/03/18 11:00

Matrix: Water

Date Received: 08/03/18 12:20

Method: 6020 - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**0.50**	**J**	1.0	0.50	ug/L		08/06/18 11:40	08/07/18 16:36	1
Molybdenum	**25**		2.0	0.50	ug/L		08/06/18 11:40	08/07/18 16:36	1
Nickel	**4.5**		2.0	0.50	ug/L		08/06/18 11:40	08/07/18 16:36	1
Selenium	**1.6**	**J**	2.0	0.50	ug/L		08/06/18 11:40	08/07/18 16:36	1
Thallium	ND		1.0	0.50	ug/L		08/06/18 11:40	08/07/18 16:36	1
Vanadium	**8.2**		2.0	1.0	ug/L		08/06/18 11:40	08/07/18 16:36	1
Zinc	**19**	**J**	20	2.5	ug/L		08/06/18 11:40	08/07/18 16:36	1
Antimony	**1.5**	**J**	2.0	0.50	ug/L		08/06/18 11:40	08/07/18 16:36	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		08/09/18 13:23	08/10/18 03:59	1

Client Sample ID: IDW-2-S-080318 COMPOSITE

Lab Sample ID: 440-217271-6

Date Collected: 08/03/18 11:05

Matrix: Solid

Date Received: 08/03/18 12:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		25	4.9	ug/Kg			08/08/18 15:52	1
1,1,1-Trichloroethane	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
1,1,2,2-Tetrachloroethane	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
1,1,2-Trichloroethane	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
1,1-Dichloroethane	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
1,1-Dichloroethene	ND		25	4.9	ug/Kg			08/08/18 15:52	1
1,1-Dichloropropene	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
1,2,3-Trichlorobenzene	ND		25	4.9	ug/Kg			08/08/18 15:52	1
1,2,3-Trichloropropane	ND		49	4.9	ug/Kg			08/08/18 15:52	1
1,2,4-Trichlorobenzene	ND		25	4.9	ug/Kg			08/08/18 15:52	1
1,2,4-Trimethylbenzene	**500**		9.8	4.9	ug/Kg			08/08/18 15:52	1
1,2-Dibromo-3-Chloropropane	**68**		25	9.8	ug/Kg			08/08/18 15:52	1
1,2-Dibromoethane (EDB)	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
1,2-Dichlorobenzene	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
1,2-Dichloroethane	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
1,2-Dichloropropane	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
1,3,5-Trimethylbenzene	**550**		100	50	ug/Kg		08/10/18 10:54	08/10/18 19:02	100
1,3-Dichlorobenzene	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
1,3-Dichloropropane	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
1,4-Dichlorobenzene	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
2,2-Dichloropropane	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
2-Chlorotoluene	ND		25	4.9	ug/Kg			08/08/18 15:52	1
4-Chlorotoluene	ND		25	4.9	ug/Kg			08/08/18 15:52	1
Benzene	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
Bromobenzene	ND		25	4.9	ug/Kg			08/08/18 15:52	1
Bromochloromethane	ND		25	4.9	ug/Kg			08/08/18 15:52	1
Bromodichloromethane	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
Bromoform	ND		25	9.8	ug/Kg			08/08/18 15:52	1
Bromomethane	ND		25	4.9	ug/Kg			08/08/18 15:52	1
Carbon tetrachloride	ND		25	4.9	ug/Kg			08/08/18 15:52	1
Chlorobenzene	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1

Client Sample ID: IDW-2-S-080318 COMPOSITE
Lab Sample ID: 440-217271-6
Date Collected: 08/03/18 11:05
Matrix: Solid
Date Received: 08/03/18 12:20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	ND		25	9.8	ug/Kg			08/08/18 15:52	1
Chloroform	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
Chloromethane	ND		25	4.9	ug/Kg			08/08/18 15:52	1
cis-1,2-Dichloroethene	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
cis-1,3-Dichloropropene	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
Dibromochloromethane	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
Dibromomethane	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
Dichlorodifluoromethane	ND		25	9.8	ug/Kg			08/08/18 15:52	1
Ethylbenzene	**250**		9.8	4.9	ug/Kg			08/08/18 15:52	1
Hexachlorobutadiene	ND		25	4.9	ug/Kg			08/08/18 15:52	1
Isopropylbenzene	**130**		9.8	4.9	ug/Kg			08/08/18 15:52	1
m,p-Xylene	ND		20	9.8	ug/Kg			08/08/18 15:52	1
Methylene Chloride	ND		98	25	ug/Kg			08/08/18 15:52	1
Methyl-t-Butyl Ether (MTBE)	ND		25	4.9	ug/Kg			08/08/18 15:52	1
Naphthalene	**24**	**J**	25	9.8	ug/Kg			08/08/18 15:52	1
n-Butylbenzene	**340**		25	4.9	ug/Kg			08/08/18 15:52	1
N-Propylbenzene	**380**		9.8	4.9	ug/Kg			08/08/18 15:52	1
o-Xylene	**34**		9.8	4.9	ug/Kg			08/08/18 15:52	1
sec-Butylbenzene	**130**		25	4.9	ug/Kg			08/08/18 15:52	1
Styrene	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
Tert-amyl-methyl ether (TAME)	ND		25	4.9	ug/Kg			08/08/18 15:52	1
tert-Butylbenzene	ND		25	4.9	ug/Kg			08/08/18 15:52	1
Tetrachloroethene	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
Toluene	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
trans-1,2-Dichloroethene	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
trans-1,3-Dichloropropene	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
Trichloroethene	ND		9.8	4.9	ug/Kg			08/08/18 15:52	1
Trichlorofluoromethane	ND		25	4.9	ug/Kg			08/08/18 15:52	1
Vinyl chloride	ND		25	4.9	ug/Kg			08/08/18 15:52	1
Xylenes, Total	**34**		20	9.8	ug/Kg			08/08/18 15:52	1
Isopropyl Ether (DIPE)	ND		25	4.9	ug/Kg			08/08/18 15:52	1
Ethyl-t-butyl ether (ETBE)	ND		25	4.9	ug/Kg			08/08/18 15:52	1
tert-Butyl alcohol (TBA)	ND		490	49	ug/Kg			08/08/18 15:52	1
p-Isopropyltoluene	**110**		9.8	4.9	ug/Kg			08/08/18 15:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*107*		*79 - 123*		*08/08/18 15:52*	*1*
Toluene-d8 (Surr)	*101*		*60 - 140*	*08/10/18 10:54*	*08/10/18 19:02*	*100*
4-Bromofluorobenzene (Surr)	*113*		*79 - 120*		*08/08/18 15:52*	*1*
4-Bromofluorobenzene (Surr)	*95*		*65 - 140*	*08/10/18 10:54*	*08/10/18 19:02*	*100*
Dibromofluoromethane (Surr)	*97*		*60 - 120*		*08/08/18 15:52*	*1*
Dibromofluoromethane (Surr)	*101*		*55 - 140*	*08/10/18 10:54*	*08/10/18 19:02*	*100*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	**93000**		40000	20000	ug/Kg		08/10/18 10:54	08/13/18 11:57	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*65 - 140*	*08/10/18 10:54*	*08/13/18 11:57*	*100*

Client Sample ID: IDW-2-S-080318 COMPOSITE

Lab Sample ID: 440-217271-6
Date Collected: 08/03/18 11:05
Matrix: Solid
Date Received: 08/03/18 12:20

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C23-C40	19		4.8	2.4	mg/Kg		08/07/18 07:17	08/08/18 22:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*69*		*40 - 140*	*08/07/18 07:17*	*08/08/18 22:55*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	610		48	24	mg/Kg		08/07/18 07:17	08/09/18 07:43	10
C8 - C18	770		48	24	mg/Kg		08/07/18 07:17	08/09/18 07:43	10

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		2.5	0.50	mg/Kg		08/08/18 13:11	08/09/18 12:45	100
Arsenic	5.4		2.5	1.3	mg/Kg		08/08/18 13:11	08/09/18 12:45	100
Barium	130		2.5	1.3	mg/Kg		08/08/18 13:11	08/09/18 12:45	100
Beryllium	ND		1.5	0.75	mg/Kg		08/08/18 13:11	08/09/18 12:45	100
Cadmium	ND		2.5	1.3	mg/Kg		08/08/18 13:11	08/09/18 12:45	100
Chromium	18		5.0	2.5	mg/Kg		08/08/18 13:11	08/09/18 12:45	100
Cobalt	8.1		2.5	1.1	mg/Kg		08/08/18 13:11	08/09/18 12:45	100
Copper	21		5.0	2.5	mg/Kg		08/08/18 13:11	08/09/18 12:45	100
Lead	4.5		2.5	1.3	mg/Kg		08/08/18 13:11	08/09/18 12:45	100
Molybdenum	ND		5.0	2.5	mg/Kg		08/08/18 13:11	08/09/18 12:45	100
Nickel	14		5.0	2.5	mg/Kg		08/08/18 13:11	08/09/18 12:45	100
Selenium	ND		5.0	1.0	mg/Kg		08/08/18 13:11	08/09/18 12:45	100
Thallium	ND		2.5	1.3	mg/Kg		08/08/18 13:11	08/09/18 12:45	100
Vanadium	35		5.0	2.5	mg/Kg		08/08/18 13:11	08/09/18 12:45	100
Zinc	43	J	50	25	mg/Kg		08/08/18 13:11	08/09/18 12:45	100
Antimony	ND		5.0	1.4	mg/Kg		08/08/18 13:11	08/09/18 12:45	100

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.053		0.020	0.012	mg/Kg		08/09/18 08:55	08/09/18 19:50	1

Client Sample ID: IDW-3-S-080318 COMPOSITE

Lab Sample ID: 440-217271-11
Date Collected: 08/03/18 11:10
Matrix: Solid
Date Received: 08/03/18 12:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	0.99	ug/Kg			08/08/18 16:20	1
1,1,1-Trichloroethane	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
1,1,2,2-Tetrachloroethane	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
1,1,2-Trichloroethane	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
1,1-Dichloroethane	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
1,1-Dichloroethene	ND		5.0	0.99	ug/Kg			08/08/18 16:20	1
1,1-Dichloropropene	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
1,2,3-Trichlorobenzene	ND		5.0	0.99	ug/Kg			08/08/18 16:20	1
1,2,3-Trichloropropane	ND		9.9	0.99	ug/Kg			08/08/18 16:20	1
1,2,4-Trichlorobenzene	ND		5.0	0.99	ug/Kg			08/08/18 16:20	1
1,2,4-Trimethylbenzene	7.5		2.0	0.99	ug/Kg			08/08/18 16:20	1
1,2-Dibromo-3-Chloropropane	ND		5.0	2.0	ug/Kg			08/08/18 16:20	1

Client: CH2M Hill, Inc.
Project/Site: KMEP/SFPP Norwalk Site

TestAmerica Job ID: 440-217271-1

Client Sample ID: IDW-3-S-080318 COMPOSITE
Date Collected: 08/03/18 11:10
Date Received: 08/03/18 12:20

Lab Sample ID: 440-217271-11
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
1,2-Dichlorobenzene	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
1,2-Dichloroethane	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
1,2-Dichloropropane	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
1,3-Dichlorobenzene	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
1,3-Dichloropropane	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
1,4-Dichlorobenzene	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
2,2-Dichloropropane	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
2-Chlorotoluene	ND		5.0	0.99	ug/Kg			08/08/18 16:20	1
4-Chlorotoluene	ND		5.0	0.99	ug/Kg			08/08/18 16:20	1
Benzene	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
Bromobenzene	ND		5.0	0.99	ug/Kg			08/08/18 16:20	1
Bromochloromethane	ND		5.0	0.99	ug/Kg			08/08/18 16:20	1
Bromodichloromethane	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
Bromoform	ND		5.0	2.0	ug/Kg			08/08/18 16:20	1
Bromomethane	ND		5.0	0.99	ug/Kg			08/08/18 16:20	1
Carbon tetrachloride	ND		5.0	0.99	ug/Kg			08/08/18 16:20	1
Chlorobenzene	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
Chloroethane	ND		5.0	2.0	ug/Kg			08/08/18 16:20	1
Chloroform	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
Chloromethane	ND		5.0	0.99	ug/Kg			08/08/18 16:20	1
cis-1,2-Dichloroethene	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
cis-1,3-Dichloropropene	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
Dibromochloromethane	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
Dibromomethane	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
Dichlorodifluoromethane	ND		5.0	2.0	ug/Kg			08/08/18 16:20	1
Ethylbenzene	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
Hexachlorobutadiene	ND		5.0	0.99	ug/Kg			08/08/18 16:20	1
Isopropylbenzene	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
m,p-Xylene	ND		4.0	2.0	ug/Kg			08/08/18 16:20	1
Methylene Chloride	ND		20	5.0	ug/Kg			08/08/18 16:20	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0	0.99	ug/Kg			08/08/18 16:20	1
Naphthalene	**20**		5.0	2.0	ug/Kg			08/08/18 16:20	1
n-Butylbenzene	ND		5.0	0.99	ug/Kg			08/08/18 16:20	1
N-Propylbenzene	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
o-Xylene	**1.6**	**J**	2.0	0.99	ug/Kg			08/08/18 16:20	1
sec-Butylbenzene	ND		5.0	0.99	ug/Kg			08/08/18 16:20	1
Styrene	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
Tert-amyl-methyl ether (TAME)	ND		5.0	0.99	ug/Kg			08/08/18 16:20	1
tert-Butylbenzene	ND		5.0	0.99	ug/Kg			08/08/18 16:20	1
Tetrachloroethene	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
Toluene	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
trans-1,2-Dichloroethene	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
trans-1,3-Dichloropropene	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
Trichloroethene	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1
Trichlorofluoromethane	ND		5.0	0.99	ug/Kg			08/08/18 16:20	1
Vinyl chloride	ND		5.0	0.99	ug/Kg			08/08/18 16:20	1
Xylenes, Total	ND		4.0	2.0	ug/Kg			08/08/18 16:20	1
Isopropyl Ether (DIPE)	ND		5.0	0.99	ug/Kg			08/08/18 16:20	1

Client Sample ID: IDW-3-S-080318 COMPOSITE

Lab Sample ID: 440-217271-11

Date Collected: 08/03/18 11:10

Matrix: Solid

Date Received: 08/03/18 12:20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl-t-butyl ether (ETBE)	ND		5.0	0.99	ug/Kg			08/08/18 16:20	1
tert-Butyl alcohol (TBA)	ND		99	9.9	ug/Kg			08/08/18 16:20	1
p-Isopropyltoluene	ND		2.0	0.99	ug/Kg			08/08/18 16:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*79 - 123*		*08/08/18 16:20*	*1*
4-Bromofluorobenzene (Surr)	*101*		*79 - 120*		*08/08/18 16:20*	*1*
Dibromofluoromethane (Surr)	*98*		*60 - 120*		*08/08/18 16:20*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		2.0	0.98	ug/Kg			08/10/18 13:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*79 - 123*		*08/10/18 13:05*	*1*
4-Bromofluorobenzene (Surr)	*92*		*79 - 120*		*08/10/18 13:05*	*1*
Dibromofluoromethane (Surr)	*96*		*60 - 120*		*08/10/18 13:05*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		400	150	ug/Kg			08/13/18 19:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*65 - 140*		*08/13/18 19:00*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**4.5**	**J**	4.9	2.5	mg/Kg		08/07/18 07:17	08/09/18 00:23	1
C23-C40	**5.6**		4.9	2.5	mg/Kg		08/07/18 07:17	08/09/18 00:23	1
C8 - C18	**3.8**	**J**	4.9	2.5	mg/Kg		08/07/18 07:17	08/09/18 00:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*80*		*40 - 140*	*08/07/18 07:17*	*08/09/18 00:23*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		2.5	0.50	mg/Kg		08/08/18 13:11	08/09/18 12:47	100
Arsenic	**48**		2.5	1.3	mg/Kg		08/08/18 13:11	08/09/18 12:47	100
Barium	**210**		2.5	1.3	mg/Kg		08/08/18 13:11	08/09/18 12:47	100
Beryllium	ND		1.5	0.75	mg/Kg		08/08/18 13:11	08/09/18 12:47	100
Cadmium	ND		2.5	1.3	mg/Kg		08/08/18 13:11	08/09/18 12:47	100
Chromium	**30**		5.0	2.5	mg/Kg		08/08/18 13:11	08/09/18 12:47	100
Cobalt	**14**		2.5	1.1	mg/Kg		08/08/18 13:11	08/09/18 12:47	100
Copper	**42**		5.0	2.5	mg/Kg		08/08/18 13:11	08/09/18 12:47	100
Lead	**9.7**		2.5	1.3	mg/Kg		08/08/18 13:11	08/09/18 12:47	100
Molybdenum	ND		5.0	2.5	mg/Kg		08/08/18 13:11	08/09/18 12:47	100
Nickel	**25**		5.0	2.5	mg/Kg		08/08/18 13:11	08/09/18 12:47	100
Selenium	ND		5.0	1.0	mg/Kg		08/08/18 13:11	08/09/18 12:47	100
Thallium	ND		2.5	1.3	mg/Kg		08/08/18 13:11	08/09/18 12:47	100
Vanadium	**54**		5.0	2.5	mg/Kg		08/08/18 13:11	08/09/18 12:47	100
Zinc	**70**		50	25	mg/Kg		08/08/18 13:11	08/09/18 12:47	100

Client: CH2M Hill, Inc.
Project/Site: KMEP/SFPP Norwalk Site

TestAmerica Job ID: 440-217271-1

Client Sample ID: IDW-3-S-080318 COMPOSITE
Date Collected: 08/03/18 11:10
Date Received: 08/03/18 12:20

Lab Sample ID: 440-217271-11
Matrix: Solid

Method: 6020 - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		5.0	1.4	mg/Kg		08/08/18 13:11	08/09/18 12:47	100

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.056**		0.020	0.012	mg/Kg		08/09/18 08:55	08/09/18 19:52	1

Method Summary

Client: CH2M Hill, Inc.
Project/Site: KMEP/SFPP Norwalk Site

TestAmerica Job ID: 440-217271-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8015B	Gasoline Range Organics - (GC)	SW846	TAL IRV
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL IRV
6020	Metals (ICP/MS)	SW846	TAL IRV
7470A	Mercury (CVAA)	SW846	TAL IRV
7471A	Mercury (CVAA)	SW846	TAL IRV
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL IRV
3050B	Preparation, Metals	SW846	TAL IRV
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL IRV
3546	Microwave Extraction	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV
7470A	Preparation, Mercury	SW846	TAL IRV
7471A	Preparation, Mercury	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: CH2M Hill, Inc.
Project/Site: KMEP/SFPP Norwalk Site

TestAmerica Job ID: 440-217271-1

Client Sample ID: IDW-1-W-080318

Lab Sample ID: 440-217271-1

Date Collected: 08/03/18 11:00

Matrix: Water

Date Received: 08/03/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	492124	08/08/18 17:22	TCN	TAL IRV
Total/NA	Analysis	8015B		10	10 mL	10 mL	493118	08/13/18 22:20	EI	TAL IRV
Total/NA	Prep	3510C			930 mL	1 mL	491744	08/06/18 17:35	AJP	TAL IRV
Total/NA	Analysis	8015B		1			491931	08/07/18 15:18	LMB	TAL IRV
Total/NA	Prep	3510C	DL		930 mL	1 mL	491744	08/06/18 17:35	AJP	TAL IRV
Total/NA	Analysis	8015B	DL	5			491931	08/07/18 22:05	LMB	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	491738	08/06/18 11:40	MN1	TAL IRV
Total Recoverable	Analysis	6020		1			492046	08/07/18 16:36	B1H	TAL IRV
Total/NA	Prep	7470A			20 mL	20 mL	492531	08/09/18 13:23	DB	TAL IRV
Total/NA	Analysis	7470A		1			492808	08/10/18 03:59	DB	TAL IRV

Client Sample ID: IDW-2-S-080318 COMPOSITE

Lab Sample ID: 440-217271-6

Date Collected: 08/03/18 11:05

Matrix: Solid

Date Received: 08/03/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10.00 g	10 mL	492775	08/10/18 10:54	AYL	TAL IRV
Total/NA	Analysis	8260B		100	10 mL	10 mL	492796	08/10/18 19:02	AA	TAL IRV
Total/NA	Analysis	8260B		1	1.02 g	10 mL	492128	08/08/18 15:52	TCN	TAL IRV
Total/NA	Prep	5030B			10.00 g	10 mL	492775	08/10/18 10:54	AYL	TAL IRV
Total/NA	Analysis	8015B		100	10 mL	10 mL	493059	08/13/18 11:57	YCL	TAL IRV
Total/NA	Prep	3546			15.55 g	1 mL	491905	08/07/18 07:17	L1A	TAL IRV
Total/NA	Analysis	8015B		1			492250	08/08/18 22:55	LMB	TAL IRV
Total/NA	Prep	3546	DL		15.55 g	1 mL	491905	08/07/18 07:17	L1A	TAL IRV
Total/NA	Analysis	8015B	DL	10			492250	08/09/18 07:43	LMB	TAL IRV
Total/NA	Prep	3050B			1.99 g	50 mL	492231	08/08/18 13:11	DT	TAL IRV
Total/NA	Analysis	6020		100			492524	08/09/18 12:45	B1H	TAL IRV
Total/NA	Prep	7471A			0.50 g	50 mL	492450	08/09/18 08:55	DB	TAL IRV
Total/NA	Analysis	7471A		1			492851	08/09/18 19:50	DB	TAL IRV

Client Sample ID: IDW-3-S-080318 COMPOSITE

Lab Sample ID: 440-217271-11

Date Collected: 08/03/18 11:10

Matrix: Solid

Date Received: 08/03/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	5.08 g	10 mL	492702	08/10/18 13:05	AYL	TAL IRV
Total/NA	Analysis	8260B		1	5.04 g	10 mL	492128	08/08/18 16:20	TCN	TAL IRV
Total/NA	Analysis	8015B		1	5.03 g	10 mL	493061	08/13/18 19:00	YCL	TAL IRV
Total/NA	Prep	3546			15.29 g	1 mL	491905	08/07/18 07:17	L1A	TAL IRV
Total/NA	Analysis	8015B		1			492250	08/09/18 00:23	LMB	TAL IRV
Total/NA	Prep	3050B			2.00 g	50 mL	492231	08/08/18 13:11	DT	TAL IRV
Total/NA	Analysis	6020		100			492524	08/09/18 12:47	B1H	TAL IRV

Lab Chronicle

Client: CH2M Hill, Inc.
Project/Site: KMEP/SFPP Norwalk Site

TestAmerica Job ID: 440-217271-1

Client Sample ID: IDW-3-S-080318 COMPOSITE

Lab Sample ID: 440-217271-11

Date Collected: 08/03/18 11:10

Matrix: Solid

Date Received: 08/03/18 12:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			0.51 g	50 mL	492450	08/09/18 08:55	DB	TAL IRV
Total/NA	Analysis	7471A		1			492851	08/09/18 19:52	DB	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-492124/5
Matrix: Water
Analysis Batch: 492124

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			08/08/18 08:50	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			08/08/18 08:50	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			08/08/18 08:50	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			08/08/18 08:50	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			08/08/18 08:50	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/08/18 08:50	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/08/18 08:50	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/08/18 08:50	1
1,2,4-Trimethylbenzene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			08/08/18 08:50	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			08/08/18 08:50	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			08/08/18 08:50	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			08/08/18 08:50	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			08/08/18 08:50	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/08/18 08:50	1
2-Chlorotoluene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
4-Chlorotoluene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
Benzene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
Bromobenzene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
Bromochloromethane	ND		0.50	0.25	ug/L			08/08/18 08:50	1
Bromodichloromethane	ND		0.50	0.25	ug/L			08/08/18 08:50	1
Bromoform	ND		1.0	0.40	ug/L			08/08/18 08:50	1
Bromomethane	ND		0.50	0.25	ug/L			08/08/18 08:50	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/08/18 08:50	1
Chlorobenzene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
Chloroethane	ND		1.0	0.40	ug/L			08/08/18 08:50	1
Chloroform	ND		0.50	0.25	ug/L			08/08/18 08:50	1
Chloromethane	ND		0.50	0.25	ug/L			08/08/18 08:50	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
Dibromochloromethane	ND		0.50	0.25	ug/L			08/08/18 08:50	1
Dibromomethane	ND		0.50	0.25	ug/L			08/08/18 08:50	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/08/18 08:50	1
Isopropyl Ether (DIPE)	ND		0.50	0.25	ug/L			08/08/18 08:50	1
Ethyl-t-butyl ether (ETBE)	ND		0.50	0.25	ug/L			08/08/18 08:50	1
Hexachlorobutadiene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
Isopropylbenzene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/08/18 08:50	1
Methylene Chloride	ND		2.0	0.88	ug/L			08/08/18 08:50	1
Methyl-t-Butyl Ether (MTBE)	ND		0.50	0.25	ug/L			08/08/18 08:50	1
Naphthalene	ND		1.0	0.40	ug/L			08/08/18 08:50	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/08/18 08:50	1
N-Propylbenzene	ND		0.50	0.25	ug/L			08/08/18 08:50	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-492124/5
Matrix: Water
Analysis Batch: 492124

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
p-Isopropyltoluene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
sec-Butylbenzene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
Styrene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
Tert-amyl-methyl ether (TAME)	ND		0.50	0.25	ug/L			08/08/18 08:50	1
tert-Butyl alcohol (TBA)	ND		10	5.0	ug/L			08/08/18 08:50	1
tert-Butylbenzene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
Tetrachloroethene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
Toluene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
Trichloroethene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			08/08/18 08:50	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/08/18 08:50	1
Xylenes, Total	ND		1.0	0.50	ug/L			08/08/18 08:50	1
1,3,5-Trimethylbenzene	ND		0.50	0.25	ug/L			08/08/18 08:50	1
Ethylbenzene	ND		0.50	0.25	ug/L			08/08/18 08:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*		*08/08/18 08:50*	*1*
Dibromofluoromethane (Surr)	*85*		*76 - 132*		*08/08/18 08:50*	*1*
Toluene-d8 (Surr)	*106*		*80 - 128*		*08/08/18 08:50*	*1*

Lab Sample ID: LCS 440-492124/6
Matrix: Water
Analysis Batch: 492124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	24.8		ug/L		99	60 - 141
1,1,1-Trichloroethane	25.0	19.4		ug/L		77	70 - 130
1,1,2,2-Tetrachloroethane	25.0	27.1		ug/L		109	63 - 130
1,1,2-Trichloroethane	25.0	29.4		ug/L		118	70 - 130
1,1-Dichloroethane	25.0	23.2		ug/L		93	64 - 130
1,1-Dichloroethene	25.0	25.1		ug/L		100	70 - 130
1,1-Dichloropropene	25.0	22.9		ug/L		91	70 - 130
1,2,3-Trichlorobenzene	25.0	27.2		ug/L		109	60 - 140
1,2,3-Trichloropropane	25.0	21.9		ug/L		88	63 - 130
1,2,4-Trichlorobenzene	25.0	27.8		ug/L		111	60 - 140
1,2,4-Trimethylbenzene	25.0	24.3		ug/L		97	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	19.2		ug/L		77	52 - 140
1,2-Dibromoethane (EDB)	25.0	26.9		ug/L		108	70 - 130
1,2-Dichlorobenzene	25.0	28.2		ug/L		113	70 - 130
1,2-Dichloroethane	25.0	19.6		ug/L		78	57 - 138
1,2-Dichloropropane	25.0	26.6		ug/L		106	67 - 130
1,3-Dichlorobenzene	25.0	26.9		ug/L		108	70 - 130
1,3-Dichloropropane	25.0	26.9		ug/L		107	70 - 130
1,4-Dichlorobenzene	25.0	27.3		ug/L		109	70 - 130
2,2-Dichloropropane	25.0	20.7		ug/L		83	68 - 141

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-492124/6
Matrix: Water
Analysis Batch: 492124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chlorotoluene	25.0	24.2		ug/L		97	70 - 130
4-Chlorotoluene	25.0	25.3		ug/L		101	70 - 130
Benzene	25.0	26.1		ug/L		105	68 - 130
Bromobenzene	25.0	27.3		ug/L		109	70 - 130
Bromochloromethane	25.0	25.5		ug/L		102	70 - 130
Bromodichloromethane	25.0	22.0		ug/L		88	70 - 132
Bromoform	25.0	22.1		ug/L		89	60 - 148
Bromomethane	25.0	17.7		ug/L		71	64 - 139
Carbon tetrachloride	25.0	17.9		ug/L		72	60 - 150
Chlorobenzene	25.0	26.9		ug/L		107	70 - 130
Chloroethane	25.0	17.8		ug/L		71	64 - 135
Chloroform	25.0	21.4		ug/L		85	70 - 130
Chloromethane	25.0	15.1		ug/L		60	47 - 140
cis-1,2-Dichloroethene	25.0	24.1		ug/L		97	70 - 133
cis-1,3-Dichloropropene	25.0	28.1		ug/L		112	70 - 133
Dibromochloromethane	25.0	24.0		ug/L		96	69 - 145
Dibromomethane	25.0	21.4		ug/L		85	70 - 130
Dichlorodifluoromethane	25.0	11.1		ug/L		45	29 - 150
Isopropyl Ether (DIPE)	25.0	25.3		ug/L		101	58 - 139
Ethyl-t-butyl ether (ETBE)	25.0	23.7		ug/L		95	60 - 136
Hexachlorobutadiene	25.0	23.2		ug/L		93	10 - 150
Isopropylbenzene	25.0	26.3		ug/L		105	70 - 136
m,p-Xylene	25.0	29.3		ug/L		117	70 - 130
Methylene Chloride	25.0	24.3		ug/L		97	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	22.4		ug/L		90	63 - 131
Naphthalene	25.0	27.8		ug/L		111	60 - 140
n-Butylbenzene	25.0	25.2		ug/L		101	65 - 150
N-Propylbenzene	25.0	25.9		ug/L		104	67 - 139
o-Xylene	25.0	28.5		ug/L		114	70 - 130
p-Isopropyltoluene	25.0	25.6		ug/L		103	70 - 132
sec-Butylbenzene	25.0	25.4		ug/L		101	70 - 138
Styrene	25.0	28.7		ug/L		115	70 - 134
Tert-amyl-methyl ether (TAME)	25.0	22.9		ug/L		92	57 - 139
tert-Butyl alcohol (TBA)	250	258		ug/L		103	70 - 130
tert-Butylbenzene	25.0	24.8		ug/L		99	70 - 130
Tetrachloroethene	25.0	26.9		ug/L		108	70 - 130
Toluene	25.0	28.6		ug/L		114	70 - 130
trans-1,2-Dichloroethene	25.0	24.2		ug/L		97	70 - 130
trans-1,3-Dichloropropene	25.0	25.6		ug/L		102	70 - 132
Trichloroethene	25.0	23.8		ug/L		95	70 - 130
Trichlorofluoromethane	25.0	16.2		ug/L		65	60 - 150
Vinyl chloride	25.0	15.1		ug/L		60	59 - 133
1,3,5-Trimethylbenzene	25.0	24.7		ug/L		99	70 - 136
Ethylbenzene	25.0	26.0		ug/L		104	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*
Dibromofluoromethane (Surr)	*81*		*76 - 132*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-492124/6
Matrix: Water
Analysis Batch: 492124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	109		80 - 128

Lab Sample ID: 440-217452-A-3 MS
Matrix: Water
Analysis Batch: 492124

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		25.0	24.5		ug/L		98	60 - 149
1,1,1-Trichloroethane	ND		25.0	20.3		ug/L		81	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	29.3		ug/L		117	63 - 130
1,1,2-Trichloroethane	ND		25.0	30.7		ug/L		123	70 - 130
1,1-Dichloroethane	ND		25.0	25.2		ug/L		101	65 - 130
1,1-Dichloroethene	ND		25.0	28.2		ug/L		113	70 - 130
1,1-Dichloropropene	ND		25.0	24.9		ug/L		100	64 - 130
1,2,3-Trichlorobenzene	ND		25.0	27.4		ug/L		109	60 - 140
1,2,3-Trichloropropane	ND		25.0	25.0		ug/L		100	60 - 130
1,2,4-Trichlorobenzene	ND		25.0	28.0		ug/L		112	60 - 140
1,2,4-Trimethylbenzene	ND		25.0	22.9		ug/L		92	70 - 130
1,2-Dibromo-3-Chloropropane	ND		25.0	25.1		ug/L		100	48 - 140
1,2-Dibromoethane (EDB)	ND		25.0	29.9		ug/L		119	70 - 131
1,2-Dichlorobenzene	ND		25.0	27.8		ug/L		111	70 - 130
1,2-Dichloroethane	ND		25.0	21.2		ug/L		85	56 - 146
1,2-Dichloropropane	ND		25.0	27.4		ug/L		110	69 - 130
1,3-Dichlorobenzene	ND		25.0	26.3		ug/L		105	70 - 130
1,3-Dichloropropane	ND		25.0	28.4		ug/L		113	70 - 130
1,4-Dichlorobenzene	ND		25.0	26.5		ug/L		106	70 - 130
2,2-Dichloropropane	ND		25.0	22.1		ug/L		88	69 - 138
2-Chlorotoluene	ND		25.0	23.5		ug/L		94	70 - 130
4-Chlorotoluene	ND		25.0	24.5		ug/L		98	70 - 130
Benzene	ND		25.0	26.8		ug/L		107	66 - 130
Bromobenzene	ND		25.0	26.6		ug/L		107	70 - 130
Bromochloromethane	ND		25.0	27.5		ug/L		110	70 - 130
Bromodichloromethane	ND		25.0	22.6		ug/L		90	70 - 138
Bromoform	ND		25.0	23.4		ug/L		94	59 - 150
Bromomethane	ND		25.0	20.5		ug/L		82	62 - 131
Carbon tetrachloride	ND		25.0	19.3		ug/L		77	60 - 150
Chlorobenzene	ND		25.0	27.1		ug/L		108	70 - 130
Chloroethane	ND		25.0	21.1		ug/L		84	68 - 130
Chloroform	ND		25.0	22.0		ug/L		88	70 - 130
Chloromethane	ND		25.0	19.1		ug/L		76	39 - 144
cis-1,2-Dichloroethene	ND		25.0	24.7		ug/L		99	70 - 130
cis-1,3-Dichloropropene	ND		25.0	28.4		ug/L		114	70 - 133
Dibromochloromethane	ND		25.0	24.2		ug/L		97	70 - 148
Dibromomethane	ND		25.0	23.6		ug/L		94	70 - 130
Dichlorodifluoromethane	ND		25.0	15.8		ug/L		63	25 - 142
Isopropyl Ether (DIPE)	ND		25.0	26.8		ug/L		107	64 - 138
Ethyl-t-butyl ether (ETBE)	ND		25.0	25.4		ug/L		102	70 - 130
Hexachlorobutadiene	ND		25.0	22.9		ug/L		91	10 - 150

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-217452-A-3 MS
Matrix: Water
Analysis Batch: 492124

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Isopropylbenzene	ND		25.0	26.3		ug/L		105	70 - 132
m,p-Xylene	ND		25.0	28.9		ug/L		115	70 - 133
Methylene Chloride	ND		25.0	26.4		ug/L		106	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		25.0	25.8		ug/L		103	70 - 130
Naphthalene	ND		25.0	31.6		ug/L		126	60 - 140
n-Butylbenzene	ND		25.0	25.4		ug/L		101	61 - 149
N-Propylbenzene	ND		25.0	25.8		ug/L		103	66 - 135
o-Xylene	ND		25.0	27.8		ug/L		111	70 - 133
p-Isopropyltoluene	ND		25.0	25.2		ug/L		101	70 - 130
sec-Butylbenzene	ND		25.0	24.9		ug/L		100	67 - 134
Styrene	ND		25.0	23.3		ug/L		93	29 - 150
Tert-amyl-methyl ether (TAME)	ND		25.0	24.9		ug/L		100	68 - 133
tert-Butyl alcohol (TBA)	ND		250	249		ug/L		100	70 - 130
tert-Butylbenzene	ND		25.0	24.4		ug/L		98	70 - 130
Tetrachloroethene	ND		25.0	26.1		ug/L		105	70 - 137
Toluene	ND		25.0	28.3		ug/L		113	70 - 130
trans-1,2-Dichloroethene	ND		25.0	24.8		ug/L		99	70 - 130
trans-1,3-Dichloropropene	ND		25.0	26.3		ug/L		105	70 - 138
Trichloroethene	ND		25.0	25.6		ug/L		103	70 - 130
Trichlorofluoromethane	ND		25.0	19.0		ug/L		76	60 - 150
Vinyl chloride	ND		25.0	19.6		ug/L		79	50 - 137
1,3,5-Trimethylbenzene	ND		25.0	24.2		ug/L		97	70 - 130
Ethylbenzene	ND		25.0	25.7		ug/L		103	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*
Dibromofluoromethane (Surr)	*87*		*76 - 132*
Toluene-d8 (Surr)	*105*		*80 - 128*

Lab Sample ID: 440-217452-A-3 MSD
Matrix: Water
Analysis Batch: 492124

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		25.0	24.8		ug/L		99	60 - 149	1	20
1,1,1-Trichloroethane	ND		25.0	20.6		ug/L		83	70 - 130	1	20
1,1,2,2-Tetrachloroethane	ND		25.0	30.8		ug/L		123	63 - 130	5	30
1,1,2-Trichloroethane	ND		25.0	31.0		ug/L		124	70 - 130	1	25
1,1-Dichloroethane	ND		25.0	24.2		ug/L		97	65 - 130	4	20
1,1-Dichloroethene	ND		25.0	28.2		ug/L		113	70 - 130	0	20
1,1-Dichloropropene	ND		25.0	24.9		ug/L		100	64 - 130	0	20
1,2,3-Trichlorobenzene	ND		25.0	28.9		ug/L		116	60 - 140	6	20
1,2,3-Trichloropropane	ND		25.0	26.5		ug/L		106	60 - 130	6	30
1,2,4-Trichlorobenzene	ND		25.0	28.0		ug/L		112	60 - 140	0	20
1,2,4-Trimethylbenzene	ND		25.0	23.4		ug/L		94	70 - 130	2	25
1,2-Dibromo-3-Chloropropane	ND		25.0	27.9		ug/L		112	48 - 140	11	30
1,2-Dibromoethane (EDB)	ND		25.0	30.0		ug/L		120	70 - 131	0	25
1,2-Dichlorobenzene	ND		25.0	27.8		ug/L		111	70 - 130	0	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-217452-A-3 MSD
Matrix: Water
Analysis Batch: 492124

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichloroethane	ND		25.0	21.1		ug/L		84	56 - 146	1	20
1,2-Dichloropropane	ND		25.0	26.5		ug/L		106	69 - 130	4	20
1,3-Dichlorobenzene	ND		25.0	26.8		ug/L		107	70 - 130	2	20
1,3-Dichloropropane	ND		25.0	28.1		ug/L		112	70 - 130	1	25
1,4-Dichlorobenzene	ND		25.0	25.9		ug/L		104	70 - 130	2	20
2,2-Dichloropropane	ND		25.0	22.1		ug/L		89	69 - 138	0	25
2-Chlorotoluene	ND		25.0	23.7		ug/L		95	70 - 130	1	20
4-Chlorotoluene	ND		25.0	24.8		ug/L		99	70 - 130	1	20
Benzene	ND		25.0	26.7		ug/L		107	66 - 130	1	20
Bromobenzene	ND		25.0	26.3		ug/L		105	70 - 130	1	20
Bromochloromethane	ND		25.0	27.5		ug/L		110	70 - 130	0	25
Bromodichloromethane	ND		25.0	22.5		ug/L		90	70 - 138	0	20
Bromoform	ND		25.0	24.1		ug/L		96	59 - 150	3	25
Bromomethane	ND		25.0	20.7		ug/L		83	62 - 131	1	25
Carbon tetrachloride	ND		25.0	18.8		ug/L		75	60 - 150	2	25
Chlorobenzene	ND		25.0	26.9		ug/L		108	70 - 130	0	20
Chloroethane	ND		25.0	19.5		ug/L		78	68 - 130	8	25
Chloroform	ND		25.0	21.8		ug/L		87	70 - 130	1	20
Chloromethane	ND		25.0	19.1		ug/L		76	39 - 144	0	25
cis-1,2-Dichloroethene	ND		25.0	25.4		ug/L		102	70 - 130	3	20
cis-1,3-Dichloropropene	ND		25.0	28.1		ug/L		112	70 - 133	1	20
Dibromochloromethane	ND		25.0	24.6		ug/L		99	70 - 148	2	25
Dibromomethane	ND		25.0	23.5		ug/L		94	70 - 130	0	25
Dichlorodifluoromethane	ND		25.0	16.8		ug/L		67	25 - 142	6	30
Isopropyl Ether (DIPE)	ND		25.0	26.6		ug/L		107	64 - 138	1	25
Ethyl-t-butyl ether (ETBE)	ND		25.0	25.1		ug/L		101	70 - 130	1	25
Hexachlorobutadiene	ND		25.0	23.1		ug/L		92	10 - 150	1	20
Isopropylbenzene	ND		25.0	25.8		ug/L		103	70 - 132	2	20
m,p-Xylene	ND		25.0	28.3		ug/L		113	70 - 133	2	25
Methylene Chloride	ND		25.0	26.8		ug/L		107	52 - 130	2	20
Methyl-t-Butyl Ether (MTBE)	ND		25.0	25.5		ug/L		102	70 - 130	1	25
Naphthalene	ND		25.0	33.4		ug/L		134	60 - 140	6	30
n-Butylbenzene	ND		25.0	24.9		ug/L		100	61 - 149	2	20
N-Propylbenzene	ND		25.0	25.8		ug/L		103	66 - 135	0	20
o-Xylene	ND		25.0	27.9		ug/L		112	70 - 133	0	20
p-Isopropyltoluene	ND		25.0	25.2		ug/L		101	70 - 130	0	20
sec-Butylbenzene	ND		25.0	25.0		ug/L		100	67 - 134	0	20
Styrene	ND		25.0	24.2		ug/L		97	29 - 150	4	35
Tert-amyl-methyl ether (TAME)	ND		25.0	24.4		ug/L		98	68 - 133	2	30
tert-Butyl alcohol (TBA)	ND		250	257		ug/L		103	70 - 130	3	25
tert-Butylbenzene	ND		25.0	24.3		ug/L		97	70 - 130	1	20
Tetrachloroethene	ND		25.0	27.2		ug/L		109	70 - 137	4	20
Toluene	ND		25.0	28.0		ug/L		112	70 - 130	1	20
trans-1,2-Dichloroethene	ND		25.0	24.3		ug/L		97	70 - 130	2	20
trans-1,3-Dichloropropene	ND		25.0	26.8		ug/L		107	70 - 138	2	25
Trichloroethene	ND		25.0	25.3		ug/L		101	70 - 130	1	20
Trichlorofluoromethane	ND		25.0	19.4		ug/L		78	60 - 150	2	25
Vinyl chloride	ND		25.0	19.7		ug/L		79	50 - 137	0	30

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-217452-A-3 MSD
Matrix: Water
Analysis Batch: 492124

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,3,5-Trimethylbenzene	ND		25.0	24.5		ug/L		98	70 - 130	1	20
Ethylbenzene	ND		25.0	25.9		ug/L		104	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*
Dibromofluoromethane (Surr)	*88*		*76 - 132*
Toluene-d8 (Surr)	*106*		*80 - 128*

Lab Sample ID: MB 440-492128/4
Matrix: Solid
Analysis Batch: 492128

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	1.0	ug/Kg			08/08/18 08:24	1
1,1,1-Trichloroethane	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
1,1,2,2-Tetrachloroethane	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
1,1,2-Trichloroethane	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
1,1-Dichloroethane	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
1,1-Dichloroethene	ND		5.0	1.0	ug/Kg			08/08/18 08:24	1
1,1-Dichloropropene	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
1,2,3-Trichlorobenzene	ND		5.0	1.0	ug/Kg			08/08/18 08:24	1
1,2,3-Trichloropropane	ND		10	1.0	ug/Kg			08/08/18 08:24	1
1,2,4-Trichlorobenzene	ND		5.0	1.0	ug/Kg			08/08/18 08:24	1
1,2,4-Trimethylbenzene	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
1,2-Dibromo-3-Chloropropane	ND		5.0	2.0	ug/Kg			08/08/18 08:24	1
1,2-Dibromoethane (EDB)	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
1,2-Dichlorobenzene	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
1,2-Dichloroethane	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
1,2-Dichloropropane	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
1,3,5-Trimethylbenzene	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
1,3-Dichlorobenzene	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
1,3-Dichloropropane	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
1,4-Dichlorobenzene	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
2,2-Dichloropropane	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
2-Chlorotoluene	ND		5.0	1.0	ug/Kg			08/08/18 08:24	1
4-Chlorotoluene	ND		5.0	1.0	ug/Kg			08/08/18 08:24	1
Benzene	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
Bromobenzene	ND		5.0	1.0	ug/Kg			08/08/18 08:24	1
Bromochloromethane	ND		5.0	1.0	ug/Kg			08/08/18 08:24	1
Bromodichloromethane	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
Bromoform	ND		5.0	2.0	ug/Kg			08/08/18 08:24	1
Bromomethane	ND		5.0	1.0	ug/Kg			08/08/18 08:24	1
Carbon tetrachloride	ND		5.0	1.0	ug/Kg			08/08/18 08:24	1
Chlorobenzene	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
Chloroethane	ND		5.0	2.0	ug/Kg			08/08/18 08:24	1
Chloroform	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
Chloromethane	ND		5.0	1.0	ug/Kg			08/08/18 08:24	1
cis-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-492128/4
Matrix: Solid
Analysis Batch: 492128

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
Dibromochloromethane	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
Dibromomethane	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
Dichlorodifluoromethane	ND		5.0	2.0	ug/Kg			08/08/18 08:24	1
Ethylbenzene	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
Hexachlorobutadiene	ND		5.0	1.0	ug/Kg			08/08/18 08:24	1
Isopropylbenzene	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
m,p-Xylene	ND		4.0	2.0	ug/Kg			08/08/18 08:24	1
Methylene Chloride	ND		20	5.0	ug/Kg			08/08/18 08:24	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0	1.0	ug/Kg			08/08/18 08:24	1
Naphthalene	ND		5.0	2.0	ug/Kg			08/08/18 08:24	1
n-Butylbenzene	ND		5.0	1.0	ug/Kg			08/08/18 08:24	1
N-Propylbenzene	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
o-Xylene	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
sec-Butylbenzene	ND		5.0	1.0	ug/Kg			08/08/18 08:24	1
Styrene	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
Tert-amyl-methyl ether (TAME)	ND		5.0	1.0	ug/Kg			08/08/18 08:24	1
tert-Butylbenzene	ND		5.0	1.0	ug/Kg			08/08/18 08:24	1
Tetrachloroethene	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
Toluene	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
trans-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
trans-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
Trichloroethene	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1
Trichlorofluoromethane	ND		5.0	1.0	ug/Kg			08/08/18 08:24	1
Vinyl chloride	ND		5.0	1.0	ug/Kg			08/08/18 08:24	1
Xylenes, Total	ND		4.0	2.0	ug/Kg			08/08/18 08:24	1
Isopropyl Ether (DIPE)	ND		5.0	1.0	ug/Kg			08/08/18 08:24	1
Ethyl-t-butyl ether (ETBE)	ND		5.0	1.0	ug/Kg			08/08/18 08:24	1
tert-Butyl alcohol (TBA)	ND		100	10	ug/Kg			08/08/18 08:24	1
p-Isopropyltoluene	ND		2.0	1.0	ug/Kg			08/08/18 08:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*79 - 123*		*08/08/18 08:24*	*1*
4-Bromofluorobenzene (Surr)	*100*		*79 - 120*		*08/08/18 08:24*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 120*		*08/08/18 08:24*	*1*

Lab Sample ID: LCS 440-492128/5
Matrix: Solid
Analysis Batch: 492128

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	52.0		ug/Kg		104	70 - 130
1,1,1-Trichloroethane	50.0	50.1		ug/Kg		100	65 - 135
1,1,2,2-Tetrachloroethane	50.0	56.7		ug/Kg		113	55 - 140
1,1,2-Trichloroethane	50.0	55.5		ug/Kg		111	65 - 135
1,1-Dichloroethane	50.0	51.8		ug/Kg		104	70 - 130
1,1-Dichloroethene	50.0	50.5		ug/Kg		101	70 - 125
1,1-Dichloropropene	50.0	51.7		ug/Kg		103	70 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-492128/5
Matrix: Solid
Analysis Batch: 492128

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichlorobenzene	50.0	55.1		ug/Kg		110	60 - 130
1,2,3-Trichloropropane	50.0	57.0		ug/Kg		114	60 - 135
1,2,4-Trichlorobenzene	50.0	56.6		ug/Kg		113	70 - 135
1,2,4-Trimethylbenzene	50.0	53.5		ug/Kg		107	70 - 125
1,2-Dibromo-3-Chloropropane	50.0	52.6		ug/Kg		105	50 - 135
1,2-Dibromoethane (EDB)	50.0	52.6		ug/Kg		105	70 - 130
1,2-Dichlorobenzene	50.0	52.9		ug/Kg		106	75 - 120
1,2-Dichloroethane	50.0	53.0		ug/Kg		106	60 - 140
1,2-Dichloropropane	50.0	54.7		ug/Kg		109	70 - 130
1,3,5-Trimethylbenzene	50.0	54.4		ug/Kg		109	70 - 125
1,3-Dichlorobenzene	50.0	50.8		ug/Kg		102	75 - 125
1,3-Dichloropropane	50.0	54.8		ug/Kg		110	70 - 125
1,4-Dichlorobenzene	50.0	49.8		ug/Kg		100	75 - 120
2,2-Dichloropropane	50.0	50.3		ug/Kg		101	60 - 145
2-Chlorotoluene	50.0	53.0		ug/Kg		106	70 - 125
4-Chlorotoluene	50.0	54.6		ug/Kg		109	75 - 125
Benzene	50.0	52.2		ug/Kg		104	65 - 120
Bromobenzene	50.0	55.2		ug/Kg		110	75 - 120
Bromochloromethane	50.0	53.1		ug/Kg		106	70 - 135
Bromodichloromethane	50.0	51.7		ug/Kg		103	70 - 135
Bromoform	50.0	53.6		ug/Kg		107	55 - 135
Bromomethane	50.0	47.7		ug/Kg		95	60 - 145
Carbon tetrachloride	50.0	47.4		ug/Kg		95	65 - 140
Chlorobenzene	50.0	50.0		ug/Kg		100	75 - 120
Chloroethane	50.0	44.0		ug/Kg		88	60 - 140
Chloroform	50.0	50.9		ug/Kg		102	70 - 130
Chloromethane	50.0	39.2		ug/Kg		78	45 - 145
cis-1,2-Dichloroethene	50.0	53.8		ug/Kg		108	70 - 125
cis-1,3-Dichloropropene	50.0	58.5		ug/Kg		117	75 - 125
Dibromochloromethane	50.0	53.8		ug/Kg		108	65 - 140
Dibromomethane	50.0	52.8		ug/Kg		106	70 - 130
Dichlorodifluoromethane	50.0	39.3		ug/Kg		79	35 - 160
Ethylbenzene	50.0	52.4		ug/Kg		105	70 - 125
Hexachlorobutadiene	50.0	53.0		ug/Kg		106	60 - 135
Isopropylbenzene	50.0	51.9		ug/Kg		104	75 - 130
m,p-Xylene	50.0	55.4		ug/Kg		111	70 - 125
Methylene Chloride	50.0	51.8		ug/Kg		104	55 - 135
Methyl-t-Butyl Ether (MTBE)	50.0	56.2		ug/Kg		112	60 - 140
Naphthalene	50.0	58.7		ug/Kg		117	55 - 135
n-Butylbenzene	50.0	51.9		ug/Kg		104	70 - 130
N-Propylbenzene	50.0	53.8		ug/Kg		108	70 - 130
o-Xylene	50.0	54.0		ug/Kg		108	70 - 125
sec-Butylbenzene	50.0	52.1		ug/Kg		104	70 - 125
Styrene	50.0	50.1		ug/Kg		100	75 - 130
Tert-amyl-methyl ether (TAME)	50.0	53.2		ug/Kg		106	60 - 145
tert-Butylbenzene	50.0	54.3		ug/Kg		109	70 - 125
Tetrachloroethene	50.0	49.4		ug/Kg		99	70 - 125
Toluene	50.0	52.9		ug/Kg		106	70 - 125

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-492128/5
Matrix: Solid
Analysis Batch: 492128

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	50.0	53.6		ug/Kg		107	70 - 125
trans-1,3-Dichloropropene	50.0	53.5		ug/Kg		107	70 - 135
Trichloroethene	50.0	50.7		ug/Kg		101	70 - 125
Trichlorofluoromethane	50.0	43.3		ug/Kg		87	60 - 145
Vinyl chloride	50.0	39.6		ug/Kg		79	55 - 135
Isopropyl Ether (DIPE)	50.0	54.6		ug/Kg		109	60 - 140
Ethyl-t-butyl ether (ETBE)	50.0	55.7		ug/Kg		111	60 - 140
tert-Butyl alcohol (TBA)	500	529		ug/Kg		106	70 - 135
p-Isopropyltoluene	50.0	52.3		ug/Kg		105	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*79 - 123*
4-Bromofluorobenzene (Surr)	*103*		*79 - 120*
Dibromofluoromethane (Surr)	*99*		*60 - 120*

Lab Sample ID: 440-217353-A-2 MS
Matrix: Solid
Analysis Batch: 492128

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		50.0	52.0		ug/Kg		104	65 - 145
1,1,1-Trichloroethane	ND		50.0	47.3		ug/Kg		95	65 - 145
1,1,2,2-Tetrachloroethane	ND		50.0	61.9		ug/Kg		124	40 - 160
1,1,2-Trichloroethane	ND		50.0	60.0		ug/Kg		120	65 - 140
1,1-Dichloroethane	ND		50.0	50.5		ug/Kg		101	65 - 135
1,1-Dichloroethene	ND		50.0	47.0		ug/Kg		94	65 - 135
1,1-Dichloropropene	ND		50.0	49.2		ug/Kg		98	65 - 135
1,2,3-Trichlorobenzene	ND		50.0	49.9		ug/Kg		100	45 - 145
1,2,3-Trichloropropane	ND		50.0	63.4		ug/Kg		127	50 - 150
1,2,4-Trichlorobenzene	ND		50.0	52.4		ug/Kg		105	50 - 140
1,2,4-Trimethylbenzene	ND		50.0	50.9		ug/Kg		102	65 - 140
1,2-Dibromo-3-Chloropropane	ND		50.0	60.1		ug/Kg		120	40 - 150
1,2-Dibromoethane (EDB)	ND		50.0	56.7		ug/Kg		113	65 - 140
1,2-Dichlorobenzene	ND		50.0	52.1		ug/Kg		104	70 - 130
1,2-Dichloroethane	ND		50.0	55.1		ug/Kg		110	60 - 150
1,2-Dichloropropane	ND		50.0	55.2		ug/Kg		110	65 - 130
1,3,5-Trimethylbenzene	ND		50.0	51.2		ug/Kg		102	65 - 135
1,3-Dichlorobenzene	ND		50.0	48.5		ug/Kg		97	70 - 130
1,3-Dichloropropane	ND		50.0	58.4		ug/Kg		117	65 - 140
1,4-Dichlorobenzene	ND		50.0	48.3		ug/Kg		97	70 - 130
2,2-Dichloropropane	ND		50.0	49.6		ug/Kg		99	65 - 150
2-Chlorotoluene	ND		50.0	50.8		ug/Kg		102	60 - 135
4-Chlorotoluene	ND		50.0	52.9		ug/Kg		106	65 - 135
Benzene	ND		50.0	50.5		ug/Kg		101	65 - 130
Bromobenzene	ND		50.0	54.8		ug/Kg		110	65 - 140
Bromochloromethane	ND		50.0	56.0		ug/Kg		112	65 - 145
Bromodichloromethane	ND		50.0	52.8		ug/Kg		106	65 - 145
Bromoform	ND		50.0	58.1		ug/Kg		116	50 - 145

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-217353-A-2 MS
Matrix: Solid
Analysis Batch: 492128

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromomethane	ND		50.0	43.5		ug/Kg		87	60 - 155
Carbon tetrachloride	ND		50.0	44.6		ug/Kg		89	60 - 145
Chlorobenzene	ND		50.0	49.2		ug/Kg		98	70 - 130
Chloroethane	ND		50.0	41.1		ug/Kg		82	60 - 150
Chloroform	ND		50.0	49.5		ug/Kg		99	65 - 135
Chloromethane	ND		50.0	34.2		ug/Kg		68	40 - 145
cis-1,2-Dichloroethene	ND		50.0	53.1		ug/Kg		106	65 - 135
cis-1,3-Dichloropropene	ND		50.0	59.8		ug/Kg		120	70 - 135
Dibromochloromethane	ND		50.0	56.9		ug/Kg		114	60 - 145
Dibromomethane	ND		50.0	57.9		ug/Kg		116	65 - 140
Dichlorodifluoromethane	ND		50.0	30.1		ug/Kg		60	30 - 160
Ethylbenzene	ND		50.0	49.8		ug/Kg		100	70 - 135
Hexachlorobutadiene	ND		50.0	43.9		ug/Kg		88	50 - 145
Isopropylbenzene	ND		50.0	49.0		ug/Kg		98	70 - 145
m,p-Xylene	ND		50.0	52.6		ug/Kg		105	70 - 130
Methylene Chloride	ND		50.0	54.3		ug/Kg		109	55 - 145
Methyl-t-Butyl Ether (MTBE)	ND		50.0	61.3		ug/Kg		123	55 - 155
Naphthalene	ND		50.0	57.0		ug/Kg		114	40 - 150
n-Butylbenzene	ND		50.0	46.9		ug/Kg		94	55 - 145
N-Propylbenzene	ND		50.0	50.5		ug/Kg		101	65 - 140
o-Xylene	ND		50.0	52.0		ug/Kg		104	65 - 130
sec-Butylbenzene	ND		50.0	47.4		ug/Kg		95	60 - 135
Styrene	ND		50.0	49.4		ug/Kg		99	70 - 140
Tert-amyl-methyl ether (TAME)	ND		50.0	56.2		ug/Kg		112	60 - 150
tert-Butylbenzene	ND		50.0	50.2		ug/Kg		100	60 - 140
Tetrachloroethene	ND		50.0	45.9		ug/Kg		92	65 - 135
Toluene	ND		50.0	51.2		ug/Kg		102	70 - 130
trans-1,2-Dichloroethene	ND		50.0	51.2		ug/Kg		102	70 - 135
trans-1,3-Dichloropropene	ND		50.0	56.3		ug/Kg		113	60 - 145
Trichloroethene	ND		50.0	49.7		ug/Kg		99	65 - 140
Trichlorofluoromethane	ND		50.0	39.4		ug/Kg		79	55 - 155
Vinyl chloride	ND		50.0	34.3		ug/Kg		69	55 - 140
Isopropyl Ether (DIPE)	ND		50.0	55.5		ug/Kg		111	60 - 150
Ethyl-t-butyl ether (ETBE)	ND		50.0	57.8		ug/Kg		116	60 - 145
tert-Butyl alcohol (TBA)	ND		500	519		ug/Kg		104	65 - 145
p-Isopropyltoluene	ND		50.0	48.4		ug/Kg		97	60 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*104*		*79 - 123*
4-Bromofluorobenzene (Surr)	*105*		*79 - 120*
Dibromofluoromethane (Surr)	*103*		*60 - 120*

Lab Sample ID: 440-217353-A-2 MSD
Matrix: Solid
Analysis Batch: 492128

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		49.9	51.7		ug/Kg		104	65 - 145	0	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-217353-A-2 MSD
Matrix: Solid
Analysis Batch: 492128

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		49.9	46.1		ug/Kg		92	65 - 145	3	20
1,1,2,2-Tetrachloroethane	ND		49.9	60.4		ug/Kg		121	40 - 160	2	30
1,1,2-Trichloroethane	ND		49.9	59.9		ug/Kg		120	65 - 140	0	30
1,1-Dichloroethane	ND		49.9	48.3		ug/Kg		97	65 - 135	5	25
1,1-Dichloroethene	ND		49.9	46.6		ug/Kg		93	65 - 135	1	25
1,1-Dichloropropene	ND		49.9	47.8		ug/Kg		96	65 - 135	3	20
1,2,3-Trichlorobenzene	ND		49.9	47.8		ug/Kg		96	45 - 145	4	30
1,2,3-Trichloropropane	ND		49.9	61.7		ug/Kg		124	50 - 150	3	30
1,2,4-Trichlorobenzene	ND		49.9	47.7		ug/Kg		96	50 - 140	9	30
1,2,4-Trimethylbenzene	ND		49.9	47.8		ug/Kg		96	65 - 140	6	25
1,2-Dibromo-3-Chloropropane	ND		49.9	58.8		ug/Kg		118	40 - 150	2	30
1,2-Dibromoethane (EDB)	ND		49.9	57.8		ug/Kg		116	65 - 140	2	25
1,2-Dichlorobenzene	ND		49.9	49.0		ug/Kg		98	70 - 130	6	25
1,2-Dichloroethane	ND		49.9	54.5		ug/Kg		109	60 - 150	1	25
1,2-Dichloropropane	ND		49.9	52.6		ug/Kg		105	65 - 130	5	20
1,3,5-Trimethylbenzene	ND		49.9	48.0		ug/Kg		96	65 - 135	6	25
1,3-Dichlorobenzene	ND		49.9	44.9		ug/Kg		90	70 - 130	8	25
1,3-Dichloropropane	ND		49.9	61.0		ug/Kg		122	65 - 140	4	25
1,4-Dichlorobenzene	ND		49.9	45.2		ug/Kg		91	70 - 130	7	25
2,2-Dichloropropane	ND		49.9	47.0		ug/Kg		94	65 - 150	5	25
2-Chlorotoluene	ND		49.9	47.8		ug/Kg		96	60 - 135	6	25
4-Chlorotoluene	ND		49.9	49.7		ug/Kg		100	65 - 135	6	25
Benzene	ND		49.9	49.4		ug/Kg		99	65 - 130	2	20
Bromobenzene	ND		49.9	51.2		ug/Kg		103	65 - 140	7	25
Bromochloromethane	ND		49.9	53.2		ug/Kg		107	65 - 145	5	25
Bromodichloromethane	ND		49.9	51.2		ug/Kg		103	65 - 145	3	20
Bromoform	ND		49.9	57.9		ug/Kg		116	50 - 145	0	30
Bromomethane	ND		49.9	42.0		ug/Kg		84	60 - 155	4	25
Carbon tetrachloride	ND		49.9	43.4		ug/Kg		87	60 - 145	3	25
Chlorobenzene	ND		49.9	48.8		ug/Kg		98	70 - 130	1	25
Chloroethane	ND		49.9	40.8		ug/Kg		82	60 - 150	1	25
Chloroform	ND		49.9	48.8		ug/Kg		98	65 - 135	2	20
Chloromethane	ND		49.9	32.6		ug/Kg		65	40 - 145	5	25
cis-1,2-Dichloroethene	ND		49.9	51.6		ug/Kg		103	65 - 135	3	25
cis-1,3-Dichloropropene	ND		49.9	62.0		ug/Kg		124	70 - 135	4	25
Dibromochloromethane	ND		49.9	56.3		ug/Kg		113	60 - 145	1	25
Dibromomethane	ND		49.9	55.4		ug/Kg		111	65 - 140	4	25
Dichlorodifluoromethane	ND		49.9	29.6		ug/Kg		59	30 - 160	2	35
Ethylbenzene	ND		49.9	50.0		ug/Kg		100	70 - 135	0	25
Hexachlorobutadiene	ND		49.9	41.1		ug/Kg		82	50 - 145	7	35
Isopropylbenzene	ND		49.9	48.2		ug/Kg		97	70 - 145	2	25
m,p-Xylene	ND		49.9	52.3		ug/Kg		105	70 - 130	0	25
Methylene Chloride	ND		49.9	52.5		ug/Kg		105	55 - 145	3	25
Methyl-t-Butyl Ether (MTBE)	ND		49.9	59.7		ug/Kg		120	55 - 155	3	35
Naphthalene	ND		49.9	55.8		ug/Kg		112	40 - 150	2	40
n-Butylbenzene	ND		49.9	43.5		ug/Kg		87	55 - 145	7	30
N-Propylbenzene	ND		49.9	47.7		ug/Kg		96	65 - 140	6	25
o-Xylene	ND		49.9	52.4		ug/Kg		105	65 - 130	1	25

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-217353-A-2 MSD
Matrix: Solid
Analysis Batch: 492128

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
sec-Butylbenzene	ND		49.9	44.3		ug/Kg		89	60 - 135	7	25
Styrene	ND		49.9	49.2		ug/Kg		99	70 - 140	1	25
Tert-amyl-methyl ether (TAME)	ND		49.9	55.5		ug/Kg		111	60 - 150	1	25
tert-Butylbenzene	ND		49.9	47.9		ug/Kg		96	60 - 140	5	25
Tetrachloroethene	ND		49.9	46.2		ug/Kg		93	65 - 135	1	25
Toluene	ND		49.9	51.7		ug/Kg		104	70 - 130	1	20
trans-1,2-Dichloroethene	ND		49.9	49.9		ug/Kg		100	70 - 135	3	25
trans-1,3-Dichloropropene	ND		49.9	56.5		ug/Kg		113	60 - 145	0	25
Trichloroethene	ND		49.9	47.5		ug/Kg		95	65 - 140	5	25
Trichlorofluoromethane	ND		49.9	38.6		ug/Kg		77	55 - 155	2	25
Vinyl chloride	ND		49.9	33.2		ug/Kg		67	55 - 140	3	30
Isopropyl Ether (DIPE)	ND		49.9	53.9		ug/Kg		108	60 - 150	3	25
Ethyl-t-butyl ether (ETBE)	ND		49.9	56.9		ug/Kg		114	60 - 145	2	30
tert-Butyl alcohol (TBA)	ND		499	496		ug/Kg		99	65 - 145	5	30
p-Isopropyltoluene	ND		49.9	45.0		ug/Kg		90	60 - 140	7	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*108*		*79 - 123*
4-Bromofluorobenzene (Surr)	*104*		*79 - 120*
Dibromofluoromethane (Surr)	*102*		*60 - 120*

Lab Sample ID: MB 440-492702/5
Matrix: Solid
Analysis Batch: 492702

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		2.0	1.0	ug/Kg			08/10/18 09:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*79 - 123*		*08/10/18 09:21*	*1*
4-Bromofluorobenzene (Surr)	*96*		*79 - 120*		*08/10/18 09:21*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 120*		*08/10/18 09:21*	*1*

Lab Sample ID: LCS 440-492702/6
Matrix: Solid
Analysis Batch: 492702

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,3,5-Trimethylbenzene			50.0	48.9		ug/Kg		98	70 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*79 - 123*
4-Bromofluorobenzene (Surr)	*93*		*79 - 120*
Dibromofluoromethane (Surr)	*102*		*60 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-217652-A-11 MS
Matrix: Solid
Analysis Batch: 492702

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,3,5-Trimethylbenzene	ND		50.0	49.0		ug/Kg		98	65 - 135		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*79 - 123*
4-Bromofluorobenzene (Surr)	*94*		*79 - 120*
Dibromofluoromethane (Surr)	*101*		*60 - 120*

Lab Sample ID: 440-217652-A-11 MSD
Matrix: Solid
Analysis Batch: 492702

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,3,5-Trimethylbenzene	ND		49.9	47.7		ug/Kg		96	65 - 135	3	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*79 - 123*
4-Bromofluorobenzene (Surr)	*96*		*79 - 120*
Dibromofluoromethane (Surr)	*100*		*60 - 120*

Lab Sample ID: MB 440-492796/4
Matrix: Solid
Analysis Batch: 492796

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		100	50	ug/Kg			08/10/18 15:00	100

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*106*		*60 - 140*		*08/10/18 15:00*	*100*
4-Bromofluorobenzene (Surr)	*96*		*65 - 140*		*08/10/18 15:00*	*100*
Dibromofluoromethane (Surr)	*97*		*55 - 140*		*08/10/18 15:00*	*100*

Lab Sample ID: LCS 440-492796/5
Matrix: Solid
Analysis Batch: 492796

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,3,5-Trimethylbenzene			2500	2660		ug/Kg		106	70 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*60 - 140*
4-Bromofluorobenzene (Surr)	*98*		*65 - 140*
Dibromofluoromethane (Surr)	*103*		*55 - 140*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-492796/6
Matrix: Solid
Analysis Batch: 492796

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,3,5-Trimethylbenzene			2500	2720		ug/Kg		109	70 - 125	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*60 - 140*
4-Bromofluorobenzene (Surr)	*97*		*65 - 140*
Dibromofluoromethane (Surr)	*101*		*55 - 140*

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 440-493059/6
Matrix: Solid
Analysis Batch: 493059

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		40000	20000	ug/Kg			08/13/18 11:29	100

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*65 - 140*		*08/13/18 11:29*	*100*

Lab Sample ID: LCS 440-493059/4
Matrix: Solid
Analysis Batch: 493059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
GRO (C4-C12)			160000	154000		ug/Kg		96	70 - 135

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*65 - 140*

Lab Sample ID: LCSD 440-493059/5
Matrix: Solid
Analysis Batch: 493059

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)			160000	155000		ug/Kg		97	70 - 135	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*65 - 140*

Lab Sample ID: MB 440-493061/5
Matrix: Solid
Analysis Batch: 493061

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		400	150	ug/Kg			08/13/18 10:56	1

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: MB 440-493061/5
Matrix: Solid
Analysis Batch: 493061

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		65 - 140		08/13/18 10:56	1

Lab Sample ID: LCS 440-493061/3
Matrix: Solid
Analysis Batch: 493061

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)			1600	1460		ug/Kg		91	70 - 135		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	81		65 - 140

Lab Sample ID: LCSD 440-493061/4
Matrix: Solid
Analysis Batch: 493061

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)			1600	1440		ug/Kg		90	70 - 135	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	83		65 - 140

Lab Sample ID: 440-217652-B-11 MS
Matrix: Solid
Analysis Batch: 493061

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)	ND		1590	1340		ug/Kg		84	60 - 140		

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		65 - 140

Lab Sample ID: 440-217652-B-11 MSD
Matrix: Solid
Analysis Batch: 493061

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)	ND		1580	1270		ug/Kg		80	60 - 140	5	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		65 - 140

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: MB 440-493118/14
Matrix: Water
Analysis Batch: 493118

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		50	25	ug/L			08/13/18 16:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*65 - 140*		*08/13/18 16:33*	*1*

Lab Sample ID: LCS 440-493118/13
Matrix: Water
Analysis Batch: 493118

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)			800	678		ug/L		85	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*65 - 140*

Lab Sample ID: 440-217504-B-1 MS
Matrix: Water
Analysis Batch: 493118

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)	ND		800	654		ug/L		82	65 - 140		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*65 - 140*

Lab Sample ID: 440-217504-B-1 MSD
Matrix: Water
Analysis Batch: 493118

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)	ND		800	635		ug/L		79	65 - 140	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*65 - 140*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 440-491744/1-A
Matrix: Water
Analysis Batch: 491931

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 491744

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (C13-C22)	ND		0.50	0.10	mg/L		08/06/18 12:01	08/07/18 11:15	1
ORO (C23-C36)	ND		0.50	0.10	mg/L		08/06/18 12:01	08/07/18 11:15	1
C8 - C18	ND		0.50	0.10	mg/L		08/06/18 12:01	08/07/18 11:15	1

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 440-491744/1-A
Matrix: Water
Analysis Batch: 491931

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 491744

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	64		45 - 120	08/06/18 12:01	08/07/18 11:15	1

Lab Sample ID: LCS 440-491744/2-A
Matrix: Water
Analysis Batch: 491931

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 491744

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C10-C28			1.00	0.536		mg/L		54	40 - 115		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
n-Octacosane	68		45 - 120

Lab Sample ID: LCSD 440-491744/3-A
Matrix: Water
Analysis Batch: 491931

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 491744

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28			1.00	0.546		mg/L		55	40 - 115	2	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
n-Octacosane	69		45 - 120

Lab Sample ID: MB 440-491905/1-A
Matrix: Solid
Analysis Batch: 491931

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 491905

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		08/07/18 07:17	08/07/18 17:34	1
C23-C40	ND		5.0	2.5	mg/Kg		08/07/18 07:17	08/07/18 17:34	1
C8 - C18	ND		5.0	2.5	mg/Kg		08/07/18 07:17	08/07/18 17:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	75		40 - 140	08/07/18 07:17	08/07/18 17:34	1

Lab Sample ID: LCS 440-491905/2-A
Matrix: Solid
Analysis Batch: 491931

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 491905

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C10-C28			66.7	47.5		mg/Kg		71	45 - 115		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
n-Octacosane	76		40 - 140

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 440-217414-A-1-A MS
Matrix: Solid
Analysis Batch: 491931

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 491905

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
C10-C28	ND		66.0	47.3		mg/Kg		72	40 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
n-Octacosane	*75*		*40 - 140*

Lab Sample ID: 440-217414-A-1-B MSD
Matrix: Solid
Analysis Batch: 491931

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 491905

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28	ND		64.8	42.3		mg/Kg		65	40 - 120	11	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
n-Octacosane	*70*		*40 - 140*

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 440-492231/1-A ^20
Matrix: Solid
Analysis Batch: 492524

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 492231

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.50	0.10	mg/Kg		08/08/18 13:11	08/09/18 11:08	20
Arsenic	ND		0.50	0.25	mg/Kg		08/08/18 13:11	08/09/18 11:08	20
Barium	ND		0.50	0.25	mg/Kg		08/08/18 13:11	08/09/18 11:08	20
Beryllium	ND		0.30	0.15	mg/Kg		08/08/18 13:11	08/09/18 11:08	20
Cadmium	ND		0.50	0.25	mg/Kg		08/08/18 13:11	08/09/18 11:08	20
Chromium	ND		1.0	0.50	mg/Kg		08/08/18 13:11	08/09/18 11:08	20
Cobalt	ND		0.50	0.21	mg/Kg		08/08/18 13:11	08/09/18 11:08	20
Copper	ND		1.0	0.50	mg/Kg		08/08/18 13:11	08/09/18 11:08	20
Lead	ND		0.50	0.25	mg/Kg		08/08/18 13:11	08/09/18 11:08	20
Molybdenum	ND		1.0	0.50	mg/Kg		08/08/18 13:11	08/09/18 11:08	20
Nickel	ND		1.0	0.50	mg/Kg		08/08/18 13:11	08/09/18 11:08	20
Selenium	ND		1.0	0.20	mg/Kg		08/08/18 13:11	08/09/18 11:08	20
Thallium	ND		0.50	0.25	mg/Kg		08/08/18 13:11	08/09/18 11:08	20
Vanadium	ND		1.0	0.50	mg/Kg		08/08/18 13:11	08/09/18 11:08	20
Zinc	ND		10	5.0	mg/Kg		08/08/18 13:11	08/09/18 11:08	20
Antimony	ND		1.0	0.27	mg/Kg		08/08/18 13:11	08/09/18 11:08	20

Lab Sample ID: LCS 440-492231/2-A ^20
Matrix: Solid
Analysis Batch: 492524

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 492231

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	25.0	24.2		mg/Kg		97	80 - 120
Arsenic	50.0	47.7		mg/Kg		95	80 - 120
Barium	50.0	48.7		mg/Kg		97	80 - 120

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 440-492231/2-A ^20
Matrix: Solid
Analysis Batch: 492524

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 492231

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	50.0	48.7		mg/Kg		97	80 - 120
Cadmium	50.0	48.2		mg/Kg		96	80 - 120
Chromium	50.0	48.0		mg/Kg		96	80 - 120
Cobalt	50.0	49.0		mg/Kg		98	80 - 120
Copper	50.0	48.3		mg/Kg		97	80 - 120
Lead	50.0	49.2		mg/Kg		98	80 - 120
Molybdenum	50.0	48.4		mg/Kg		97	80 - 120
Nickel	50.0	48.6		mg/Kg		97	80 - 120
Selenium	50.0	47.8		mg/Kg		96	80 - 120
Thallium	50.0	46.9		mg/Kg		94	80 - 120
Vanadium	50.0	48.4		mg/Kg		97	80 - 120
Zinc	50.0	48.5		mg/Kg		97	80 - 120
Antimony	50.0	51.2		mg/Kg		102	80 - 120

Lab Sample ID: 440-217542-A-3-B MS ^100
Matrix: Solid
Analysis Batch: 492524

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 492231

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		25.1	23.5		mg/Kg		93	80 - 120
Arsenic	12		50.3	60.6		mg/Kg		96	80 - 120
Barium	170	F1	50.3	248	F1	mg/Kg		152	80 - 120
Beryllium	ND		50.3	47.9		mg/Kg		95	80 - 120
Cadmium	ND		50.3	47.9		mg/Kg		95	80 - 120
Chromium	26		50.3	78.3		mg/Kg		103	80 - 120
Cobalt	11		50.3	57.6		mg/Kg		92	80 - 120
Copper	32		50.3	78.9		mg/Kg		94	80 - 120
Lead	310		50.3	72.1	4	mg/Kg		-479	80 - 120
Molybdenum	ND		50.3	47.0		mg/Kg		93	80 - 120
Nickel	24		50.3	71.5		mg/Kg		95	80 - 120
Selenium	ND		50.3	50.7		mg/Kg		101	80 - 120
Thallium	ND		50.3	45.2		mg/Kg		90	80 - 120
Vanadium	48	F1	50.3	111	F1	mg/Kg		124	80 - 120
Zinc	190	F1	50.3	255	F1	mg/Kg		139	80 - 120
Antimony	ND	F1	50.3	16.3	F1	mg/Kg		32	80 - 120

Lab Sample ID: 440-217542-A-3-C MSD ^100
Matrix: Solid
Analysis Batch: 492524

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 492231

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		25.0	21.8		mg/Kg		87	80 - 120	7	20
Arsenic	12		50.0	56.6		mg/Kg		89	80 - 120	7	20
Barium	170	F1	50.0	228		mg/Kg		114	80 - 120	8	20
Beryllium	ND		50.0	44.8		mg/Kg		90	80 - 120	7	20
Cadmium	ND		50.0	44.6		mg/Kg		89	80 - 120	7	20
Chromium	26		50.0	72.0		mg/Kg		91	80 - 120	8	20
Cobalt	11		50.0	52.9		mg/Kg		83	80 - 120	9	20
Copper	32		50.0	73.2		mg/Kg		83	80 - 120	8	20

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 440-217542-A-3-C MSD ^100
Matrix: Solid
Analysis Batch: 492524

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 492231

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	310		50.0	66.9	4	mg/Kg		-491	80 - 120	8	20
Molybdenum	ND		50.0	43.5		mg/Kg		87	80 - 120	8	20
Nickel	24		50.0	65.2		mg/Kg		83	80 - 120	9	20
Selenium	ND		50.0	47.3		mg/Kg		95	80 - 120	7	20
Thallium	ND		50.0	42.0		mg/Kg		84	80 - 120	7	20
Vanadium	48	F1	50.0	101		mg/Kg		107	80 - 120	9	20
Zinc	190	F1	50.0	240		mg/Kg		109	80 - 120	6	20
Antimony	ND	F1	50.0	15.3	F1	mg/Kg		31	80 - 120	6	20

Lab Sample ID: MB 440-491738/1-A
Matrix: Water
Analysis Batch: 492046

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 491738

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		08/06/18 11:40	08/07/18 16:31	1
Arsenic	ND		1.0	0.50	ug/L		08/06/18 11:40	08/07/18 16:31	1
Barium	ND		1.0	0.50	ug/L		08/06/18 11:40	08/07/18 16:31	1
Beryllium	ND		0.50	0.25	ug/L		08/06/18 11:40	08/07/18 16:31	1
Cadmium	ND		1.0	0.25	ug/L		08/06/18 11:40	08/07/18 16:31	1
Chromium	ND		2.0	0.50	ug/L		08/06/18 11:40	08/07/18 16:31	1
Cobalt	ND		1.0	0.50	ug/L		08/06/18 11:40	08/07/18 16:31	1
Copper	ND		2.0	0.50	ug/L		08/06/18 11:40	08/07/18 16:31	1
Lead	ND		1.0	0.50	ug/L		08/06/18 11:40	08/07/18 16:31	1
Molybdenum	ND		2.0	0.50	ug/L		08/06/18 11:40	08/07/18 16:31	1
Nickel	ND		2.0	0.50	ug/L		08/06/18 11:40	08/07/18 16:31	1
Selenium	ND		2.0	0.50	ug/L		08/06/18 11:40	08/07/18 16:31	1
Thallium	ND		1.0	0.50	ug/L		08/06/18 11:40	08/07/18 16:31	1
Vanadium	ND		2.0	1.0	ug/L		08/06/18 11:40	08/07/18 16:31	1
Zinc	ND		20	2.5	ug/L		08/06/18 11:40	08/07/18 16:31	1
Antimony	ND		2.0	0.50	ug/L		08/06/18 11:40	08/07/18 16:31	1

Lab Sample ID: LCS 440-491738/2-A
Matrix: Water
Analysis Batch: 492046

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 491738

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	77.2		ug/L		97	80 - 120
Arsenic	80.0	76.5		ug/L		96	80 - 120
Barium	80.0	78.4		ug/L		98	80 - 120
Beryllium	80.0	75.9		ug/L		95	80 - 120
Cadmium	80.0	79.5		ug/L		99	80 - 120
Chromium	80.0	78.5		ug/L		98	80 - 120
Cobalt	80.0	78.9		ug/L		99	80 - 120
Copper	80.0	78.4		ug/L		98	80 - 120
Lead	80.0	75.9		ug/L		95	80 - 120
Molybdenum	80.0	78.9		ug/L		99	80 - 120
Nickel	80.0	78.4		ug/L		98	80 - 120
Selenium	80.0	74.4		ug/L		93	80 - 120
Thallium	80.0	77.1		ug/L		96	80 - 120

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 440-491738/2-A
Matrix: Water
Analysis Batch: 492046

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 491738

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Vanadium			80.0	78.9		ug/L		99	80 - 120		
Zinc			80.0	78.4		ug/L		98	80 - 120		
Antimony			80.0	78.9		ug/L		99	80 - 120		

Lab Sample ID: 440-217271-1 MS
Matrix: Water
Analysis Batch: 492046

Client Sample ID: IDW-1-W-080318
Prep Type: Total Recoverable
Prep Batch: 491738

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Silver	ND		80.0	75.2		ug/L		94	75 - 125		
Arsenic	75		80.0	150		ug/L		94	75 - 125		
Barium	33		80.0	112		ug/L		100	75 - 125		
Beryllium	ND		80.0	76.8		ug/L		96	75 - 125		
Cadmium	ND		80.0	79.3		ug/L		99	75 - 125		
Chromium	2.1		80.0	79.4		ug/L		97	75 - 125		
Cobalt	ND		80.0	78.3		ug/L		98	75 - 125		
Copper	7.9		80.0	85.9		ug/L		97	75 - 125		
Lead	0.50	J	80.0	74.2		ug/L		92	75 - 125		
Molybdenum	25		80.0	106		ug/L		101	75 - 125		
Nickel	4.5		80.0	80.8		ug/L		95	75 - 125		
Selenium	1.6	J	80.0	75.2		ug/L		92	75 - 125		
Thallium	ND		80.0	73.6		ug/L		92	75 - 125		
Vanadium	8.2		80.0	88.3		ug/L		100	75 - 125		
Zinc	19	J	80.0	94.0		ug/L		94	75 - 125		
Antimony	1.5	J	80.0	83.4		ug/L		102	75 - 125		

Lab Sample ID: 440-217271-1 MSD
Matrix: Water
Analysis Batch: 492046

Client Sample ID: IDW-1-W-080318
Prep Type: Total Recoverable
Prep Batch: 491738

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	74.3		ug/L		93	75 - 125	1	20
Arsenic	75		80.0	149		ug/L		92	75 - 125	1	20
Barium	33		80.0	110		ug/L		97	75 - 125	2	20
Beryllium	ND		80.0	74.6		ug/L		93	75 - 125	3	20
Cadmium	ND		80.0	78.1		ug/L		98	75 - 125	2	20
Chromium	2.1		80.0	78.0		ug/L		95	75 - 125	2	20
Cobalt	ND		80.0	77.0		ug/L		96	75 - 125	2	20
Copper	7.9		80.0	86.1		ug/L		98	75 - 125	0	20
Lead	0.50	J	80.0	73.1		ug/L		91	75 - 125	1	20
Molybdenum	25		80.0	106		ug/L		101	75 - 125	0	20
Nickel	4.5		80.0	79.0		ug/L		93	75 - 125	2	20
Selenium	1.6	J	80.0	74.6		ug/L		91	75 - 125	1	20
Thallium	ND		80.0	72.5		ug/L		91	75 - 125	1	20
Vanadium	8.2		80.0	87.4		ug/L		99	75 - 125	1	20
Zinc	19	J	80.0	91.6		ug/L		91	75 - 125	3	20
Antimony	1.5	J	80.0	82.1		ug/L		101	75 - 125	2	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 440-492531/1-A
Matrix: Water
Analysis Batch: 492808

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 492531

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		08/09/18 13:23	08/10/18 03:51	1

Lab Sample ID: LCS 440-492531/2-A
Matrix: Water
Analysis Batch: 492808

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 492531

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00800	0.00738		mg/L		92	80 - 120

Lab Sample ID: 440-217271-1 MS
Matrix: Water
Analysis Batch: 492808

Client Sample ID: IDW-1-W-080318
Prep Type: Total/NA
Prep Batch: 492531

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00800	0.00805		mg/L		101	70 - 130

Lab Sample ID: 440-217271-1 MSD
Matrix: Water
Analysis Batch: 492808

Client Sample ID: IDW-1-W-080318
Prep Type: Total/NA
Prep Batch: 492531

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00800	0.00808		mg/L		101	70 - 130	0	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 440-492450/1-A
Matrix: Solid
Analysis Batch: 492851

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 492450

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020	0.012	mg/Kg		08/09/18 08:52	08/09/18 19:36	1

Lab Sample ID: LCS 440-492450/2-A
Matrix: Solid
Analysis Batch: 492851

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 492450

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.800	0.753		mg/Kg		94	80 - 120

Lab Sample ID: 440-217435-A-1-E MS
Matrix: Solid
Analysis Batch: 492851

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 492450

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.784	0.663		mg/Kg		85	70 - 130

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: 440-217435-A-1-F MSD
Matrix: Solid
Analysis Batch: 492851

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 492450

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.784	0.718		mg/Kg		92	70 - 130	8	20

GC/MS VOA

Analysis Batch: 492124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-217271-1	IDW-1-W-080318	Total/NA	Water	8260B	
MB 440-492124/5	Method Blank	Total/NA	Water	8260B	
LCS 440-492124/6	Lab Control Sample	Total/NA	Water	8260B	
440-217452-A-3 MS	Matrix Spike	Total/NA	Water	8260B	
440-217452-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 492128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-217271-6	IDW-2-S-080318 COMPOSITE	Total/NA	Solid	8260B	
440-217271-11	IDW-3-S-080318 COMPOSITE	Total/NA	Solid	8260B	
MB 440-492128/4	Method Blank	Total/NA	Solid	8260B	
LCS 440-492128/5	Lab Control Sample	Total/NA	Solid	8260B	
440-217353-A-2 MS	Matrix Spike	Total/NA	Solid	8260B	
440-217353-A-2 MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B	

Analysis Batch: 492702

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-217271-11 - RA	IDW-3-S-080318 COMPOSITE	Total/NA	Solid	8260B	
MB 440-492702/5	Method Blank	Total/NA	Solid	8260B	
LCS 440-492702/6	Lab Control Sample	Total/NA	Solid	8260B	
440-217652-A-11 MS	Matrix Spike	Total/NA	Solid	8260B	
440-217652-A-11 MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B	

Prep Batch: 492775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-217271-6	IDW-2-S-080318 COMPOSITE	Total/NA	Solid	5030B	

Analysis Batch: 492796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-217271-6	IDW-2-S-080318 COMPOSITE	Total/NA	Solid	8260B	492775
MB 440-492796/4	Method Blank	Total/NA	Solid	8260B	
LCS 440-492796/5	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 440-492796/6	Lab Control Sample Dup	Total/NA	Solid	8260B	

GC VOA

Prep Batch: 492775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-217271-6	IDW-2-S-080318 COMPOSITE	Total/NA	Solid	5030B	

Analysis Batch: 493059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-217271-6	IDW-2-S-080318 COMPOSITE	Total/NA	Solid	8015B	492775
MB 440-493059/6	Method Blank	Total/NA	Solid	8015B	
LCS 440-493059/4	Lab Control Sample	Total/NA	Solid	8015B	
LCSD 440-493059/5	Lab Control Sample Dup	Total/NA	Solid	8015B	

Analysis Batch: 493061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-217271-11	IDW-3-S-080318 COMPOSITE	Total/NA	Solid	8015B	

GC VOA (Continued)

Analysis Batch: 493061 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-493061/5	Method Blank	Total/NA	Solid	8015B	
LCS 440-493061/3	Lab Control Sample	Total/NA	Solid	8015B	
LCSD 440-493061/4	Lab Control Sample Dup	Total/NA	Solid	8015B	
440-217652-B-11 MS	Matrix Spike	Total/NA	Solid	8015B	
440-217652-B-11 MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	

Analysis Batch: 493118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-217271-1	IDW-1-W-080318	Total/NA	Water	8015B	
MB 440-493118/14	Method Blank	Total/NA	Water	8015B	
LCS 440-493118/13	Lab Control Sample	Total/NA	Water	8015B	
440-217504-B-1 MS	Matrix Spike	Total/NA	Water	8015B	
440-217504-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8015B	

GC Semi VOA

Prep Batch: 491744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-217271-1	IDW-1-W-080318	Total/NA	Water	3510C	
440-217271-1 - DL	IDW-1-W-080318	Total/NA	Water	3510C	
MB 440-491744/1-A	Method Blank	Total/NA	Water	3510C	
LCS 440-491744/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 440-491744/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Prep Batch: 491905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-217271-6	IDW-2-S-080318 COMPOSITE	Total/NA	Solid	3546	
440-217271-6 - DL	IDW-2-S-080318 COMPOSITE	Total/NA	Solid	3546	
440-217271-11	IDW-3-S-080318 COMPOSITE	Total/NA	Solid	3546	
MB 440-491905/1-A	Method Blank	Total/NA	Solid	3546	
LCS 440-491905/2-A	Lab Control Sample	Total/NA	Solid	3546	
440-217414-A-1-A MS	Matrix Spike	Total/NA	Solid	3546	
440-217414-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	3546	

Analysis Batch: 491931

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-217271-1	IDW-1-W-080318	Total/NA	Water	8015B	491744
440-217271-1 - DL	IDW-1-W-080318	Total/NA	Water	8015B	491744
MB 440-491744/1-A	Method Blank	Total/NA	Water	8015B	491744
MB 440-491905/1-A	Method Blank	Total/NA	Solid	8015B	491905
LCS 440-491744/2-A	Lab Control Sample	Total/NA	Water	8015B	491744
LCS 440-491905/2-A	Lab Control Sample	Total/NA	Solid	8015B	491905
LCSD 440-491744/3-A	Lab Control Sample Dup	Total/NA	Water	8015B	491744
440-217414-A-1-A MS	Matrix Spike	Total/NA	Solid	8015B	491905
440-217414-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	491905

Analysis Batch: 492250

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-217271-6	IDW-2-S-080318 COMPOSITE	Total/NA	Solid	8015B	491905
440-217271-6 - DL	IDW-2-S-080318 COMPOSITE	Total/NA	Solid	8015B	491905

GC Semi VOA (Continued)

Analysis Batch: 492250 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-217271-11	IDW-3-S-080318 COMPOSITE	Total/NA	Solid	8015B	491905

Metals

Prep Batch: 491738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-217271-1	IDW-1-W-080318	Total Recoverable	Water	3005A	
MB 440-491738/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-491738/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-217271-1 MS	IDW-1-W-080318	Total Recoverable	Water	3005A	
440-217271-1 MSD	IDW-1-W-080318	Total Recoverable	Water	3005A	

Analysis Batch: 492046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-217271-1	IDW-1-W-080318	Total Recoverable	Water	6020	491738
MB 440-491738/1-A	Method Blank	Total Recoverable	Water	6020	491738
LCS 440-491738/2-A	Lab Control Sample	Total Recoverable	Water	6020	491738
440-217271-1 MS	IDW-1-W-080318	Total Recoverable	Water	6020	491738
440-217271-1 MSD	IDW-1-W-080318	Total Recoverable	Water	6020	491738

Prep Batch: 492231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-217271-6	IDW-2-S-080318 COMPOSITE	Total/NA	Solid	3050B	
440-217271-11	IDW-3-S-080318 COMPOSITE	Total/NA	Solid	3050B	
MB 440-492231/1-A ^20	Method Blank	Total/NA	Solid	3050B	
LCS 440-492231/2-A ^20	Lab Control Sample	Total/NA	Solid	3050B	
440-217542-A-3-B MS ^100	Matrix Spike	Total/NA	Solid	3050B	
440-217542-A-3-C MSD ^10(	Matrix Spike Duplicate	Total/NA	Solid	3050B	

Prep Batch: 492450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-217271-6	IDW-2-S-080318 COMPOSITE	Total/NA	Solid	7471A	
440-217271-11	IDW-3-S-080318 COMPOSITE	Total/NA	Solid	7471A	
MB 440-492450/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 440-492450/2-A	Lab Control Sample	Total/NA	Solid	7471A	
440-217435-A-1-E MS	Matrix Spike	Total/NA	Solid	7471A	
440-217435-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	

Analysis Batch: 492524

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-217271-6	IDW-2-S-080318 COMPOSITE	Total/NA	Solid	6020	492231
440-217271-11	IDW-3-S-080318 COMPOSITE	Total/NA	Solid	6020	492231
MB 440-492231/1-A ^20	Method Blank	Total/NA	Solid	6020	492231
LCS 440-492231/2-A ^20	Lab Control Sample	Total/NA	Solid	6020	492231
440-217542-A-3-B MS ^100	Matrix Spike	Total/NA	Solid	6020	492231
440-217542-A-3-C MSD ^10(	Matrix Spike Duplicate	Total/NA	Solid	6020	492231

Prep Batch: 492531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-217271-1	IDW-1-W-080318	Total/NA	Water	7470A	

Metals (Continued)

Prep Batch: 492531 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-492531/1-A	Method Blank	Total/NA	Water	7470A	
LCS 440-492531/2-A	Lab Control Sample	Total/NA	Water	7470A	
440-217271-1 MS	IDW-1-W-080318	Total/NA	Water	7470A	
440-217271-1 MSD	IDW-1-W-080318	Total/NA	Water	7470A	

Analysis Batch: 492808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-217271-1	IDW-1-W-080318	Total/NA	Water	7470A	492531
MB 440-492531/1-A	Method Blank	Total/NA	Water	7470A	492531
LCS 440-492531/2-A	Lab Control Sample	Total/NA	Water	7470A	492531
440-217271-1 MS	IDW-1-W-080318	Total/NA	Water	7470A	492531
440-217271-1 MSD	IDW-1-W-080318	Total/NA	Water	7470A	492531

Analysis Batch: 492851

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-217271-6	IDW-2-S-080318 COMPOSITE	Total/NA	Solid	7471A	492450
440-217271-11	IDW-3-S-080318 COMPOSITE	Total/NA	Solid	7471A	492450
MB 440-492450/1-A	Method Blank	Total/NA	Solid	7471A	492450
LCS 440-492450/2-A	Lab Control Sample	Total/NA	Solid	7471A	492450
440-217435-A-1-E MS	Matrix Spike	Total/NA	Solid	7471A	492450
440-217435-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	492450

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: CH2M Hill, Inc.
Project/Site: KMEP/SFPP Norwalk Site

TestAmerica Job ID: 440-217271-1

Laboratory: TestAmerica Irvine

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	CA01531	06-30-19
Arizona	State Program	9	AZ0671	10-14-18
California	LA Cty Sanitation Districts	9	10256	06-30-19
California	State Program	9	CA ELAP 2706	06-30-19
Guam	State Program	9	Cert. No. 17-003R	01-23-19
Hawaii	State Program	9	N/A	01-29-19
Kansas	NELAP	7	E-10420	07-31-18 *
Nevada	State Program	9	CA015312018-1	07-31-19
New Mexico	State Program	6	N/A	01-29-19
Oregon	NELAP	10	4028	01-29-19
USDA	Federal		P330-15-00184	07-09-21
Washington	State Program	10	C900	09-03-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
Phone: 949.261.1022 Fax:

Chain of Custody Record

209651

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Eric Davis	Site Contact: H. Thomas	Date: 8-3-18	COC No:
Company Name: Kinder Morgan Energy Partners	Tel/Fax: 404-323-1600	Lab Contact:	Carrier:	1 of 1 COCs
Address: 1100 Town + Country Rd.	Analysis Turnaround Time			Sampler: MT
City/State/Zip: Orange, Ca 92868	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 714-560-4802	TAT if different from Below ____			Walk-in Client:
Fax: 714-560-4801	☐ 2 weeks			Lab Sampling:
Project Name:	☒ 1 week			
Site	☐ 2 days			Job / SDG No.:
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	TPH-g	TPH-jet	TPH-motor oil	TPH-diesel	VOC	Title 22 Metals		Sample Specific Notes
IDW-1-W-080318	8-3-18	1100	G	W	9			X	X	X	X	X	X		
IDW-2-S-080318	|	1105	G	S	4			~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	MT	
IDW-3-S-080318	|	1110	G	S	4			~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	MT	Lab
IDW-2-S-080318-Composite	|	1105	C	S				X	X	X	X	X	X		Composite from item 2
IDW-3-S-080318-Composite	|	1110	C	S				X	X	X	X	X	X		Lab composite from item 3

440-217271 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments: Lab to composite IDW-3-S-080318 and IDW-2-S-080318

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No. | Cooler Temp (°C): Obs'd: 3.4 Corr'd: 3.6 Therm ID No. IR6

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Jacobs	8-3-18 / 1220			
Relinquished by	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by	Company:	Date/Time:	Received in Laboratory by: [signature]	TA IRV	8/3/18 1220

Login Sample Receipt Checklist

Client: CH2M Hill, Inc.

Job Number: 440-217271-1

Login Number: 217271
List Number: 1
Creator: Garcia, Veronica G

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

DW 1804676402

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CAT080033962

Manifest Document No. NH1804676402

2. Page 1 of 1

3. Generator's Name and Mailing Address
Sfpp. L.P. Norwalk Station
1100 Town And Country Road
Orange CA 92868

4. Generator's Phone ((714) 560-4887 ATTN:Karina Hankins

Site Address :
15306 Norwalk Boulevard
Norwalk, CA 90651

5. Transporter 1 Company Name: Clean Harbors Environmental Services, Inc

6. US EPA ID Number: MAD039322250

A. State Transporter's ID

B. Transporter 1 Phone (781) 792-5000

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
Clean Harbors San Jose LLC
1021 Berryessa Road
San Jose, CA 95133

10. US EPA ID Number: CAD059494310

E. State Facility's ID: CAD059494310

F. Facility's Phone: (408) 441-0962

11. WASTE DESCRIPTION	Containers No.	Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON D.O.T. REGULATED. (DECON WATER)	1	DM	40	P
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above
11a.CH1713515

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
11a. Decon Water 11A) 1X55DM

EMERGENCY PHONE #: (800) 483-3718
GENERATOR: Sfpp. L.P. Norwalk Station

GENERATOR

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Patrick Loya
Signature:
Date: Month 9 Day 20 Year 18

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: HOWARD Mendez
Signature:
Date: Month 09 Day 20 Year 18

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name
Signature
Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name
Signature
Date: Month Day Year

NON-HAZARDOUS WASTE

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

DW 1804676402

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CAT080033962

Manifest Document No. NHG76402

2. Page 1 of 1

3. Generator's Name and Mailing Address
Sfpp. L.P. Norwalk Station
1100 Town And Country Road
Orange CA 92868

Site Address :
15306 Norwalk Boulevard
Norwalk, CA 90651

4. Generator's Phone ((714) 560-4887 ATTN: Karina Hankins

5. Transporter 1 Company Name: Clean Harbors Environmental Services, Inc

6. US EPA ID Number: MAD039322250

A. State Transporter's ID

B. Transporter 1 Phone (781) 792-5000

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
Clean Harbors Wilmington LLC
1737 East Denni Street
Wilmington, CA 90744

10. US EPA ID Number: CAD044429835

E. State Facility's ID

F. Facility's Phone (310) 835-9998

11. WASTE DESCRIPTION	Containers No.	Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON D.O.T. REGULATED, (DEBRIS)	1	DM	80	P
b. NON HAZARDOUS, NON D.O.T. REGULATED, (SOIL)	2	DM	300	P
c. NON D.O.T. REGULATED, (FILTERS)	1	DM	80	P
d.				

G. Additional Descriptions for Materials Listed Above
11a.CH1401785
11b.CH1418957
11c.CH1424321-NH

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
11a. Gloves/Rags/Debris 11b. Soil Cuttings 11c. Groundwater Treatment Sysstem Filters (BIO)

EMERGENCY PHONE #: (800) 483-3718
GENERATOR: Sfpp, L.P. Norwalk Station

11A) 1X55 DM 11B) 2X55DM 11C) 1X55DM

GENERATOR

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Patrick Loya | Signature | Date: Month 9 Day 20 Year 18

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: HOWARD MENDEZ | Signature | Date: Month 09 Day 19 Year 18

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name | Signature | Date: Month Day Year

Appendix D
Soil Boring Logs

Jacobs

PROJECT NUMBER:	BORING / WELL NUMBER:
705305.EC.03	SB-1B SHEET 1 OF 1

Soil Boring Log

PROJECT : Norwalk, CA
LOCATION : 15306 Norwalk Blvd.
GROUND ELEVATION :
DRILLING CONTRACTOR : Gregg Drilling
COORDINATES : N, W
DRILLING METHOD AND EQUIPMENT : DP17, Hand-auger; Direct-push
WATER LEVEL: m ft bgs after drilling ▼ START : 7/25/2018 END : 7/27/2018 LOGGER : M. Thomas REVIEWER:

DEPTH BELOW GROUND SURFACE (ft)	SOIL SAMPLES FOR ANALYSIS	CORE SCREENING PID READING	GRAPHIC LOG	SOIL DESCRIPTION Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy
				SILTY SAND (SM) Tan, dry, fine to coarse.
5	S-1	0 ppm		Brown, dry, fine to coarse.
10	S-2	0 ppm		Brown, dry, fine to coarse.
15	S-3	0 ppm		Tan, dry, fine to coarse.
20	S-4	0 ppm		Brown, moist, fine to medium.
25	S-5	0 ppm		**CLAY (CL)** dark brown, moist, stiff, odor.
30	S-6	1515 ppm		**SILTY SAND (SM)** dark brown, moist, fine to coarse, strong odor.
				Boring terminated at 33 ft bgs.
35				
40				

SOIL BORING LOG 327530 CPTLIF_2018.GPJ CH2M HILL GEOTECH6_18.GDT 9/26/18

Jacobs

PROJECT NUMBER:	BORING / WELL NUMBER:
705305.EC.03	SB-2B SHEET 1 OF 1

Soil Boring Log

PROJECT : Norwalk, CA | LOCATION : 15306 Norwalk Blvd.

GROUND ELEVATION : | DRILLING CONTRACTOR : Gregg Drilling

COORDINATES : N, W | DRILLING METHOD AND EQUIPMENT : DP17, Hand-auger; Direct-push

WATER LEVEL: m ft bgs after drilling ▼ START : 7/25/2018 END : 7/26/2018 LOGGER : M. Thomas REVIEWER:

DEPTH BELOW GROUND SURFACE (ft)	SOIL SAMPLES FOR ANALYSIS	CORE SCREENING PID READING	GRAPHIC LOG	SOIL DESCRIPTION Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy
0				**SILTY SAND (SM)** Tan, dry, fine to coarse.
5	S-1	0 ppm		Tan, dry, fine to coarse.
10	S-2	0 ppm		Brown, dry, fine to coarse.
15	S-3	0 ppm		Brown, dry, fine to coarse.
20	S-4	0 ppm		Brown, dry, fine to coarse.
25	S-5	0 ppm		Brown, dry, fine to coarse.
30	S-6	435 ppm		Dark brown, moist, fine to coarse, odor.
35	S-7	0 ppm		Brown, dry, fine to coarse, strong odor. Boring terminated at 36 ft bgs.
40				

SOIL BORING LOG 327530 CPTLIF_2018.GPJ CH2M HILL GEOTECH6_18.GDT 9/26/18

Jacobs

PROJECT NUMBER:	BORING / WELL NUMBER:
705305.EC.03	SB-3B SHEET 1 OF 1

Soil Boring Log

PROJECT : Norwalk, CA | LOCATION : 15306 Norwalk Blvd.

GROUND ELEVATION : | DRILLING CONTRACTOR : Gregg Drilling

COORDINATES : N, W | DRILLING METHOD AND EQUIPMENT : DP17, Hand-auger; Direct-push

WATER LEVEL: m ft bgs after drilling ▼ | START : 7/25/2018 | END : 7/26/2018 | LOGGER : M. Thomas | REVIEWER:

DEPTH BELOW GROUND SURFACE (ft)	SOIL SAMPLES FOR ANALYSIS	CORE SCREENING PID READING	GRAPHIC LOG	SOIL DESCRIPTION Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy
0				**SILTY SAND (SM)** Tan, dry, fine to coarse.
5	S-1	0 ppm		Brown, dry, fine to coarse.
10	S-2	0 ppm		Brown, slightly moist, fine to coarse.
15	S-3	0 ppm		Brown, moist, fine to coarse, weak odor.
20	S-4	0 ppm		Brown, moist, fine to coarse, weak odor.
25	S-5	0 ppm		Brown, moist, fine to medium, with clay.
30	S-6	1.2 ppm		Dark brown, saturated, fine to medium, with clay, odor.
33				Boring terminated at 33 ft bgs.
35				
40				

SOIL BORING LOG 327530 CPTLIF_2018.GPJ CH2M HILL GEOTECH6_18.GDT 9/26/18

Jacobs

PROJECT NUMBER: 705305.EC.03	BORING / WELL NUMBER: SB-4B	SHEET 1 OF 1

Soil Boring Log

PROJECT : Norwalk, CA | LOCATION : 15306 Norwalk Blvd.

GROUND ELEVATION : | DRILLING CONTRACTOR : Gregg Drilling

COORDINATES : N, W | DRILLING METHOD AND EQUIPMENT : DP17, Hand-auger; Direct-push

WATER LEVEL: m ft bgs after drilling ▼ | START : 7/27/2018 | END : 7/27/2018 | LOGGER : M. Thomas | REVIEWER:

DEPTH BELOW GROUND SURFACE (ft)	SOIL SAMPLES FOR ANALYSIS	CORE SCREENING PID READING	GRAPHIC LOG	SOIL DESCRIPTION Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy
				ASPHALT 4" thick.
				SILTY SAND (SM) tan, dry, fine to coarse.
5	S-1	0 ppm		Brown, dry, fine to coarse.
10	S-2	0 ppm		Brown, slightly moist, fine to coarse.
15	S-3	0 ppm		Brown, moist, fine to coarse, with clay.
20	S-4	0 ppm		Brown, moist, fine to medium, with clay.
25	S-5	0 ppm		Brown, moist, fine to coarse, with clay.
30	S-6	267 ppm		Dark brown, moist, fine to medium, with clay clay, odor.
35	S-7	1710 ppm		Dark brown, moist, fine to coarse, with clay, trace angular gravel to 0.25", odor. Boring terminated at 36 ft bgs.
40				

SOIL BORING LOG 327530 CPTLIF_2018.GPJ CH2M HILL GEOTECH6_18.GDT 9/26/18

Jacobs

PROJECT NUMBER: 705305.EC.03	BORING / WELL NUMBER: SB-5B	SHEET 1 OF 1

Soil Boring Log

PROJECT : Norwalk, CA | LOCATION : 15306 Norwalk Blvd.

GROUND ELEVATION : | DRILLING CONTRACTOR : Gregg Drilling

COORDINATES : N, W | DRILLING METHOD AND EQUIPMENT : DP17, Hand-auger; Direct-push

WATER LEVEL: m ft bgs after drilling ▼ | START : 7/25/2018 | END : 7/26/2018 | LOGGER : M. Thomas | REVIEWER:

DEPTH BELOW GROUND SURFACE (ft)	SOIL SAMPLES FOR ANALYSIS	CORE SCREENING PID READING	GRAPHIC LOG	SOIL DESCRIPTION Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy
0				**SILTY SAND (SM)** Tan, dry, fine to coarse.
5	S-1	0 ppm		Brown, dry, fine to coarse.
10	S-2	0 ppm		Brown, dry, fine to coarse.
15	S-3	0 ppm		Brown, dry, fine to coarse.
20	S-4	0 ppm		Brown, moist, fine to medium.
25	S-5	0 ppm		Brown, moist, fine to medium, with clay, red streaking, weak odor.
30	S-6	300 ppm		Dark brown, moist, fine to coarse.
				Boring terminated at 32 ft bgs.
35				
40				

SOIL BORING LOG 327530 CPTLIF_2018.GPJ CH2M HILL GEOTECH6_18.GDT 9/26/18

Jacobs

PROJECT NUMBER: 705305.EC.03	BORING / WELL NUMBER: SB-6B	SHEET 1 OF 1

Soil Boring Log

PROJECT : Norwalk, CA | LOCATION : 15306 Norwalk Blvd.

GROUND ELEVATION : | DRILLING CONTRACTOR : Gregg Drilling

COORDINATES : N, W | DRILLING METHOD AND EQUIPMENT : DP17, Hand-auger; Direct-push

WATER LEVEL: m ft bgs after drilling ▼ | START : 7/25/2018 | END : 7/26/2018 | LOGGER : M. Thomas | REVIEWER:

DEPTH BELOW GROUND SURFACE (ft)	SOIL SAMPLES FOR ANALYSIS	CORE SCREENING PID READING	GRAPHIC LOG	SOIL DESCRIPTION Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy
0				**SILTY SAND (SM)** Tan, dry, fine to coarse.
5	S-1	0 ppm		Brown, dry, fine to coarse, trace gravel to 0.25".
10	S-2	0 ppm		Brown, dry, fine to coarse.
15	S-3	0 ppm		Tan, dry, fine to coarse.
20	S-4	0 ppm		Brown, moist, fine to coarse, weak odor.
25	S-5	0 ppm		Brown, moist, fine to medium, weak odor.
30	S-6	0 ppm		Brown, moist, fine to coarse, weak odor.
35	S-7	0 ppm		Brown, moist, fine to coarse.
				Boring terminated at 36 ft bgs.
40				

SOIL BORING LOG 327530 CPTLIF_2018.GPJ CH2M HILL GEOTECH6_18.GDT 9/26/18

Jacobs

PROJECT NUMBER: 705305.EC.03	BORING / WELL NUMBER: SB-7B	SHEET 1 OF 1

Soil Boring Log

PROJECT : Norwalk, CA | LOCATION : 15306 Norwalk Blvd.

GROUND ELEVATION : | DRILLING CONTRACTOR : Gregg Drilling

COORDINATES : N, W | DRILLING METHOD AND EQUIPMENT : DP17, Hand-auger; Direct-push

WATER LEVEL: m ft bgs after drilling ▼ | START : 7/25/2018 | END : 7/26/2018 | LOGGER : M. Thomas | REVIEWER:

DEPTH BELOW GROUND SURFACE (ft)	SOIL SAMPLES FOR ANALYSIS	CORE SCREENING PID READING	GRAPHIC LOG	SOIL DESCRIPTION Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy
0				**SILTY SAND (SM)** Tan, dry, fine to coarse.
5	S-1	0 ppm		Brown, dry, fine to coarse.
10	S-2	0 ppm		Brown, dry, fine to coarse.
15	S-3	0 ppm		Brown, moist, fine to coarse.
20	S-4	0 ppm		**POORLY GRADED SAND (SP)** tan, dry.
25	S-5	0 ppm		
				CLAYEY SAND (SC) dark brown, moist, fine.
30	S-6	1.2 ppm		**SILTY SAND (SM)** dark brown, moist, fine to coarse.
35	S-7	0 ppm		
				Boring terminated at 36 ft bgs.
40				

SOIL BORING LOG 327530 CPTLIF_2018.GPJ CH2M HILL GEOTECH6_18.GDT 9/26/18

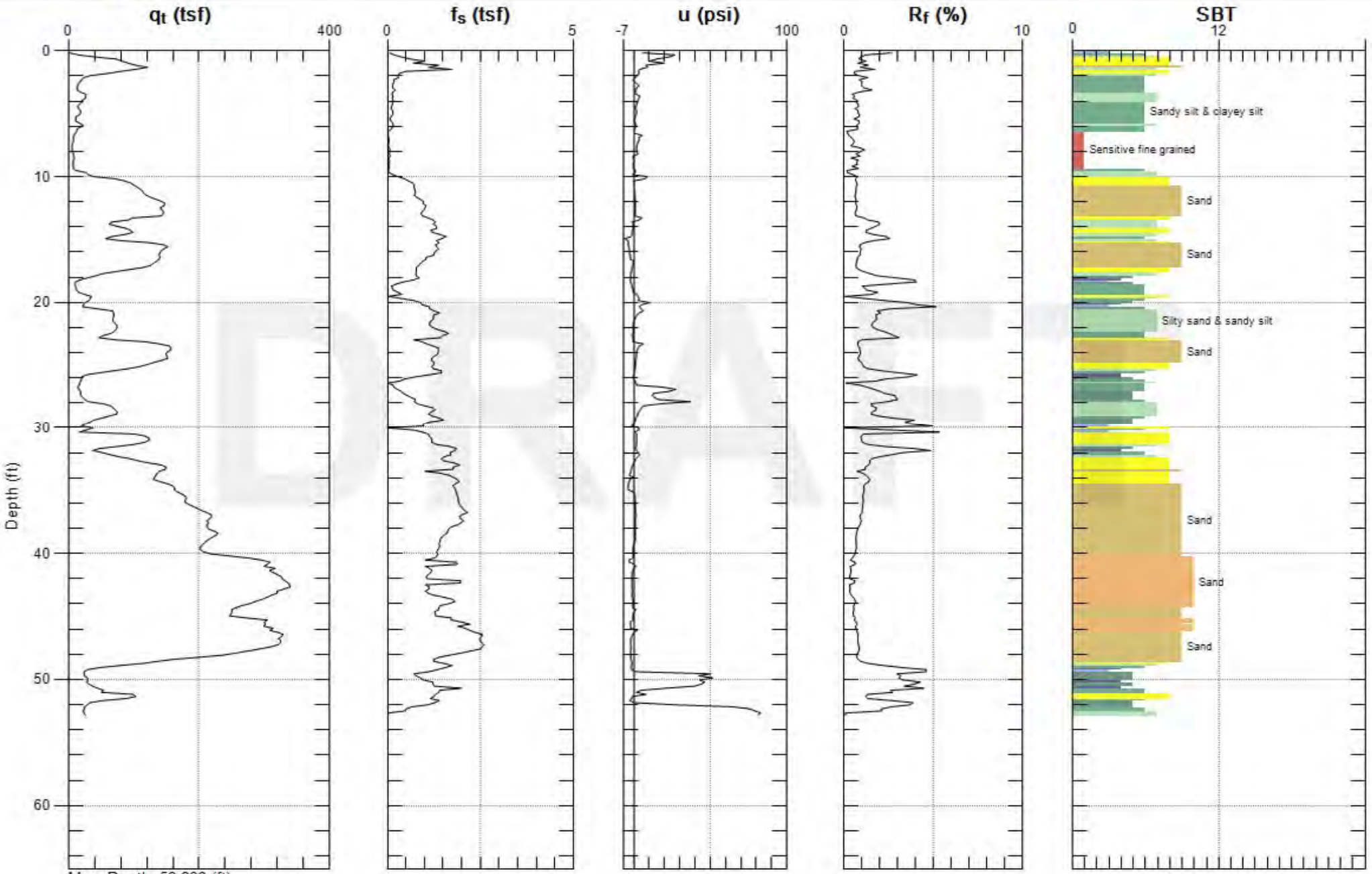
Appendix E
CPT Report

GREGG

Jacobs

Site: DFSP Norwalk
Sounding: CPT-LIF-1B

Engineer: Malcolm T.
Date: 7/24/2018 07:10



Max. Depth: 52.822 (ft)
Avg. Interval: 0.164 (ft)

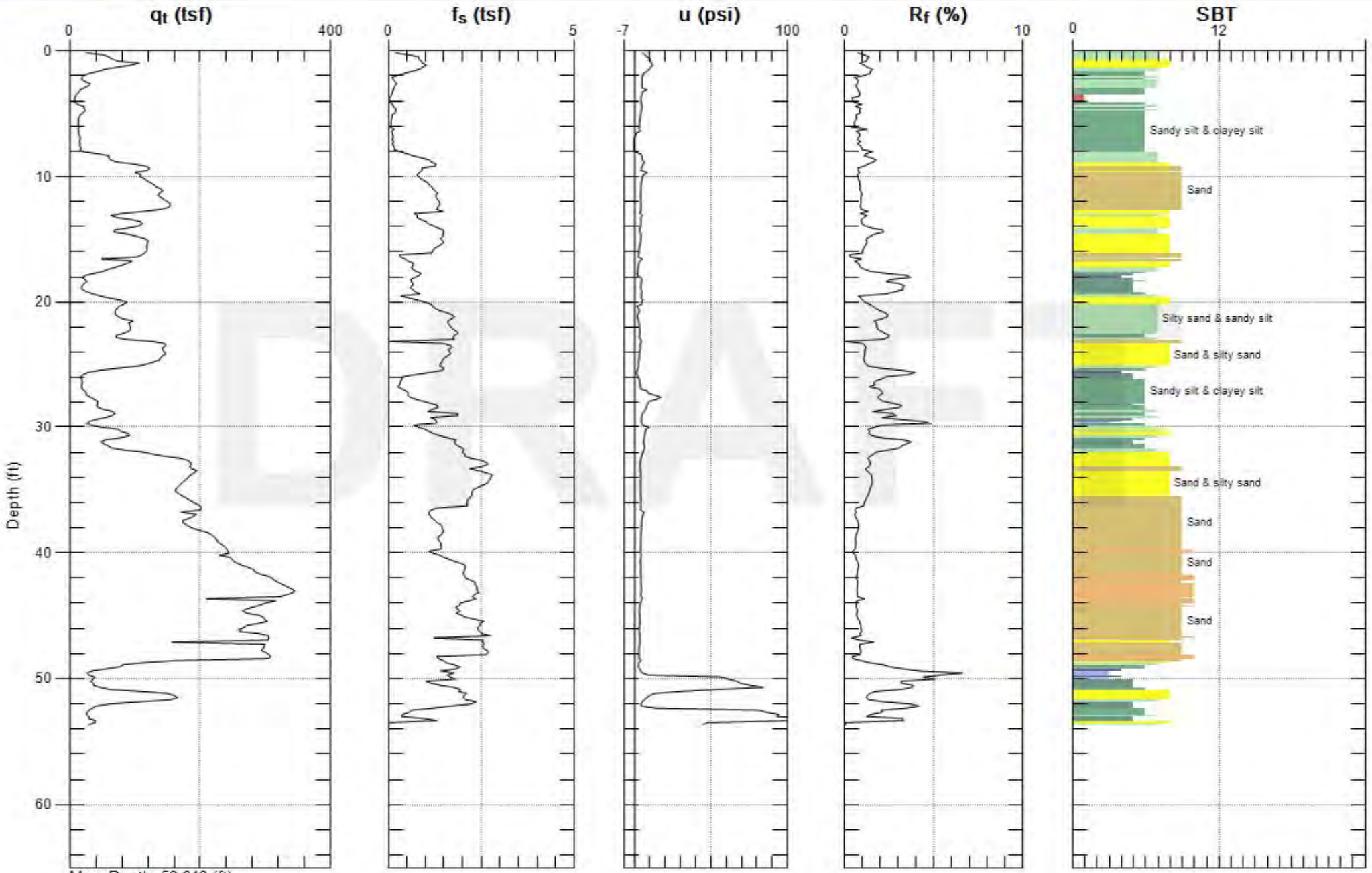
SBT: Soil Behavior Type (Robertson 1990)

GREGG

Jacobs

Site: DFSP Norwalk
Sounding: CPT-LIF-2B

Engineer: Malcolm T.
Date: 7/24/2018 08:53



Max. Depth: 53.642 (ft)
Avg. Interval: 0.164 (ft)

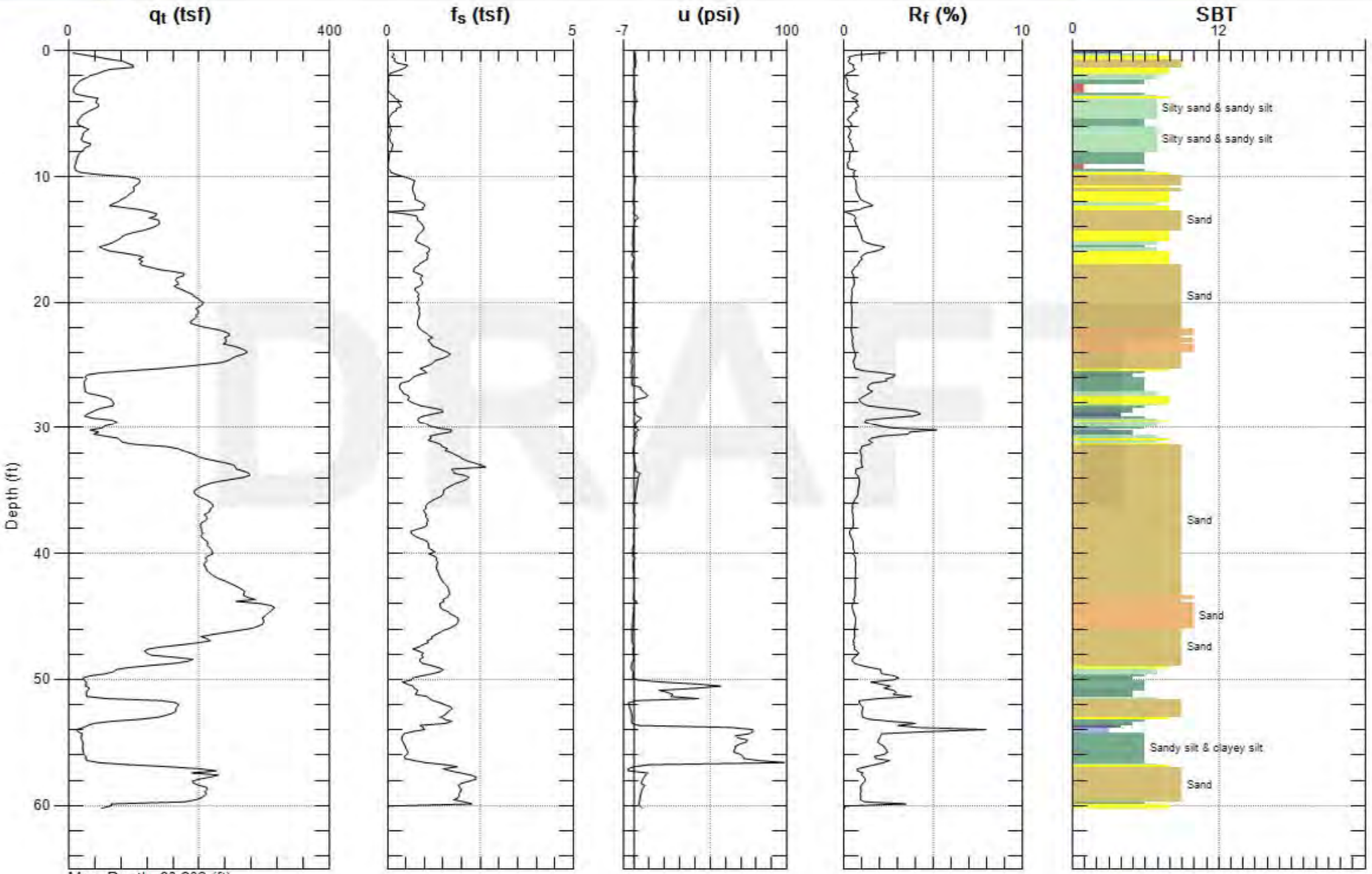
SBT: Soil Behavior Type (Robertson 1990)

GREGG

Jacobs

Site: DFSP Norwalk
Sounding: CPT-LIF-3B

Engineer: Malcolm T.
Date: 7/23/2018 09:17



Max. Depth: 60.203 (ft)
Avg. Interval: 0.164 (ft)

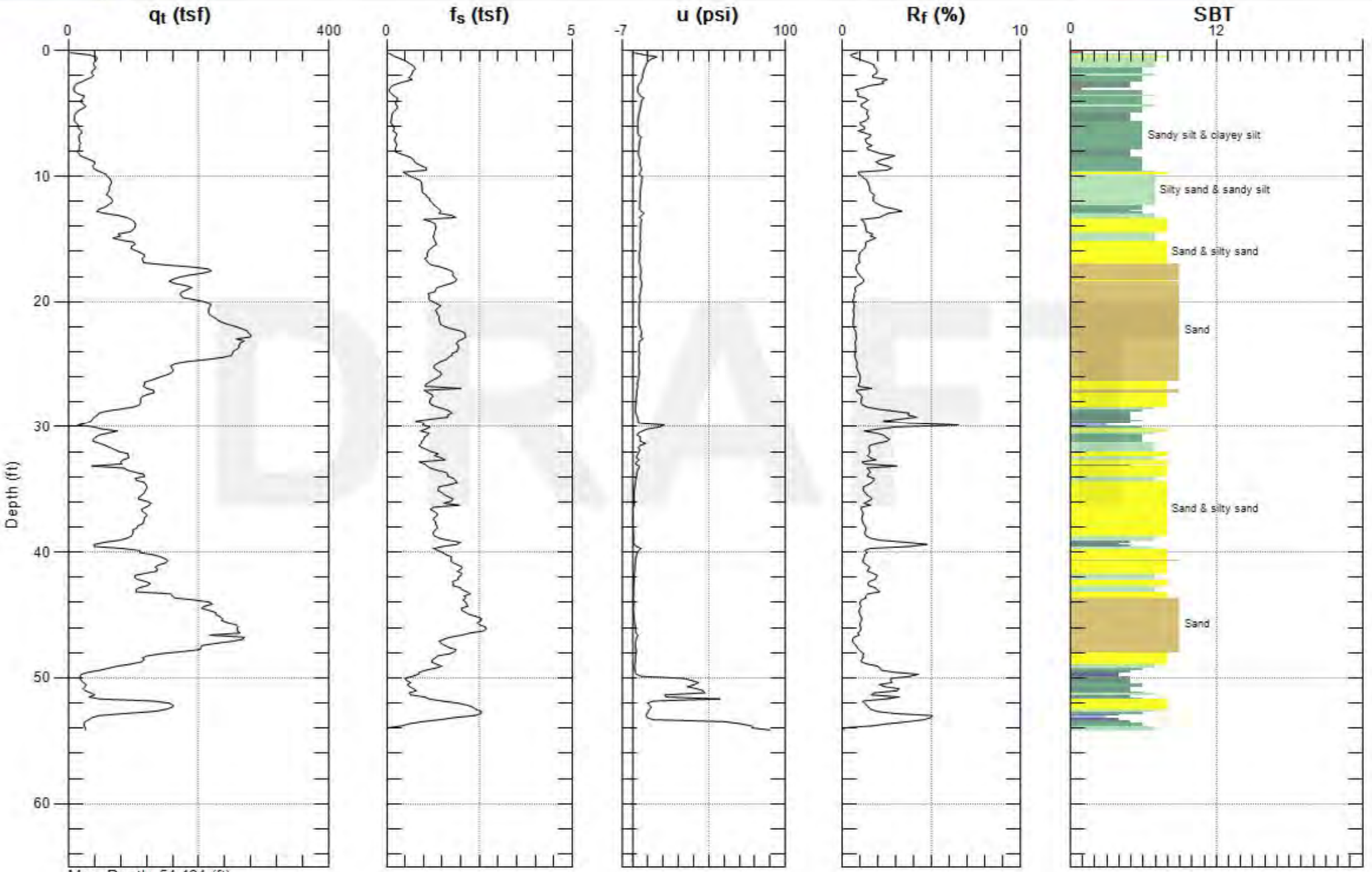
SBT: Soil Behavior Type (Robertson 1990)

GREGG

Jacobs

Site: DFSP Norwalk
Sounding: CPT-LIF-4B

Engineer: Malcolm T.
Date: 7/24/2018 12:21



Max. Depth: 54.134 (ft)
Avg. Interval: 0.164 (ft)

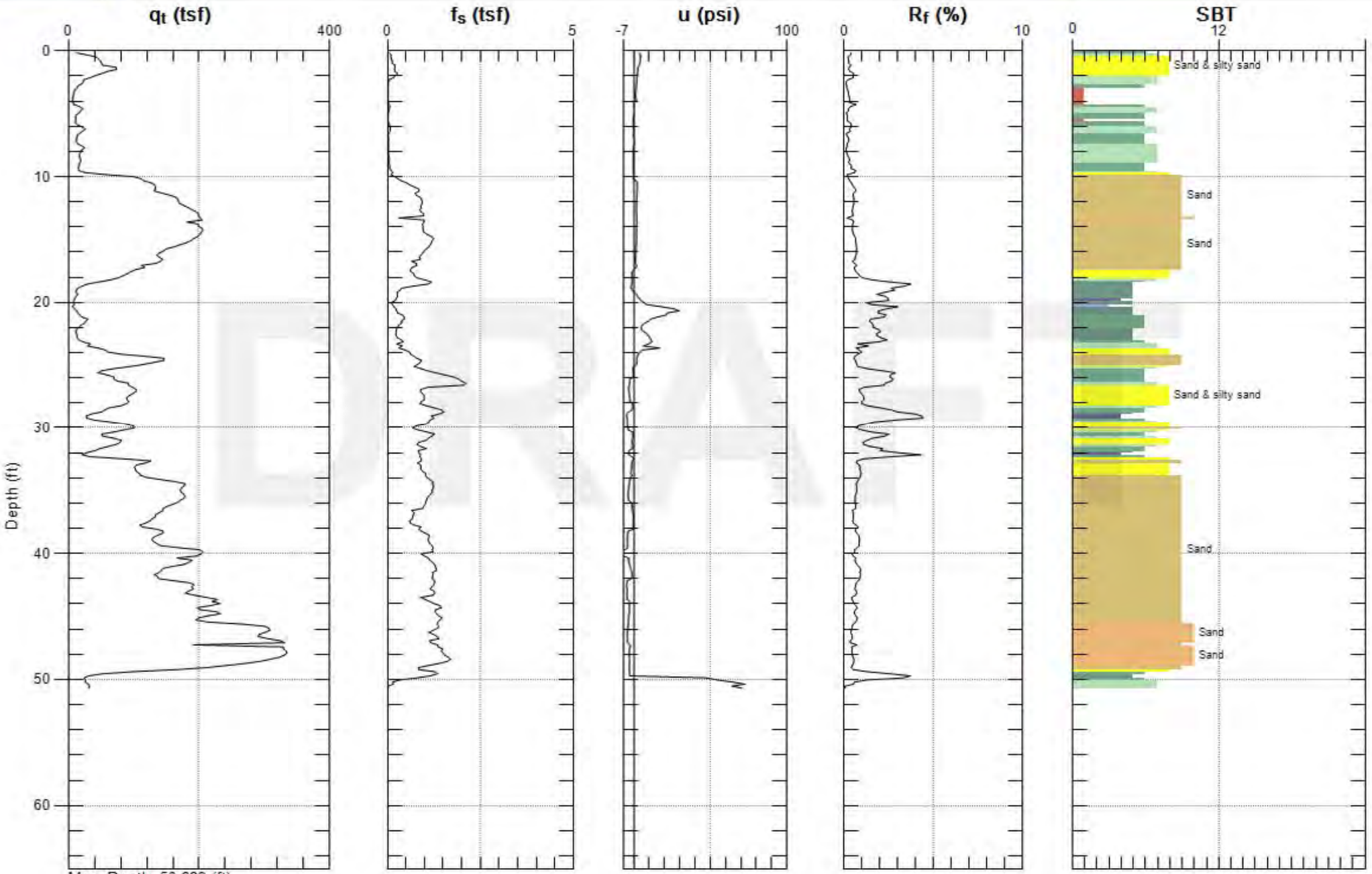
SBT: Soil Behavior Type (Robertson 1990)

GREGG

Jacobs

Site: DFSP Norwalk
Sounding: CPT-LIF-6B

Engineer: Malcolm T.
Date: 7/23/2018 01:20



Max. Depth: 50.689 (ft)
Avg. Interval: 0.164 (ft)

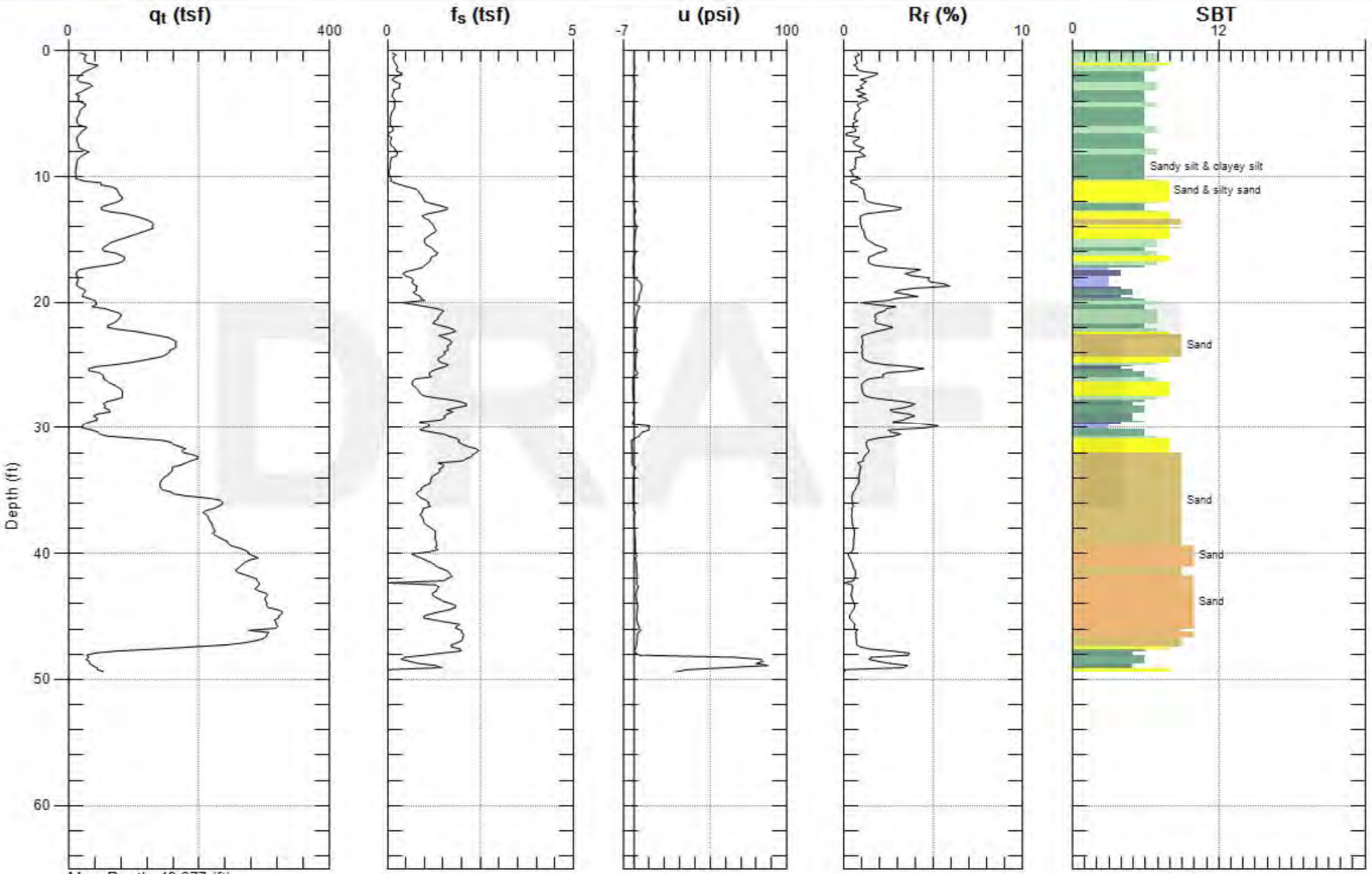
SBT: Soil Behavior Type (Robertson 1990)

GREGG

Jacobs

Site: DFSP Norwalk
Sounding: CPT-LIF-7B

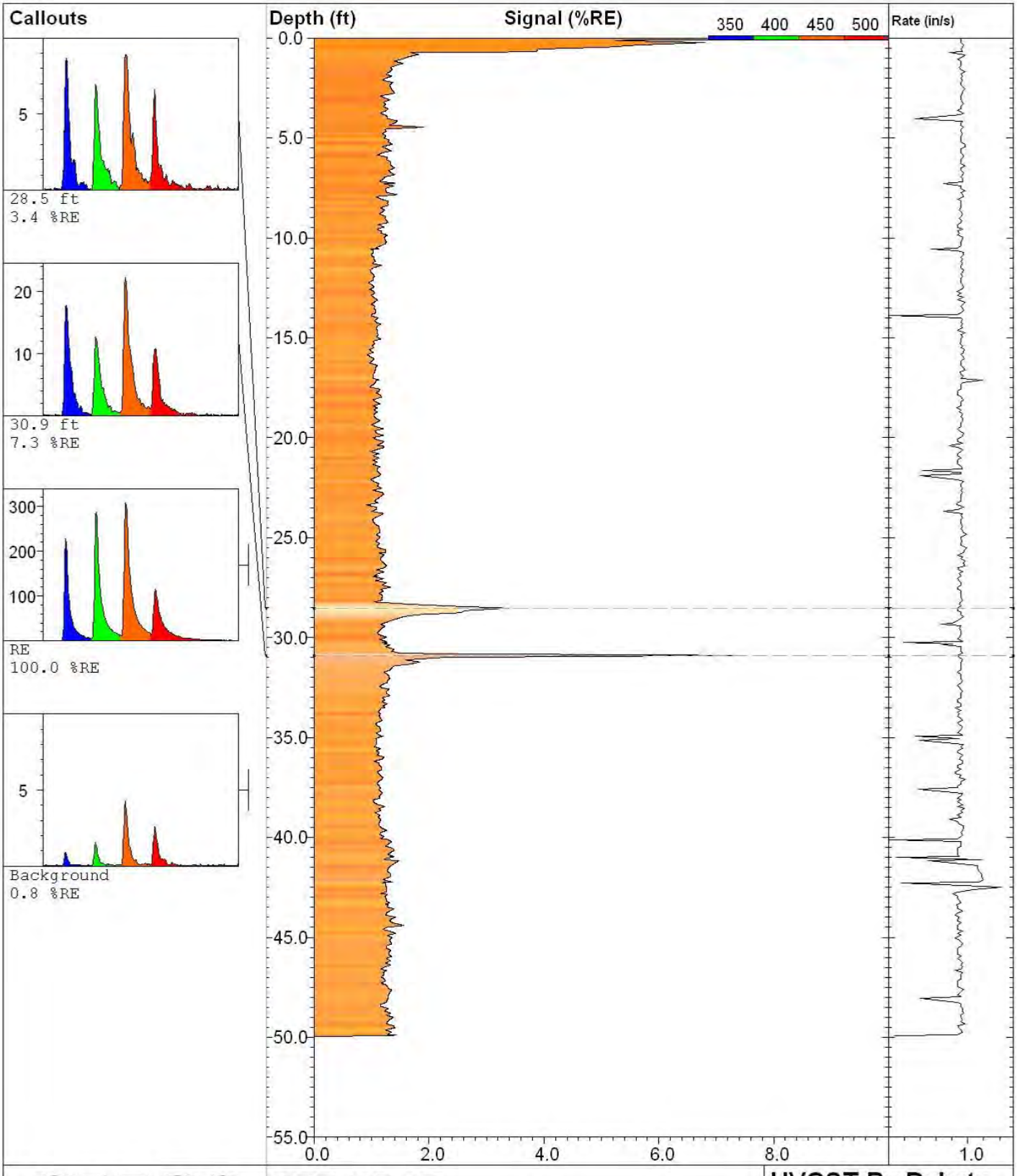
Engineer: Malcolm T.
Date: 7/23/2018 10:36



Max. Depth: 49.377 (ft)
Avg. Interval: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

Appendix F
UVOST Report



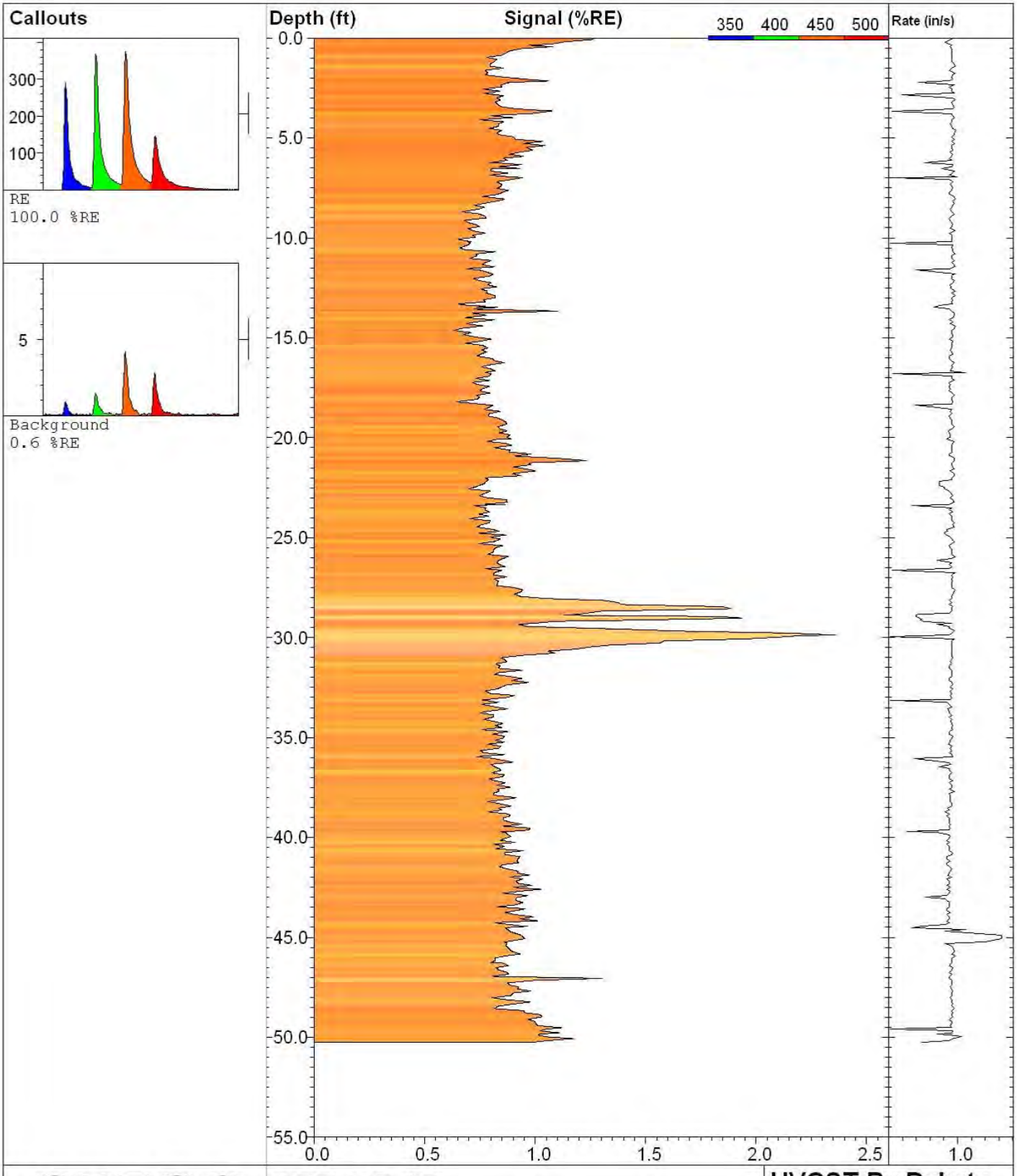
GREGG

www.greggdrilling.com

CPT-LIF-1B

UVOST By Dakota
www.DakotaTechnologies.com

Site: **DFSP Norwalk**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **49.94 ft**
Client: **Jacobs**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **9.5 % @ 0.02 ft**
Job: **UV-D1180589**	*Operator/Unit:* **Alex S./UVOST1009**	*Date & Time:* **2018-07-24 07:46 PDT**



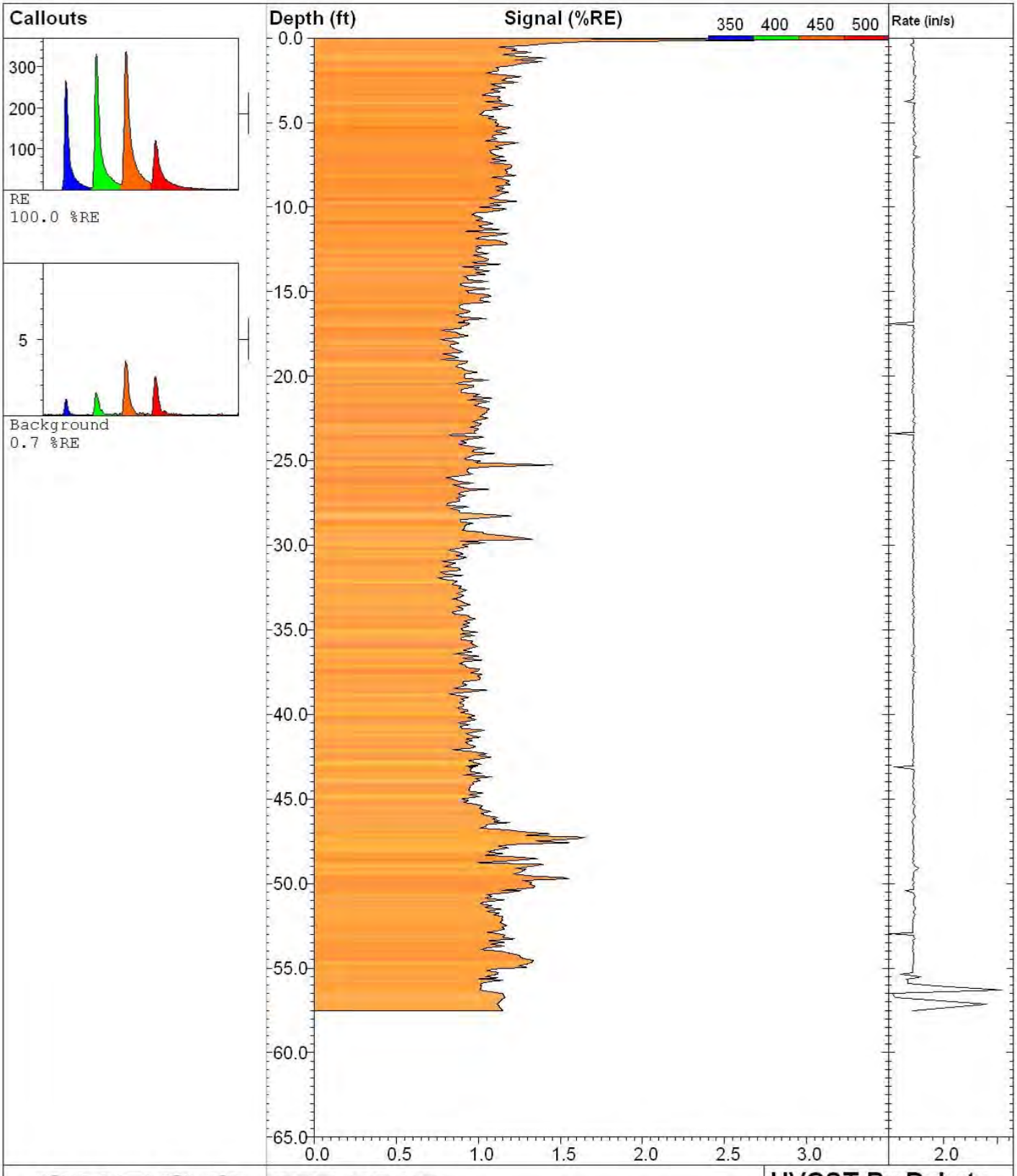
GREGG

www.greggdrilling.com

CPT-LIF-2B

UVOST By Dakota
www.DakotaTechnologies.com

Site: **DFSP Norwalk**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **50.25 ft**
Client: **Jacobs**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **2.4 % @ 29.87 ft**
Job: **UV-D1180589**	*Operator/Unit:* **Alex S./UVOST1009**	*Date & Time:* **2018-07-24 08:54 PDT**



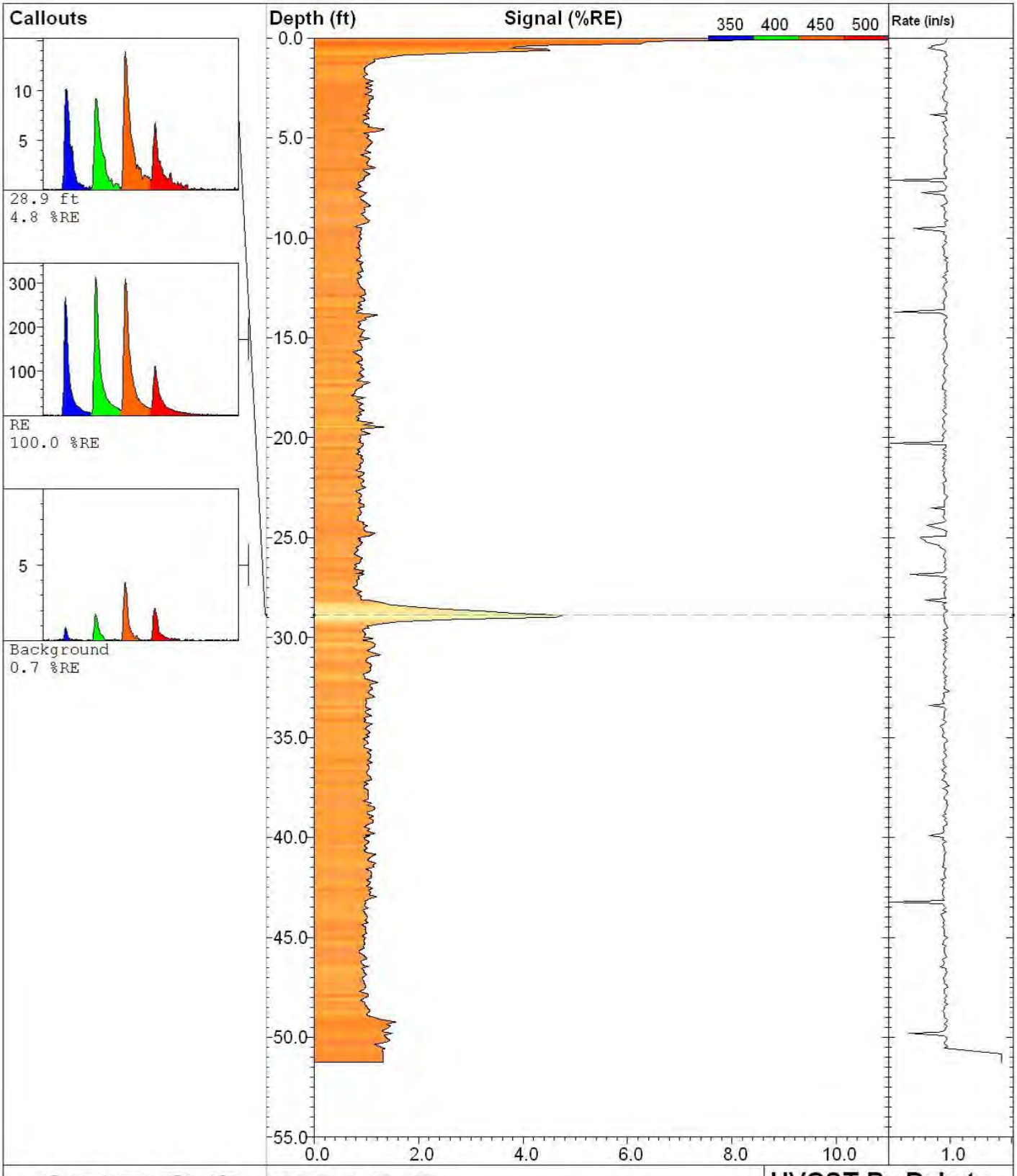
GREGG

www.greggdrilling.com

CPT-LIF-3B

UVOST By Dakota
www.DakotaTechnologies.com

Site: **DFSP Norwalk**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **57.52 ft**
Client: **Jacobs**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **2.9 % @ 0.13 ft**
Job: **UV-D1180589**	*Operator/Unit:* **Alex S/UVOST1009**	*Date & Time:* **2018-07-23 09:19 PDT**



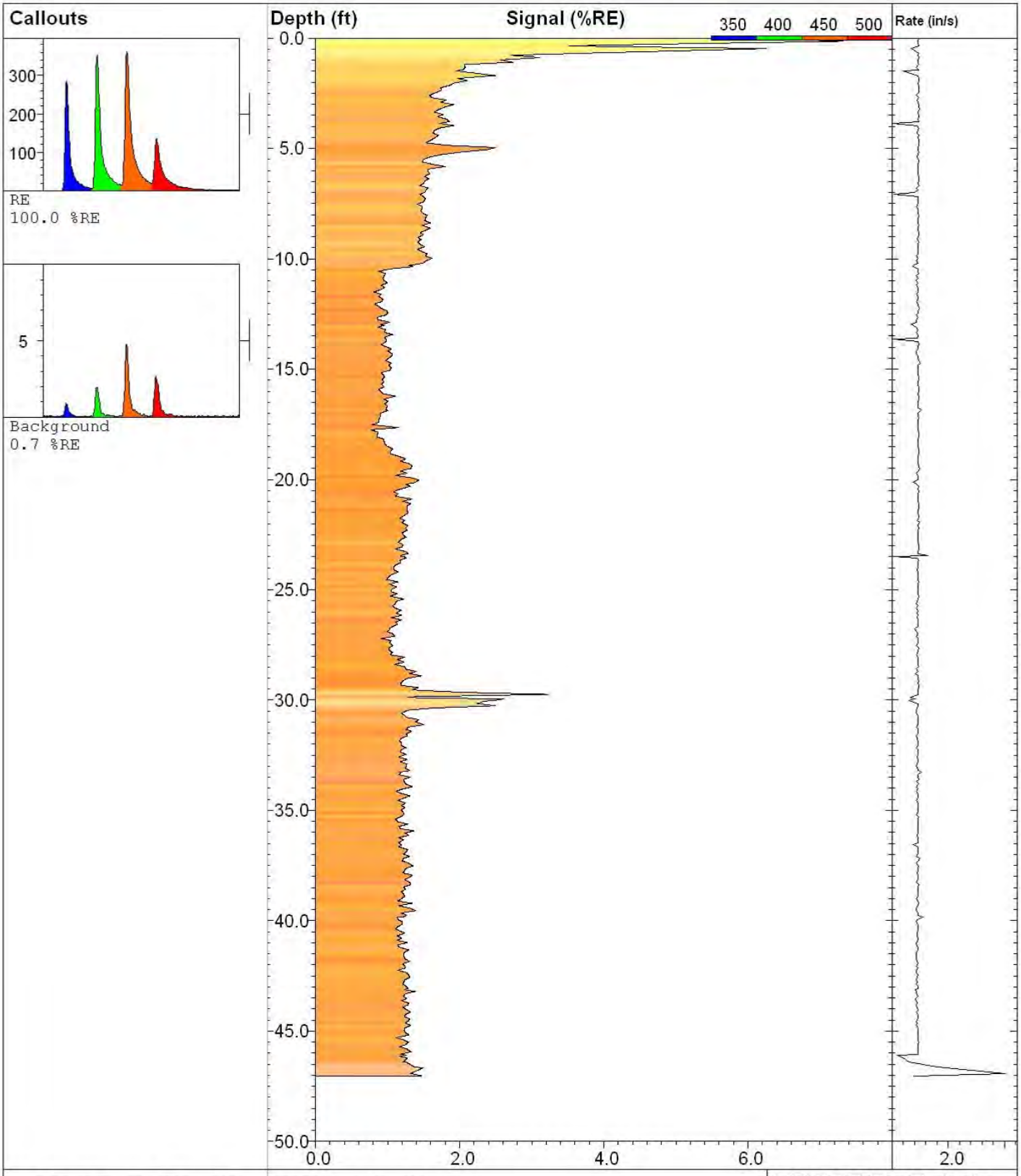
GREGG

www.greggdrilling.com

CPT-LIF-4B

UVOST By Dakota
www.DakotaTechnologies.com

Site: **DFSP Norwalk**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **51.25 ft**
Client: **Jacobs**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **9.8 % @ 0.07 ft**
Job: **UV-D1180589**	*Operator/Unit:* **Alex S/UVOST1009**	*Date & Time:* **2018-07-24 12:23 PDT**



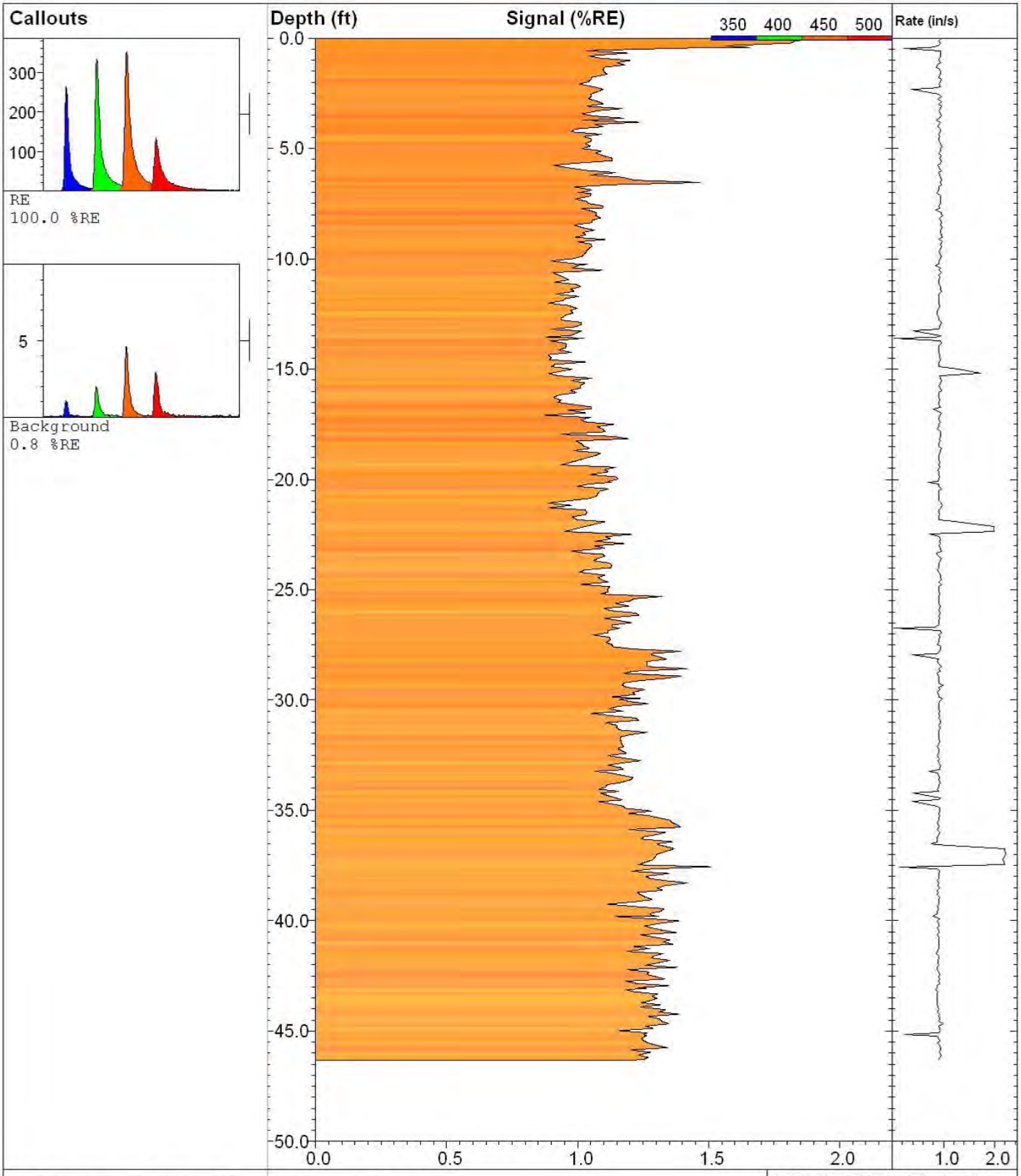
GREGG

www.greggdrilling.com

CPT-LIF-6B

UVOST By Dakota
www.DakotaTechnologies.com

Site: **DFSP Norwalk**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **47.03 ft**
Client: **Jacobs**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **7.3 % @ 0.15 ft**
Job: **UV-D1180579**	*Operator/Unit:* **Alex S/UVOST1009**	*Date & Time:* **2018-07-23 13:18 PDT**



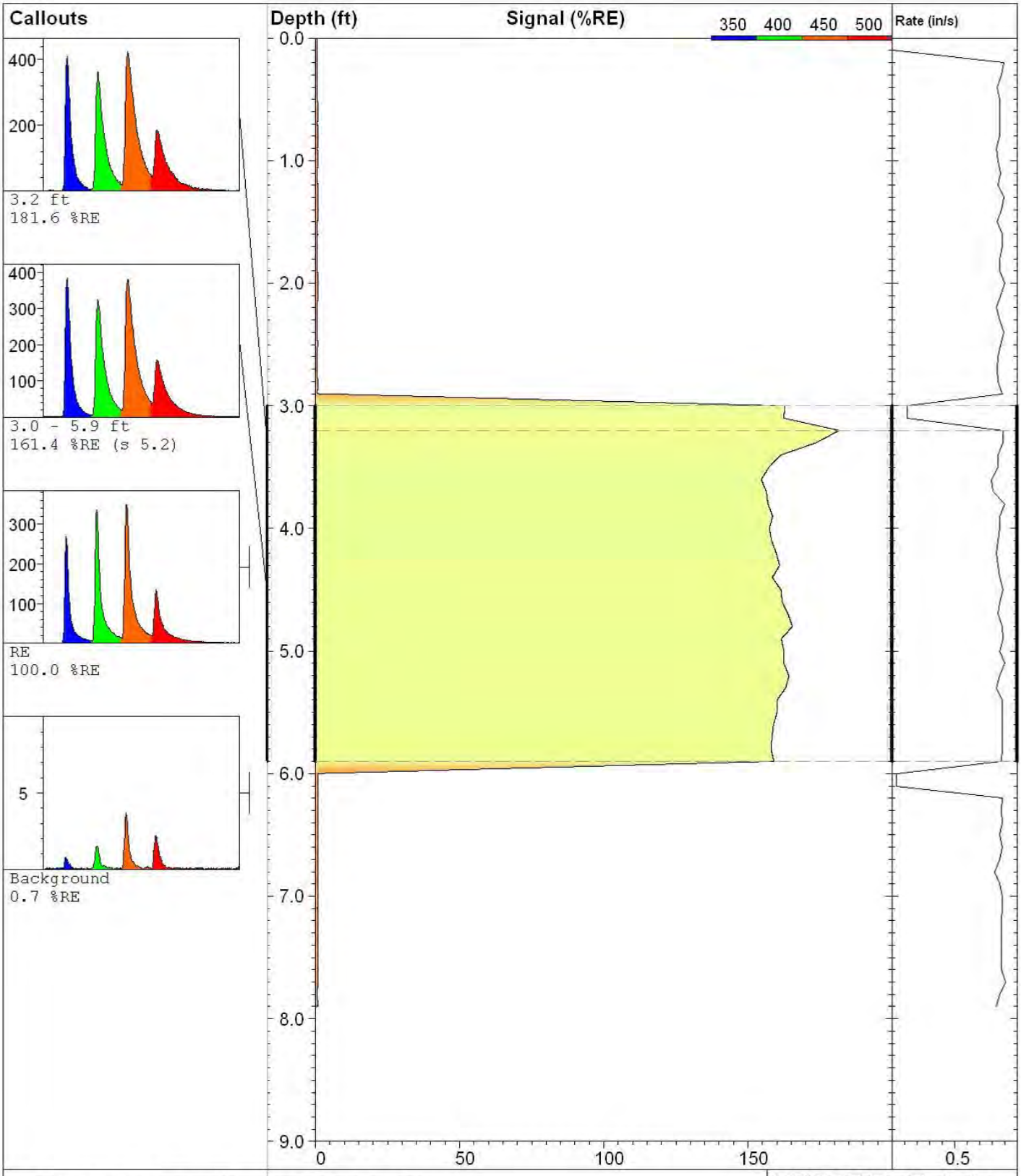
GREGG

www.greggdrilling.com

CPT-LIF-7B

UVOST By Dakota
www.DakotaTechnologies.com

Site: **DFSP Norwalk**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **46.33 ft**
Client: **Jacobs**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **2.0 % @ 0.02 ft**
Job: **UV-D1180589**	*Operator/Unit:* **Alex S/UVOST1009**	*Date & Time:* **2018-07-23 10:37 PDT**



GREGG

www.greggdrilling.com

GMW-0-12

UVOST By Dakota
www.DakotaTechnologies.com

Site: **DFSP Norwalk**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **7.90 ft**
Client: **Jacobs**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **181.6 % @ 3.20 ft**
Job: **UV-D1180589**	*Operator/Unit:* **Alex S/UVOST1009**	*Date & Time:* **2018-07-23 08:42 PDT**

Appendix G
TestAmerica Laboratory Reports

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-216711-1
Client Project/Site: KMEP Norwalk Site
Revision: 2

For:
CH2M Hill, Inc.
6 Hutton Centre Drive, Suite 700
Santa Ana, California 92707

Attn: Eric Davis

Authorized for release by:
8/22/2018 2:36:53 PM

Dennis Tran, Project Manager I
(949)261-1022
dennis.tran@testamericainc.com

Table of Contents

Sample Summary

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216711-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-216711-1	SB-7B-5	Solid	07/25/18 07:50	07/26/18 17:10
440-216711-2	SB-7B-10	Solid	07/25/18 08:05	07/26/18 17:10
440-216711-3	SB-6B-5	Solid	07/25/18 08:25	07/26/18 17:10
440-216711-4	SB-6B-10	Solid	07/25/18 08:30	07/26/18 17:10
440-216711-5	CPT-LIF-3B-28	Solid	07/25/18 08:55	07/26/18 17:10
440-216711-6	CPT-LIF-3B-30.5	Solid	07/25/18 09:05	07/26/18 17:10
440-216711-7	SB-5B-5	Solid	07/25/18 09:24	07/26/18 17:10
440-216711-8	SB-5B-10	Solid	07/25/18 09:42	07/26/18 17:10
440-216711-9	SB-7B-15	Solid	07/25/18 10:00	07/26/18 17:10
440-216711-10	SB-7B-20	Solid	07/25/18 10:15	07/26/18 17:10
440-216711-11	SB-7B-25	Solid	07/25/18 10:30	07/26/18 17:10
440-216711-12	SB-7B-30	Solid	07/25/18 10:40	07/26/18 17:10
440-216711-13	CPT-LIF-4B-27	Solid	07/25/18 13:15	07/26/18 17:10
440-216711-14	CPT-LIF-4B-29.5	Solid	07/25/18 13:20	07/26/18 17:10
440-216711-15	SB-2B-5	Solid	07/25/18 13:04	07/26/18 17:10
440-216711-16	SB-2B-10	Solid	07/25/18 13:16	07/26/18 17:10
440-216711-17	SB-1B-5	Solid	07/25/18 12:30	07/26/18 17:10
440-216711-18	SB-1B-10	Solid	07/25/18 12:43	07/26/18 17:10
440-216711-19	CPT-LIF-2B-25	Solid	07/25/18 14:30	07/26/18 17:10
440-216711-20	CPT-LIF-2B-30.5	Solid	07/25/18 14:45	07/26/18 17:10
440-216711-21	SB-7B-35	Solid	07/25/18 10:50	07/26/18 17:10

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216711-1

Job ID: 440-216711-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-216711-1

Comments
Revised report to update sample ID per client request; the sample ID listed on the COC is CPT-LIF-35-30.5, but the client needs the sample ID to be changed to CPT-LIF-3B-30.5. Also revised report to only report the over calibration results for sample CPT-LIF-4B-29.5 (440-216711-14).

Receipt
The samples were received on 7/26/2018 5:10 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.9º C and 4.0º C.

GC/MS VOA
Method(s) 8260B: The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 440-490869 recovered outside control limits for multiple analytes. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The laboratory control sample duplicate (LCSD) for analytical batch 440-491117 recovered outside control limits for the following analytes: 1,3-Dichloropropane. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch analytical batch 440-491117 recovered outside control limits for the following analytes: Isopropyl ether.

Method(s) 8260B: Reanalysis of the following sample was performed outside of the analytical holding time due to failure of quality control parameters in the initial analysis. CPT-LIF-4B-29.5 (440-216711-14)

Method(s) 8260B: Surrogate 4-Bromofluorobenzene (Surr) recovery for the following sample was outside control limits: CPT-LIF-4B-29.5 (440-216711-14). Evidence of matrix interference due to non-target analytes is present; therefore, re-analysis was not performed. High hydrocarbons.

Method(s) 8260B: 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, m,p-Xylene, o-Xylene and n-Butylbenzene are reported above the calibration range and flagged with "E" qualifier. Reanalysis of sample and methanol extract did not produce matching results. Sample run from sleeve was also inconsistent. This is possible due to sample being non homogenous and/or encore sampled from very "hot" spot that had a higher concentration of contaminants than the rest of the samples collected. The initial run with values over calibration are reported. CPT-LIF-4B-29.5 (440-216711-14)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
Method(s) 8015B: Surrogate recovery for the following sample was outside control limits: SB-2B-5 (440-216711-15). Matrix interference is suspected; re-analysis was not performed due to insufficient sample.

Method(s) 8015B: For the following samples, the 5g encore run was above calibration range and contained saturated peak(s) for GRO, while the 100uL extract run was below the reporting limit: SB-7B-30 (440-216711-12) and CPT-LIF-4B-27 (440-216711-13). Result is estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method(s) 8015B: The 8015-DRO method blank for preparation batch 440-490620 and analytical batch 440-490723 contained C23-C40 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 440-216711-1 (Continued)

Laboratory: TestAmerica Irvine (Continued)

Organic Prep
Method(s) 3546: Due to the matrix, the following sample could not be concentrated to the final method required volume: SB-5B-5 (440-216711-7). The reporting limits (RLs) are elevated proportionately.440-490620 3546 8015B

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample ID: SB-7B-5
Date Collected: 07/25/18 07:50
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-1
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
1,1,1-Trichloroethane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
1,1,2,2-Tetrachloroethane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
1,1,2-Trichloroethane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
1,1-Dichloroethane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
1,1-Dichloroethene	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
1,1-Dichloropropene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
1,2,3-Trichlorobenzene	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
1,2,3-Trichloropropane	ND		9.9	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
1,2,4-Trichlorobenzene	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
1,2,4-Trimethylbenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
1,2-Dibromo-3-Chloropropane	ND		5.0	2.0	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
1,2-Dibromoethane (EDB)	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
1,2-Dichlorobenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
1,2-Dichloroethane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
1,2-Dichloropropane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
1,3,5-Trimethylbenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
1,3-Dichlorobenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
1,3-Dichloropropane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
1,4-Dichlorobenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
2,2-Dichloropropane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
2-Chlorotoluene	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
4-Chlorotoluene	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Benzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Bromobenzene	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Bromochloromethane	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Bromodichloromethane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Bromoform	ND		5.0	2.0	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Bromomethane	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Carbon tetrachloride	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Chlorobenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Chloroethane	ND		5.0	2.0	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Chloroform	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Chloromethane	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
cis-1,2-Dichloroethene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
cis-1,3-Dichloropropene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Dibromochloromethane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Dibromomethane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Dichlorodifluoromethane	ND		5.0	2.0	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Ethylbenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Hexachlorobutadiene	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Isopropylbenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
m,p-Xylene	ND		4.0	2.0	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Methylene Chloride	ND		20	5.0	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
n-Butylbenzene	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
N-Propylbenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
o-Xylene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1

Client Sample ID: SB-7B-5

Date Collected: 07/25/18 07:50
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-1

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Styrene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Tert-amyl-methyl ether (TAME)	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
tert-Butylbenzene	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Tetrachloroethene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Toluene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
trans-1,2-Dichloroethene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
trans-1,3-Dichloropropene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Trichloroethene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Trichlorofluoromethane	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Vinyl chloride	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Xylenes, Total	ND		4.0	2.0	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Isopropyl Ether (DIPE)	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
Ethyl-t-butyl ether (ETBE)	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
tert-Butyl alcohol (TBA)	ND		99	9.9	ug/Kg		07/26/18 18:50	07/29/18 12:43	1
p-Isopropyltoluene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 12:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*79 - 123*	*07/26/18 18:50*	*07/29/18 12:43*	*1*
4-Bromofluorobenzene (Surr)	*102*		*79 - 120*	*07/26/18 18:50*	*07/29/18 12:43*	*1*
Dibromofluoromethane (Surr)	*96*		*60 - 120*	*07/26/18 18:50*	*07/29/18 12:43*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		480	180	ug/Kg		07/26/18 18:50	07/31/18 15:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*65 - 140*	*07/26/18 18:50*	*07/31/18 15:19*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**2.9**	**J**	5.0	2.5	mg/Kg		07/31/18 06:42	07/31/18 21:39	1
C23-C40	**14**	**B**	5.0	2.5	mg/Kg		07/31/18 06:42	07/31/18 21:39	1
C8 - C18	ND		5.0	2.5	mg/Kg		07/31/18 06:42	07/31/18 21:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*65*		*40 - 140*	*07/31/18 06:42*	*07/31/18 21:39*	*1*

Client Sample ID: SB-7B-10

Date Collected: 07/25/18 08:05
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-2

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.7	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
1,1,1-Trichloroethane	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
1,1,2,2-Tetrachloroethane	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
1,1,2-Trichloroethane	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
1,1-Dichloroethane	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
1,1-Dichloroethene	ND		4.7	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
1,1-Dichloropropene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1

Client Sample ID: SB-7B-10
Date Collected: 07/25/18 08:05
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-2
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	ND		4.7	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
1,2,3-Trichloropropane	ND		9.3	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
1,2,4-Trichlorobenzene	ND		4.7	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
1,2,4-Trimethylbenzene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
1,2-Dibromo-3-Chloropropane	ND		4.7	1.9	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
1,2-Dibromoethane (EDB)	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
1,2-Dichlorobenzene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
1,2-Dichloroethane	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
1,2-Dichloropropane	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
1,3,5-Trimethylbenzene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
1,3-Dichlorobenzene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
1,3-Dichloropropane	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
1,4-Dichlorobenzene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
2,2-Dichloropropane	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
2-Chlorotoluene	ND		4.7	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
4-Chlorotoluene	ND		4.7	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Benzene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Bromobenzene	ND		4.7	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Bromochloromethane	ND		4.7	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Bromodichloromethane	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Bromoform	ND		4.7	1.9	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Bromomethane	ND		4.7	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Carbon tetrachloride	ND		4.7	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Chlorobenzene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Chloroethane	ND		4.7	1.9	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Chloroform	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Chloromethane	ND		4.7	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
cis-1,2-Dichloroethene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
cis-1,3-Dichloropropene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Dibromochloromethane	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Dibromomethane	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Dichlorodifluoromethane	ND		4.7	1.9	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Ethylbenzene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Hexachlorobutadiene	ND		4.7	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Isopropylbenzene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
m,p-Xylene	ND		3.7	1.9	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Methylene Chloride	ND		19	4.7	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Methyl-t-Butyl Ether (MTBE)	ND		4.7	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Naphthalene	ND		4.7	1.9	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
n-Butylbenzene	ND		4.7	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
N-Propylbenzene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
o-Xylene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
sec-Butylbenzene	ND		4.7	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Styrene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Tert-amyl-methyl ether (TAME)	ND		4.7	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
tert-Butylbenzene	ND		4.7	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Tetrachloroethene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Toluene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
trans-1,2-Dichloroethene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1

Client Sample ID: SB-7B-10

Date Collected: 07/25/18 08:05
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-2

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Trichloroethene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Trichlorofluoromethane	ND		4.7	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Vinyl chloride	ND		4.7	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Xylenes, Total	ND		3.7	1.9	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Isopropyl Ether (DIPE)	ND		4.7	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
Ethyl-t-butyl ether (ETBE)	ND		4.7	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
tert-Butyl alcohol (TBA)	ND		93	9.3	ug/Kg		07/26/18 18:50	07/29/18 13:11	1
p-Isopropyltoluene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 13:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*107*		*79 - 123*	*07/26/18 18:50*	*07/29/18 13:11*	*1*
4-Bromofluorobenzene (Surr)	*102*		*79 - 120*	*07/26/18 18:50*	*07/29/18 13:11*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 120*	*07/26/18 18:50*	*07/29/18 13:11*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		330	120	ug/Kg		07/26/18 18:50	07/31/18 15:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*65 - 140*	*07/26/18 18:50*	*07/31/18 15:46*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**3.8**	**J**	5.0	2.5	mg/Kg		07/31/18 06:42	07/31/18 22:01	1
C23-C40	**14**	**B**	5.0	2.5	mg/Kg		07/31/18 06:42	07/31/18 22:01	1
C8 - C18	ND		5.0	2.5	mg/Kg		07/31/18 06:42	07/31/18 22:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*73*		*40 - 140*	*07/31/18 06:42*	*07/31/18 22:01*	*1*

Client Sample ID: SB-6B-5

Date Collected: 07/25/18 08:25
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-3

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		7.6	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
1,1,1-Trichloroethane	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
1,1,2,2-Tetrachloroethane	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
1,1,2-Trichloroethane	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
1,1-Dichloroethane	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
1,1-Dichloroethene	ND		7.6	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
1,1-Dichloropropene	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
1,2,3-Trichlorobenzene	ND		7.6	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
1,2,3-Trichloropropane	ND		15	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
1,2,4-Trichlorobenzene	ND		7.6	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
1,2,4-Trimethylbenzene	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
1,2-Dibromo-3-Chloropropane	ND		7.6	3.0	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
1,2-Dibromoethane (EDB)	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
1,2-Dichlorobenzene	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1

Client Sample ID: SB-6B-5
Date Collected: 07/25/18 08:25
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-3
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
1,2-Dichloropropane	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
1,3,5-Trimethylbenzene	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
1,3-Dichlorobenzene	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
1,3-Dichloropropane	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
1,4-Dichlorobenzene	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
2,2-Dichloropropane	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
2-Chlorotoluene	ND		7.6	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
4-Chlorotoluene	ND		7.6	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Benzene	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Bromobenzene	ND		7.6	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Bromochloromethane	ND		7.6	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Bromodichloromethane	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Bromoform	ND		7.6	3.0	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Bromomethane	ND		7.6	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Carbon tetrachloride	ND		7.6	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Chlorobenzene	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Chloroethane	ND		7.6	3.0	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Chloroform	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Chloromethane	ND		7.6	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
cis-1,2-Dichloroethene	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
cis-1,3-Dichloropropene	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Dibromochloromethane	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Dibromomethane	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Dichlorodifluoromethane	ND		7.6	3.0	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Ethylbenzene	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Hexachlorobutadiene	ND		7.6	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Isopropylbenzene	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
m,p-Xylene	ND		6.0	3.0	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Methylene Chloride	ND		30	7.6	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Methyl-t-Butyl Ether (MTBE)	ND		7.6	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Naphthalene	ND		7.6	3.0	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
n-Butylbenzene	ND		7.6	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
N-Propylbenzene	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
o-Xylene	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
sec-Butylbenzene	ND		7.6	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Styrene	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Tert-amyl-methyl ether (TAME)	ND		7.6	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
tert-Butylbenzene	ND		7.6	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Tetrachloroethene	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Toluene	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
trans-1,2-Dichloroethene	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
trans-1,3-Dichloropropene	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Trichloroethene	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Trichlorofluoromethane	ND		7.6	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Vinyl chloride	ND		7.6	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Xylenes, Total	ND		6.0	3.0	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Isopropyl Ether (DIPE)	ND		7.6	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
Ethyl-t-butyl ether (ETBE)	ND		7.6	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1

Client Sample ID: SB-6B-5

Lab Sample ID: 440-216711-3

Date Collected: 07/25/18 08:25

Matrix: Solid

Date Received: 07/26/18 17:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butyl alcohol (TBA)	ND		150	15	ug/Kg		07/26/18 18:50	07/29/18 13:39	1
p-Isopropyltoluene	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 13:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*107*		*79 - 123*	*07/26/18 18:50*	*07/29/18 13:39*	*1*
4-Bromofluorobenzene (Surr)	*97*		*79 - 120*	*07/26/18 18:50*	*07/29/18 13:39*	*1*
Dibromofluoromethane (Surr)	*99*		*60 - 120*	*07/26/18 18:50*	*07/29/18 13:39*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		570	210	ug/Kg		07/26/18 18:50	07/31/18 16:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*65 - 140*	*07/26/18 18:50*	*07/31/18 16:13*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**11**		5.0	2.5	mg/Kg		07/31/18 06:42	07/31/18 22:44	1
C23-C40	**31**	**B**	5.0	2.5	mg/Kg		07/31/18 06:42	07/31/18 22:44	1
C8 - C18	**6.5**		5.0	2.5	mg/Kg		07/31/18 06:42	07/31/18 22:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*74*		*40 - 140*	*07/31/18 06:42*	*07/31/18 22:44*	*1*

Client Sample ID: SB-6B-10

Lab Sample ID: 440-216711-4

Date Collected: 07/25/18 08:30

Matrix: Solid

Date Received: 07/26/18 17:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.8	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
1,1,1-Trichloroethane	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
1,1,2,2-Tetrachloroethane	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
1,1,2-Trichloroethane	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
1,1-Dichloroethane	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
1,1-Dichloroethene	ND		4.8	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
1,1-Dichloropropene	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
1,2,3-Trichlorobenzene	ND		4.8	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
1,2,3-Trichloropropane	ND		9.6	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
1,2,4-Trichlorobenzene	ND		4.8	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
1,2,4-Trimethylbenzene	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
1,2-Dibromo-3-Chloropropane	ND		4.8	1.9	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
1,2-Dibromoethane (EDB)	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
1,2-Dichlorobenzene	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
1,2-Dichloroethane	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
1,2-Dichloropropane	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
1,3,5-Trimethylbenzene	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
1,3-Dichlorobenzene	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
1,3-Dichloropropane	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
1,4-Dichlorobenzene	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
2,2-Dichloropropane	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216711-1

Client Sample ID: SB-6B-10
Date Collected: 07/25/18 08:30
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-4
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		4.8	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
4-Chlorotoluene	ND		4.8	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Benzene	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Bromobenzene	ND		4.8	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Bromochloromethane	ND		4.8	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Bromodichloromethane	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Bromoform	ND		4.8	1.9	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Bromomethane	ND		4.8	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Carbon tetrachloride	ND		4.8	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Chlorobenzene	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Chloroethane	ND		4.8	1.9	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Chloroform	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Chloromethane	ND		4.8	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
cis-1,2-Dichloroethene	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
cis-1,3-Dichloropropene	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Dibromochloromethane	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Dibromomethane	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Dichlorodifluoromethane	ND		4.8	1.9	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Ethylbenzene	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Hexachlorobutadiene	ND		4.8	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Isopropylbenzene	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
m,p-Xylene	ND		3.8	1.9	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Methylene Chloride	ND		19	4.8	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Methyl-t-Butyl Ether (MTBE)	ND		4.8	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Naphthalene	ND		4.8	1.9	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
n-Butylbenzene	ND		4.8	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
N-Propylbenzene	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
o-Xylene	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
sec-Butylbenzene	ND		4.8	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Styrene	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Tert-amyl-methyl ether (TAME)	ND		4.8	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
tert-Butylbenzene	ND		4.8	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Tetrachloroethene	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Toluene	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
trans-1,2-Dichloroethene	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
trans-1,3-Dichloropropene	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Trichloroethene	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Trichlorofluoromethane	ND		4.8	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Vinyl chloride	ND		4.8	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Xylenes, Total	ND		3.8	1.9	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Isopropyl Ether (DIPE)	ND		4.8	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
Ethyl-t-butyl ether (ETBE)	ND		4.8	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
tert-Butyl alcohol (TBA)	ND		96	9.6	ug/Kg		07/26/18 18:50	07/29/18 14:07	1
p-Isopropyltoluene	ND		1.9	0.96	ug/Kg		07/26/18 18:50	07/29/18 14:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*106*		*79 - 123*	*07/26/18 18:50*	*07/29/18 14:07*	*1*
4-Bromofluorobenzene (Surr)	*101*		*79 - 120*	*07/26/18 18:50*	*07/29/18 14:07*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 120*	*07/26/18 18:50*	*07/29/18 14:07*	*1*

Client Sample ID: SB-6B-10

Lab Sample ID: 440-216711-4

Date Collected: 07/25/18 08:30

Matrix: Solid

Date Received: 07/26/18 17:10

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		380	140	ug/Kg		07/26/18 18:50	07/31/18 16:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*65 - 140*	*07/26/18 18:50*	*07/31/18 16:40*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**13**		5.0	2.5	mg/Kg		07/31/18 06:42	07/31/18 23:06	1
C23-C40	**37**	**B**	5.0	2.5	mg/Kg		07/31/18 06:42	07/31/18 23:06	1
C8 - C18	**6.6**		5.0	2.5	mg/Kg		07/31/18 06:42	07/31/18 23:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*69*		*40 - 140*	*07/31/18 06:42*	*07/31/18 23:06*	*1*

Client Sample ID: CPT-LIF-3B-28

Lab Sample ID: 440-216711-5

Date Collected: 07/25/18 08:55

Matrix: Solid

Date Received: 07/26/18 17:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.8	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
1,1,1-Trichloroethane	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
1,1,2,2-Tetrachloroethane	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
1,1,2-Trichloroethane	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
1,1-Dichloroethane	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
1,1-Dichloroethene	ND		5.8	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
1,1-Dichloropropene	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
1,2,3-Trichlorobenzene	ND		5.8	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
1,2,3-Trichloropropane	ND		12	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
1,2,4-Trichlorobenzene	ND		5.8	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
1,2,4-Trimethylbenzene	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
1,2-Dibromo-3-Chloropropane	ND		5.8	2.3	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
1,2-Dibromoethane (EDB)	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
1,2-Dichlorobenzene	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
1,2-Dichloroethane	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
1,2-Dichloropropane	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
1,3,5-Trimethylbenzene	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
1,3-Dichlorobenzene	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
1,3-Dichloropropane	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
1,4-Dichlorobenzene	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
2,2-Dichloropropane	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
2-Chlorotoluene	ND		5.8	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
4-Chlorotoluene	ND		5.8	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Benzene	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Bromobenzene	ND		5.8	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Bromochloromethane	ND		5.8	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Bromodichloromethane	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Bromoform	ND		5.8	2.3	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Bromomethane	ND		5.8	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Carbon tetrachloride	ND		5.8	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216711-1

Client Sample ID: CPT-LIF-3B-28
Date Collected: 07/25/18 08:55
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-5
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Chloroethane	ND		5.8	2.3	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Chloroform	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Chloromethane	ND		5.8	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
cis-1,2-Dichloroethene	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
cis-1,3-Dichloropropene	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Dibromochloromethane	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Dibromomethane	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Dichlorodifluoromethane	ND		5.8	2.3	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Ethylbenzene	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Hexachlorobutadiene	ND		5.8	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Isopropylbenzene	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
m,p-Xylene	ND		4.6	2.3	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Methylene Chloride	ND		23	5.8	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Methyl-t-Butyl Ether (MTBE)	ND		5.8	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Naphthalene	ND		5.8	2.3	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
n-Butylbenzene	ND		5.8	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
N-Propylbenzene	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
o-Xylene	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
sec-Butylbenzene	ND		5.8	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Styrene	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Tert-amyl-methyl ether (TAME)	ND		5.8	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
tert-Butylbenzene	ND		5.8	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Tetrachloroethene	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Toluene	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
trans-1,2-Dichloroethene	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
trans-1,3-Dichloropropene	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Trichloroethene	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Trichlorofluoromethane	ND		5.8	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Vinyl chloride	ND		5.8	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Xylenes, Total	ND		4.6	2.3	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Isopropyl Ether (DIPE)	ND		5.8	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
Ethyl-t-butyl ether (ETBE)	ND		5.8	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
tert-Butyl alcohol (TBA)	ND		120	12	ug/Kg		07/26/18 18:20	07/29/18 14:35	1
p-Isopropyltoluene	ND		2.3	1.2	ug/Kg		07/26/18 18:20	07/29/18 14:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*109*		*79 - 123*	*07/26/18 18:20*	*07/29/18 14:35*	*1*
4-Bromofluorobenzene (Surr)	*105*		*79 - 120*	*07/26/18 18:20*	*07/29/18 14:35*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 120*	*07/26/18 18:20*	*07/29/18 14:35*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		420	160	ug/Kg		07/26/18 18:50	07/31/18 17:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*65 - 140*	*07/26/18 18:50*	*07/31/18 17:07*	*1*

Client Sample ID: CPT-LIF-3B-28

Lab Sample ID: 440-216711-5

Date Collected: 07/25/18 08:55

Matrix: Solid

Date Received: 07/26/18 17:10

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	11		5.0	2.5	mg/Kg		07/31/18 06:42	07/31/18 23:28	1
C23-C40	31	B	5.0	2.5	mg/Kg		07/31/18 06:42	07/31/18 23:28	1
C8 - C18	6.1		5.0	2.5	mg/Kg		07/31/18 06:42	07/31/18 23:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*86*		*40 - 140*	*07/31/18 06:42*	*07/31/18 23:28*	*1*

Client Sample ID: CPT-LIF-3B-30.5

Lab Sample ID: 440-216711-6

Date Collected: 07/25/18 09:05

Matrix: Solid

Date Received: 07/26/18 17:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		3.7	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
1,1,1-Trichloroethane	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
1,1,2,2-Tetrachloroethane	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
1,1,2-Trichloroethane	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
1,1-Dichloroethane	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
1,1-Dichloroethene	ND		3.7	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
1,1-Dichloropropene	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
1,2,3-Trichlorobenzene	ND		3.7	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
1,2,3-Trichloropropane	ND		7.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
1,2,4-Trichlorobenzene	ND		3.7	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
1,2,4-Trimethylbenzene	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
1,2-Dibromo-3-Chloropropane	ND		3.7	1.5	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
1,2-Dibromoethane (EDB)	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
1,2-Dichlorobenzene	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
1,2-Dichloroethane	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
1,2-Dichloropropane	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
1,3,5-Trimethylbenzene	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
1,3-Dichlorobenzene	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
1,3-Dichloropropane	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
1,4-Dichlorobenzene	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
2,2-Dichloropropane	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
2-Chlorotoluene	ND		3.7	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
4-Chlorotoluene	ND		3.7	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Benzene	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Bromobenzene	ND		3.7	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Bromochloromethane	ND		3.7	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Bromodichloromethane	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Bromoform	ND		3.7	1.5	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Bromomethane	ND		3.7	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Carbon tetrachloride	ND		3.7	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Chlorobenzene	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Chloroethane	ND		3.7	1.5	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Chloroform	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Chloromethane	ND		3.7	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
cis-1,2-Dichloroethene	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
cis-1,3-Dichloropropene	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Dibromochloromethane	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1

Client Sample ID: CPT-LIF-3B-30.5
Date Collected: 07/25/18 09:05
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-6
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Dichlorodifluoromethane	ND		3.7	1.5	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Ethylbenzene	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Hexachlorobutadiene	ND		3.7	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Isopropylbenzene	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
m,p-Xylene	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Methylene Chloride	ND		15	3.7	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Methyl-t-Butyl Ether (MTBE)	ND		3.7	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Naphthalene	ND		3.7	1.5	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
n-Butylbenzene	ND		3.7	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
N-Propylbenzene	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
o-Xylene	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
sec-Butylbenzene	ND		3.7	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Styrene	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Tert-amyl-methyl ether (TAME)	ND		3.7	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
tert-Butylbenzene	ND		3.7	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Tetrachloroethene	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Toluene	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
trans-1,2-Dichloroethene	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
trans-1,3-Dichloropropene	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Trichloroethene	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Trichlorofluoromethane	ND		3.7	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Vinyl chloride	ND		3.7	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Xylenes, Total	ND		3.0	1.5	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Isopropyl Ether (DIPE)	ND		3.7	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
Ethyl-t-butyl ether (ETBE)	ND		3.7	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
tert-Butyl alcohol (TBA)	ND		75	7.5	ug/Kg		07/26/18 18:50	07/29/18 15:03	1
p-Isopropyltoluene	ND		1.5	0.75	ug/Kg		07/26/18 18:50	07/29/18 15:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*107*		*79 - 123*	*07/26/18 18:50*	*07/29/18 15:03*	*1*
4-Bromofluorobenzene (Surr)	*103*		*79 - 120*	*07/26/18 18:50*	*07/29/18 15:03*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 120*	*07/26/18 18:50*	*07/29/18 15:03*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		410	150	ug/Kg		07/26/18 18:50	07/31/18 17:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*65 - 140*	*07/26/18 18:50*	*07/31/18 17:33*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**3.1**	**J**	5.0	2.5	mg/Kg		07/31/18 06:42	07/31/18 21:17	1
C23-C40	**6.0**	**B**	5.0	2.5	mg/Kg		07/31/18 06:42	07/31/18 21:17	1
C8 - C18	ND		5.0	2.5	mg/Kg		07/31/18 06:42	07/31/18 21:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*82*		*40 - 140*	*07/31/18 06:42*	*07/31/18 21:17*	*1*

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216711-1

Client Sample ID: SB-5B-5
Date Collected: 07/25/18 09:24
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-7
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
1,1,1-Trichloroethane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
1,1,2,2-Tetrachloroethane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
1,1,2-Trichloroethane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
1,1-Dichloroethane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
1,1-Dichloroethene	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
1,1-Dichloropropene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
1,2,3-Trichlorobenzene	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
1,2,3-Trichloropropane	ND		9.9	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
1,2,4-Trichlorobenzene	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
1,2,4-Trimethylbenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
1,2-Dibromo-3-Chloropropane	ND		5.0	2.0	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
1,2-Dibromoethane (EDB)	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
1,2-Dichlorobenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
1,2-Dichloroethane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
1,2-Dichloropropane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
1,3,5-Trimethylbenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
1,3-Dichlorobenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
1,3-Dichloropropane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
1,4-Dichlorobenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
2,2-Dichloropropane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
2-Chlorotoluene	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
4-Chlorotoluene	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Benzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Bromobenzene	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Bromochloromethane	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Bromodichloromethane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Bromoform	ND		5.0	2.0	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Bromomethane	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Carbon tetrachloride	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Chlorobenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Chloroethane	ND		5.0	2.0	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Chloroform	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Chloromethane	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
cis-1,2-Dichloroethene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
cis-1,3-Dichloropropene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Dibromochloromethane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Dibromomethane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Dichlorodifluoromethane	ND		5.0	2.0	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Ethylbenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Hexachlorobutadiene	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Isopropylbenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
m,p-Xylene	ND		4.0	2.0	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Methylene Chloride	ND		20	5.0	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
n-Butylbenzene	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
N-Propylbenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
o-Xylene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1

Client Sample ID: SB-5B-5

Date Collected: 07/25/18 09:24
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-7

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Styrene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Tert-amyl-methyl ether (TAME)	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
tert-Butylbenzene	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Tetrachloroethene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Toluene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
trans-1,2-Dichloroethene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
trans-1,3-Dichloropropene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Trichloroethene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Trichlorofluoromethane	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Vinyl chloride	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Xylenes, Total	ND		4.0	2.0	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Isopropyl Ether (DIPE)	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
Ethyl-t-butyl ether (ETBE)	ND		5.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
tert-Butyl alcohol (TBA)	ND		99	9.9	ug/Kg		07/26/18 18:50	07/29/18 15:31	1
p-Isopropyltoluene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 15:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*106*		*79 - 123*	*07/26/18 18:50*	*07/29/18 15:31*	*1*
4-Bromofluorobenzene (Surr)	*110*		*79 - 120*	*07/26/18 18:50*	*07/29/18 15:31*	*1*
Dibromofluoromethane (Surr)	*93*		*60 - 120*	*07/26/18 18:50*	*07/29/18 15:31*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		490	180	ug/Kg		07/26/18 18:50	07/31/18 18:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*65 - 140*	*07/26/18 18:50*	*07/31/18 18:00*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**16**		10	5.0	mg/Kg		07/31/18 06:42	08/01/18 00:12	1
C23-C40	**100**	**B**	10	5.0	mg/Kg		07/31/18 06:42	08/01/18 00:12	1
C8 - C18	**7.6**	**J**	10	5.0	mg/Kg		07/31/18 06:42	08/01/18 00:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*72*		*40 - 140*	*07/31/18 06:42*	*08/01/18 00:12*	*1*

Client Sample ID: SB-5B-10

Date Collected: 07/25/18 09:42
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-8

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.2	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
1,1,1-Trichloroethane	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
1,1,2,2-Tetrachloroethane	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
1,1,2-Trichloroethane	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
1,1-Dichloroethane	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
1,1-Dichloroethene	ND		5.2	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
1,1-Dichloropropene	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216711-1

Client Sample ID: SB-5B-10
Date Collected: 07/25/18 09:42
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-8
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	ND		5.2	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
1,2,3-Trichloropropane	ND		10	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
1,2,4-Trichlorobenzene	ND		5.2	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
1,2,4-Trimethylbenzene	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
1,2-Dibromo-3-Chloropropane	ND		5.2	2.1	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
1,2-Dibromoethane (EDB)	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
1,2-Dichlorobenzene	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
1,2-Dichloroethane	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
1,2-Dichloropropane	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
1,3,5-Trimethylbenzene	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
1,3-Dichlorobenzene	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
1,3-Dichloropropane	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
1,4-Dichlorobenzene	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
2,2-Dichloropropane	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
2-Chlorotoluene	ND		5.2	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
4-Chlorotoluene	ND		5.2	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Benzene	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Bromobenzene	ND		5.2	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Bromochloromethane	ND		5.2	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Bromodichloromethane	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Bromoform	ND		5.2	2.1	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Bromomethane	ND		5.2	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Carbon tetrachloride	ND		5.2	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Chlorobenzene	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Chloroethane	ND		5.2	2.1	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Chloroform	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Chloromethane	ND		5.2	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
cis-1,2-Dichloroethene	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
cis-1,3-Dichloropropene	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Dibromochloromethane	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Dibromomethane	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Dichlorodifluoromethane	ND		5.2	2.1	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Ethylbenzene	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Hexachlorobutadiene	ND		5.2	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Isopropylbenzene	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
m,p-Xylene	ND		4.1	2.1	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Methylene Chloride	ND		21	5.2	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Methyl-t-Butyl Ether (MTBE)	ND		5.2	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Naphthalene	ND		5.2	2.1	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
n-Butylbenzene	ND		5.2	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
N-Propylbenzene	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
o-Xylene	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
sec-Butylbenzene	ND		5.2	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Styrene	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Tert-amyl-methyl ether (TAME)	ND		5.2	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
tert-Butylbenzene	ND		5.2	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Tetrachloroethene	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Toluene	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
trans-1,2-Dichloroethene	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1

Client Sample ID: SB-5B-10

Lab Sample ID: 440-216711-8

Date Collected: 07/25/18 09:42

Matrix: Solid

Date Received: 07/26/18 17:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Trichloroethene	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Trichlorofluoromethane	ND		5.2	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Vinyl chloride	ND		5.2	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Xylenes, Total	ND		4.1	2.1	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Isopropyl Ether (DIPE)	ND		5.2	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
Ethyl-t-butyl ether (ETBE)	ND		5.2	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
tert-Butyl alcohol (TBA)	ND		100	10	ug/Kg		07/26/18 18:50	07/29/18 15:59	1
p-Isopropyltoluene	ND		2.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 15:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*110*		*79 - 123*	*07/26/18 18:50*	*07/29/18 15:59*	*1*
4-Bromofluorobenzene (Surr)	*109*		*79 - 120*	*07/26/18 18:50*	*07/29/18 15:59*	*1*
Dibromofluoromethane (Surr)	*92*		*60 - 120*	*07/26/18 18:50*	*07/29/18 15:59*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		410	150	ug/Kg		07/26/18 18:50	07/31/18 18:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*65 - 140*	*07/26/18 18:50*	*07/31/18 18:27*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**9.0**		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 16:45	1
C23-C40	**57**		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 16:45	1
C8 - C18	**3.9**	**J**	5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 16:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*85*		*40 - 140*	*07/31/18 06:55*	*07/31/18 16:45*	*1*

Client Sample ID: SB-7B-15

Lab Sample ID: 440-216711-9

Date Collected: 07/25/18 10:00

Matrix: Solid

Date Received: 07/26/18 17:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
1,1,1-Trichloroethane	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
1,1,2,2-Tetrachloroethane	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
1,1,2-Trichloroethane	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
1,1-Dichloroethane	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
1,1-Dichloroethene	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
1,1-Dichloropropene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
1,2,3-Trichlorobenzene	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
1,2,3-Trichloropropane	ND		9.2	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
1,2,4-Trichlorobenzene	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
1,2,4-Trimethylbenzene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
1,2-Dibromo-3-Chloropropane	ND		4.6	1.8	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
1,2-Dibromoethane (EDB)	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
1,2-Dichlorobenzene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1

Client Sample ID: SB-7B-15
Date Collected: 07/25/18 10:00
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-9
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
1,2-Dichloropropane	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
1,3,5-Trimethylbenzene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
1,3-Dichlorobenzene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
1,3-Dichloropropane	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
1,4-Dichlorobenzene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
2,2-Dichloropropane	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
2-Chlorotoluene	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
4-Chlorotoluene	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Benzene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Bromobenzene	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Bromochloromethane	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Bromodichloromethane	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Bromoform	ND		4.6	1.8	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Bromomethane	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Carbon tetrachloride	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Chlorobenzene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Chloroethane	ND		4.6	1.8	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Chloroform	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Chloromethane	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
cis-1,2-Dichloroethene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
cis-1,3-Dichloropropene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Dibromochloromethane	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Dibromomethane	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Dichlorodifluoromethane	ND		4.6	1.8	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Ethylbenzene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Hexachlorobutadiene	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Isopropylbenzene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
m,p-Xylene	ND		3.7	1.8	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Methylene Chloride	ND		18	4.6	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Methyl-t-Butyl Ether (MTBE)	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Naphthalene	ND		4.6	1.8	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
n-Butylbenzene	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
N-Propylbenzene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
o-Xylene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
sec-Butylbenzene	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Styrene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Tert-amyl-methyl ether (TAME)	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
tert-Butylbenzene	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Tetrachloroethene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Toluene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
trans-1,2-Dichloroethene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
trans-1,3-Dichloropropene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Trichloroethene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Trichlorofluoromethane	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Vinyl chloride	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Xylenes, Total	ND		3.7	1.8	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Isopropyl Ether (DIPE)	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
Ethyl-t-butyl ether (ETBE)	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1

Client Sample ID: SB-7B-15

Lab Sample ID: 440-216711-9

Date Collected: 07/25/18 10:00

Matrix: Solid

Date Received: 07/26/18 17:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butyl alcohol (TBA)	ND		92	9.2	ug/Kg		07/26/18 18:50	07/29/18 16:27	1
p-Isopropyltoluene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 16:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*79 - 123*	*07/26/18 18:50*	*07/29/18 16:27*	*1*
4-Bromofluorobenzene (Surr)	*104*		*79 - 120*	*07/26/18 18:50*	*07/29/18 16:27*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 120*	*07/26/18 18:50*	*07/29/18 16:27*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		390	150	ug/Kg		07/26/18 18:50	07/31/18 18:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*65 - 140*	*07/26/18 18:50*	*07/31/18 18:54*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 21:39	1
C23-C40	**7.0**		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 21:39	1
C8 - C18	ND		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 21:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*92*		*40 - 140*	*07/31/18 06:55*	*07/31/18 21:39*	*1*

Client Sample ID: SB-7B-20

Lab Sample ID: 440-216711-10

Date Collected: 07/25/18 10:15

Matrix: Solid

Date Received: 07/26/18 17:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.7	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
1,1,1-Trichloroethane	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
1,1,2,2-Tetrachloroethane	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
1,1,2-Trichloroethane	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
1,1-Dichloroethane	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
1,1-Dichloroethene	ND		5.7	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
1,1-Dichloropropene	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
1,2,3-Trichlorobenzene	ND		5.7	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
1,2,3-Trichloropropane	ND		11	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
1,2,4-Trichlorobenzene	ND		5.7	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
1,2,4-Trimethylbenzene	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
1,2-Dibromo-3-Chloropropane	ND		5.7	2.3	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
1,2-Dibromoethane (EDB)	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
1,2-Dichlorobenzene	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
1,2-Dichloroethane	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
1,2-Dichloropropane	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
1,3,5-Trimethylbenzene	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
1,3-Dichlorobenzene	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
1,3-Dichloropropane	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
1,4-Dichlorobenzene	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
2,2-Dichloropropane	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1

Client Sample ID: SB-7B-20
Date Collected: 07/25/18 10:15
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-10
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		5.7	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
4-Chlorotoluene	ND		5.7	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Benzene	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Bromobenzene	ND		5.7	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Bromochloromethane	ND		5.7	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Bromodichloromethane	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Bromoform	ND		5.7	2.3	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Bromomethane	ND		5.7	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Carbon tetrachloride	ND		5.7	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Chlorobenzene	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Chloroethane	ND		5.7	2.3	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Chloroform	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Chloromethane	ND		5.7	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
cis-1,2-Dichloroethene	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
cis-1,3-Dichloropropene	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Dibromochloromethane	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Dibromomethane	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Dichlorodifluoromethane	ND		5.7	2.3	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Ethylbenzene	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Hexachlorobutadiene	ND		5.7	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Isopropylbenzene	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
m,p-Xylene	ND		4.6	2.3	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Methylene Chloride	ND		23	5.7	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Methyl-t-Butyl Ether (MTBE)	ND		5.7	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Naphthalene	ND		5.7	2.3	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
n-Butylbenzene	ND		5.7	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
N-Propylbenzene	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
o-Xylene	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
sec-Butylbenzene	ND		5.7	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Styrene	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Tert-amyl-methyl ether (TAME)	ND		5.7	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
tert-Butylbenzene	ND		5.7	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Tetrachloroethene	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Toluene	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
trans-1,2-Dichloroethene	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
trans-1,3-Dichloropropene	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Trichloroethene	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Trichlorofluoromethane	ND		5.7	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Vinyl chloride	ND		5.7	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Xylenes, Total	ND		4.6	2.3	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Isopropyl Ether (DIPE)	ND		5.7	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
Ethyl-t-butyl ether (ETBE)	ND		5.7	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
tert-Butyl alcohol (TBA)	ND		110	11	ug/Kg		07/26/18 18:50	07/29/18 16:55	1
p-Isopropyltoluene	ND		2.3	1.1	ug/Kg		07/26/18 18:50	07/29/18 16:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*107*		*79 - 123*	*07/26/18 18:50*	*07/29/18 16:55*	*1*
4-Bromofluorobenzene (Surr)	*98*		*79 - 120*	*07/26/18 18:50*	*07/29/18 16:55*	*1*
Dibromofluoromethane (Surr)	*99*		*60 - 120*	*07/26/18 18:50*	*07/29/18 16:55*	*1*

Client Sample ID: SB-7B-20

Lab Sample ID: 440-216711-10

Date Collected: 07/25/18 10:15

Matrix: Solid

Date Received: 07/26/18 17:10

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		380	140	ug/Kg		07/26/18 18:50	07/31/18 19:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*65 - 140*	*07/26/18 18:50*	*07/31/18 19:21*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 22:01	1
C23-C40	**6.1**		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 22:01	1
C8 - C18	ND		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 22:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*83*		*40 - 140*	*07/31/18 06:55*	*07/31/18 22:01*	*1*

Client Sample ID: SB-7B-25

Lab Sample ID: 440-216711-11

Date Collected: 07/25/18 10:30

Matrix: Solid

Date Received: 07/26/18 17:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
1,1,1-Trichloroethane	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
1,1,2,2-Tetrachloroethane	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
1,1,2-Trichloroethane	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
1,1-Dichloroethane	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
1,1-Dichloroethene	ND		5.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
1,1-Dichloropropene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
1,2,3-Trichlorobenzene	ND		5.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
1,2,3-Trichloropropane	ND		10	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
1,2,4-Trichlorobenzene	ND		5.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
1,2,4-Trimethylbenzene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
1,2-Dibromo-3-Chloropropane	ND		5.1	2.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
1,2-Dibromoethane (EDB)	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
1,2-Dichlorobenzene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
1,2-Dichloroethane	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
1,2-Dichloropropane	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
1,3,5-Trimethylbenzene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
1,3-Dichlorobenzene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
1,3-Dichloropropane	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
1,4-Dichlorobenzene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
2,2-Dichloropropane	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
2-Chlorotoluene	ND		5.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
4-Chlorotoluene	ND		5.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Benzene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Bromobenzene	ND		5.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Bromochloromethane	ND		5.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Bromodichloromethane	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Bromoform	ND		5.1	2.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Bromomethane	ND		5.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Carbon tetrachloride	ND		5.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216711-1

Client Sample ID: SB-7B-25
Date Collected: 07/25/18 10:30
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-11
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Chloroethane	ND		5.1	2.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Chloroform	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Chloromethane	ND		5.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
cis-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
cis-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Dibromochloromethane	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Dibromomethane	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Dichlorodifluoromethane	ND		5.1	2.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Ethylbenzene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Hexachlorobutadiene	ND		5.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Isopropylbenzene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
m,p-Xylene	ND		4.1	2.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Methylene Chloride	ND		20	5.1	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Methyl-t-Butyl Ether (MTBE)	ND		5.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Naphthalene	ND		5.1	2.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
n-Butylbenzene	ND		5.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
N-Propylbenzene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
o-Xylene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
sec-Butylbenzene	ND		5.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Styrene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Tert-amyl-methyl ether (TAME)	ND		5.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
tert-Butylbenzene	ND		5.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Tetrachloroethene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Toluene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
trans-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
trans-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Trichloroethene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Trichlorofluoromethane	ND		5.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Vinyl chloride	ND		5.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Xylenes, Total	ND		4.1	2.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Isopropyl Ether (DIPE)	ND		5.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
Ethyl-t-butyl ether (ETBE)	ND		5.1	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
tert-Butyl alcohol (TBA)	ND		100	10	ug/Kg		07/26/18 18:50	07/29/18 17:23	1
p-Isopropyltoluene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 17:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*79 - 123*	*07/26/18 18:50*	*07/29/18 17:23*	*1*
4-Bromofluorobenzene (Surr)	*104*		*79 - 120*	*07/26/18 18:50*	*07/29/18 17:23*	*1*
Dibromofluoromethane (Surr)	*98*		*60 - 120*	*07/26/18 18:50*	*07/29/18 17:23*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		400	150	ug/Kg		07/26/18 18:50	07/31/18 20:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*65 - 140*	*07/26/18 18:50*	*07/31/18 20:41*	*1*

Client Sample ID: SB-7B-25

Lab Sample ID: 440-216711-11
Date Collected: 07/25/18 10:30
Matrix: Solid
Date Received: 07/26/18 17:10

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	3.8	J	5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 22:22	1
C23-C40	6.8		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 22:22	1
C8 - C18	ND		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 22:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*93*		*40 - 140*	*07/31/18 06:55*	*07/31/18 22:22*	*1*

Client Sample ID: SB-7B-30

Lab Sample ID: 440-216711-12
Date Collected: 07/25/18 10:40
Matrix: Solid
Date Received: 07/26/18 17:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		3.9	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
1,1,1-Trichloroethane	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
1,1,2,2-Tetrachloroethane	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
1,1,2-Trichloroethane	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
1,1-Dichloroethane	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
1,1-Dichloroethene	ND		3.9	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
1,1-Dichloropropene	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
1,2,3-Trichlorobenzene	ND		3.9	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
1,2,3-Trichloropropane	ND		7.8	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
1,2,4-Trichlorobenzene	ND		3.9	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
1,2,4-Trimethylbenzene	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
1,2-Dibromo-3-Chloropropane	ND		3.9	1.6	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
1,2-Dibromoethane (EDB)	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
1,2-Dichlorobenzene	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
1,2-Dichloroethane	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
1,2-Dichloropropane	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
1,3,5-Trimethylbenzene	0.82	J	1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
1,3-Dichlorobenzene	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
1,3-Dichloropropane	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
1,4-Dichlorobenzene	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
2,2-Dichloropropane	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
2-Chlorotoluene	ND		3.9	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
4-Chlorotoluene	ND		3.9	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Benzene	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Bromobenzene	ND		3.9	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Bromochloromethane	ND		3.9	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Bromodichloromethane	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Bromoform	ND		3.9	1.6	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Bromomethane	ND		3.9	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Carbon tetrachloride	ND		3.9	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Chlorobenzene	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Chloroethane	ND		3.9	1.6	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Chloroform	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Chloromethane	ND		3.9	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
cis-1,2-Dichloroethene	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
cis-1,3-Dichloropropene	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Dibromochloromethane	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1

Client Sample ID: SB-7B-30
Date Collected: 07/25/18 10:40
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-12
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Dichlorodifluoromethane	ND		3.9	1.6	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Ethylbenzene	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Hexachlorobutadiene	ND		3.9	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Isopropylbenzene	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
m,p-Xylene	ND		3.1	1.6	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Methylene Chloride	ND		16	3.9	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Methyl-t-Butyl Ether (MTBE)	ND		3.9	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Naphthalene	ND		3.9	1.6	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
n-Butylbenzene	ND		3.9	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
N-Propylbenzene	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
o-Xylene	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
sec-Butylbenzene	ND		3.9	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Styrene	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Tert-amyl-methyl ether (TAME)	ND		3.9	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
tert-Butylbenzene	ND		3.9	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Tetrachloroethene	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Toluene	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
trans-1,2-Dichloroethene	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
trans-1,3-Dichloropropene	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Trichloroethene	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Trichlorofluoromethane	ND		3.9	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Vinyl chloride	ND		3.9	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Xylenes, Total	ND		3.1	1.6	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Isopropyl Ether (DIPE)	ND		3.9	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
Ethyl-t-butyl ether (ETBE)	ND		3.9	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
tert-Butyl alcohol (TBA)	ND		78	7.8	ug/Kg		07/26/18 18:50	07/29/18 17:51	1
p-Isopropyltoluene	ND		1.6	0.78	ug/Kg		07/26/18 18:50	07/29/18 17:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*79 - 123*	*07/26/18 18:50*	*07/29/18 17:51*	*1*
4-Bromofluorobenzene (Surr)	*108*		*79 - 120*	*07/26/18 18:50*	*07/29/18 17:51*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 120*	*07/26/18 18:50*	*07/29/18 17:51*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	**20000**	**E**	350	130	ug/Kg		07/26/18 18:50	07/31/18 21:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*65 - 140*	*07/26/18 18:50*	*07/31/18 21:08*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**160**		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 22:44	1
C23-C40	**11**		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 22:44	1
C8 - C18	**260**		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 22:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*86*		*40 - 140*	*07/31/18 06:55*	*07/31/18 22:44*	*1*

Client Sample ID: CPT-LIF-4B-27
Date Collected: 07/25/18 13:15
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-13
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.1	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
1,1,1-Trichloroethane	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
1,1,2,2-Tetrachloroethane	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
1,1,2-Trichloroethane	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
1,1-Dichloroethane	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
1,1-Dichloroethene	ND		4.1	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
1,1-Dichloropropene	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
1,2,3-Trichlorobenzene	ND		4.1	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
1,2,3-Trichloropropane	ND		8.1	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
1,2,4-Trichlorobenzene	ND		4.1	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
1,2,4-Trimethylbenzene	**56**		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
1,2-Dibromo-3-Chloropropane	ND		4.1	1.6	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
1,2-Dibromoethane (EDB)	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
1,2-Dichlorobenzene	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
1,2-Dichloroethane	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
1,2-Dichloropropane	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
1,3,5-Trimethylbenzene	**40**		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
1,3-Dichlorobenzene	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
1,3-Dichloropropane	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
1,4-Dichlorobenzene	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
2,2-Dichloropropane	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
2-Chlorotoluene	ND		4.1	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
4-Chlorotoluene	ND		4.1	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Benzene	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Bromobenzene	ND		4.1	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Bromochloromethane	ND		4.1	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Bromodichloromethane	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Bromoform	ND		4.1	1.6	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Bromomethane	ND		4.1	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Carbon tetrachloride	ND		4.1	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Chlorobenzene	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Chloroethane	ND		4.1	1.6	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Chloroform	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Chloromethane	ND		4.1	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
cis-1,2-Dichloroethene	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
cis-1,3-Dichloropropene	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Dibromochloromethane	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Dibromomethane	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Dichlorodifluoromethane	ND		4.1	1.6	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Ethylbenzene	**0.81**	**J**	1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Hexachlorobutadiene	ND		4.1	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Isopropylbenzene	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
m,p-Xylene	**9.0**		3.2	1.6	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Methylene Chloride	ND		16	4.1	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Methyl-t-Butyl Ether (MTBE)	ND		4.1	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Naphthalene	**30**		4.1	1.6	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
n-Butylbenzene	**15**		4.1	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
N-Propylbenzene	**1.0**	**J**	1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
o-Xylene	**9.0**		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1

Client Sample ID: CPT-LIF-4B-27

Lab Sample ID: 440-216711-13

Date Collected: 07/25/18 13:15

Matrix: Solid

Date Received: 07/26/18 17:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		4.1	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Styrene	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Tert-amyl-methyl ether (TAME)	ND		4.1	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
tert-Butylbenzene	ND		4.1	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Tetrachloroethene	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Toluene	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
trans-1,2-Dichloroethene	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
trans-1,3-Dichloropropene	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Trichloroethene	ND		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Trichlorofluoromethane	ND		4.1	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Vinyl chloride	ND		4.1	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Xylenes, Total	**18**		3.2	1.6	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Isopropyl Ether (DIPE)	ND		4.1	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
Ethyl-t-butyl ether (ETBE)	ND		4.1	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
tert-Butyl alcohol (TBA)	ND		81	8.1	ug/Kg		07/26/18 18:50	07/29/18 18:20	1
p-Isopropyltoluene	**2.0**		1.6	0.81	ug/Kg		07/26/18 18:50	07/29/18 18:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*79 - 123*	*07/26/18 18:50*	*07/29/18 18:20*	*1*
4-Bromofluorobenzene (Surr)	*94*		*79 - 120*	*07/26/18 18:50*	*07/29/18 18:20*	*1*
Dibromofluoromethane (Surr)	*98*		*60 - 120*	*07/26/18 18:50*	*07/29/18 18:20*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	**27000**	**E**	340	130	ug/Kg		07/26/18 18:50	07/31/18 21:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*65 - 140*	*07/26/18 18:50*	*07/31/18 21:35*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**3.4**	**J**	5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 23:06	1
C23-C40	**6.4**		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 23:06	1
C8 - C18	ND		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 23:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*92*		*40 - 140*	*07/31/18 06:55*	*07/31/18 23:06*	*1*

Client Sample ID: CPT-LIF-4B-29.5

Lab Sample ID: 440-216711-14

Date Collected: 07/25/18 13:20

Matrix: Solid

Date Received: 07/26/18 17:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.4	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
1,1,1-Trichloroethane	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
1,1,2,2-Tetrachloroethane	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
1,1,2-Trichloroethane	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
1,1-Dichloroethane	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
1,1-Dichloroethene	ND		5.4	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
1,1-Dichloropropene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1

Client Sample ID: CPT-LIF-4B-29.5
Date Collected: 07/25/18 13:20
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-14
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	ND		5.4	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
1,2,3-Trichloropropane	ND		11	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
1,2,4-Trichlorobenzene	ND		5.4	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
1,2,4-Trimethylbenzene	**4000**	**E**	2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
1,2-Dibromo-3-Chloropropane	ND		5.4	2.2	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
1,2-Dibromoethane (EDB)	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
1,2-Dichlorobenzene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
1,2-Dichloroethane	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
1,2-Dichloropropane	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
1,3,5-Trimethylbenzene	**4400**	**E**	2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
1,3-Dichlorobenzene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
1,3-Dichloropropane	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
1,4-Dichlorobenzene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
2,2-Dichloropropane	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
2-Chlorotoluene	ND		5.4	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
4-Chlorotoluene	ND		5.4	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Benzene	**4.8**		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Bromobenzene	ND		5.4	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Bromochloromethane	ND		5.4	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Bromodichloromethane	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Bromoform	ND		5.4	2.2	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Bromomethane	ND		5.4	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Carbon tetrachloride	ND		5.4	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Chlorobenzene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Chloroethane	ND		5.4	2.2	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Chloroform	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Chloromethane	ND		5.4	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
cis-1,2-Dichloroethene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
cis-1,3-Dichloropropene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Dibromochloromethane	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Dibromomethane	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Dichlorodifluoromethane	ND		5.4	2.2	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Ethylbenzene	**630**		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Hexachlorobutadiene	ND		5.4	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Isopropylbenzene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
m,p-Xylene	**4400**	**E**	4.3	2.2	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Methylene Chloride	ND		22	5.4	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Methyl-t-Butyl Ether (MTBE)	ND		5.4	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Naphthalene	**220**		5.4	2.2	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
n-Butylbenzene	**910**	**E**	5.4	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
N-Propylbenzene	**490**		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
o-Xylene	**3700**	**E**	2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
sec-Butylbenzene	**82**		5.4	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Styrene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Tert-amyl-methyl ether (TAME)	ND		5.4	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
tert-Butylbenzene	ND		5.4	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Tetrachloroethene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Toluene	**110**		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
trans-1,2-Dichloroethene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1

Client Sample ID: CPT-LIF-4B-29.5

Lab Sample ID: 440-216711-14

Date Collected: 07/25/18 13:20

Matrix: Solid

Date Received: 07/26/18 17:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Trichloroethene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Trichlorofluoromethane	ND		5.4	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Vinyl chloride	ND		5.4	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Xylenes, Total	**8100**		4.3	2.2	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Isopropyl Ether (DIPE)	ND		5.4	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
Ethyl-t-butyl ether (ETBE)	ND		5.4	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
tert-Butyl alcohol (TBA)	**24**	**J**	110	11	ug/Kg		07/26/18 18:50	07/29/18 18:48	1
p-Isopropyltoluene	**340**		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 18:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*79 - 123*	*07/26/18 18:50*	*07/29/18 18:48*	*1*
4-Bromofluorobenzene (Surr)	*147*	*X*	*79 - 120*	*07/26/18 18:50*	*07/29/18 18:48*	*1*
Dibromofluoromethane (Surr)	*95*		*60 - 120*	*07/26/18 18:50*	*07/29/18 18:48*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	**300**	**J**	340	130	ug/Kg		08/01/18 08:43	08/01/18 09:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*65 - 140*	*08/01/18 08:43*	*08/01/18 09:07*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**17**		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 19:05	1
C23-C40	**23**		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 19:05	1
C8 - C18	**11**		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 19:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*92*		*40 - 140*	*07/31/18 06:55*	*07/31/18 19:05*	*1*

Client Sample ID: SB-2B-5

Lab Sample ID: 440-216711-15

Date Collected: 07/25/18 13:04

Matrix: Solid

Date Received: 07/26/18 17:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
1,1,1-Trichloroethane	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
1,1,2,2-Tetrachloroethane	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
1,1,2-Trichloroethane	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
1,1-Dichloroethane	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
1,1-Dichloroethene	ND		5.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
1,1-Dichloropropene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
1,2,3-Trichlorobenzene	ND		5.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
1,2,3-Trichloropropane	ND		10	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
1,2,4-Trichlorobenzene	ND		5.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
1,2-Dibromo-3-Chloropropane	ND		5.0	2.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
1,2-Dibromoethane (EDB)	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
1,2-Dichlorobenzene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
1,2-Dichloroethane	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1

Client Sample ID: SB-2B-5
Date Collected: 07/25/18 13:04
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-15
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
1,3-Dichlorobenzene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
1,3-Dichloropropane	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
1,4-Dichlorobenzene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
2,2-Dichloropropane	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
2-Chlorotoluene	ND		5.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
4-Chlorotoluene	ND		5.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Benzene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Bromobenzene	ND		5.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Bromochloromethane	ND		5.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Bromodichloromethane	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Bromoform	ND		5.0	2.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Bromomethane	ND		5.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Carbon tetrachloride	ND		5.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Chlorobenzene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Chloroethane	ND		5.0	2.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Chloroform	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
cis-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
cis-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Dibromochloromethane	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Dibromomethane	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Dichlorodifluoromethane	ND		5.0	2.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Ethylbenzene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Hexachlorobutadiene	ND		5.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Isopropylbenzene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
m,p-Xylene	ND		4.0	2.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Methylene Chloride	ND		20	5.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
n-Butylbenzene	ND		5.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
N-Propylbenzene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
o-Xylene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
sec-Butylbenzene	ND		5.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Styrene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Tert-amyl-methyl ether (TAME)	ND		5.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
tert-Butylbenzene	ND		5.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Tetrachloroethene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Toluene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
trans-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
trans-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Trichloroethene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Trichlorofluoromethane	ND		5.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Vinyl chloride	ND		5.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Xylenes, Total	ND		4.0	2.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Isopropyl Ether (DIPE)	ND		5.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
Ethyl-t-butyl ether (ETBE)	ND		5.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
tert-Butyl alcohol (TBA)	ND		100	10	ug/Kg		07/26/18 18:50	07/29/18 19:16	1
p-Isopropyltoluene	ND		2.0	1.0	ug/Kg		07/26/18 18:50	07/29/18 19:16	1

Client Sample ID: SB-2B-5

Lab Sample ID: 440-216711-15
Matrix: Solid
Date Collected: 07/25/18 13:04
Date Received: 07/26/18 17:10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*109*		*79 - 123*	*07/26/18 18:50*	*07/29/18 19:16*	*1*
4-Bromofluorobenzene (Surr)	*103*		*79 - 120*	*07/26/18 18:50*	*07/29/18 19:16*	*1*
Dibromofluoromethane (Surr)	*94*		*60 - 120*	*07/26/18 18:50*	*07/29/18 19:16*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 09:50	1
1,3,5-Trimethylbenzene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 09:50	1
Naphthalene	ND		5.3	2.1	ug/Kg		07/31/18 08:28	07/31/18 09:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*106*		*79 - 123*	*07/31/18 08:28*	*07/31/18 09:50*	*1*
4-Bromofluorobenzene (Surr)	*110*		*79 - 120*	*07/31/18 08:28*	*07/31/18 09:50*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 120*	*07/31/18 08:28*	*07/31/18 09:50*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		550	210	ug/Kg		08/01/18 08:43	08/01/18 09:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*56*	*X*	*65 - 140*	*08/01/18 08:43*	*08/01/18 09:34*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**2.7**	**J**	5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 18:43	1
C23-C40	**9.9**		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 18:43	1
C8 - C18	ND		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 18:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*89*		*40 - 140*	*07/31/18 06:55*	*07/31/18 18:43*	*1*

Client Sample ID: SB-2B-10

Lab Sample ID: 440-216711-16
Matrix: Solid
Date Collected: 07/25/18 13:16
Date Received: 07/26/18 17:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		7.0	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
1,1,1-Trichloroethane	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
1,1,2,2-Tetrachloroethane	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
1,1,2-Trichloroethane	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
1,1-Dichloroethane	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
1,1-Dichloroethene	ND		7.0	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
1,1-Dichloropropene	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
1,2,3-Trichlorobenzene	ND		7.0	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
1,2,3-Trichloropropane	ND		14	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
1,2,4-Trichlorobenzene	ND		7.0	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
1,2,4-Trimethylbenzene	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
1,2-Dibromo-3-Chloropropane	ND		7.0	2.8	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
1,2-Dibromoethane (EDB)	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
1,2-Dichlorobenzene	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
1,2-Dichloroethane	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1

Client Sample ID: SB-2B-10
Date Collected: 07/25/18 13:16
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-16
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
1,3,5-Trimethylbenzene	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
1,3-Dichlorobenzene	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
1,3-Dichloropropane	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
1,4-Dichlorobenzene	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
2,2-Dichloropropane	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
2-Chlorotoluene	ND		7.0	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
4-Chlorotoluene	ND		7.0	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Benzene	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Bromobenzene	ND		7.0	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Bromochloromethane	ND		7.0	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Bromodichloromethane	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Bromoform	ND		7.0	2.8	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Bromomethane	ND		7.0	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Carbon tetrachloride	ND		7.0	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Chlorobenzene	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Chloroethane	ND		7.0	2.8	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Chloroform	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Chloromethane	ND		7.0	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
cis-1,2-Dichloroethene	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
cis-1,3-Dichloropropene	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Dibromochloromethane	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Dibromomethane	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Dichlorodifluoromethane	ND		7.0	2.8	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Ethylbenzene	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Hexachlorobutadiene	ND		7.0	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Isopropylbenzene	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
m,p-Xylene	ND		5.6	2.8	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Methylene Chloride	ND		28	7.0	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Methyl-t-Butyl Ether (MTBE)	ND		7.0	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Naphthalene	ND		7.0	2.8	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
n-Butylbenzene	ND		7.0	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
N-Propylbenzene	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
o-Xylene	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
sec-Butylbenzene	ND		7.0	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Styrene	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Tert-amyl-methyl ether (TAME)	ND		7.0	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
tert-Butylbenzene	ND		7.0	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Tetrachloroethene	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Toluene	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
trans-1,2-Dichloroethene	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
trans-1,3-Dichloropropene	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Trichloroethene	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Trichlorofluoromethane	ND		7.0	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Vinyl chloride	ND		7.0	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Xylenes, Total	ND		5.6	2.8	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Isopropyl Ether (DIPE)	ND		7.0	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
Ethyl-t-butyl ether (ETBE)	ND		7.0	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1
tert-Butyl alcohol (TBA)	ND		140	14	ug/Kg		07/26/18 18:50	07/29/18 19:44	1

Client Sample ID: SB-2B-10

Lab Sample ID: 440-216711-16

Date Collected: 07/25/18 13:16

Matrix: Solid

Date Received: 07/26/18 17:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		2.8	1.4	ug/Kg		07/26/18 18:50	07/29/18 19:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*107*		*79 - 123*	*07/26/18 18:50*	*07/29/18 19:44*	*1*
4-Bromofluorobenzene (Surr)	*107*		*79 - 120*	*07/26/18 18:50*	*07/29/18 19:44*	*1*
Dibromofluoromethane (Surr)	*98*		*60 - 120*	*07/26/18 18:50*	*07/29/18 19:44*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		420	160	ug/Kg		07/26/18 18:50	07/31/18 22:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*65 - 140*	*07/26/18 18:50*	*07/31/18 22:56*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**4.7**	**J**	5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 19:49	1
C23-C40	**22**		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 19:49	1
C8 - C18	ND		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 19:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*82*		*40 - 140*	*07/31/18 06:55*	*07/31/18 19:49*	*1*

Client Sample ID: SB-1B-5

Lab Sample ID: 440-216711-17

Date Collected: 07/25/18 12:30

Matrix: Solid

Date Received: 07/26/18 17:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.5	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
1,1,1-Trichloroethane	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
1,1,2,2-Tetrachloroethane	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
1,1,2-Trichloroethane	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
1,1-Dichloroethane	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
1,1-Dichloroethene	ND		5.5	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
1,1-Dichloropropene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
1,2,3-Trichlorobenzene	ND		5.5	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
1,2,3-Trichloropropane	ND		11	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
1,2,4-Trichlorobenzene	ND		5.5	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
1,2,4-Trimethylbenzene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
1,2-Dibromo-3-Chloropropane	ND		5.5	2.2	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
1,2-Dibromoethane (EDB)	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
1,2-Dichlorobenzene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
1,2-Dichloroethane	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
1,2-Dichloropropane	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
1,3,5-Trimethylbenzene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
1,3-Dichlorobenzene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
1,3-Dichloropropane	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
1,4-Dichlorobenzene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
2,2-Dichloropropane	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
2-Chlorotoluene	ND		5.5	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1

Client Sample ID: SB-1B-5
Date Collected: 07/25/18 12:30
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-17
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		5.5	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Benzene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Bromobenzene	ND		5.5	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Bromochloromethane	ND		5.5	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Bromodichloromethane	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Bromoform	ND		5.5	2.2	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Bromomethane	ND		5.5	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Carbon tetrachloride	ND		5.5	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Chlorobenzene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Chloroethane	ND		5.5	2.2	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Chloroform	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Chloromethane	ND		5.5	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
cis-1,2-Dichloroethene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
cis-1,3-Dichloropropene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Dibromochloromethane	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Dibromomethane	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Dichlorodifluoromethane	ND		5.5	2.2	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Ethylbenzene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Hexachlorobutadiene	ND		5.5	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Isopropylbenzene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
m,p-Xylene	ND		4.4	2.2	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Methylene Chloride	ND		22	5.5	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Methyl-t-Butyl Ether (MTBE)	ND		5.5	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Naphthalene	ND		5.5	2.2	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
n-Butylbenzene	ND		5.5	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
N-Propylbenzene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
o-Xylene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
sec-Butylbenzene	ND		5.5	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Styrene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Tert-amyl-methyl ether (TAME)	ND		5.5	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
tert-Butylbenzene	ND		5.5	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Tetrachloroethene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Toluene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
trans-1,2-Dichloroethene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
trans-1,3-Dichloropropene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Trichloroethene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Trichlorofluoromethane	ND		5.5	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Vinyl chloride	ND		5.5	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Xylenes, Total	ND		4.4	2.2	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Isopropyl Ether (DIPE)	ND		5.5	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
Ethyl-t-butyl ether (ETBE)	ND		5.5	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
tert-Butyl alcohol (TBA)	ND		110	11	ug/Kg		07/26/18 18:50	07/29/18 20:12	1
p-Isopropyltoluene	ND		2.2	1.1	ug/Kg		07/26/18 18:50	07/29/18 20:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*107*		*79 - 123*	*07/26/18 18:50*	*07/29/18 20:12*	*1*
4-Bromofluorobenzene (Surr)	*105*		*79 - 120*	*07/26/18 18:50*	*07/29/18 20:12*	*1*
Dibromofluoromethane (Surr)	*103*		*60 - 120*	*07/26/18 18:50*	*07/29/18 20:12*	*1*

Client Sample ID: SB-1B-5

Lab Sample ID: 440-216711-17

Date Collected: 07/25/18 12:30

Matrix: Solid

Date Received: 07/26/18 17:10

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		410	150	ug/Kg		07/26/18 18:50	07/31/18 23:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*65 - 140*	*07/26/18 18:50*	*07/31/18 23:23*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**4.8**	**J**	5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 20:11	1
C23-C40	**24**		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 20:11	1
C8 - C18	ND		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 20:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*70*		*40 - 140*	*07/31/18 06:55*	*07/31/18 20:11*	*1*

Client Sample ID: SB-1B-10

Lab Sample ID: 440-216711-18

Date Collected: 07/25/18 12:43

Matrix: Solid

Date Received: 07/26/18 17:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.6	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
1,1,1-Trichloroethane	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
1,1,2,2-Tetrachloroethane	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
1,1,2-Trichloroethane	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
1,1-Dichloroethane	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
1,1-Dichloroethene	ND		4.6	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
1,1-Dichloropropene	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
1,2,3-Trichlorobenzene	ND		4.6	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
1,2,3-Trichloropropane	ND		9.1	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
1,2,4-Trichlorobenzene	ND		4.6	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
1,2,4-Trimethylbenzene	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
1,2-Dibromo-3-Chloropropane	ND		4.6	1.8	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
1,2-Dibromoethane (EDB)	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
1,2-Dichlorobenzene	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
1,2-Dichloroethane	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
1,2-Dichloropropane	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
1,3,5-Trimethylbenzene	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
1,3-Dichlorobenzene	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
1,3-Dichloropropane	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
1,4-Dichlorobenzene	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
2,2-Dichloropropane	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
2-Chlorotoluene	ND		4.6	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
4-Chlorotoluene	ND		4.6	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Benzene	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Bromobenzene	ND		4.6	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Bromochloromethane	ND		4.6	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Bromodichloromethane	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Bromoform	ND		4.6	1.8	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Bromomethane	ND		4.6	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Carbon tetrachloride	ND		4.6	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1

Client Sample ID: SB-1B-10
Date Collected: 07/25/18 12:43
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-18
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Chloroethane	ND		4.6	1.8	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Chloroform	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Chloromethane	ND		4.6	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
cis-1,2-Dichloroethene	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
cis-1,3-Dichloropropene	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Dibromochloromethane	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Dibromomethane	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Dichlorodifluoromethane	ND		4.6	1.8	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Ethylbenzene	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Hexachlorobutadiene	ND		4.6	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Isopropylbenzene	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
m,p-Xylene	ND		3.6	1.8	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Methylene Chloride	ND		18	4.6	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Methyl-t-Butyl Ether (MTBE)	ND		4.6	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Naphthalene	ND		4.6	1.8	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
n-Butylbenzene	ND		4.6	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
N-Propylbenzene	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
o-Xylene	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
sec-Butylbenzene	ND		4.6	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Styrene	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Tert-amyl-methyl ether (TAME)	ND		4.6	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
tert-Butylbenzene	ND		4.6	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Tetrachloroethene	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Toluene	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
trans-1,2-Dichloroethene	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
trans-1,3-Dichloropropene	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Trichloroethene	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Trichlorofluoromethane	ND		4.6	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Vinyl chloride	ND		4.6	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Xylenes, Total	ND		3.6	1.8	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Isopropyl Ether (DIPE)	ND		4.6	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
Ethyl-t-butyl ether (ETBE)	ND		4.6	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
tert-Butyl alcohol (TBA)	ND		91	9.1	ug/Kg		07/26/18 18:50	07/29/18 20:40	1
p-Isopropyltoluene	ND		1.8	0.91	ug/Kg		07/26/18 18:50	07/29/18 20:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*107*		*79 - 123*	*07/26/18 18:50*	*07/29/18 20:40*	*1*
4-Bromofluorobenzene (Surr)	*109*		*79 - 120*	*07/26/18 18:50*	*07/29/18 20:40*	*1*
Dibromofluoromethane (Surr)	*93*		*60 - 120*	*07/26/18 18:50*	*07/29/18 20:40*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		430	160	ug/Kg		07/26/18 18:50	08/01/18 01:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*65 - 140*	*07/26/18 18:50*	*08/01/18 01:37*	*1*

Client Sample ID: SB-1B-10

Lab Sample ID: 440-216711-18

Date Collected: 07/25/18 12:43

Matrix: Solid

Date Received: 07/26/18 17:10

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	2.8	J	5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 19:27	1
C23-C40	13		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 19:27	1
C8 - C18	ND		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 19:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*79*		*40 - 140*	*07/31/18 06:55*	*07/31/18 19:27*	*1*

Client Sample ID: CPT-LIF-2B-25

Lab Sample ID: 440-216711-19

Date Collected: 07/25/18 14:30

Matrix: Solid

Date Received: 07/26/18 17:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
1,1,1-Trichloroethane	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
1,1,2,2-Tetrachloroethane	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
1,1,2-Trichloroethane	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
1,1-Dichloroethane	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
1,1-Dichloroethene	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
1,1-Dichloropropene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
1,2,3-Trichlorobenzene	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
1,2,3-Trichloropropane	ND		9.2	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
1,2,4-Trichlorobenzene	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
1,2,4-Trimethylbenzene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
1,2-Dibromo-3-Chloropropane	ND		4.6	1.8	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
1,2-Dibromoethane (EDB)	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
1,2-Dichlorobenzene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
1,2-Dichloroethane	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
1,2-Dichloropropane	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
1,3,5-Trimethylbenzene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
1,3-Dichlorobenzene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
1,3-Dichloropropane	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
1,4-Dichlorobenzene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
2,2-Dichloropropane	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
2-Chlorotoluene	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
4-Chlorotoluene	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Benzene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Bromobenzene	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Bromochloromethane	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Bromodichloromethane	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Bromoform	ND		4.6	1.8	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Bromomethane	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Carbon tetrachloride	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Chlorobenzene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Chloroethane	ND		4.6	1.8	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Chloroform	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Chloromethane	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
cis-1,2-Dichloroethene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
cis-1,3-Dichloropropene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Dibromochloromethane	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1

Client Sample ID: CPT-LIF-2B-25

Date Collected: 07/25/18 14:30
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-19

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Dichlorodifluoromethane	ND		4.6	1.8	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Ethylbenzene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Hexachlorobutadiene	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Isopropylbenzene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
m,p-Xylene	ND		3.7	1.8	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Methylene Chloride	ND		18	4.6	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Methyl-t-Butyl Ether (MTBE)	**25**		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Naphthalene	ND		4.6	1.8	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
n-Butylbenzene	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
N-Propylbenzene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
o-Xylene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
sec-Butylbenzene	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Styrene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Tert-amyl-methyl ether (TAME)	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
tert-Butylbenzene	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Tetrachloroethene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Toluene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
trans-1,2-Dichloroethene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
trans-1,3-Dichloropropene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Trichloroethene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Trichlorofluoromethane	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Vinyl chloride	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Xylenes, Total	ND		3.7	1.8	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Isopropyl Ether (DIPE)	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
Ethyl-t-butyl ether (ETBE)	ND		4.6	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
tert-Butyl alcohol (TBA)	**99**		92	9.2	ug/Kg		07/26/18 18:50	07/29/18 21:07	1
p-Isopropyltoluene	ND		1.8	0.92	ug/Kg		07/26/18 18:50	07/29/18 21:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*79 - 123*	*07/26/18 18:50*	*07/29/18 21:07*	*1*
4-Bromofluorobenzene (Surr)	*105*		*79 - 120*	*07/26/18 18:50*	*07/29/18 21:07*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 120*	*07/26/18 18:50*	*07/29/18 21:07*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	**180**	**J**	370	140	ug/Kg		07/26/18 18:50	08/01/18 02:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*65 - 140*	*07/26/18 18:50*	*08/01/18 02:04*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**5.1**		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 23:28	1
C23-C40	**6.0**		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 23:28	1
C8 - C18	**4.1**	**J**	5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 23:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*86*		*40 - 140*	*07/31/18 06:55*	*07/31/18 23:28*	*1*

Client Sample ID: CPT-LIF-2B-30.5
Date Collected: 07/25/18 14:45
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-20
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.6	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
1,1,1-Trichloroethane	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
1,1,2,2-Tetrachloroethane	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
1,1,2-Trichloroethane	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
1,1-Dichloroethane	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
1,1-Dichloroethene	ND		4.6	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
1,1-Dichloropropene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
1,2,3-Trichlorobenzene	ND		4.6	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
1,2,3-Trichloropropane	ND		9.3	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
1,2,4-Trichlorobenzene	ND		4.6	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
1,2,4-Trimethylbenzene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
1,2-Dibromo-3-Chloropropane	ND		4.6	1.9	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
1,2-Dibromoethane (EDB)	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
1,2-Dichlorobenzene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
1,2-Dichloroethane	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
1,2-Dichloropropane	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
1,3,5-Trimethylbenzene	**1.8**	**J**	1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
1,3-Dichlorobenzene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
1,3-Dichloropropane	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
1,4-Dichlorobenzene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
2,2-Dichloropropane	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
2-Chlorotoluene	ND		4.6	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
4-Chlorotoluene	ND		4.6	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Benzene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Bromobenzene	ND		4.6	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Bromochloromethane	ND		4.6	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Bromodichloromethane	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Bromoform	ND		4.6	1.9	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Bromomethane	ND		4.6	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Carbon tetrachloride	ND		4.6	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Chlorobenzene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Chloroethane	ND		4.6	1.9	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Chloroform	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Chloromethane	ND		4.6	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
cis-1,2-Dichloroethene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
cis-1,3-Dichloropropene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Dibromochloromethane	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Dibromomethane	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Dichlorodifluoromethane	ND		4.6	1.9	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Ethylbenzene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Hexachlorobutadiene	ND		4.6	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Isopropylbenzene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
m,p-Xylene	ND		3.7	1.9	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Methylene Chloride	ND		19	4.6	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Methyl-t-Butyl Ether (MTBE)	ND		4.6	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Naphthalene	ND		4.6	1.9	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
n-Butylbenzene	**2.4**	**J**	4.6	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
N-Propylbenzene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
o-Xylene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1

Client Sample ID: CPT-LIF-2B-30.5

Lab Sample ID: 440-216711-20

Date Collected: 07/25/18 14:45

Matrix: Solid

Date Received: 07/26/18 17:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		4.6	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Styrene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Tert-amyl-methyl ether (TAME)	ND		4.6	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
tert-Butylbenzene	ND		4.6	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Tetrachloroethene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Toluene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
trans-1,2-Dichloroethene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
trans-1,3-Dichloropropene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Trichloroethene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Trichlorofluoromethane	ND		4.6	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Vinyl chloride	ND		4.6	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Xylenes, Total	ND		3.7	1.9	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Isopropyl Ether (DIPE)	ND		4.6	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
Ethyl-t-butyl ether (ETBE)	ND		4.6	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
tert-Butyl alcohol (TBA)	ND		93	9.3	ug/Kg		07/26/18 18:50	07/29/18 21:36	1
p-Isopropyltoluene	ND		1.9	0.93	ug/Kg		07/26/18 18:50	07/29/18 21:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*107*		*79 - 123*	*07/26/18 18:50*	*07/29/18 21:36*	*1*
4-Bromofluorobenzene (Surr)	*108*		*79 - 120*	*07/26/18 18:50*	*07/29/18 21:36*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 120*	*07/26/18 18:50*	*07/29/18 21:36*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	**1000**		450	170	ug/Kg		08/01/18 08:43	08/01/18 10:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*65 - 140*	*08/01/18 08:43*	*08/01/18 10:00*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 23:50	1
C23-C40	**5.1**		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 23:50	1
C8 - C18	ND		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 23:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*85*		*40 - 140*	*07/31/18 06:55*	*07/31/18 23:50*	*1*

Client Sample ID: SB-7B-35

Lab Sample ID: 440-216711-21

Date Collected: 07/25/18 10:50

Matrix: Solid

Date Received: 07/26/18 17:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.9	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
1,1,1-Trichloroethane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
1,1,2,2-Tetrachloroethane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
1,1,2-Trichloroethane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
1,1-Dichloroethane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
1,1-Dichloroethene	ND		4.9	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
1,1-Dichloropropene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216711-1

Client Sample ID: SB-7B-35
Date Collected: 07/25/18 10:50
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-21
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	ND		4.9	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
1,2,3-Trichloropropane	ND		9.9	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
1,2,4-Trichlorobenzene	ND		4.9	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
1,2,4-Trimethylbenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
1,2-Dibromo-3-Chloropropane	ND		4.9	2.0	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
1,2-Dibromoethane (EDB)	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
1,2-Dichlorobenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
1,2-Dichloroethane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
1,2-Dichloropropane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
1,3,5-Trimethylbenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
1,3-Dichlorobenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
1,3-Dichloropropane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
1,4-Dichlorobenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
2,2-Dichloropropane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
2-Chlorotoluene	ND		4.9	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
4-Chlorotoluene	ND		4.9	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Benzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Bromobenzene	ND		4.9	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Bromochloromethane	ND		4.9	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Bromodichloromethane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Bromoform	ND		4.9	2.0	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Bromomethane	ND		4.9	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Carbon tetrachloride	ND		4.9	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Chlorobenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Chloroethane	ND		4.9	2.0	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Chloroform	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Chloromethane	ND		4.9	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
cis-1,2-Dichloroethene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
cis-1,3-Dichloropropene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Dibromochloromethane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Dibromomethane	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Dichlorodifluoromethane	ND		4.9	2.0	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Ethylbenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Hexachlorobutadiene	ND		4.9	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Isopropylbenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
m,p-Xylene	ND		3.9	2.0	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Methylene Chloride	ND		20	4.9	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Methyl-t-Butyl Ether (MTBE)	ND		4.9	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Naphthalene	ND		4.9	2.0	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
n-Butylbenzene	ND		4.9	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
N-Propylbenzene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
o-Xylene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
sec-Butylbenzene	ND		4.9	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Styrene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Tert-amyl-methyl ether (TAME)	ND		4.9	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
tert-Butylbenzene	ND		4.9	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Tetrachloroethene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Toluene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
trans-1,2-Dichloroethene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216711-1

Client Sample ID: SB-7B-35
Date Collected: 07/25/18 10:50
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-21
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Trichloroethene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Trichlorofluoromethane	ND		4.9	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Vinyl chloride	ND		4.9	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Xylenes, Total	ND		3.9	2.0	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Isopropyl Ether (DIPE)	ND		4.9	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
Ethyl-t-butyl ether (ETBE)	ND		4.9	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
tert-Butyl alcohol (TBA)	ND		99	9.9	ug/Kg		07/26/18 18:50	07/29/18 11:51	1
p-Isopropyltoluene	ND		2.0	0.99	ug/Kg		07/26/18 18:50	07/29/18 11:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*79 - 123*	*07/26/18 18:50*	*07/29/18 11:51*	*1*
4-Bromofluorobenzene (Surr)	*98*		*79 - 120*	*07/26/18 18:50*	*07/29/18 11:51*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 120*	*07/26/18 18:50*	*07/29/18 11:51*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		360	140	ug/Kg		07/26/18 18:50	08/01/18 02:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*65 - 140*	*07/26/18 18:50*	*08/01/18 02:58*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**4.3**	**J**	5.0	2.5	mg/Kg		07/31/18 06:55	08/01/18 00:12	1
C23-C40	**5.7**		5.0	2.5	mg/Kg		07/31/18 06:55	08/01/18 00:12	1
C8 - C18	**3.3**	**J**	5.0	2.5	mg/Kg		07/31/18 06:55	08/01/18 00:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*95*		*40 - 140*	*07/31/18 06:55*	*08/01/18 00:12*	*1*

Method Summary

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216711-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8015B	Gasoline Range Organics - (GC)	SW846	TAL IRV
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL IRV
3546	Microwave Extraction	SW846	TAL IRV
5035	Closed System Purge and Trap	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216711-1

Client Sample ID: SB-7B-5

Lab Sample ID: 440-216711-1

Date Collected: 07/25/18 07:50

Matrix: Solid

Date Received: 07/26/18 17:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	10 mL	490326	07/26/18 18:50	HR	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490313	07/29/18 12:43	HR	TAL IRV
Total/NA	Prep	5035			4.19 g	10 mL	490707	07/26/18 18:50	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490646	07/31/18 15:19	IM	TAL IRV
Total/NA	Prep	3546			15.00 g	1 mL	490620	07/31/18 06:42	L1A	TAL IRV
Total/NA	Analysis	8015B		1			490723	07/31/18 21:39	LMB	TAL IRV

Client Sample ID: SB-7B-10

Lab Sample ID: 440-216711-2

Date Collected: 07/25/18 08:05

Matrix: Solid

Date Received: 07/26/18 17:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.35 g	10 mL	490326	07/26/18 18:50	HR	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490313	07/29/18 13:11	HR	TAL IRV
Total/NA	Prep	5035			6.05 g	10 mL	490707	07/26/18 18:50	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490646	07/31/18 15:46	IM	TAL IRV
Total/NA	Prep	3546			15.02 g	1 mL	490620	07/31/18 06:42	L1A	TAL IRV
Total/NA	Analysis	8015B		1			490723	07/31/18 22:01	LMB	TAL IRV

Client Sample ID: SB-6B-5

Lab Sample ID: 440-216711-3

Date Collected: 07/25/18 08:25

Matrix: Solid

Date Received: 07/26/18 17:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3.31 g	10 mL	490326	07/26/18 18:50	HR	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490313	07/29/18 13:39	HR	TAL IRV
Total/NA	Prep	5035			3.51 g	10 mL	490707	07/26/18 18:50	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490646	07/31/18 16:13	IM	TAL IRV
Total/NA	Prep	3546			15.03 g	1 mL	490620	07/31/18 06:42	L1A	TAL IRV
Total/NA	Analysis	8015B		1			490723	07/31/18 22:44	LMB	TAL IRV

Client Sample ID: SB-6B-10

Lab Sample ID: 440-216711-4

Date Collected: 07/25/18 08:30

Matrix: Solid

Date Received: 07/26/18 17:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.23 g	10 mL	490326	07/26/18 18:50	HR	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490313	07/29/18 14:07	HR	TAL IRV
Total/NA	Prep	5035			5.26 g	10 mL	490707	07/26/18 18:50	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490646	07/31/18 16:40	IM	TAL IRV
Total/NA	Prep	3546			15.00 g	1 mL	490620	07/31/18 06:42	L1A	TAL IRV
Total/NA	Analysis	8015B		1			490723	07/31/18 23:06	LMB	TAL IRV

Client Sample ID: CPT-LIF-3B-28

Lab Sample ID: 440-216711-5

Date Collected: 07/25/18 08:55

Matrix: Solid

Date Received: 07/26/18 17:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.34 g	10 mL	490326	07/26/18 18:20	HR	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490313	07/29/18 14:35	HR	TAL IRV
Total/NA	Prep	5035			4.72 g	10 mL	490707	07/26/18 18:50	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490646	07/31/18 17:07	IM	TAL IRV
Total/NA	Prep	3546			15.00 g	1 mL	490620	07/31/18 06:42	L1A	TAL IRV
Total/NA	Analysis	8015B		1			490723	07/31/18 23:28	LMB	TAL IRV

Client Sample ID: CPT-LIF-3B-30.5

Lab Sample ID: 440-216711-6

Date Collected: 07/25/18 09:05

Matrix: Solid

Date Received: 07/26/18 17:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.67 g	10 mL	490326	07/26/18 18:50	HR	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490313	07/29/18 15:03	HR	TAL IRV
Total/NA	Prep	5035			4.92 g	10 mL	490707	07/26/18 18:50	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490646	07/31/18 17:33	IM	TAL IRV
Total/NA	Prep	3546			15.00 g	1 mL	490620	07/31/18 06:42	L1A	TAL IRV
Total/NA	Analysis	8015B		1			490723	07/31/18 21:17	LMB	TAL IRV

Client Sample ID: SB-5B-5

Lab Sample ID: 440-216711-7

Date Collected: 07/25/18 09:24

Matrix: Solid

Date Received: 07/26/18 17:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	10 mL	490326	07/26/18 18:50	HR	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490313	07/29/18 15:31	HR	TAL IRV
Total/NA	Prep	5035			4.1 g	10 mL	490707	07/26/18 18:50	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490646	07/31/18 18:00	IM	TAL IRV
Total/NA	Prep	3546			15.01 g	2 mL	490620	07/31/18 06:42	L1A	TAL IRV
Total/NA	Analysis	8015B		1			490723	08/01/18 00:12	LMB	TAL IRV

Client Sample ID: SB-5B-10

Lab Sample ID: 440-216711-8

Date Collected: 07/25/18 09:42

Matrix: Solid

Date Received: 07/26/18 17:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.85 g	10 mL	490326	07/26/18 18:50	HR	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490313	07/29/18 15:59	HR	TAL IRV
Total/NA	Prep	5035			4.84 g	10 mL	490707	07/26/18 18:50	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490646	07/31/18 18:27	IM	TAL IRV
Total/NA	Prep	3546			15.03 g	1 mL	490624	07/31/18 06:55	L1A	TAL IRV
Total/NA	Analysis	8015B		1			490722	07/31/18 16:45	LMB	TAL IRV

Client Sample ID: SB-7B-15

Lab Sample ID: 440-216711-9

Date Collected: 07/25/18 10:00

Matrix: Solid

Date Received: 07/26/18 17:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.44 g	10 mL	490326	07/26/18 18:50	HR	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490313	07/29/18 16:27	HR	TAL IRV
Total/NA	Prep	5035			5.15 g	10 mL	490707	07/26/18 18:50	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490646	07/31/18 18:54	IM	TAL IRV
Total/NA	Prep	3546			15.02 g	1 mL	490624	07/31/18 06:55	L1A	TAL IRV
Total/NA	Analysis	8015B		1			490722	07/31/18 21:39	LMB	TAL IRV

Client Sample ID: SB-7B-20

Lab Sample ID: 440-216711-10

Date Collected: 07/25/18 10:15

Matrix: Solid

Date Received: 07/26/18 17:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.36 g	10 mL	490326	07/26/18 18:50	HR	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490313	07/29/18 16:55	HR	TAL IRV
Total/NA	Prep	5035			5.33 g	10 mL	490707	07/26/18 18:50	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490646	07/31/18 19:21	IM	TAL IRV
Total/NA	Prep	3546			15.01 g	1 mL	490624	07/31/18 06:55	L1A	TAL IRV
Total/NA	Analysis	8015B		1			490722	07/31/18 22:01	LMB	TAL IRV

Client Sample ID: SB-7B-25

Lab Sample ID: 440-216711-11

Date Collected: 07/25/18 10:30

Matrix: Solid

Date Received: 07/26/18 17:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.88 g	10 mL	490326	07/26/18 18:50	HR	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490313	07/29/18 17:23	HR	TAL IRV
Total/NA	Prep	5035			5.02 g	10 mL	490707	07/26/18 18:50	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490646	07/31/18 20:41	IM	TAL IRV
Total/NA	Prep	3546			15.04 g	1 mL	490624	07/31/18 06:55	L1A	TAL IRV
Total/NA	Analysis	8015B		1			490722	07/31/18 22:22	LMB	TAL IRV

Client Sample ID: SB-7B-30

Lab Sample ID: 440-216711-12

Date Collected: 07/25/18 10:40

Matrix: Solid

Date Received: 07/26/18 17:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.43 g	10 mL	490326	07/26/18 18:50	HR	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490313	07/29/18 17:51	HR	TAL IRV
Total/NA	Prep	5035			5.64 g	10 mL	490707	07/26/18 18:50	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490646	07/31/18 21:08	IM	TAL IRV
Total/NA	Prep	3546			15.05 g	1 mL	490624	07/31/18 06:55	L1A	TAL IRV
Total/NA	Analysis	8015B		1			490722	07/31/18 22:44	LMB	TAL IRV

Client Sample ID: CPT-LIF-4B-27

Lab Sample ID: 440-216711-13

Date Collected: 07/25/18 13:15

Matrix: Solid

Date Received: 07/26/18 17:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.16 g	10 mL	490326	07/26/18 18:50	HR	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490313	07/29/18 18:20	HR	TAL IRV
Total/NA	Prep	5035			5.93 g	10 mL	490707	07/26/18 18:50	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490646	07/31/18 21:35	IM	TAL IRV
Total/NA	Prep	3546			15.00 g	1 mL	490624	07/31/18 06:55	L1A	TAL IRV
Total/NA	Analysis	8015B		1			490722	07/31/18 23:06	LMB	TAL IRV

Client Sample ID: CPT-LIF-4B-29.5

Lab Sample ID: 440-216711-14

Date Collected: 07/25/18 13:20

Matrix: Solid

Date Received: 07/26/18 17:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.62 g	10 mL	490326	07/26/18 18:50	HR	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490313	07/29/18 18:48	HR	TAL IRV
Total/NA	Prep	5035			5.83 g	10 mL	490890	08/01/18 08:43	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490757	08/01/18 09:07	IM	TAL IRV
Total/NA	Prep	3546			15.04 g	1 mL	490624	07/31/18 06:55	L1A	TAL IRV
Total/NA	Analysis	8015B		1			490722	07/31/18 19:05	LMB	TAL IRV

Client Sample ID: SB-2B-5

Lab Sample ID: 440-216711-15

Date Collected: 07/25/18 13:04

Matrix: Solid

Date Received: 07/26/18 17:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	10 mL	490326	07/26/18 18:50	HR	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490313	07/29/18 19:16	HR	TAL IRV
Total/NA	Prep	5035	RA		4.73 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	490611	07/31/18 09:50	AYL	TAL IRV
Total/NA	Prep	5035			3.63 g	10 mL	490890	08/01/18 08:43	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490757	08/01/18 09:34	IM	TAL IRV
Total/NA	Prep	3546			15.01 g	1 mL	490624	07/31/18 06:55	L1A	TAL IRV
Total/NA	Analysis	8015B		1			490722	07/31/18 18:43	LMB	TAL IRV

Client Sample ID: SB-2B-10

Lab Sample ID: 440-216711-16

Date Collected: 07/25/18 13:16

Matrix: Solid

Date Received: 07/26/18 17:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3.56 g	10 mL	490326	07/26/18 18:50	HR	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490313	07/29/18 19:44	HR	TAL IRV
Total/NA	Prep	5035			4.73 g	10 mL	490707	07/26/18 18:50	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490646	07/31/18 22:56	IM	TAL IRV
Total/NA	Prep	3546			15.01 g	1 mL	490624	07/31/18 06:55	L1A	TAL IRV

Lab Chronicle

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216711-1

Client Sample ID: SB-2B-10

Date Collected: 07/25/18 13:16
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-16

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015B		1			490722	07/31/18 19:49	LMB	TAL IRV

Client Sample ID: SB-1B-5

Date Collected: 07/25/18 12:30
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-17

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.58 g	10 mL	490326	07/26/18 18:50	HR	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490313	07/29/18 20:12	HR	TAL IRV
Total/NA	Prep	5035			4.86 g	10 mL	490707	07/26/18 18:50	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490646	07/31/18 23:23	IM	TAL IRV
Total/NA	Prep	3546			15.03 g	1 mL	490624	07/31/18 06:55	L1A	TAL IRV
Total/NA	Analysis	8015B		1			490722	07/31/18 20:11	LMB	TAL IRV

Client Sample ID: SB-1B-10

Date Collected: 07/25/18 12:43
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-18

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.49 g	10 mL	490326	07/26/18 18:50	HR	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490313	07/29/18 20:40	HR	TAL IRV
Total/NA	Prep	5035			4.61 g	10 mL	490707	07/26/18 18:50	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490757	08/01/18 01:37	IM	TAL IRV
Total/NA	Prep	3546			15.03 g	1 mL	490624	07/31/18 06:55	L1A	TAL IRV
Total/NA	Analysis	8015B		1			490722	07/31/18 19:27	LMB	TAL IRV

Client Sample ID: CPT-LIF-2B-25

Date Collected: 07/25/18 14:30
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-19

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.44 g	10 mL	490326	07/26/18 18:50	HR	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490313	07/29/18 21:07	HR	TAL IRV
Total/NA	Prep	5035			5.47 g	10 mL	490707	07/26/18 18:50	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490757	08/01/18 02:04	IM	TAL IRV
Total/NA	Prep	3546			15.00 g	1 mL	490624	07/31/18 06:55	L1A	TAL IRV
Total/NA	Analysis	8015B		1			490722	07/31/18 23:28	LMB	TAL IRV

Lab Chronicle

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216711-1

Client Sample ID: CPT-LIF-2B-30.5

Date Collected: 07/25/18 14:45
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-20

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.4 g	10 mL	490326	07/26/18 18:50	HR	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490313	07/29/18 21:36	HR	TAL IRV
Total/NA	Prep	5035			4.43 g	10 mL	490890	08/01/18 08:43	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490757	08/01/18 10:00	IM	TAL IRV
Total/NA	Prep	3546			15.02 g	1 mL	490624	07/31/18 06:55	L1A	TAL IRV
Total/NA	Analysis	8015B		1			490722	07/31/18 23:50	LMB	TAL IRV

Client Sample ID: SB-7B-35

Date Collected: 07/25/18 10:50
Date Received: 07/26/18 17:10

Lab Sample ID: 440-216711-21

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.07 g	10 mL	490326	07/26/18 18:50	HR	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490300	07/29/18 11:51	TCN	TAL IRV
Total/NA	Prep	5035			5.5 g	10 mL	490707	07/26/18 18:50	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490757	08/01/18 02:58	IM	TAL IRV
Total/NA	Prep	3546			15.00 g	1 mL	490624	07/31/18 06:55	L1A	TAL IRV
Total/NA	Analysis	8015B		1			490722	08/01/18 00:12	LMB	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-490300/4
Matrix: Solid
Analysis Batch: 490300

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	1.0	ug/Kg			07/29/18 10:28	1
1,1,1-Trichloroethane	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
1,1,2,2-Tetrachloroethane	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
1,1,2-Trichloroethane	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
1,1-Dichloroethane	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
1,1-Dichloroethene	ND		5.0	1.0	ug/Kg			07/29/18 10:28	1
1,1-Dichloropropene	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
1,2,3-Trichlorobenzene	ND		5.0	1.0	ug/Kg			07/29/18 10:28	1
1,2,3-Trichloropropane	ND		10	1.0	ug/Kg			07/29/18 10:28	1
1,2,4-Trichlorobenzene	ND		5.0	1.0	ug/Kg			07/29/18 10:28	1
1,2,4-Trimethylbenzene	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
1,2-Dibromo-3-Chloropropane	ND		5.0	2.0	ug/Kg			07/29/18 10:28	1
1,2-Dibromoethane (EDB)	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
1,2-Dichlorobenzene	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
1,2-Dichloroethane	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
1,2-Dichloropropane	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
1,3,5-Trimethylbenzene	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
1,3-Dichlorobenzene	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
1,3-Dichloropropane	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
1,4-Dichlorobenzene	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
2,2-Dichloropropane	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
2-Chlorotoluene	ND		5.0	1.0	ug/Kg			07/29/18 10:28	1
4-Chlorotoluene	ND		5.0	1.0	ug/Kg			07/29/18 10:28	1
Benzene	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
Bromobenzene	ND		5.0	1.0	ug/Kg			07/29/18 10:28	1
Bromochloromethane	ND		5.0	1.0	ug/Kg			07/29/18 10:28	1
Bromodichloromethane	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
Bromoform	ND		5.0	2.0	ug/Kg			07/29/18 10:28	1
Bromomethane	ND		5.0	1.0	ug/Kg			07/29/18 10:28	1
Carbon tetrachloride	ND		5.0	1.0	ug/Kg			07/29/18 10:28	1
Chlorobenzene	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
Chloroethane	ND		5.0	2.0	ug/Kg			07/29/18 10:28	1
Chloroform	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
Chloromethane	ND		5.0	1.0	ug/Kg			07/29/18 10:28	1
cis-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
cis-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
Dibromochloromethane	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
Dibromomethane	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
Dichlorodifluoromethane	ND		5.0	2.0	ug/Kg			07/29/18 10:28	1
Ethylbenzene	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
Hexachlorobutadiene	ND		5.0	1.0	ug/Kg			07/29/18 10:28	1
Isopropylbenzene	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
m,p-Xylene	ND		4.0	2.0	ug/Kg			07/29/18 10:28	1
Methylene Chloride	ND		20	5.0	ug/Kg			07/29/18 10:28	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0	1.0	ug/Kg			07/29/18 10:28	1
Naphthalene	ND		5.0	2.0	ug/Kg			07/29/18 10:28	1
n-Butylbenzene	ND		5.0	1.0	ug/Kg			07/29/18 10:28	1
N-Propylbenzene	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-490300/4
Matrix: Solid
Analysis Batch: 490300

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
sec-Butylbenzene	ND		5.0	1.0	ug/Kg			07/29/18 10:28	1
Styrene	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
Tert-amyl-methyl ether (TAME)	ND		5.0	1.0	ug/Kg			07/29/18 10:28	1
tert-Butylbenzene	ND		5.0	1.0	ug/Kg			07/29/18 10:28	1
Tetrachloroethene	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
Toluene	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
trans-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
trans-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
Trichloroethene	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1
Trichlorofluoromethane	ND		5.0	1.0	ug/Kg			07/29/18 10:28	1
Vinyl chloride	ND		5.0	1.0	ug/Kg			07/29/18 10:28	1
Xylenes, Total	ND		4.0	2.0	ug/Kg			07/29/18 10:28	1
Isopropyl Ether (DIPE)	ND		5.0	1.0	ug/Kg			07/29/18 10:28	1
Ethyl-t-butyl ether (ETBE)	ND		5.0	1.0	ug/Kg			07/29/18 10:28	1
tert-Butyl alcohol (TBA)	ND		100	10	ug/Kg			07/29/18 10:28	1
p-Isopropyltoluene	ND		2.0	1.0	ug/Kg			07/29/18 10:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*106*		*79 - 123*		*07/29/18 10:28*	*1*
4-Bromofluorobenzene (Surr)	*97*		*79 - 120*		*07/29/18 10:28*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 120*		*07/29/18 10:28*	*1*

Lab Sample ID: LCS 440-490300/5
Matrix: Solid
Analysis Batch: 490300

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	52.2		ug/Kg		104	70 - 130
1,1,1-Trichloroethane	50.0	48.0		ug/Kg		96	65 - 135
1,1,2,2-Tetrachloroethane	50.0	54.6		ug/Kg		109	55 - 140
1,1,2-Trichloroethane	50.0	56.6		ug/Kg		113	65 - 135
1,1-Dichloroethane	50.0	51.5		ug/Kg		103	70 - 130
1,1-Dichloroethene	50.0	50.3		ug/Kg		101	70 - 125
1,1-Dichloropropene	50.0	51.7		ug/Kg		103	70 - 130
1,2,3-Trichlorobenzene	50.0	54.9		ug/Kg		110	60 - 130
1,2,3-Trichloropropane	50.0	53.2		ug/Kg		106	60 - 135
1,2,4-Trichlorobenzene	50.0	55.5		ug/Kg		111	70 - 135
1,2,4-Trimethylbenzene	50.0	52.7		ug/Kg		105	70 - 125
1,2-Dibromo-3-Chloropropane	50.0	50.9		ug/Kg		102	50 - 135
1,2-Dibromoethane (EDB)	50.0	51.6		ug/Kg		103	70 - 130
1,2-Dichlorobenzene	50.0	53.4		ug/Kg		107	75 - 120
1,2-Dichloroethane	50.0	51.4		ug/Kg		103	60 - 140
1,2-Dichloropropane	50.0	54.5		ug/Kg		109	70 - 130
1,3,5-Trimethylbenzene	50.0	52.5		ug/Kg		105	70 - 125
1,3-Dichlorobenzene	50.0	49.9		ug/Kg		100	75 - 125
1,3-Dichloropropane	50.0	55.6		ug/Kg		111	70 - 125
1,4-Dichlorobenzene	50.0	50.0		ug/Kg		100	75 - 120

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-490300/5
Matrix: Solid
Analysis Batch: 490300

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	50.0	50.3		ug/Kg		101	60 - 145
2-Chlorotoluene	50.0	51.0		ug/Kg		102	70 - 125
4-Chlorotoluene	50.0	53.7		ug/Kg		107	75 - 125
Benzene	50.0	51.6		ug/Kg		103	65 - 120
Bromobenzene	50.0	53.8		ug/Kg		108	75 - 120
Bromochloromethane	50.0	52.2		ug/Kg		104	70 - 135
Bromodichloromethane	50.0	50.8		ug/Kg		102	70 - 135
Bromoform	50.0	51.4		ug/Kg		103	55 - 135
Bromomethane	50.0	46.9		ug/Kg		94	60 - 145
Carbon tetrachloride	50.0	47.0		ug/Kg		94	65 - 140
Chlorobenzene	50.0	50.8		ug/Kg		102	75 - 120
Chloroethane	50.0	44.1		ug/Kg		88	60 - 140
Chloroform	50.0	49.7		ug/Kg		99	70 - 130
Chloromethane	50.0	38.3		ug/Kg		77	45 - 145
cis-1,2-Dichloroethene	50.0	53.4		ug/Kg		107	70 - 125
cis-1,3-Dichloropropene	50.0	59.6		ug/Kg		119	75 - 125
Dibromochloromethane	50.0	52.8		ug/Kg		106	65 - 140
Dibromomethane	50.0	52.0		ug/Kg		104	70 - 130
Dichlorodifluoromethane	50.0	34.8		ug/Kg		70	35 - 160
Ethylbenzene	50.0	52.1		ug/Kg		104	70 - 125
Hexachlorobutadiene	50.0	48.8		ug/Kg		98	60 - 135
Isopropylbenzene	50.0	53.0		ug/Kg		106	75 - 130
m,p-Xylene	50.0	55.0		ug/Kg		110	70 - 125
Methylene Chloride	50.0	50.2		ug/Kg		100	55 - 135
Methyl-t-Butyl Ether (MTBE)	50.0	54.7		ug/Kg		109	60 - 140
Naphthalene	50.0	54.9		ug/Kg		110	55 - 135
n-Butylbenzene	50.0	52.5		ug/Kg		105	70 - 130
N-Propylbenzene	50.0	52.7		ug/Kg		105	70 - 130
o-Xylene	50.0	55.9		ug/Kg		112	70 - 125
sec-Butylbenzene	50.0	51.9		ug/Kg		104	70 - 125
Styrene	50.0	50.9		ug/Kg		102	75 - 130
Tert-amyl-methyl ether (TAME)	50.0	53.8		ug/Kg		108	60 - 145
tert-Butylbenzene	50.0	53.6		ug/Kg		107	70 - 125
Tetrachloroethene	50.0	49.4		ug/Kg		99	70 - 125
Toluene	50.0	53.4		ug/Kg		107	70 - 125
trans-1,2-Dichloroethene	50.0	53.4		ug/Kg		107	70 - 125
trans-1,3-Dichloropropene	50.0	52.9		ug/Kg		106	70 - 135
Trichloroethene	50.0	49.9		ug/Kg		100	70 - 125
Trichlorofluoromethane	50.0	41.4		ug/Kg		83	60 - 145
Vinyl chloride	50.0	37.9		ug/Kg		76	55 - 135
Isopropyl Ether (DIPE)	50.0	54.4		ug/Kg		109	60 - 140
Ethyl-t-butyl ether (ETBE)	50.0	56.3		ug/Kg		113	60 - 140
tert-Butyl alcohol (TBA)	500	535		ug/Kg		107	70 - 135
p-Isopropyltoluene	50.0	51.9		ug/Kg		104	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*79 - 123*
4-Bromofluorobenzene (Surr)	*100*		*79 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-490300/5
Matrix: Solid
Analysis Batch: 490300

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Dibromofluoromethane (Surr)	*97*		*60 - 120*

Lab Sample ID: LCSD 440-490300/6
Matrix: Solid
Analysis Batch: 490300

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane			50.0	51.4		ug/Kg		103	70 - 130	2	20
1,1,1-Trichloroethane			50.0	48.2		ug/Kg		96	65 - 135	0	20
1,1,2,2-Tetrachloroethane			50.0	54.5		ug/Kg		109	55 - 140	0	30
1,1,2-Trichloroethane			50.0	55.3		ug/Kg		111	65 - 135	2	20
1,1-Dichloroethane			50.0	51.2		ug/Kg		102	70 - 130	1	20
1,1-Dichloroethene			50.0	50.0		ug/Kg		100	70 - 125	1	20
1,1-Dichloropropene			50.0	51.2		ug/Kg		102	70 - 130	1	20
1,2,3-Trichlorobenzene			50.0	54.2		ug/Kg		108	60 - 130	1	20
1,2,3-Trichloropropane			50.0	53.6		ug/Kg		107	60 - 135	1	25
1,2,4-Trichlorobenzene			50.0	54.9		ug/Kg		110	70 - 135	1	20
1,2,4-Trimethylbenzene			50.0	52.3		ug/Kg		105	70 - 125	1	20
1,2-Dibromo-3-Chloropropane			50.0	50.4		ug/Kg		101	50 - 135	1	30
1,2-Dibromoethane (EDB)			50.0	51.1		ug/Kg		102	70 - 130	1	20
1,2-Dichlorobenzene			50.0	53.3		ug/Kg		107	75 - 120	0	20
1,2-Dichloroethane			50.0	51.7		ug/Kg		103	60 - 140	1	20
1,2-Dichloropropane			50.0	54.6		ug/Kg		109	70 - 130	0	20
1,3,5-Trimethylbenzene			50.0	52.9		ug/Kg		106	70 - 125	1	20
1,3-Dichlorobenzene			50.0	50.3		ug/Kg		101	75 - 125	1	20
1,3-Dichloropropane			50.0	55.4		ug/Kg		111	70 - 125	0	20
1,4-Dichlorobenzene			50.0	49.5		ug/Kg		99	75 - 120	1	20
2,2-Dichloropropane			50.0	51.3		ug/Kg		103	60 - 145	2	20
2-Chlorotoluene			50.0	51.8		ug/Kg		104	70 - 125	2	20
4-Chlorotoluene			50.0	53.4		ug/Kg		107	75 - 125	1	20
Benzene			50.0	52.0		ug/Kg		104	65 - 120	1	20
Bromobenzene			50.0	53.7		ug/Kg		107	75 - 120	0	20
Bromochloromethane			50.0	52.2		ug/Kg		104	70 - 135	0	20
Bromodichloromethane			50.0	50.6		ug/Kg		101	70 - 135	0	20
Bromoform			50.0	52.0		ug/Kg		104	55 - 135	1	25
Bromomethane			50.0	47.6		ug/Kg		95	60 - 145	2	20
Carbon tetrachloride			50.0	46.3		ug/Kg		93	65 - 140	1	20
Chlorobenzene			50.0	50.9		ug/Kg		102	75 - 120	0	20
Chloroethane			50.0	44.2		ug/Kg		88	60 - 140	0	25
Chloroform			50.0	49.3		ug/Kg		99	70 - 130	1	20
Chloromethane			50.0	39.8		ug/Kg		80	45 - 145	4	25
cis-1,2-Dichloroethene			50.0	55.0		ug/Kg		110	70 - 125	3	20
cis-1,3-Dichloropropene			50.0	59.9		ug/Kg		120	75 - 125	0	20
Dibromochloromethane			50.0	52.6		ug/Kg		105	65 - 140	0	20
Dibromomethane			50.0	53.2		ug/Kg		106	70 - 130	2	20
Dichlorodifluoromethane			50.0	34.5		ug/Kg		69	35 - 160	1	30
Ethylbenzene			50.0	52.3		ug/Kg		105	70 - 125	0	20
Hexachlorobutadiene			50.0	47.8		ug/Kg		96	60 - 135	2	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-490300/6
Matrix: Solid
Analysis Batch: 490300

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Isopropylbenzene			50.0	52.8		ug/Kg		106	75 - 130	0	20
m,p-Xylene			50.0	55.5		ug/Kg		111	70 - 125	1	20
Methylene Chloride			50.0	53.2		ug/Kg		106	55 - 135	6	20
Methyl-t-Butyl Ether (MTBE)			50.0	54.8		ug/Kg		110	60 - 140	0	25
Naphthalene			50.0	53.6		ug/Kg		107	55 - 135	2	25
n-Butylbenzene			50.0	51.5		ug/Kg		103	70 - 130	2	20
N-Propylbenzene			50.0	53.7		ug/Kg		107	70 - 130	2	20
o-Xylene			50.0	55.7		ug/Kg		111	70 - 125	0	20
sec-Butylbenzene			50.0	52.1		ug/Kg		104	70 - 125	0	20
Styrene			50.0	51.1		ug/Kg		102	75 - 130	0	20
Tert-amyl-methyl ether (TAME)			50.0	53.0		ug/Kg		106	60 - 145	1	20
tert-Butylbenzene			50.0	53.7		ug/Kg		107	70 - 125	0	20
Tetrachloroethene			50.0	49.8		ug/Kg		100	70 - 125	1	20
Toluene			50.0	52.7		ug/Kg		105	70 - 125	1	20
trans-1,2-Dichloroethene			50.0	54.0		ug/Kg		108	70 - 125	1	20
trans-1,3-Dichloropropene			50.0	53.3		ug/Kg		107	70 - 135	1	20
Trichloroethene			50.0	50.1		ug/Kg		100	70 - 125	0	20
Trichlorofluoromethane			50.0	41.1		ug/Kg		82	60 - 145	1	25
Vinyl chloride			50.0	37.6		ug/Kg		75	55 - 135	1	25
Isopropyl Ether (DIPE)			50.0	55.2		ug/Kg		110	60 - 140	2	20
Ethyl-t-butyl ether (ETBE)			50.0	56.0		ug/Kg		112	60 - 140	0	20
tert-Butyl alcohol (TBA)			500	528		ug/Kg		106	70 - 135	1	20
p-Isopropyltoluene			50.0	52.3		ug/Kg		105	75 - 125	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*79 - 123*
4-Bromofluorobenzene (Surr)	*98*		*79 - 120*
Dibromofluoromethane (Surr)	*98*		*60 - 120*

Lab Sample ID: MB 440-490313/4
Matrix: Solid
Analysis Batch: 490313

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	1.0	ug/Kg			07/29/18 11:15	1
1,1,1-Trichloroethane	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
1,1,2,2-Tetrachloroethane	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
1,1,2-Trichloroethane	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
1,1-Dichloroethane	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
1,1-Dichloroethene	ND		5.0	1.0	ug/Kg			07/29/18 11:15	1
1,1-Dichloropropene	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
1,2,3-Trichlorobenzene	ND		5.0	1.0	ug/Kg			07/29/18 11:15	1
1,2,3-Trichloropropane	ND		10	1.0	ug/Kg			07/29/18 11:15	1
1,2,4-Trichlorobenzene	ND		5.0	1.0	ug/Kg			07/29/18 11:15	1
1,2,4-Trimethylbenzene	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
1,2-Dibromo-3-Chloropropane	ND		5.0	2.0	ug/Kg			07/29/18 11:15	1
1,2-Dibromoethane (EDB)	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
1,2-Dichlorobenzene	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-490313/4
Matrix: Solid
Analysis Batch: 490313

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
1,2-Dichloropropane	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
1,3,5-Trimethylbenzene	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
1,3-Dichlorobenzene	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
1,3-Dichloropropane	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
1,4-Dichlorobenzene	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
2,2-Dichloropropane	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
2-Chlorotoluene	ND		5.0	1.0	ug/Kg			07/29/18 11:15	1
4-Chlorotoluene	ND		5.0	1.0	ug/Kg			07/29/18 11:15	1
Benzene	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
Bromobenzene	ND		5.0	1.0	ug/Kg			07/29/18 11:15	1
Bromochloromethane	ND		5.0	1.0	ug/Kg			07/29/18 11:15	1
Bromodichloromethane	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
Bromoform	ND		5.0	2.0	ug/Kg			07/29/18 11:15	1
Bromomethane	ND		5.0	1.0	ug/Kg			07/29/18 11:15	1
Carbon tetrachloride	ND		5.0	1.0	ug/Kg			07/29/18 11:15	1
Chlorobenzene	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
Chloroethane	ND		5.0	2.0	ug/Kg			07/29/18 11:15	1
Chloroform	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
Chloromethane	ND		5.0	1.0	ug/Kg			07/29/18 11:15	1
cis-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
cis-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
Dibromochloromethane	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
Dibromomethane	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
Dichlorodifluoromethane	ND		5.0	2.0	ug/Kg			07/29/18 11:15	1
Ethylbenzene	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
Hexachlorobutadiene	ND		5.0	1.0	ug/Kg			07/29/18 11:15	1
Isopropylbenzene	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
m,p-Xylene	ND		4.0	2.0	ug/Kg			07/29/18 11:15	1
Methylene Chloride	ND		20	5.0	ug/Kg			07/29/18 11:15	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0	1.0	ug/Kg			07/29/18 11:15	1
Naphthalene	ND		5.0	2.0	ug/Kg			07/29/18 11:15	1
n-Butylbenzene	ND		5.0	1.0	ug/Kg			07/29/18 11:15	1
N-Propylbenzene	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
o-Xylene	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
sec-Butylbenzene	ND		5.0	1.0	ug/Kg			07/29/18 11:15	1
Styrene	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
Tert-amyl-methyl ether (TAME)	ND		5.0	1.0	ug/Kg			07/29/18 11:15	1
tert-Butylbenzene	ND		5.0	1.0	ug/Kg			07/29/18 11:15	1
Tetrachloroethene	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
Toluene	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
trans-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
trans-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
Trichloroethene	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1
Trichlorofluoromethane	ND		5.0	1.0	ug/Kg			07/29/18 11:15	1
Vinyl chloride	ND		5.0	1.0	ug/Kg			07/29/18 11:15	1
Xylenes, Total	ND		4.0	2.0	ug/Kg			07/29/18 11:15	1
Isopropyl Ether (DIPE)	ND		5.0	1.0	ug/Kg			07/29/18 11:15	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-490313/4
Matrix: Solid
Analysis Batch: 490313

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl-t-butyl ether (ETBE)	ND		5.0	1.0	ug/Kg			07/29/18 11:15	1
tert-Butyl alcohol (TBA)	ND		100	10	ug/Kg			07/29/18 11:15	1
p-Isopropyltoluene	ND		2.0	1.0	ug/Kg			07/29/18 11:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*79 - 123*		*07/29/18 11:15*	*1*
4-Bromofluorobenzene (Surr)	*101*		*79 - 120*		*07/29/18 11:15*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 120*		*07/29/18 11:15*	*1*

Lab Sample ID: LCS 440-490313/5
Matrix: Solid
Analysis Batch: 490313

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	50.6		ug/Kg		101	70 - 130
1,1,1-Trichloroethane	50.0	52.0		ug/Kg		104	65 - 135
1,1,2,2-Tetrachloroethane	50.0	59.3		ug/Kg		119	55 - 140
1,1,2-Trichloroethane	50.0	57.3		ug/Kg		115	65 - 135
1,1-Dichloroethane	50.0	51.0		ug/Kg		102	70 - 130
1,1-Dichloroethene	50.0	50.4		ug/Kg		101	70 - 125
1,1-Dichloropropene	50.0	51.9		ug/Kg		104	70 - 130
1,2,3-Trichlorobenzene	50.0	59.5		ug/Kg		119	60 - 130
1,2,3-Trichloropropane	50.0	56.7		ug/Kg		113	60 - 135
1,2,4-Trichlorobenzene	50.0	54.1		ug/Kg		108	70 - 135
1,2,4-Trimethylbenzene	50.0	54.4		ug/Kg		109	70 - 125
1,2-Dibromo-3-Chloropropane	50.0	54.9		ug/Kg		110	50 - 135
1,2-Dibromoethane (EDB)	50.0	55.9		ug/Kg		112	70 - 130
1,2-Dichlorobenzene	50.0	53.1		ug/Kg		106	75 - 120
1,2-Dichloroethane	50.0	52.3		ug/Kg		105	60 - 140
1,2-Dichloropropane	50.0	52.4		ug/Kg		105	70 - 130
1,3,5-Trimethylbenzene	50.0	53.4		ug/Kg		107	70 - 125
1,3-Dichlorobenzene	50.0	52.4		ug/Kg		105	75 - 125
1,3-Dichloropropane	50.0	57.7		ug/Kg		115	70 - 125
1,4-Dichlorobenzene	50.0	55.3		ug/Kg		111	75 - 120
2,2-Dichloropropane	50.0	57.0		ug/Kg		114	60 - 145
2-Chlorotoluene	50.0	55.0		ug/Kg		110	70 - 125
4-Chlorotoluene	50.0	54.3		ug/Kg		109	75 - 125
Benzene	50.0	50.7		ug/Kg		101	65 - 120
Bromobenzene	50.0	53.9		ug/Kg		108	75 - 120
Bromochloromethane	50.0	51.6		ug/Kg		103	70 - 135
Bromodichloromethane	50.0	52.7		ug/Kg		105	70 - 135
Bromoform	50.0	60.4		ug/Kg		121	55 - 135
Bromomethane	50.0	43.8		ug/Kg		88	60 - 145
Carbon tetrachloride	50.0	51.4		ug/Kg		103	65 - 140
Chlorobenzene	50.0	51.5		ug/Kg		103	75 - 120
Chloroethane	50.0	41.2		ug/Kg		82	60 - 140
Chloroform	50.0	50.9		ug/Kg		102	70 - 130
Chloromethane	50.0	34.1		ug/Kg		68	45 - 145

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-490313/5
Matrix: Solid
Analysis Batch: 490313

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	50.0	50.9		ug/Kg		102	70 - 125
cis-1,3-Dichloropropene	50.0	59.3		ug/Kg		119	75 - 125
Dibromochloromethane	50.0	54.2		ug/Kg		108	65 - 140
Dibromomethane	50.0	48.9		ug/Kg		98	70 - 130
Dichlorodifluoromethane	50.0	29.1		ug/Kg		58	35 - 160
Ethylbenzene	50.0	52.3		ug/Kg		105	70 - 125
Hexachlorobutadiene	50.0	56.2		ug/Kg		112	60 - 135
Isopropylbenzene	50.0	52.5		ug/Kg		105	75 - 130
m,p-Xylene	50.0	50.5		ug/Kg		101	70 - 125
Methylene Chloride	50.0	46.7		ug/Kg		93	55 - 135
Methyl-t-Butyl Ether (MTBE)	50.0	52.8		ug/Kg		106	60 - 140
Naphthalene	50.0	61.0		ug/Kg		122	55 - 135
n-Butylbenzene	50.0	55.8		ug/Kg		112	70 - 130
N-Propylbenzene	50.0	56.3		ug/Kg		113	70 - 130
o-Xylene	50.0	53.6		ug/Kg		107	70 - 125
sec-Butylbenzene	50.0	55.9		ug/Kg		112	70 - 125
Styrene	50.0	52.1		ug/Kg		104	75 - 130
Tert-amyl-methyl ether (TAME)	50.0	52.8		ug/Kg		106	60 - 145
tert-Butylbenzene	50.0	52.2		ug/Kg		104	70 - 125
Tetrachloroethene	50.0	53.1		ug/Kg		106	70 - 125
Toluene	50.0	56.5		ug/Kg		113	70 - 125
trans-1,2-Dichloroethene	50.0	50.1		ug/Kg		100	70 - 125
trans-1,3-Dichloropropene	50.0	54.3		ug/Kg		109	70 - 135
Trichloroethene	50.0	55.6		ug/Kg		111	70 - 125
Trichlorofluoromethane	50.0	46.2		ug/Kg		92	60 - 145
Vinyl chloride	50.0	40.6		ug/Kg		81	55 - 135
Isopropyl Ether (DIPE)	50.0	54.8		ug/Kg		110	60 - 140
Ethyl-t-butyl ether (ETBE)	50.0	53.6		ug/Kg		107	60 - 140
tert-Butyl alcohol (TBA)	500	551		ug/Kg		110	70 - 135
p-Isopropyltoluene	50.0	55.4		ug/Kg		111	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*104*		*79 - 123*
4-Bromofluorobenzene (Surr)	*103*		*79 - 120*
Dibromofluoromethane (Surr)	*105*		*60 - 120*

Lab Sample ID: LCSD 440-490313/6
Matrix: Solid
Analysis Batch: 490313

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	50.0	51.8		ug/Kg		104	70 - 130	2	20
1,1,1-Trichloroethane	50.0	50.6		ug/Kg		101	65 - 135	3	20
1,1,2,2-Tetrachloroethane	50.0	58.8		ug/Kg		118	55 - 140	1	30
1,1,2-Trichloroethane	50.0	65.5		ug/Kg		131	65 - 135	13	20
1,1-Dichloroethane	50.0	51.1		ug/Kg		102	70 - 130	0	20
1,1-Dichloroethene	50.0	47.7		ug/Kg		95	70 - 125	5	20
1,1-Dichloropropene	50.0	50.3		ug/Kg		101	70 - 130	3	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-490313/6
Matrix: Solid
Analysis Batch: 490313

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichlorobenzene	50.0	61.1		ug/Kg		122	60 - 130	3	20
1,2,3-Trichloropropane	50.0	57.9		ug/Kg		116	60 - 135	2	25
1,2,4-Trichlorobenzene	50.0	54.0		ug/Kg		108	70 - 135	0	20
1,2,4-Trimethylbenzene	50.0	53.4		ug/Kg		107	70 - 125	2	20
1,2-Dibromo-3-Chloropropane	50.0	58.9		ug/Kg		118	50 - 135	7	30
1,2-Dibromoethane (EDB)	50.0	56.6		ug/Kg		113	70 - 130	1	20
1,2-Dichlorobenzene	50.0	51.6		ug/Kg		103	75 - 120	3	20
1,2-Dichloroethane	50.0	53.4		ug/Kg		107	60 - 140	2	20
1,2-Dichloropropane	50.0	53.2		ug/Kg		106	70 - 130	2	20
1,3,5-Trimethylbenzene	50.0	55.9		ug/Kg		112	70 - 125	4	20
1,3-Dichlorobenzene	50.0	53.7		ug/Kg		107	75 - 125	2	20
1,3-Dichloropropane	50.0	57.3		ug/Kg		115	70 - 125	1	20
1,4-Dichlorobenzene	50.0	54.0		ug/Kg		108	75 - 120	2	20
2,2-Dichloropropane	50.0	53.5		ug/Kg		107	60 - 145	6	20
2-Chlorotoluene	50.0	54.7		ug/Kg		109	70 - 125	1	20
4-Chlorotoluene	50.0	53.8		ug/Kg		108	75 - 125	1	20
Benzene	50.0	52.9		ug/Kg		106	65 - 120	4	20
Bromobenzene	50.0	53.8		ug/Kg		108	75 - 120	0	20
Bromochloromethane	50.0	50.2		ug/Kg		100	70 - 135	3	20
Bromodichloromethane	50.0	54.8		ug/Kg		110	70 - 135	4	20
Bromoform	50.0	57.9		ug/Kg		116	55 - 135	4	25
Bromomethane	50.0	45.8		ug/Kg		92	60 - 145	4	20
Carbon tetrachloride	50.0	51.2		ug/Kg		102	65 - 140	0	20
Chlorobenzene	50.0	53.7		ug/Kg		107	75 - 120	4	20
Chloroethane	50.0	39.6		ug/Kg		79	60 - 140	4	25
Chloroform	50.0	53.0		ug/Kg		106	70 - 130	4	20
Chloromethane	50.0	32.7		ug/Kg		65	45 - 145	4	25
cis-1,2-Dichloroethene	50.0	51.6		ug/Kg		103	70 - 125	1	20
cis-1,3-Dichloropropene	50.0	61.3		ug/Kg		123	75 - 125	3	20
Dibromochloromethane	50.0	54.7		ug/Kg		109	65 - 140	1	20
Dibromomethane	50.0	51.8		ug/Kg		104	70 - 130	6	20
Dichlorodifluoromethane	50.0	26.6		ug/Kg		53	35 - 160	9	30
Ethylbenzene	50.0	54.7		ug/Kg		109	70 - 125	5	20
Hexachlorobutadiene	50.0	51.9		ug/Kg		104	60 - 135	8	20
Isopropylbenzene	50.0	54.8		ug/Kg		110	75 - 130	4	20
m,p-Xylene	50.0	55.8		ug/Kg		112	70 - 125	10	20
Methylene Chloride	50.0	43.7		ug/Kg		87	55 - 135	7	20
Methyl-t-Butyl Ether (MTBE)	50.0	50.7		ug/Kg		101	60 - 140	4	25
Naphthalene	50.0	59.6		ug/Kg		119	55 - 135	2	25
n-Butylbenzene	50.0	54.8		ug/Kg		110	70 - 130	2	20
N-Propylbenzene	50.0	55.8		ug/Kg		112	70 - 130	1	20
o-Xylene	50.0	56.5		ug/Kg		113	70 - 125	5	20
sec-Butylbenzene	50.0	54.9		ug/Kg		110	70 - 125	2	20
Styrene	50.0	55.4		ug/Kg		111	75 - 130	6	20
Tert-amyl-methyl ether (TAME)	50.0	51.9		ug/Kg		104	60 - 145	2	20
tert-Butylbenzene	50.0	53.8		ug/Kg		108	70 - 125	3	20
Tetrachloroethene	50.0	54.7		ug/Kg		109	70 - 125	3	20
Toluene	50.0	58.0		ug/Kg		116	70 - 125	3	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-490313/6
Matrix: Solid
Analysis Batch: 490313

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
trans-1,2-Dichloroethene			50.0	51.6		ug/Kg		103	70 - 125	3	20
trans-1,3-Dichloropropene			50.0	58.8		ug/Kg		118	70 - 135	8	20
Trichloroethene			50.0	54.8		ug/Kg		110	70 - 125	1	20
Trichlorofluoromethane			50.0	44.5		ug/Kg		89	60 - 145	4	25
Vinyl chloride			50.0	37.9		ug/Kg		76	55 - 135	7	25
Isopropyl Ether (DIPE)			50.0	53.8		ug/Kg		108	60 - 140	2	20
Ethyl-t-butyl ether (ETBE)			50.0	54.0		ug/Kg		108	60 - 140	1	20
tert-Butyl alcohol (TBA)			500	562		ug/Kg		112	70 - 135	2	20
p-Isopropyltoluene			50.0	53.4		ug/Kg		107	75 - 125	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*79 - 123*
4-Bromofluorobenzene (Surr)	*105*		*79 - 120*
Dibromofluoromethane (Surr)	*101*		*60 - 120*

Lab Sample ID: MB 440-490611/4
Matrix: Solid
Analysis Batch: 490611

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
1,3,5-Trimethylbenzene	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
Naphthalene	ND		5.0	2.0	ug/Kg			07/31/18 08:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*109*		*79 - 123*		*07/31/18 08:26*	*1*
4-Bromofluorobenzene (Surr)	*105*		*79 - 120*		*07/31/18 08:26*	*1*
Dibromofluoromethane (Surr)	*94*		*60 - 120*		*07/31/18 08:26*	*1*

Lab Sample ID: LCS 440-490611/5
Matrix: Solid
Analysis Batch: 490611

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,2,4-Trimethylbenzene			50.0	58.0		ug/Kg		116	70 - 125		
1,3,5-Trimethylbenzene			50.0	57.4		ug/Kg		115	70 - 125		
Naphthalene			50.0	60.9		ug/Kg		122	55 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*79 - 123*
4-Bromofluorobenzene (Surr)	*104*		*79 - 120*
Dibromofluoromethane (Surr)	*103*		*60 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-490611/6
Matrix: Solid
Analysis Batch: 490611

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trimethylbenzene			50.0	55.6		ug/Kg		111	70 - 125	4	20
1,3,5-Trimethylbenzene			50.0	55.9		ug/Kg		112	70 - 125	3	20
Naphthalene			50.0	57.9		ug/Kg		116	55 - 135	5	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*79 - 123*
4-Bromofluorobenzene (Surr)	*106*		*79 - 120*
Dibromofluoromethane (Surr)	*101*		*60 - 120*

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 440-490646/5
Matrix: Solid
Analysis Batch: 490646

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		400	150	ug/Kg			07/31/18 10:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*124*		*65 - 140*		*07/31/18 10:39*	*1*

Lab Sample ID: LCS 440-490646/3
Matrix: Solid
Analysis Batch: 490646

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
GRO (C4-C12)			1600	1390		ug/Kg		87	70 - 135

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*113*		*65 - 140*

Lab Sample ID: LCSD 440-490646/4
Matrix: Solid
Analysis Batch: 490646

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)			1600	1520		ug/Kg		95	70 - 135	8	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*135*		*65 - 140*

Lab Sample ID: 440-216290-E-12 MS
Matrix: Solid
Analysis Batch: 490646

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
GRO (C4-C12)	240	J F1	1590	1130	F1	ug/Kg		56	60 - 140

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*116*		*65 - 140*

Lab Sample ID: 440-216290-E-12 MSD
Matrix: Solid
Analysis Batch: 490646

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)	240	J F1	1590	1020	F1	ug/Kg		49	60 - 140	10	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*109*		*65 - 140*

Lab Sample ID: MB 440-490757/46
Matrix: Solid
Analysis Batch: 490757

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		400	150	ug/Kg			08/01/18 07:28	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*119*		*65 - 140*		*08/01/18 07:28*	*1*

Lab Sample ID: LCS 440-490757/33
Matrix: Solid
Analysis Batch: 490757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
GRO (C4-C12)	1600	1440		ug/Kg		90	70 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*114*		*65 - 140*

Lab Sample ID: LCSD 440-490757/34
Matrix: Solid
Analysis Batch: 490757

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)	1600	1420		ug/Kg		89	70 - 135	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*118*		*65 - 140*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 440-490620/1-A
Matrix: Solid
Analysis Batch: 490723

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 490620

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		07/31/18 06:42	07/31/18 13:49	1
C23-C40	2.93	J	5.0	2.5	mg/Kg		07/31/18 06:42	07/31/18 13:49	1
C8 - C18	ND		5.0	2.5	mg/Kg		07/31/18 06:42	07/31/18 13:49	1

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 440-490620/1-A
Matrix: Solid
Analysis Batch: 490723

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 490620

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	83		40 - 140	07/31/18 06:42	07/31/18 13:49	1

Lab Sample ID: LCS 440-490620/2-A
Matrix: Solid
Analysis Batch: 490723

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 490620

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C10-C28	66.7	53.2		mg/Kg		80	45 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
n-Octacosane	81		40 - 140

Lab Sample ID: 440-215686-A-21-A MS
Matrix: Solid
Analysis Batch: 490723

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 490620

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
C10-C28	12	B	66.5	68.0		mg/Kg		85	40 - 120

Surrogate	MS %Recovery	MS Qualifier	Limits
n-Octacosane	81		40 - 140

Lab Sample ID: 440-215686-A-21-B MSD
Matrix: Solid
Analysis Batch: 490723

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 490620

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28	12	B	66.5	64.4		mg/Kg		79	40 - 120	5	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
n-Octacosane	80		40 - 140

Lab Sample ID: MB 440-490624/1-A
Matrix: Solid
Analysis Batch: 490722

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 490624

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 16:01	1
C23-C40	ND		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 16:01	1
C8 - C18	ND		5.0	2.5	mg/Kg		07/31/18 06:55	07/31/18 16:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	88		40 - 140	07/31/18 06:55	07/31/18 16:01	1

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 440-490624/2-A
Matrix: Solid
Analysis Batch: 490722

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 490624

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C10-C28			66.7	54.9		mg/Kg		82	45 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane	*83*		*40 - 140*

Lab Sample ID: 440-216711-8 MS
Matrix: Solid
Analysis Batch: 490722

Client Sample ID: SB-5B-10
Prep Type: Total/NA
Prep Batch: 490624

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
C10-C28	26		66.7	82.1		mg/Kg		84	40 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
n-Octacosane	*82*		*40 - 140*

Lab Sample ID: 440-216711-8 MSD
Matrix: Solid
Analysis Batch: 490722

Client Sample ID: SB-5B-10
Prep Type: Total/NA
Prep Batch: 490624

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28	26		66.5	84.2		mg/Kg		87	40 - 120	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
n-Octacosane	*85*		*40 - 140*

GC/MS VOA

Analysis Batch: 490300

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216711-21	SB-7B-35	Total/NA	Solid	8260B	490326
MB 440-490300/4	Method Blank	Total/NA	Solid	8260B	
LCS 440-490300/5	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 440-490300/6	Lab Control Sample Dup	Total/NA	Solid	8260B	

Analysis Batch: 490313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216711-1	SB-7B-5	Total/NA	Solid	8260B	490326
440-216711-2	SB-7B-10	Total/NA	Solid	8260B	490326
440-216711-3	SB-6B-5	Total/NA	Solid	8260B	490326
440-216711-4	SB-6B-10	Total/NA	Solid	8260B	490326
440-216711-5	CPT-LIF-3B-28	Total/NA	Solid	8260B	490326
440-216711-6	CPT-LIF-3B-30.5	Total/NA	Solid	8260B	490326
440-216711-7	SB-5B-5	Total/NA	Solid	8260B	490326
440-216711-8	SB-5B-10	Total/NA	Solid	8260B	490326
440-216711-9	SB-7B-15	Total/NA	Solid	8260B	490326
440-216711-10	SB-7B-20	Total/NA	Solid	8260B	490326
440-216711-11	SB-7B-25	Total/NA	Solid	8260B	490326
440-216711-12	SB-7B-30	Total/NA	Solid	8260B	490326
440-216711-13	CPT-LIF-4B-27	Total/NA	Solid	8260B	490326
440-216711-14	CPT-LIF-4B-29.5	Total/NA	Solid	8260B	490326
440-216711-15	SB-2B-5	Total/NA	Solid	8260B	490326
440-216711-16	SB-2B-10	Total/NA	Solid	8260B	490326
440-216711-17	SB-1B-5	Total/NA	Solid	8260B	490326
440-216711-18	SB-1B-10	Total/NA	Solid	8260B	490326
440-216711-19	CPT-LIF-2B-25	Total/NA	Solid	8260B	490326
440-216711-20	CPT-LIF-2B-30.5	Total/NA	Solid	8260B	490326
MB 440-490313/4	Method Blank	Total/NA	Solid	8260B	
LCS 440-490313/5	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 440-490313/6	Lab Control Sample Dup	Total/NA	Solid	8260B	

Prep Batch: 490326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216711-1	SB-7B-5	Total/NA	Solid	5035	
440-216711-2	SB-7B-10	Total/NA	Solid	5035	
440-216711-3	SB-6B-5	Total/NA	Solid	5035	
440-216711-4	SB-6B-10	Total/NA	Solid	5035	
440-216711-5	CPT-LIF-3B-28	Total/NA	Solid	5035	
440-216711-6	CPT-LIF-3B-30.5	Total/NA	Solid	5035	
440-216711-7	SB-5B-5	Total/NA	Solid	5035	
440-216711-8	SB-5B-10	Total/NA	Solid	5035	
440-216711-9	SB-7B-15	Total/NA	Solid	5035	
440-216711-10	SB-7B-20	Total/NA	Solid	5035	
440-216711-11	SB-7B-25	Total/NA	Solid	5035	
440-216711-12	SB-7B-30	Total/NA	Solid	5035	
440-216711-13	CPT-LIF-4B-27	Total/NA	Solid	5035	
440-216711-14	CPT-LIF-4B-29.5	Total/NA	Solid	5035	
440-216711-15	SB-2B-5	Total/NA	Solid	5035	
440-216711-16	SB-2B-10	Total/NA	Solid	5035	
440-216711-17	SB-1B-5	Total/NA	Solid	5035	
440-216711-18	SB-1B-10	Total/NA	Solid	5035	

GC/MS VOA (Continued)

Prep Batch: 490326 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216711-19	CPT-LIF-2B-25	Total/NA	Solid	5035	
440-216711-20	CPT-LIF-2B-30.5	Total/NA	Solid	5035	
440-216711-21	SB-7B-35	Total/NA	Solid	5035	

Analysis Batch: 490611

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216711-15 - RA	SB-2B-5	Total/NA	Solid	8260B	490642
MB 440-490611/4	Method Blank	Total/NA	Solid	8260B	
LCS 440-490611/5	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 440-490611/6	Lab Control Sample Dup	Total/NA	Solid	8260B	

Prep Batch: 490642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216711-15 - RA	SB-2B-5	Total/NA	Solid	5035	

GC VOA

Analysis Batch: 490646

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216711-1	SB-7B-5	Total/NA	Solid	8015B	490707
440-216711-2	SB-7B-10	Total/NA	Solid	8015B	490707
440-216711-3	SB-6B-5	Total/NA	Solid	8015B	490707
440-216711-4	SB-6B-10	Total/NA	Solid	8015B	490707
440-216711-5	CPT-LIF-3B-28	Total/NA	Solid	8015B	490707
440-216711-6	CPT-LIF-3B-30.5	Total/NA	Solid	8015B	490707
440-216711-7	SB-5B-5	Total/NA	Solid	8015B	490707
440-216711-8	SB-5B-10	Total/NA	Solid	8015B	490707
440-216711-9	SB-7B-15	Total/NA	Solid	8015B	490707
440-216711-10	SB-7B-20	Total/NA	Solid	8015B	490707
440-216711-11	SB-7B-25	Total/NA	Solid	8015B	490707
440-216711-12	SB-7B-30	Total/NA	Solid	8015B	490707
440-216711-13	CPT-LIF-4B-27	Total/NA	Solid	8015B	490707
440-216711-16	SB-2B-10	Total/NA	Solid	8015B	490707
440-216711-17	SB-1B-5	Total/NA	Solid	8015B	490707
MB 440-490646/5	Method Blank	Total/NA	Solid	8015B	
LCS 440-490646/3	Lab Control Sample	Total/NA	Solid	8015B	
LCSD 440-490646/4	Lab Control Sample Dup	Total/NA	Solid	8015B	
440-216290-E-12 MS	Matrix Spike	Total/NA	Solid	8015B	
440-216290-E-12 MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	

Prep Batch: 490707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216711-1	SB-7B-5	Total/NA	Solid	5035	
440-216711-2	SB-7B-10	Total/NA	Solid	5035	
440-216711-3	SB-6B-5	Total/NA	Solid	5035	
440-216711-4	SB-6B-10	Total/NA	Solid	5035	
440-216711-5	CPT-LIF-3B-28	Total/NA	Solid	5035	
440-216711-6	CPT-LIF-3B-30.5	Total/NA	Solid	5035	
440-216711-7	SB-5B-5	Total/NA	Solid	5035	
440-216711-8	SB-5B-10	Total/NA	Solid	5035	

GC VOA (Continued)

Prep Batch: 490707 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216711-9	SB-7B-15	Total/NA	Solid	5035	
440-216711-10	SB-7B-20	Total/NA	Solid	5035	
440-216711-11	SB-7B-25	Total/NA	Solid	5035	
440-216711-12	SB-7B-30	Total/NA	Solid	5035	
440-216711-13	CPT-LIF-4B-27	Total/NA	Solid	5035	
440-216711-16	SB-2B-10	Total/NA	Solid	5035	
440-216711-17	SB-1B-5	Total/NA	Solid	5035	
440-216711-18	SB-1B-10	Total/NA	Solid	5035	
440-216711-19	CPT-LIF-2B-25	Total/NA	Solid	5035	
440-216711-21	SB-7B-35	Total/NA	Solid	5035	

Analysis Batch: 490757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216711-14	CPT-LIF-4B-29.5	Total/NA	Solid	8015B	490890
440-216711-15	SB-2B-5	Total/NA	Solid	8015B	490890
440-216711-18	SB-1B-10	Total/NA	Solid	8015B	490707
440-216711-19	CPT-LIF-2B-25	Total/NA	Solid	8015B	490707
440-216711-20	CPT-LIF-2B-30.5	Total/NA	Solid	8015B	490890
440-216711-21	SB-7B-35	Total/NA	Solid	8015B	490707
MB 440-490757/46	Method Blank	Total/NA	Solid	8015B	
LCS 440-490757/33	Lab Control Sample	Total/NA	Solid	8015B	
LCSD 440-490757/34	Lab Control Sample Dup	Total/NA	Solid	8015B	

Prep Batch: 490890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216711-14	CPT-LIF-4B-29.5	Total/NA	Solid	5035	
440-216711-15	SB-2B-5	Total/NA	Solid	5035	
440-216711-20	CPT-LIF-2B-30.5	Total/NA	Solid	5035	

GC Semi VOA

Prep Batch: 490620

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216711-1	SB-7B-5	Total/NA	Solid	3546	
440-216711-2	SB-7B-10	Total/NA	Solid	3546	
440-216711-3	SB-6B-5	Total/NA	Solid	3546	
440-216711-4	SB-6B-10	Total/NA	Solid	3546	
440-216711-5	CPT-LIF-3B-28	Total/NA	Solid	3546	
440-216711-6	CPT-LIF-3B-30.5	Total/NA	Solid	3546	
440-216711-7	SB-5B-5	Total/NA	Solid	3546	
MB 440-490620/1-A	Method Blank	Total/NA	Solid	3546	
LCS 440-490620/2-A	Lab Control Sample	Total/NA	Solid	3546	
440-215686-A-21-A MS	Matrix Spike	Total/NA	Solid	3546	
440-215686-A-21-B MSD	Matrix Spike Duplicate	Total/NA	Solid	3546	

Prep Batch: 490624

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216711-8	SB-5B-10	Total/NA	Solid	3546	
440-216711-9	SB-7B-15	Total/NA	Solid	3546	
440-216711-10	SB-7B-20	Total/NA	Solid	3546	

GC Semi VOA (Continued)

Prep Batch: 490624 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216711-11	SB-7B-25	Total/NA	Solid	3546	
440-216711-12	SB-7B-30	Total/NA	Solid	3546	
440-216711-13	CPT-LIF-4B-27	Total/NA	Solid	3546	
440-216711-14	CPT-LIF-4B-29.5	Total/NA	Solid	3546	
440-216711-15	SB-2B-5	Total/NA	Solid	3546	
440-216711-16	SB-2B-10	Total/NA	Solid	3546	
440-216711-17	SB-1B-5	Total/NA	Solid	3546	
440-216711-18	SB-1B-10	Total/NA	Solid	3546	
440-216711-19	CPT-LIF-2B-25	Total/NA	Solid	3546	
440-216711-20	CPT-LIF-2B-30.5	Total/NA	Solid	3546	
440-216711-21	SB-7B-35	Total/NA	Solid	3546	
MB 440-490624/1-A	Method Blank	Total/NA	Solid	3546	
LCS 440-490624/2-A	Lab Control Sample	Total/NA	Solid	3546	
440-216711-8 MS	SB-5B-10	Total/NA	Solid	3546	
440-216711-8 MSD	SB-5B-10	Total/NA	Solid	3546	

Analysis Batch: 490722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216711-8	SB-5B-10	Total/NA	Solid	8015B	490624
440-216711-9	SB-7B-15	Total/NA	Solid	8015B	490624
440-216711-10	SB-7B-20	Total/NA	Solid	8015B	490624
440-216711-11	SB-7B-25	Total/NA	Solid	8015B	490624
440-216711-12	SB-7B-30	Total/NA	Solid	8015B	490624
440-216711-13	CPT-LIF-4B-27	Total/NA	Solid	8015B	490624
440-216711-14	CPT-LIF-4B-29.5	Total/NA	Solid	8015B	490624
440-216711-15	SB-2B-5	Total/NA	Solid	8015B	490624
440-216711-16	SB-2B-10	Total/NA	Solid	8015B	490624
440-216711-17	SB-1B-5	Total/NA	Solid	8015B	490624
440-216711-18	SB-1B-10	Total/NA	Solid	8015B	490624
440-216711-19	CPT-LIF-2B-25	Total/NA	Solid	8015B	490624
440-216711-20	CPT-LIF-2B-30.5	Total/NA	Solid	8015B	490624
440-216711-21	SB-7B-35	Total/NA	Solid	8015B	490624
MB 440-490624/1-A	Method Blank	Total/NA	Solid	8015B	490624
LCS 440-490624/2-A	Lab Control Sample	Total/NA	Solid	8015B	490624
440-216711-8 MS	SB-5B-10	Total/NA	Solid	8015B	490624
440-216711-8 MSD	SB-5B-10	Total/NA	Solid	8015B	490624

Analysis Batch: 490723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216711-1	SB-7B-5	Total/NA	Solid	8015B	490620
440-216711-2	SB-7B-10	Total/NA	Solid	8015B	490620
440-216711-3	SB-6B-5	Total/NA	Solid	8015B	490620
440-216711-4	SB-6B-10	Total/NA	Solid	8015B	490620
440-216711-5	CPT-LIF-3B-28	Total/NA	Solid	8015B	490620
440-216711-6	CPT-LIF-3B-30.5	Total/NA	Solid	8015B	490620
440-216711-7	SB-5B-5	Total/NA	Solid	8015B	490620
MB 440-490620/1-A	Method Blank	Total/NA	Solid	8015B	490620
LCS 440-490620/2-A	Lab Control Sample	Total/NA	Solid	8015B	490620
440-215686-A-21-A MS	Matrix Spike	Total/NA	Solid	8015B	490620
440-215686-A-21-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	490620

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
E	Result exceeded calibration range.
X	Surrogate is outside control limits

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216711-1

Laboratory: TestAmerica Irvine

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	CA01531	06-30-19
Arizona	State Program	9	AZ0671	10-14-18 *
California	LA Cty Sanitation Districts	9	10256	06-30-19
California	State Program	9	CA ELAP 2706	06-30-19
Guam	State Program	9	Cert. No. 17-003R	01-23-19
Hawaii	State Program	9	N/A	01-29-19
Kansas	NELAP	7	E-10420	07-31-19
Nevada	State Program	9	CA015312018-1	07-31-19
New Mexico	State Program	6	N/A	01-29-19
Oregon	NELAP	10	4028	01-29-19
USDA	Federal		P330-15-00184	07-09-21
Washington	State Program	10	C900	09-03-18 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
Phone: 949.261.1022 Fax:

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Eric Davis	Site Contact: Malcolm Thomas	Date: 7/26/18	COC No:
Company Name: Jacobs Engineering	Tel/Fax: 404-323-1600	Lab Contact:	Carrier:	1 of 2 COCs
Address: 2600 Michelson Dr. Suite 900	Analysis Turnaround Time			Sampler: MT
City/State/Zip: Irvine, CA 92612	☐ CALENDAR DAYS ☒ WORKING DAYS			For Lab Use Only:
Phone: 949-224-7530	TAT if different from Below			Walk-in Client:
Fax: 949-224-7501	☐ 2 weeks			Lab Sampling:
Project Name: KMEP Norwalk	☒ 1 week			
Site: Norwalk, Ca	☐ 2 days			Job / SDG No.:
PO#	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	TPH-G	TPH-D	TPH-Jet	TPH-Hexoic	VOCs 8260	Sample Specific Notes.
MT	~~7-25-18~~												
SB-7B-5	7-25-18	0750	G	Soil	7			X	X	X	X	X	
SB-7B-10		0805											
SB-6B-5		0825											
SB-6B-10		0830											
CPT-LIF-3B-28		0855											
CPT-LIF-35-30.5		0909											
SB-5B-5		0924											
SB-5B-10		0942											
SB-7B-15		1000											
SB-7B-20		1015											
SB-7B-25		1030											

Encores or Terracores received!
Date/Time Frozen: 7/26/18 Init: CO
18:50

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	Jacobs	1500/7/26/18	Peter Miller	TA-IRVINE	7/26/18 1500
Relinquished by: Peter Miller	Company: TA-IRVINE	Date/Time: 2/2/18 1710	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: Olga Owens	Company: TA IRV	Date/Time: 7/26/18 1710

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
Phone: 949.261.1022 Fax:

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact			
Company Name: Jacobs Engineering	Project Manager: Eric Davis	Site Contact: Malcolm Thomas	Date: 7/26/18
Address: 2600 Michelson Dr. Suite 500	Tel/Fax: 404-323-1600	Lab Contact:	Carrier:
City/State/Zip: Irvine, CA 92612	Analysis Turnaround Time: ☐ CALENDAR DAYS ☒ WORKING DAYS		COC No: 2 of 3 COCs
Phone: 949-224-7530	TAT if different from Below		Sampler: MT
Fax: 949-224-7501	☐ 2 weeks		For Lab Use Only:
Project Name: KMEP Norwalk	☒ 1 week		Walk-in Client:
Site: Norwalk, Ca	☐ 2 days		Lab Sampling:
P O #	☐ 1 day		Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	TPH-G	TPH-D	TPH-Jet	TPH-Motor oil	VOCs 8260	Sample Specific Notes:
SB-7B-30	7-25-18	1040	G	Soil	7			X	X	X	X	X	
CPT-LIF-4B-27		1315											PID-800 ppm reading
CPT-LIF-4B-29.5		1320											PID-1200 ppm reading
SB-2B-5		1304											
SB-2B-10		1316											
SB-1B-5		1230											
SB-1B-10		1243											
CPT-LIF-2B-25		1430											
CPT-LIF-2B-30.5		1445											
SB-7B-35		1050											

Encores or Terracores received
Date/Time Frozen: 7/26/18 1850 Init: CC

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☒ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: #1 2.6 #2 3.3 Corr'd: 2.9 4.0 | Therm ID No.: IR-66

Relinquished by: [signature]	Company: Jacobs	Date/Time: 7/26/18-1500	Received by: Pete Meller	Company: TA-IRVINE	Date/Time: 7/26/18 1500
Relinquished by: Peter Meller	Company: TA-IRVINE	Date/Time: 7/26/18 1710	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: Olga Cinelas	Company: TA-IRV	Date/Time: 7/26/18 1710

Login Sample Receipt Checklist

Client: CH2M Hill, Inc.

Job Number: 440-216711-1

Login Number: 216711
List Number: 1
Creator: Soderblom, Tim

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-216810-1
Client Project/Site: KMEP Norwalk Site
Revision: 1

For:
CH2M Hill, Inc.
6 Hutton Centre Drive, Suite 700
Santa Ana, California 92707

Attn: Eric Davis

Authorized for release by:
8/22/2018 3:18:06 PM

Dennis Tran, Project Manager I
(949)261-1022
dennis.tran@testamericainc.com

Table of Contents

Sample Summary

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216810-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-216810-1	SB-6B-15	Solid	07/26/18 07:50	07/27/18 14:35
440-216810-2	SB-6B-20	Solid	07/26/18 07:55	07/27/18 14:35
440-216810-3	SB-6B-25	Solid	07/26/18 08:00	07/27/18 14:35
440-216810-4	SB-6B-30	Solid	07/26/18 08:05	07/27/18 14:35
440-216810-5	SB-6B-35	Solid	07/26/18 08:10	07/27/18 14:35
440-216810-6	SB-5B-15	Solid	07/26/18 09:40	07/27/18 14:35
440-216810-7	SB-5B-20	Solid	07/26/18 09:45	07/27/18 14:35
440-216810-8	SB-5B-25	Solid	07/26/18 09:55	07/27/18 14:35
440-216810-9	SB-5B-30	Solid	07/26/18 10:00	07/27/18 14:35
440-216810-10	SB-3B-5	Solid	07/26/18 11:40	07/27/18 14:35
440-216810-11	SB-3B-10	Solid	07/26/18 11:45	07/27/18 14:35
440-216810-12	SB-3B-15	Solid	07/26/18 11:55	07/27/18 14:35
440-216810-13	SB-3B-20	Solid	07/26/18 12:00	07/27/18 14:35
440-216810-14	SB-3B-25	Solid	07/26/18 12:05	07/27/18 14:35
440-216810-15	SB-3B-30	Solid	07/26/18 12:10	07/27/18 14:35
440-216810-16	SB-2B-15	Solid	07/26/18 13:00	07/27/18 14:35
440-216810-17	SB-2B-20	Solid	07/26/18 13:05	07/27/18 14:35
440-216810-18	SB-2B-25	Solid	07/26/18 13:10	07/27/18 14:35
440-216810-19	SB-2B-30	Solid	07/26/18 13:15	07/27/18 14:35
440-216810-20	SB-2B-35	Solid	07/26/18 13:25	07/27/18 14:35
440-216810-21	SB-1B-15	Solid	07/27/18 07:35	07/27/18 14:35
440-216810-22	SB-1B-20	Solid	07/27/18 07:40	07/27/18 14:35
440-216810-23	SB-1B-25	Solid	07/27/18 07:45	07/27/18 14:35
440-216810-24	SB-1B-30	Solid	07/27/18 07:50	07/27/18 14:35
440-216810-25	CPT-LIF-1B-29	Solid	07/27/18 08:40	07/27/18 14:35
440-216810-26	CPT-LIF-101B-29	Solid	07/27/18 08:45	07/27/18 14:35
440-216810-27	CPT-LIF-1B-31	Solid	07/27/18 08:50	07/27/18 14:35
440-216810-28	SB-4B-5	Solid	07/27/18 09:55	07/27/18 14:35
440-216810-29	SB-4B-10	Solid	07/27/18 10:00	07/27/18 14:35
440-216810-30	SB-4B-15	Solid	07/27/18 10:05	07/27/18 14:35
440-216810-31	SB-4B-20	Solid	07/27/18 10:10	07/27/18 14:35
440-216810-32	SB-4B-25	Solid	07/27/18 10:15	07/27/18 14:35
440-216810-33	SB-4B-30	Solid	07/27/18 10:20	07/27/18 14:35
440-216810-34	SB-4B-35	Solid	07/27/18 10:25	07/27/18 14:35

Job ID: 440-216810-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-216810-1

Comments
Revised report to remove the duplicate results: the full list of VOCs was reported twice for both 1x and 100x dilutions. Only the 100x dilution results for Ethylbenzene, o-xylene, toluene, and total xylenes are needed.

Receipt
The samples were received on 7/27/2018 2:35 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.8º C and 2.9º C.

GC/MS VOA
Method(s) 8260B: The laboratory control sample duplicate (LCSD) for analytical batch 440-490615 recovered outside control limits for the following analyte: cis-1,3-Dichloropropene. This analyte was biased high in the LCSD and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 440-490869 recovered outside control limits for multiple analytes. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
Method(s) 8015B: The following samples were diluted due to the nature of the sample matrix: SB-6B-15 (440-216810-1), SB-6B-20 (440-216810-2), SB-6B-25 (440-216810-3), SB-6B-30 (440-216810-4), SB-6B-35 (440-216810-5), SB-5B-15 (440-216810-6), SB-5B-25 (440-216810-8), SB-3B-5 (440-216810-10), SB-3B-20 (440-216810-13), SB-3B-25 (440-216810-14), SB-3B-30 (440-216810-15) and SB-2B-15 (440-216810-16). Elevated reporting limits (RLs) are provided.

Method(s) 8015B: For the following sample, the 5g encore run was above calibration range for GRO, while the 100uL extract run was below the reporting limit: SB-4B-30 (440-216810-33). Result is estimated.

Method(s) 8015B: Surrogate recovery was outside acceptance limits for the following matrix spike duplicate (MSD) sample: (440-216927-B-3 MSD). The parent sample's surrogate recovery was within limits. The MSD sample has been qualified and reported. Sample matrix interference or non-homogeneity are suspected.

Method(s) 8015B: The continuing calibration blank (CCB) for analytical batch 440-491363 contained analyte GRO C4-C12) above the method detection limit (MDL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method(s) 8015B: For the following sample, the 5g encore run was above calibration range and contained saturated peak(s) for GRO, while the 100uL extract run was below the reporting limit: SB-2B-30 (440-216810-19). Result is estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method(s) 8015B: The 8015-DRO method blank for preparation batch 440-491132 and analytical batch 440-491232 contained C23-C40 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8015B: The 8015-DRO method blank for preparation batch 440-491116 and analytical batch 440-491222 contained C23-C40 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8015B: 8015-DRO Hydrocarbon result partly due to individual peak in quantitation range. SB-1B-20 (440-216810-22), SB-1B-25 (440-216810-23), SB-4B-15 (440-216810-30) and SB-4B-20 (440-216810-31)

Job ID: 440-216810-1 (Continued)

Laboratory: TestAmerica Irvine (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method(s) 3546: Due to the matrix, the following sample could not be concentrated to the final method required volume: 2mLSB-5B-20 (440-216810-7). The reporting limits (RLs) are elevated proportionately. 3546/8015

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample ID: SB-6B-15
Date Collected: 07/26/18 07:50
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-1
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
1,1,1-Trichloroethane	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
1,1,2,2-Tetrachloroethane	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
1,1,2-Trichloroethane	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
1,1-Dichloroethane	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
1,1-Dichloroethene	ND		5.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
1,1-Dichloropropene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
1,2,3-Trichlorobenzene	ND		5.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
1,2,3-Trichloropropane	ND		11	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
1,2,4-Trichlorobenzene	ND		5.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
1,2,4-Trimethylbenzene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
1,2-Dibromo-3-Chloropropane	ND		5.3	2.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
1,2-Dibromoethane (EDB)	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
1,2-Dichlorobenzene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
1,2-Dichloroethane	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
1,2-Dichloropropane	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
1,3,5-Trimethylbenzene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
1,3-Dichlorobenzene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
1,3-Dichloropropane	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
1,4-Dichlorobenzene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
2,2-Dichloropropane	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
2-Chlorotoluene	ND		5.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
4-Chlorotoluene	ND		5.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Benzene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Bromobenzene	ND		5.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Bromochloromethane	ND		5.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Bromodichloromethane	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Bromoform	ND		5.3	2.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Bromomethane	ND		5.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Carbon tetrachloride	ND		5.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Chlorobenzene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Chloroethane	ND		5.3	2.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Chloroform	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Chloromethane	ND		5.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
cis-1,2-Dichloroethene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
cis-1,3-Dichloropropene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Dibromochloromethane	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Dibromomethane	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Dichlorodifluoromethane	ND		5.3	2.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Ethylbenzene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Hexachlorobutadiene	ND		5.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Isopropylbenzene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
m,p-Xylene	ND		4.2	2.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Methylene Chloride	ND		21	5.3	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Methyl-t-Butyl Ether (MTBE)	ND		5.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Naphthalene	ND		5.3	2.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
n-Butylbenzene	ND		5.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
N-Propylbenzene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
o-Xylene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1

Client Sample ID: SB-6B-15

Lab Sample ID: 440-216810-1

Date Collected: 07/26/18 07:50

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		5.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Styrene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Tert-amyl-methyl ether (TAME)	ND		5.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
tert-Butylbenzene	ND		5.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Tetrachloroethene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Toluene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
trans-1,2-Dichloroethene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
trans-1,3-Dichloropropene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Trichloroethene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Trichlorofluoromethane	ND		5.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Vinyl chloride	ND		5.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Xylenes, Total	ND		4.2	2.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Isopropyl Ether (DIPE)	ND		5.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
Ethyl-t-butyl ether (ETBE)	ND		5.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
tert-Butyl alcohol (TBA)	ND		110	11	ug/Kg		07/31/18 08:28	07/31/18 12:10	1
p-Isopropyltoluene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 12:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*109*		*79 - 123*	*07/31/18 08:28*	*07/31/18 12:10*	*1*
4-Bromofluorobenzene (Surr)	*103*		*79 - 120*	*07/31/18 08:28*	*07/31/18 12:10*	*1*
Dibromofluoromethane (Surr)	*96*		*60 - 120*	*07/31/18 08:28*	*07/31/18 12:10*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		520	200	ug/Kg		07/31/18 14:27	08/01/18 00:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*77*		*65 - 140*	*07/31/18 14:27*	*08/01/18 00:31*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**4.5**	**J**	4.9	2.5	mg/Kg		08/02/18 06:31	08/03/18 04:01	1
C23-C40	**9.5**	**B**	4.9	2.5	mg/Kg		08/02/18 06:31	08/03/18 04:01	1
C8 - C18	**2.6**	**J**	4.9	2.5	mg/Kg		08/02/18 06:31	08/03/18 04:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*83*		*40 - 140*	*08/02/18 06:31*	*08/03/18 04:01*	*1*

Client Sample ID: SB-6B-20

Lab Sample ID: 440-216810-2

Date Collected: 07/26/18 07:55

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		3.9	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
1,1,1-Trichloroethane	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
1,1,2,2-Tetrachloroethane	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
1,1,2-Trichloroethane	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
1,1-Dichloroethane	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
1,1-Dichloroethene	ND		3.9	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
1,1-Dichloropropene	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216810-1

Client Sample ID: SB-6B-20
Date Collected: 07/26/18 07:55
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-2
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	ND		3.9	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
1,2,3-Trichloropropane	ND		7.8	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
1,2,4-Trichlorobenzene	ND		3.9	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
1,2,4-Trimethylbenzene	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
1,2-Dibromo-3-Chloropropane	ND		3.9	1.6	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
1,2-Dibromoethane (EDB)	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
1,2-Dichlorobenzene	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
1,2-Dichloroethane	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
1,2-Dichloropropane	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
1,3,5-Trimethylbenzene	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
1,3-Dichlorobenzene	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
1,3-Dichloropropane	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
1,4-Dichlorobenzene	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
2,2-Dichloropropane	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
2-Chlorotoluene	ND		3.9	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
4-Chlorotoluene	ND		3.9	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Benzene	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Bromobenzene	ND		3.9	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Bromochloromethane	ND		3.9	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Bromodichloromethane	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Bromoform	ND		3.9	1.6	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Bromomethane	ND		3.9	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Carbon tetrachloride	ND		3.9	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Chlorobenzene	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Chloroethane	ND		3.9	1.6	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Chloroform	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Chloromethane	ND		3.9	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
cis-1,2-Dichloroethene	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
cis-1,3-Dichloropropene	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Dibromochloromethane	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Dibromomethane	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Dichlorodifluoromethane	ND		3.9	1.6	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Ethylbenzene	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Hexachlorobutadiene	ND		3.9	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Isopropylbenzene	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
m,p-Xylene	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Methylene Chloride	ND		16	3.9	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Methyl-t-Butyl Ether (MTBE)	ND		3.9	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Naphthalene	ND		3.9	1.6	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
n-Butylbenzene	ND		3.9	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
N-Propylbenzene	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
o-Xylene	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
sec-Butylbenzene	ND		3.9	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Styrene	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Tert-amyl-methyl ether (TAME)	ND		3.9	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
tert-Butylbenzene	ND		3.9	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Tetrachloroethene	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Toluene	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
trans-1,2-Dichloroethene	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1

Client Sample ID: SB-6B-20

Lab Sample ID: 440-216810-2

Date Collected: 07/26/18 07:55

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Trichloroethene	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Trichlorofluoromethane	ND		3.9	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Vinyl chloride	ND		3.9	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Xylenes, Total	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Isopropyl Ether (DIPE)	ND		3.9	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
Ethyl-t-butyl ether (ETBE)	ND		3.9	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
tert-Butyl alcohol (TBA)	ND		78	7.8	ug/Kg		07/31/18 08:28	07/31/18 12:38	1
p-Isopropyltoluene	ND		1.6	0.78	ug/Kg		07/31/18 08:28	07/31/18 12:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*79 - 123*	*07/31/18 08:28*	*07/31/18 12:38*	*1*
4-Bromofluorobenzene (Surr)	*110*		*79 - 120*	*07/31/18 08:28*	*07/31/18 12:38*	*1*
Dibromofluoromethane (Surr)	*97*		*60 - 120*	*07/31/18 08:28*	*07/31/18 12:38*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		330	120	ug/Kg		07/31/18 14:27	08/01/18 00:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*65 - 140*	*07/31/18 14:27*	*08/01/18 00:59*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**4.7**	**J**	5.0	2.5	mg/Kg		08/02/18 06:31	08/03/18 00:09	1
C23-C40	**5.5**	**B**	5.0	2.5	mg/Kg		08/02/18 06:31	08/03/18 00:09	1
C8 - C18	**3.5**	**J**	5.0	2.5	mg/Kg		08/02/18 06:31	08/03/18 00:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*60*		*40 - 140*	*08/02/18 06:31*	*08/03/18 00:09*	*1*

Client Sample ID: SB-6B-25

Lab Sample ID: 440-216810-3

Date Collected: 07/26/18 08:00

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.2	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
1,1,1-Trichloroethane	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
1,1,2,2-Tetrachloroethane	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
1,1,2-Trichloroethane	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
1,1-Dichloroethane	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
1,1-Dichloroethene	ND		5.2	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
1,1-Dichloropropene	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
1,2,3-Trichlorobenzene	ND		5.2	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
1,2,3-Trichloropropane	ND		10	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
1,2,4-Trichlorobenzene	ND		5.2	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
1,2,4-Trimethylbenzene	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
1,2-Dibromo-3-Chloropropane	ND		5.2	2.1	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
1,2-Dibromoethane (EDB)	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
1,2-Dichlorobenzene	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1

Client Sample ID: SB-6B-25
Date Collected: 07/26/18 08:00
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-3
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
1,2-Dichloropropane	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
1,3,5-Trimethylbenzene	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
1,3-Dichlorobenzene	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
1,3-Dichloropropane	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
1,4-Dichlorobenzene	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
2,2-Dichloropropane	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
2-Chlorotoluene	ND		5.2	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
4-Chlorotoluene	ND		5.2	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Benzene	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Bromobenzene	ND		5.2	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Bromochloromethane	ND		5.2	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Bromodichloromethane	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Bromoform	ND		5.2	2.1	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Bromomethane	ND		5.2	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Carbon tetrachloride	ND		5.2	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Chlorobenzene	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Chloroethane	ND		5.2	2.1	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Chloroform	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Chloromethane	ND		5.2	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
cis-1,2-Dichloroethene	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
cis-1,3-Dichloropropene	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Dibromochloromethane	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Dibromomethane	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Dichlorodifluoromethane	ND		5.2	2.1	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Ethylbenzene	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Hexachlorobutadiene	ND		5.2	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Isopropylbenzene	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
m,p-Xylene	ND		4.1	2.1	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Methylene Chloride	ND		21	5.2	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Methyl-t-Butyl Ether (MTBE)	ND		5.2	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Naphthalene	ND		5.2	2.1	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
n-Butylbenzene	ND		5.2	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
N-Propylbenzene	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
o-Xylene	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
sec-Butylbenzene	ND		5.2	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Styrene	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Tert-amyl-methyl ether (TAME)	ND		5.2	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
tert-Butylbenzene	ND		5.2	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Tetrachloroethene	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Toluene	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
trans-1,2-Dichloroethene	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
trans-1,3-Dichloropropene	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Trichloroethene	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Trichlorofluoromethane	ND		5.2	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Vinyl chloride	ND		5.2	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Xylenes, Total	ND		4.1	2.1	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Isopropyl Ether (DIPE)	ND		5.2	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
Ethyl-t-butyl ether (ETBE)	ND		5.2	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1

Client Sample ID: SB-6B-25

Lab Sample ID: 440-216810-3

Date Collected: 07/26/18 08:00

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butyl alcohol (TBA)	ND		100	10	ug/Kg		07/31/18 08:28	07/31/18 13:06	1
p-Isopropyltoluene	ND		2.1	1.0	ug/Kg		07/31/18 08:28	07/31/18 13:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*107*		*79 - 123*	*07/31/18 08:28*	*07/31/18 13:06*	*1*
4-Bromofluorobenzene (Surr)	*106*		*79 - 120*	*07/31/18 08:28*	*07/31/18 13:06*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 120*	*07/31/18 08:28*	*07/31/18 13:06*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	**300**	**J**	320	120	ug/Kg		07/31/18 14:27	08/01/18 01:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*65 - 140*	*07/31/18 14:27*	*08/01/18 01:28*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C23-C40	**33**	**B**	4.8	2.4	mg/Kg		08/02/18 06:31	08/02/18 21:54	1
C8 - C18	**420**		4.8	2.4	mg/Kg		08/02/18 06:31	08/02/18 21:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*72*		*40 - 140*	*08/02/18 06:31*	*08/02/18 21:54*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**600**		24	12	mg/Kg		08/02/18 06:31	08/03/18 21:11	5

Client Sample ID: SB-6B-30

Lab Sample ID: 440-216810-4

Date Collected: 07/26/18 08:05

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		7.0	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,1,1-Trichloroethane	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,1,2,2-Tetrachloroethane	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,1,2-Trichloroethane	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,1-Dichloroethane	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,1-Dichloroethene	ND		7.0	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,1-Dichloropropene	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,2,3-Trichlorobenzene	ND		7.0	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,2,3-Trichloropropane	ND		14	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,2,4-Trichlorobenzene	ND		7.0	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,2,4-Trimethylbenzene	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,2-Dibromo-3-Chloropropane	ND		7.0	2.8	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,2-Dibromoethane (EDB)	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,2-Dichlorobenzene	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,2-Dichloroethane	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,2-Dichloropropane	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,3,5-Trimethylbenzene	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,3-Dichlorobenzene	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1

Client Sample ID: SB-6B-30
Date Collected: 07/26/18 08:05
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-4
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichloropropane	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,4-Dichlorobenzene	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
2,2-Dichloropropane	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
2-Chlorotoluene	ND		7.0	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
4-Chlorotoluene	ND		7.0	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Benzene	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Bromobenzene	ND		7.0	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Bromochloromethane	ND		7.0	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Bromodichloromethane	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Bromoform	ND		7.0	2.8	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Bromomethane	ND		7.0	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Carbon tetrachloride	ND		7.0	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Chlorobenzene	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Chloroethane	ND		7.0	2.8	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Chloroform	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Chloromethane	ND		7.0	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
cis-1,2-Dichloroethene	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
cis-1,3-Dichloropropene	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Dibromochloromethane	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Dibromomethane	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Dichlorodifluoromethane	ND		7.0	2.8	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Ethylbenzene	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Hexachlorobutadiene	ND		7.0	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Isopropylbenzene	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
m,p-Xylene	ND		5.6	2.8	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Methylene Chloride	ND		28	7.0	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Methyl-t-Butyl Ether (MTBE)	ND		7.0	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Naphthalene	ND		7.0	2.8	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
n-Butylbenzene	ND		7.0	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
N-Propylbenzene	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
o-Xylene	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
sec-Butylbenzene	ND		7.0	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Styrene	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Tert-amyl-methyl ether (TAME)	ND		7.0	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
tert-Butylbenzene	ND		7.0	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Tetrachloroethene	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Toluene	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
trans-1,2-Dichloroethene	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
trans-1,3-Dichloropropene	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Trichloroethene	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Trichlorofluoromethane	ND		7.0	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Vinyl chloride	ND		7.0	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Xylenes, Total	ND		5.6	2.8	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Isopropyl Ether (DIPE)	ND		7.0	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Ethyl-t-butyl ether (ETBE)	ND		7.0	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
tert-Butyl alcohol (TBA)	ND		140	14	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
p-Isopropyltoluene	ND		2.8	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*106*		*79 - 123*	*07/31/18 08:28*	*07/31/18 13:34*	*1*

Client Sample ID: SB-6B-30

Date Collected: 07/26/18 08:05
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-4

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*79 - 120*	*07/31/18 08:28*	*07/31/18 13:34*	*1*
Dibromofluoromethane (Surr)	*103*		*60 - 120*	*07/31/18 08:28*	*07/31/18 13:34*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		430	160	ug/Kg		07/31/18 14:27	08/01/18 01:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*76*		*65 - 140*	*07/31/18 14:27*	*08/01/18 01:57*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C23-C40	**130**	**B**	4.9	2.5	mg/Kg		08/02/18 06:31	08/02/18 22:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*91*		*40 - 140*	*08/02/18 06:31*	*08/02/18 22:13*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**2700**		99	49	mg/Kg		08/02/18 06:31	08/03/18 21:33	20
C8 - C18	**2100**		99	49	mg/Kg		08/02/18 06:31	08/03/18 21:33	20

Client Sample ID: SB-6B-35

Date Collected: 07/26/18 08:10
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-5

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		6.6	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
1,1,1-Trichloroethane	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
1,1,2,2-Tetrachloroethane	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
1,1,2-Trichloroethane	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
1,1-Dichloroethane	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
1,1-Dichloroethene	ND		6.6	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
1,1-Dichloropropene	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
1,2,3-Trichlorobenzene	ND		6.6	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
1,2,3-Trichloropropane	ND		13	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
1,2,4-Trichlorobenzene	ND		6.6	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
1,2,4-Trimethylbenzene	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
1,2-Dibromo-3-Chloropropane	ND		6.6	2.7	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
1,2-Dibromoethane (EDB)	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
1,2-Dichlorobenzene	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
1,2-Dichloroethane	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
1,2-Dichloropropane	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
1,3,5-Trimethylbenzene	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
1,3-Dichlorobenzene	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
1,3-Dichloropropane	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
1,4-Dichlorobenzene	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
2,2-Dichloropropane	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
2-Chlorotoluene	ND		6.6	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1

Client Sample ID: SB-6B-35
Date Collected: 07/26/18 08:10
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-5
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		6.6	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Benzene	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Bromobenzene	ND		6.6	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Bromochloromethane	ND		6.6	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Bromodichloromethane	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Bromoform	ND		6.6	2.7	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Bromomethane	ND		6.6	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Carbon tetrachloride	ND		6.6	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Chlorobenzene	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Chloroethane	ND		6.6	2.7	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Chloroform	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Chloromethane	ND		6.6	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
cis-1,2-Dichloroethene	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
cis-1,3-Dichloropropene	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Dibromochloromethane	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Dibromomethane	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Dichlorodifluoromethane	ND		6.6	2.7	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Ethylbenzene	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Hexachlorobutadiene	ND		6.6	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Isopropylbenzene	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
m,p-Xylene	ND		5.3	2.7	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Methylene Chloride	ND		27	6.6	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Methyl-t-Butyl Ether (MTBE)	ND		6.6	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Naphthalene	ND		6.6	2.7	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
n-Butylbenzene	ND		6.6	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
N-Propylbenzene	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
o-Xylene	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
sec-Butylbenzene	ND		6.6	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Styrene	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Tert-amyl-methyl ether (TAME)	ND		6.6	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
tert-Butylbenzene	ND		6.6	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Tetrachloroethene	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Toluene	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
trans-1,2-Dichloroethene	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
trans-1,3-Dichloropropene	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Trichloroethene	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Trichlorofluoromethane	ND		6.6	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Vinyl chloride	ND		6.6	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Xylenes, Total	ND		5.3	2.7	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Isopropyl Ether (DIPE)	ND		6.6	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
Ethyl-t-butyl ether (ETBE)	ND		6.6	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
tert-Butyl alcohol (TBA)	ND		130	13	ug/Kg		07/31/18 08:28	07/31/18 14:02	1
p-Isopropyltoluene	ND		2.7	1.3	ug/Kg		07/31/18 08:28	07/31/18 14:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*106*		*79 - 123*	*07/31/18 08:28*	*07/31/18 14:02*	*1*
4-Bromofluorobenzene (Surr)	*114*		*79 - 120*	*07/31/18 08:28*	*07/31/18 14:02*	*1*
Dibromofluoromethane (Surr)	*97*		*60 - 120*	*07/31/18 08:28*	*07/31/18 14:02*	*1*

Client Sample ID: SB-6B-35

Lab Sample ID: 440-216810-5

Date Collected: 07/26/18 08:10

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		380	140	ug/Kg		07/31/18 14:27	08/01/18 02:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*65 - 140*	*07/31/18 14:27*	*08/01/18 02:26*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		4.9	2.5	mg/Kg		08/02/18 06:31	08/03/18 00:28	1
C23-C40	**3.4**	**J B**	4.9	2.5	mg/Kg		08/02/18 06:31	08/03/18 00:28	1
C8 - C18	ND		4.9	2.5	mg/Kg		08/02/18 06:31	08/03/18 00:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*86*		*40 - 140*	*08/02/18 06:31*	*08/03/18 00:28*	*1*

Client Sample ID: SB-5B-15

Lab Sample ID: 440-216810-6

Date Collected: 07/26/18 09:40

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		9.0	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
1,1,1-Trichloroethane	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
1,1,2,2-Tetrachloroethane	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
1,1,2-Trichloroethane	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
1,1-Dichloroethane	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
1,1-Dichloroethene	ND		9.0	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
1,1-Dichloropropene	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
1,2,3-Trichlorobenzene	ND		9.0	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
1,2,3-Trichloropropane	ND		18	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
1,2,4-Trichlorobenzene	ND		9.0	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
1,2,4-Trimethylbenzene	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
1,2-Dibromo-3-Chloropropane	ND		9.0	3.6	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
1,2-Dibromoethane (EDB)	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
1,2-Dichlorobenzene	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
1,2-Dichloroethane	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
1,2-Dichloropropane	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
1,3,5-Trimethylbenzene	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
1,3-Dichlorobenzene	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
1,3-Dichloropropane	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
1,4-Dichlorobenzene	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
2,2-Dichloropropane	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
2-Chlorotoluene	ND		9.0	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
4-Chlorotoluene	ND		9.0	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Benzene	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Bromobenzene	ND		9.0	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Bromochloromethane	ND		9.0	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Bromodichloromethane	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Bromoform	ND		9.0	3.6	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Bromomethane	ND		9.0	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Carbon tetrachloride	ND		9.0	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216810-1

Client Sample ID: SB-5B-15
Date Collected: 07/26/18 09:40
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-6
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Chloroethane	ND		9.0	3.6	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Chloroform	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Chloromethane	ND		9.0	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
cis-1,2-Dichloroethene	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
cis-1,3-Dichloropropene	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Dibromochloromethane	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Dibromomethane	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Dichlorodifluoromethane	ND		9.0	3.6	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Ethylbenzene	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Hexachlorobutadiene	ND		9.0	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Isopropylbenzene	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
m,p-Xylene	ND		7.2	3.6	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Methylene Chloride	ND		36	9.0	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Methyl-t-Butyl Ether (MTBE)	ND		9.0	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Naphthalene	ND		9.0	3.6	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
n-Butylbenzene	ND		9.0	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
N-Propylbenzene	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
o-Xylene	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
sec-Butylbenzene	ND		9.0	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Styrene	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Tert-amyl-methyl ether (TAME)	ND		9.0	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
tert-Butylbenzene	ND		9.0	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Tetrachloroethene	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Toluene	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
trans-1,2-Dichloroethene	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
trans-1,3-Dichloropropene	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Trichloroethene	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Trichlorofluoromethane	ND		9.0	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Vinyl chloride	ND		9.0	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Xylenes, Total	ND		7.2	3.6	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Isopropyl Ether (DIPE)	ND		9.0	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
Ethyl-t-butyl ether (ETBE)	ND		9.0	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
tert-Butyl alcohol (TBA)	ND		180	18	ug/Kg		07/31/18 08:28	07/31/18 14:30	1
p-Isopropyltoluene	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 14:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*106*		*79 - 123*	*07/31/18 08:28*	*07/31/18 14:30*	*1*
4-Bromofluorobenzene (Surr)	*107*		*79 - 120*	*07/31/18 08:28*	*07/31/18 14:30*	*1*
Dibromofluoromethane (Surr)	*94*		*60 - 120*	*07/31/18 08:28*	*07/31/18 14:30*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		490	180	ug/Kg		07/31/18 14:27	08/01/18 02:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*65 - 140*	*07/31/18 14:27*	*08/01/18 02:54*	*1*

Client Sample ID: SB-5B-15

Lab Sample ID: 440-216810-6
Date Collected: 07/26/18 09:40
Matrix: Solid
Date Received: 07/27/18 14:35

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		4.9	2.5	mg/Kg		08/02/18 06:31	08/02/18 22:32	1
C23-C40	**4.0**	**J B**	4.9	2.5	mg/Kg		08/02/18 06:31	08/02/18 22:32	1
C8 - C18	ND		4.9	2.5	mg/Kg		08/02/18 06:31	08/02/18 22:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*88*		*40 - 140*	*08/02/18 06:31*	*08/02/18 22:32*	*1*

Client Sample ID: SB-5B-20

Lab Sample ID: 440-216810-7
Date Collected: 07/26/18 09:45
Matrix: Solid
Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		7.8	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
1,1,1-Trichloroethane	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
1,1,2,2-Tetrachloroethane	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
1,1,2-Trichloroethane	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
1,1-Dichloroethane	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
1,1-Dichloroethene	ND		7.8	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
1,1-Dichloropropene	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
1,2,3-Trichlorobenzene	ND		7.8	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
1,2,3-Trichloropropane	ND		16	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
1,2,4-Trichlorobenzene	ND		7.8	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
1,2,4-Trimethylbenzene	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
1,2-Dibromo-3-Chloropropane	ND		7.8	3.1	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
1,2-Dibromoethane (EDB)	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
1,2-Dichlorobenzene	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
1,2-Dichloroethane	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
1,2-Dichloropropane	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
1,3,5-Trimethylbenzene	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
1,3-Dichlorobenzene	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
1,3-Dichloropropane	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
1,4-Dichlorobenzene	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
2,2-Dichloropropane	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
2-Chlorotoluene	ND		7.8	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
4-Chlorotoluene	ND		7.8	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Benzene	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Bromobenzene	ND		7.8	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Bromochloromethane	ND		7.8	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Bromodichloromethane	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Bromoform	ND		7.8	3.1	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Bromomethane	ND		7.8	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Carbon tetrachloride	ND		7.8	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Chlorobenzene	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Chloroethane	ND		7.8	3.1	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Chloroform	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Chloromethane	ND		7.8	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
cis-1,2-Dichloroethene	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
cis-1,3-Dichloropropene	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Dibromochloromethane	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1

Client Sample ID: SB-5B-20
Date Collected: 07/26/18 09:45
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-7
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Dichlorodifluoromethane	ND		7.8	3.1	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Ethylbenzene	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Hexachlorobutadiene	ND		7.8	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Isopropylbenzene	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
m,p-Xylene	ND		6.3	3.1	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Methylene Chloride	ND		31	7.8	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Methyl-t-Butyl Ether (MTBE)	ND		7.8	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Naphthalene	ND		7.8	3.1	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
n-Butylbenzene	ND		7.8	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
N-Propylbenzene	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
o-Xylene	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
sec-Butylbenzene	ND		7.8	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Styrene	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Tert-amyl-methyl ether (TAME)	ND		7.8	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
tert-Butylbenzene	ND		7.8	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Tetrachloroethene	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Toluene	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
trans-1,2-Dichloroethene	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
trans-1,3-Dichloropropene	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Trichloroethene	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Trichlorofluoromethane	ND		7.8	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Vinyl chloride	ND		7.8	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Xylenes, Total	ND		6.3	3.1	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Isopropyl Ether (DIPE)	ND		7.8	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
Ethyl-t-butyl ether (ETBE)	ND		7.8	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
tert-Butyl alcohol (TBA)	ND		160	16	ug/Kg		07/31/18 08:28	07/31/18 14:58	1
p-Isopropyltoluene	ND		3.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 14:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*112*		*79 - 123*	*07/31/18 08:28*	*07/31/18 14:58*	*1*
4-Bromofluorobenzene (Surr)	*104*		*79 - 120*	*07/31/18 08:28*	*07/31/18 14:58*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 120*	*07/31/18 08:28*	*07/31/18 14:58*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		490	180	ug/Kg		08/01/18 09:46	08/01/18 10:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*65 - 140*	*08/01/18 09:46*	*08/01/18 10:27*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**25**		9.7	4.9	mg/Kg		08/02/18 06:31	08/03/18 03:03	1
C23-C40	**120**	**B**	9.7	4.9	mg/Kg		08/02/18 06:31	08/03/18 03:03	1
C8 - C18	**13**		9.7	4.9	mg/Kg		08/02/18 06:31	08/03/18 03:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*95*		*40 - 140*	*08/02/18 06:31*	*08/03/18 03:03*	*1*

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216810-1

Client Sample ID: SB-5B-25
Date Collected: 07/26/18 09:55
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-8
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.2	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
1,1,1-Trichloroethane	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
1,1,2,2-Tetrachloroethane	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
1,1,2-Trichloroethane	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
1,1-Dichloroethane	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
1,1-Dichloroethene	ND		4.2	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
1,1-Dichloropropene	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
1,2,3-Trichlorobenzene	ND		4.2	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
1,2,3-Trichloropropane	ND		8.4	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
1,2,4-Trichlorobenzene	ND		4.2	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
1,2,4-Trimethylbenzene	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
1,2-Dibromo-3-Chloropropane	ND		4.2	1.7	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
1,2-Dibromoethane (EDB)	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
1,2-Dichlorobenzene	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
1,2-Dichloroethane	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
1,2-Dichloropropane	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
1,3,5-Trimethylbenzene	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
1,3-Dichlorobenzene	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
1,3-Dichloropropane	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
1,4-Dichlorobenzene	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
2,2-Dichloropropane	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
2-Chlorotoluene	ND		4.2	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
4-Chlorotoluene	ND		4.2	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Benzene	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Bromobenzene	ND		4.2	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Bromochloromethane	ND		4.2	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Bromodichloromethane	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Bromoform	ND		4.2	1.7	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Bromomethane	ND		4.2	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Carbon tetrachloride	ND		4.2	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Chlorobenzene	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Chloroethane	ND		4.2	1.7	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Chloroform	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Chloromethane	ND		4.2	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
cis-1,2-Dichloroethene	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
cis-1,3-Dichloropropene	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Dibromochloromethane	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Dibromomethane	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Dichlorodifluoromethane	ND		4.2	1.7	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Ethylbenzene	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Hexachlorobutadiene	ND		4.2	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Isopropylbenzene	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
m,p-Xylene	ND		3.4	1.7	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Methylene Chloride	ND		17	4.2	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Methyl-t-Butyl Ether (MTBE)	ND		4.2	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Naphthalene	ND		4.2	1.7	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
n-Butylbenzene	ND		4.2	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
N-Propylbenzene	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
o-Xylene	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1

Client Sample ID: SB-5B-25

Date Collected: 07/26/18 09:55
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-8

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		4.2	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Styrene	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Tert-amyl-methyl ether (TAME)	ND		4.2	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
tert-Butylbenzene	ND		4.2	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Tetrachloroethene	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Toluene	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
trans-1,2-Dichloroethene	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
trans-1,3-Dichloropropene	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Trichloroethene	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Trichlorofluoromethane	ND		4.2	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Vinyl chloride	ND		4.2	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Xylenes, Total	ND		3.4	1.7	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Isopropyl Ether (DIPE)	ND		4.2	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
Ethyl-t-butyl ether (ETBE)	ND		4.2	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
tert-Butyl alcohol (TBA)	ND		84	8.4	ug/Kg		07/31/18 08:28	07/31/18 15:26	1
p-Isopropyltoluene	ND		1.7	0.84	ug/Kg		07/31/18 08:28	07/31/18 15:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*111*		*79 - 123*	*07/31/18 08:28*	*07/31/18 15:26*	*1*
4-Bromofluorobenzene (Surr)	*108*		*79 - 120*	*07/31/18 08:28*	*07/31/18 15:26*	*1*
Dibromofluoromethane (Surr)	*100*		*60 - 120*	*07/31/18 08:28*	*07/31/18 15:26*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		320	120	ug/Kg		07/31/18 14:27	08/01/18 03:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*65 - 140*	*07/31/18 14:27*	*08/01/18 03:52*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**8.8**		5.0	2.5	mg/Kg		08/02/18 06:31	08/02/18 22:52	1
C23-C40	**8.2**	**B**	5.0	2.5	mg/Kg		08/02/18 06:31	08/02/18 22:52	1
C8 - C18	**3.3**	**J**	5.0	2.5	mg/Kg		08/02/18 06:31	08/02/18 22:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*84*		*40 - 140*	*08/02/18 06:31*	*08/02/18 22:52*	*1*

Client Sample ID: SB-5B-30

Date Collected: 07/26/18 10:00
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-9

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		330	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
1,1,1-Trichloroethane	ND		130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
1,1,2,2-Tetrachloroethane	ND		130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
1,1,2-Trichloroethane	ND	*	130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
1,1-Dichloroethane	ND		130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
1,1-Dichloroethene	ND		330	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
1,1-Dichloropropene	ND		130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100

Client Sample ID: SB-5B-30
Date Collected: 07/26/18 10:00
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-9
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	ND		330	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
1,2,3-Trichloropropane	ND		660	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
1,2,4-Trichlorobenzene	ND		330	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
1,2,4-Trimethylbenzene	ND	*	130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
1,2-Dibromo-3-Chloropropane	ND		330	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
1,2-Dibromoethane (EDB)	ND		130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
1,2-Dichlorobenzene	ND		130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
1,2-Dichloroethane	ND		130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
1,2-Dichloropropane	ND		130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
1,3-Dichlorobenzene	ND		130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
1,3-Dichloropropane	ND		130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
1,4-Dichlorobenzene	ND		130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
2,2-Dichloropropane	ND		260	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
2-Chlorotoluene	ND	*	330	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
4-Chlorotoluene	ND	*	330	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Benzene	ND		130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Bromobenzene	ND		330	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Bromochloromethane	ND		330	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Bromodichloromethane	ND		130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Bromoform	ND		330	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Bromomethane	ND		330	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Carbon tetrachloride	ND		330	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Chlorobenzene	ND		130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Chloroethane	ND		330	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Chloroform	ND		130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Chloromethane	ND		330	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
cis-1,2-Dichloroethene	ND		130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
cis-1,3-Dichloropropene	ND	*	130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Dibromochloromethane	ND		130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Dibromomethane	ND		130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Dichlorodifluoromethane	ND		330	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Ethylbenzene	ND	*	130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Hexachlorobutadiene	ND		330	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Isopropylbenzene	ND	*	130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
m,p-Xylene	ND		260	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Methylene Chloride	ND		1300	660	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Methyl-t-Butyl Ether (MTBE)	ND		330	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Naphthalene	**2800**		330	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
n-Butylbenzene	ND	*	330	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
N-Propylbenzene	ND	*	130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
o-Xylene	ND		130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
sec-Butylbenzene	ND	*	330	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Styrene	ND		130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Tert-amyl-methyl ether (TAME)	ND		330	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
tert-Butylbenzene	ND	*	330	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Tetrachloroethene	ND		130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Toluene	ND	*	130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
trans-1,2-Dichloroethene	ND		130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
trans-1,3-Dichloropropene	ND		130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100

Client Sample ID: SB-5B-30

Date Collected: 07/26/18 10:00
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-9
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Trichlorofluoromethane	ND		330	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Vinyl chloride	ND		330	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Xylenes, Total	ND		260	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Isopropyl Ether (DIPE)	ND		330	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
Ethyl-t-butyl ether (ETBE)	ND		330	130	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
tert-Butyl alcohol (TBA)	ND		6600	3300	ug/Kg		07/30/18 14:40	08/01/18 15:41	100
p-Isopropyltoluene	ND	*	130	66	ug/Kg		07/30/18 14:40	08/01/18 15:41	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*111*		*60 - 140*	*07/30/18 14:40*	*08/01/18 15:41*	*100*
4-Bromofluorobenzene (Surr)	*113*		*65 - 140*	*07/30/18 14:40*	*08/01/18 15:41*	*100*
Dibromofluoromethane (Surr)	*89*		*55 - 140*	*07/30/18 14:40*	*08/01/18 15:41*	*100*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	**68**	**J**	130	66	ug/Kg		07/30/18 14:40	08/03/18 16:23	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*60 - 140*	*07/30/18 14:40*	*08/03/18 16:23*	*100*
4-Bromofluorobenzene (Surr)	*96*		*65 - 140*	*07/30/18 14:40*	*08/03/18 16:23*	*100*
Dibromofluoromethane (Surr)	*100*		*55 - 140*	*07/30/18 14:40*	*08/03/18 16:23*	*100*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	**330000**		210000	110000	ug/Kg		07/30/18 14:40	08/03/18 08:13	400

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*65 - 140*	*07/30/18 14:40*	*08/03/18 08:13*	*400*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C23-C40	**27**	**B**	5.0	2.5	mg/Kg		08/02/18 06:31	08/02/18 23:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*87*		*40 - 140*	*08/02/18 06:31*	*08/02/18 23:11*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**940**		50	25	mg/Kg		08/02/18 06:31	08/03/18 21:55	10
C8 - C18	**1100**		50	25	mg/Kg		08/02/18 06:31	08/03/18 21:55	10

Client Sample ID: SB-3B-5

Date Collected: 07/26/18 11:40
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-10
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.7	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
1,1,1-Trichloroethane	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
1,1,2,2-Tetrachloroethane	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
1,1,2-Trichloroethane	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216810-1

Client Sample ID: SB-3B-5
Date Collected: 07/26/18 11:40
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-10
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
1,1-Dichloroethene	ND		5.7	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
1,1-Dichloropropene	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
1,2,3-Trichlorobenzene	ND		5.7	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
1,2,3-Trichloropropane	ND		11	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
1,2,4-Trichlorobenzene	ND		5.7	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
1,2,4-Trimethylbenzene	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
1,2-Dibromo-3-Chloropropane	ND		5.7	2.3	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
1,2-Dibromoethane (EDB)	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
1,2-Dichlorobenzene	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
1,2-Dichloroethane	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
1,2-Dichloropropane	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
1,3,5-Trimethylbenzene	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
1,3-Dichlorobenzene	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
1,3-Dichloropropane	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
1,4-Dichlorobenzene	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
2,2-Dichloropropane	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
2-Chlorotoluene	ND		5.7	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
4-Chlorotoluene	ND		5.7	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Benzene	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Bromobenzene	ND		5.7	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Bromochloromethane	ND		5.7	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Bromodichloromethane	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Bromoform	ND		5.7	2.3	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Bromomethane	ND		5.7	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Carbon tetrachloride	ND		5.7	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Chlorobenzene	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Chloroethane	ND		5.7	2.3	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Chloroform	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Chloromethane	ND		5.7	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
cis-1,2-Dichloroethene	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
cis-1,3-Dichloropropene	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Dibromochloromethane	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Dibromomethane	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Dichlorodifluoromethane	ND		5.7	2.3	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Ethylbenzene	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Hexachlorobutadiene	ND		5.7	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Isopropylbenzene	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
m,p-Xylene	ND		4.5	2.3	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Methylene Chloride	ND		23	5.7	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Methyl-t-Butyl Ether (MTBE)	ND		5.7	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Naphthalene	ND		5.7	2.3	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
n-Butylbenzene	ND		5.7	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
N-Propylbenzene	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
o-Xylene	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
sec-Butylbenzene	ND		5.7	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Styrene	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Tert-amyl-methyl ether (TAME)	ND		5.7	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
tert-Butylbenzene	ND		5.7	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1

Client Sample ID: SB-3B-5

Date Collected: 07/26/18 11:40
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-10
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Toluene	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
trans-1,2-Dichloroethene	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
trans-1,3-Dichloropropene	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Trichloroethene	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Trichlorofluoromethane	ND		5.7	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Vinyl chloride	ND		5.7	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Xylenes, Total	ND		4.5	2.3	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Isopropyl Ether (DIPE)	ND		5.7	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
Ethyl-t-butyl ether (ETBE)	ND		5.7	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
tert-Butyl alcohol (TBA)	ND		110	11	ug/Kg		07/31/18 08:28	07/31/18 15:54	1
p-Isopropyltoluene	ND		2.3	1.1	ug/Kg		07/31/18 08:28	07/31/18 15:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*79 - 123*	*07/31/18 08:28*	*07/31/18 15:54*	*1*
4-Bromofluorobenzene (Surr)	*101*		*79 - 120*	*07/31/18 08:28*	*07/31/18 15:54*	*1*
Dibromofluoromethane (Surr)	*99*		*60 - 120*	*07/31/18 08:28*	*07/31/18 15:54*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		580	220	ug/Kg		07/31/18 14:27	08/01/18 04:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*65 - 140*	*07/31/18 14:27*	*08/01/18 04:21*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		4.8	2.4	mg/Kg		08/02/18 06:31	08/03/18 00:47	1
C23-C40	**3.8**	**J B**	4.8	2.4	mg/Kg		08/02/18 06:31	08/03/18 00:47	1
C8 - C18	ND		4.8	2.4	mg/Kg		08/02/18 06:31	08/03/18 00:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*80*		*40 - 140*	*08/02/18 06:31*	*08/03/18 00:47*	*1*

Client Sample ID: SB-3B-10

Date Collected: 07/26/18 11:45
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-11
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.9	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
1,1,1-Trichloroethane	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
1,1,2,2-Tetrachloroethane	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
1,1,2-Trichloroethane	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
1,1-Dichloroethane	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
1,1-Dichloroethene	ND		4.9	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
1,1-Dichloropropene	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
1,2,3-Trichlorobenzene	ND		4.9	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
1,2,3-Trichloropropane	ND		9.8	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
1,2,4-Trichlorobenzene	ND		4.9	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
1,2,4-Trimethylbenzene	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1

Client Sample ID: SB-3B-10
Date Collected: 07/26/18 11:45
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-11
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		4.9	2.0	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
1,2-Dibromoethane (EDB)	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
1,2-Dichlorobenzene	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
1,2-Dichloroethane	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
1,2-Dichloropropane	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
1,3,5-Trimethylbenzene	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
1,3-Dichlorobenzene	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
1,3-Dichloropropane	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
1,4-Dichlorobenzene	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
2,2-Dichloropropane	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
2-Chlorotoluene	ND		4.9	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
4-Chlorotoluene	ND		4.9	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Benzene	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Bromobenzene	ND		4.9	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Bromochloromethane	ND		4.9	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Bromodichloromethane	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Bromoform	ND		4.9	2.0	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Bromomethane	ND		4.9	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Carbon tetrachloride	ND		4.9	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Chlorobenzene	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Chloroethane	ND		4.9	2.0	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Chloroform	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Chloromethane	ND		4.9	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
cis-1,2-Dichloroethene	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
cis-1,3-Dichloropropene	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Dibromochloromethane	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Dibromomethane	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Dichlorodifluoromethane	ND		4.9	2.0	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Ethylbenzene	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Hexachlorobutadiene	ND		4.9	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Isopropylbenzene	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
m,p-Xylene	ND		3.9	2.0	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Methylene Chloride	ND		20	4.9	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Methyl-t-Butyl Ether (MTBE)	ND		4.9	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Naphthalene	ND		4.9	2.0	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
n-Butylbenzene	ND		4.9	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
N-Propylbenzene	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
o-Xylene	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
sec-Butylbenzene	ND		4.9	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Styrene	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Tert-amyl-methyl ether (TAME)	ND		4.9	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
tert-Butylbenzene	ND		4.9	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Tetrachloroethene	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Toluene	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
trans-1,2-Dichloroethene	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
trans-1,3-Dichloropropene	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Trichloroethene	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Trichlorofluoromethane	ND		4.9	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Vinyl chloride	ND		4.9	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1

Client Sample ID: SB-3B-10

Date Collected: 07/26/18 11:45
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-11

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		3.9	2.0	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Isopropyl Ether (DIPE)	ND		4.9	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
Ethyl-t-butyl ether (ETBE)	ND		4.9	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
tert-Butyl alcohol (TBA)	ND		98	9.8	ug/Kg		07/31/18 08:28	07/31/18 16:23	1
p-Isopropyltoluene	ND		2.0	0.98	ug/Kg		07/31/18 08:28	07/31/18 16:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*108*		*79 - 123*	*07/31/18 08:28*	*07/31/18 16:23*	*1*
4-Bromofluorobenzene (Surr)	*110*		*79 - 120*	*07/31/18 08:28*	*07/31/18 16:23*	*1*
Dibromofluoromethane (Surr)	*105*		*60 - 120*	*07/31/18 08:28*	*07/31/18 16:23*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		370	140	ug/Kg		08/01/18 09:46	08/01/18 10:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*65 - 140*	*08/01/18 09:46*	*08/01/18 10:54*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**11**		4.9	2.4	mg/Kg		08/02/18 06:31	08/03/18 03:22	1
C23-C40	**89**	**B**	4.9	2.4	mg/Kg		08/02/18 06:31	08/03/18 03:22	1
C8 - C18	**4.8**	**J**	4.9	2.4	mg/Kg		08/02/18 06:31	08/03/18 03:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*77*		*40 - 140*	*08/02/18 06:31*	*08/03/18 03:22*	*1*

Client Sample ID: SB-3B-15

Date Collected: 07/26/18 11:55
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-12

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.3	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
1,1,1-Trichloroethane	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
1,1,2,2-Tetrachloroethane	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
1,1,2-Trichloroethane	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
1,1-Dichloroethane	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
1,1-Dichloroethene	ND		4.3	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
1,1-Dichloropropene	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
1,2,3-Trichlorobenzene	ND		4.3	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
1,2,3-Trichloropropane	ND		8.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
1,2,4-Trichlorobenzene	ND		4.3	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
1,2,4-Trimethylbenzene	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
1,2-Dibromo-3-Chloropropane	ND		4.3	1.7	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
1,2-Dibromoethane (EDB)	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
1,2-Dichlorobenzene	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
1,2-Dichloroethane	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
1,2-Dichloropropane	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
1,3,5-Trimethylbenzene	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
1,3-Dichlorobenzene	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1

Client Sample ID: SB-3B-15
Date Collected: 07/26/18 11:55
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-12
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichloropropane	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
1,4-Dichlorobenzene	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
2,2-Dichloropropane	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
2-Chlorotoluene	ND		4.3	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
4-Chlorotoluene	ND		4.3	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Benzene	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Bromobenzene	ND		4.3	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Bromochloromethane	ND		4.3	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Bromodichloromethane	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Bromoform	ND		4.3	1.7	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Bromomethane	ND		4.3	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Carbon tetrachloride	ND		4.3	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Chlorobenzene	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Chloroethane	ND		4.3	1.7	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Chloroform	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Chloromethane	ND		4.3	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
cis-1,2-Dichloroethene	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
cis-1,3-Dichloropropene	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Dibromochloromethane	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Dibromomethane	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Dichlorodifluoromethane	ND		4.3	1.7	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Ethylbenzene	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Hexachlorobutadiene	ND		4.3	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Isopropylbenzene	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
m,p-Xylene	ND		3.5	1.7	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Methylene Chloride	ND		17	4.3	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Methyl-t-Butyl Ether (MTBE)	ND		4.3	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Naphthalene	ND		4.3	1.7	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
n-Butylbenzene	ND		4.3	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
N-Propylbenzene	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
o-Xylene	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
sec-Butylbenzene	ND		4.3	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Styrene	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Tert-amyl-methyl ether (TAME)	ND		4.3	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
tert-Butylbenzene	ND		4.3	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Tetrachloroethene	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Toluene	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
trans-1,2-Dichloroethene	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
trans-1,3-Dichloropropene	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Trichloroethene	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Trichlorofluoromethane	ND		4.3	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Vinyl chloride	ND		4.3	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Xylenes, Total	ND		3.5	1.7	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Isopropyl Ether (DIPE)	ND		4.3	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
Ethyl-t-butyl ether (ETBE)	ND		4.3	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
tert-Butyl alcohol (TBA)	ND		87	8.7	ug/Kg		07/31/18 08:28	07/31/18 16:50	1
p-Isopropyltoluene	ND		1.7	0.87	ug/Kg		07/31/18 08:28	07/31/18 16:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*79 - 123*	*07/31/18 08:28*	*07/31/18 16:50*	*1*

Client Sample ID: SB-3B-15

Date Collected: 07/26/18 11:55
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-12

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*79 - 120*	*07/31/18 08:28*	*07/31/18 16:50*	*1*
Dibromofluoromethane (Surr)	*97*		*60 - 120*	*07/31/18 08:28*	*07/31/18 16:50*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		370	140	ug/Kg		08/01/18 09:46	08/01/18 11:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*65 - 140*	*08/01/18 09:46*	*08/01/18 11:21*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**5.6**		4.9	2.4	mg/Kg		08/02/18 06:31	08/02/18 23:30	1
C23-C40	**7.1**	**B**	4.9	2.4	mg/Kg		08/02/18 06:31	08/02/18 23:30	1
C8 - C18	ND		4.9	2.4	mg/Kg		08/02/18 06:31	08/02/18 23:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*85*		*40 - 140*	*08/02/18 06:31*	*08/02/18 23:30*	*1*

Client Sample ID: SB-3B-20

Date Collected: 07/26/18 12:00
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-13

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.0	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
1,1,1-Trichloroethane	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
1,1,2,2-Tetrachloroethane	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
1,1,2-Trichloroethane	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
1,1-Dichloroethane	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
1,1-Dichloroethene	ND		4.0	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
1,1-Dichloropropene	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
1,2,3-Trichlorobenzene	ND		4.0	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
1,2,3-Trichloropropane	ND		7.9	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
1,2,4-Trichlorobenzene	ND		4.0	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
1,2,4-Trimethylbenzene	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
1,2-Dibromo-3-Chloropropane	ND		4.0	1.6	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
1,2-Dibromoethane (EDB)	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
1,2-Dichlorobenzene	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
1,2-Dichloroethane	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
1,2-Dichloropropane	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
1,3,5-Trimethylbenzene	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
1,3-Dichlorobenzene	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
1,3-Dichloropropane	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
1,4-Dichlorobenzene	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
2,2-Dichloropropane	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
2-Chlorotoluene	ND		4.0	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
4-Chlorotoluene	ND		4.0	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Benzene	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Bromobenzene	ND		4.0	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1

Client Sample ID: SB-3B-20
Date Collected: 07/26/18 12:00
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-13
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromochloromethane	ND		4.0	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Bromodichloromethane	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Bromoform	ND		4.0	1.6	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Bromomethane	ND		4.0	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Carbon tetrachloride	ND		4.0	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Chlorobenzene	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Chloroethane	ND		4.0	1.6	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Chloroform	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Chloromethane	ND		4.0	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
cis-1,2-Dichloroethene	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
cis-1,3-Dichloropropene	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Dibromochloromethane	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Dibromomethane	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Dichlorodifluoromethane	ND		4.0	1.6	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Ethylbenzene	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Hexachlorobutadiene	ND		4.0	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Isopropylbenzene	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
m,p-Xylene	ND		3.2	1.6	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Methylene Chloride	ND		16	4.0	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Methyl-t-Butyl Ether (MTBE)	ND		4.0	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Naphthalene	ND		4.0	1.6	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
n-Butylbenzene	ND		4.0	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
N-Propylbenzene	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
o-Xylene	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
sec-Butylbenzene	ND		4.0	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Styrene	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Tert-amyl-methyl ether (TAME)	ND		4.0	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
tert-Butylbenzene	ND		4.0	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Tetrachloroethene	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Toluene	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
trans-1,2-Dichloroethene	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
trans-1,3-Dichloropropene	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Trichloroethene	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Trichlorofluoromethane	ND		4.0	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Vinyl chloride	ND		4.0	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Xylenes, Total	ND		3.2	1.6	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Isopropyl Ether (DIPE)	ND		4.0	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
Ethyl-t-butyl ether (ETBE)	ND		4.0	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
tert-Butyl alcohol (TBA)	ND		79	7.9	ug/Kg		07/31/18 08:28	07/31/18 17:18	1
p-Isopropyltoluene	ND		1.6	0.79	ug/Kg		07/31/18 08:28	07/31/18 17:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*79 - 123*	*07/31/18 08:28*	*07/31/18 17:18*	*1*
4-Bromofluorobenzene (Surr)	*104*		*79 - 120*	*07/31/18 08:28*	*07/31/18 17:18*	*1*
Dibromofluoromethane (Surr)	*107*		*60 - 120*	*07/31/18 08:28*	*07/31/18 17:18*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		330	120	ug/Kg		07/31/18 14:27	08/01/18 06:45	1

Client Sample ID: SB-3B-20

Lab Sample ID: 440-216810-13

Date Collected: 07/26/18 12:00

Matrix: Solid

Date Received: 07/27/18 14:35

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	81		65 - 140	07/31/18 14:27	08/01/18 06:45	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	3.6	J	5.0	2.5	mg/Kg		08/02/18 06:31	08/03/18 01:07	1
C23-C40	4.3	J B	5.0	2.5	mg/Kg		08/02/18 06:31	08/03/18 01:07	1
C8 - C18	2.7	J	5.0	2.5	mg/Kg		08/02/18 06:31	08/03/18 01:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	77		40 - 140	08/02/18 06:31	08/03/18 01:07	1

Client Sample ID: SB-3B-25

Lab Sample ID: 440-216810-14

Date Collected: 07/26/18 12:05

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.9	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
1,1,1-Trichloroethane	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
1,1,2,2-Tetrachloroethane	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
1,1,2-Trichloroethane	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
1,1-Dichloroethane	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
1,1-Dichloroethene	ND		4.9	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
1,1-Dichloropropene	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
1,2,3-Trichlorobenzene	ND		4.9	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
1,2,3-Trichloropropane	ND		9.9	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
1,2,4-Trichlorobenzene	ND		4.9	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
1,2,4-Trimethylbenzene	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
1,2-Dibromo-3-Chloropropane	ND		4.9	2.0	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
1,2-Dibromoethane (EDB)	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
1,2-Dichlorobenzene	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
1,2-Dichloroethane	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
1,2-Dichloropropane	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
1,3,5-Trimethylbenzene	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
1,3-Dichlorobenzene	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
1,3-Dichloropropane	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
1,4-Dichlorobenzene	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
2,2-Dichloropropane	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
2-Chlorotoluene	ND		4.9	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
4-Chlorotoluene	ND		4.9	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Benzene	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Bromobenzene	ND		4.9	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Bromochloromethane	ND		4.9	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Bromodichloromethane	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Bromoform	ND		4.9	2.0	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Bromomethane	ND		4.9	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Carbon tetrachloride	ND		4.9	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Chlorobenzene	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Chloroethane	ND		4.9	2.0	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Chloroform	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Chloromethane	ND		4.9	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1

Client Sample ID: SB-3B-25
Date Collected: 07/26/18 12:05
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-14
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
cis-1,3-Dichloropropene	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Dibromochloromethane	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Dibromomethane	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Dichlorodifluoromethane	ND		4.9	2.0	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Ethylbenzene	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Hexachlorobutadiene	ND		4.9	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Isopropylbenzene	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
m,p-Xylene	ND		4.0	2.0	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Methylene Chloride	ND		20	4.9	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Methyl-t-Butyl Ether (MTBE)	ND		4.9	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Naphthalene	ND		4.9	2.0	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
n-Butylbenzene	ND		4.9	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
N-Propylbenzene	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
o-Xylene	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
sec-Butylbenzene	ND		4.9	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Styrene	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Tert-amyl-methyl ether (TAME)	ND		4.9	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
tert-Butylbenzene	ND		4.9	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Tetrachloroethene	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Toluene	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
trans-1,2-Dichloroethene	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
trans-1,3-Dichloropropene	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Trichloroethene	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Trichlorofluoromethane	ND		4.9	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Vinyl chloride	ND		4.9	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Xylenes, Total	ND		4.0	2.0	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Isopropyl Ether (DIPE)	ND		4.9	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
Ethyl-t-butyl ether (ETBE)	ND		4.9	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
tert-Butyl alcohol (TBA)	ND		99	9.9	ug/Kg		07/31/18 08:28	07/31/18 17:46	1
p-Isopropyltoluene	ND		2.0	0.99	ug/Kg		07/31/18 08:28	07/31/18 17:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*106*		*79 - 123*	*07/31/18 08:28*	*07/31/18 17:46*	*1*
4-Bromofluorobenzene (Surr)	*105*		*79 - 120*	*07/31/18 08:28*	*07/31/18 17:46*	*1*
Dibromofluoromethane (Surr)	*97*		*60 - 120*	*07/31/18 08:28*	*07/31/18 17:46*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		360	130	ug/Kg		07/31/18 14:27	08/01/18 07:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*65 - 140*	*07/31/18 14:27*	*08/01/18 07:13*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		4.9	2.5	mg/Kg		08/02/18 06:31	08/03/18 01:26	1
C23-C40	**3.0**	**J B**	4.9	2.5	mg/Kg		08/02/18 06:31	08/03/18 01:26	1
C8 - C18	ND		4.9	2.5	mg/Kg		08/02/18 06:31	08/03/18 01:26	1

Client Sample ID: SB-3B-25

Date Collected: 07/26/18 12:05
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-14
Matrix: Solid

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	78		40 - 140	08/02/18 06:31	08/03/18 01:26	1

Client Sample ID: SB-3B-30

Date Collected: 07/26/18 12:10
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-15
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
1,1,1-Trichloroethane	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
1,1,2,2-Tetrachloroethane	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
1,1,2-Trichloroethane	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
1,1-Dichloroethane	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
1,1-Dichloroethene	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
1,1-Dichloropropene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
1,2,3-Trichlorobenzene	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
1,2,3-Trichloropropane	ND		9.6	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
1,2,4-Trichlorobenzene	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
1,2,4-Trimethylbenzene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
1,2-Dibromo-3-Chloropropane	ND		4.8	1.9	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
1,2-Dibromoethane (EDB)	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
1,2-Dichlorobenzene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
1,2-Dichloroethane	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
1,2-Dichloropropane	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
1,3,5-Trimethylbenzene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
1,3-Dichlorobenzene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
1,3-Dichloropropane	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
1,4-Dichlorobenzene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
2,2-Dichloropropane	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
2-Chlorotoluene	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
4-Chlorotoluene	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Benzene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Bromobenzene	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Bromochloromethane	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Bromodichloromethane	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Bromoform	ND		4.8	1.9	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Bromomethane	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Carbon tetrachloride	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Chlorobenzene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Chloroethane	ND		4.8	1.9	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Chloroform	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Chloromethane	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
cis-1,2-Dichloroethene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
cis-1,3-Dichloropropene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Dibromochloromethane	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Dibromomethane	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Dichlorodifluoromethane	ND		4.8	1.9	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Ethylbenzene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Hexachlorobutadiene	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Isopropylbenzene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1

Client Sample ID: SB-3B-30
Date Collected: 07/26/18 12:10
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-15
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	ND		3.8	1.9	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Methylene Chloride	ND		19	4.8	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Methyl-t-Butyl Ether (MTBE)	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Naphthalene	ND		4.8	1.9	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
n-Butylbenzene	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
N-Propylbenzene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
o-Xylene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
sec-Butylbenzene	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Styrene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Tert-amyl-methyl ether (TAME)	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
tert-Butylbenzene	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Tetrachloroethene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Toluene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
trans-1,2-Dichloroethene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
trans-1,3-Dichloropropene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Trichloroethene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Trichlorofluoromethane	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Vinyl chloride	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Xylenes, Total	ND		3.8	1.9	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Isopropyl Ether (DIPE)	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
Ethyl-t-butyl ether (ETBE)	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
tert-Butyl alcohol (TBA)	ND		96	9.6	ug/Kg		07/31/18 08:28	07/31/18 18:14	1
p-Isopropyltoluene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 18:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*110*		*79 - 123*	*07/31/18 08:28*	*07/31/18 18:14*	*1*
4-Bromofluorobenzene (Surr)	*108*		*79 - 120*	*07/31/18 08:28*	*07/31/18 18:14*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 120*	*07/31/18 08:28*	*07/31/18 18:14*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		470	180	ug/Kg		07/31/18 14:27	08/01/18 07:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*65 - 140*	*07/31/18 14:27*	*08/01/18 07:42*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**58**		4.9	2.5	mg/Kg		08/02/18 06:31	08/03/18 03:42	1
C23-C40	**31**	**B**	4.9	2.5	mg/Kg		08/02/18 06:31	08/03/18 03:42	1
C8 - C18	**28**		4.9	2.5	mg/Kg		08/02/18 06:31	08/03/18 03:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*83*		*40 - 140*	*08/02/18 06:31*	*08/03/18 03:42*	*1*

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216810-1

Client Sample ID: SB-2B-15
Date Collected: 07/26/18 13:00
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-16
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		6.3	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
1,1,1-Trichloroethane	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
1,1,2,2-Tetrachloroethane	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
1,1,2-Trichloroethane	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
1,1-Dichloroethane	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
1,1-Dichloroethene	ND		6.3	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
1,1-Dichloropropene	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
1,2,3-Trichlorobenzene	ND		6.3	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
1,2,3-Trichloropropane	ND		13	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
1,2,4-Trichlorobenzene	ND		6.3	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
1,2,4-Trimethylbenzene	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
1,2-Dibromo-3-Chloropropane	ND		6.3	2.5	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
1,2-Dibromoethane (EDB)	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
1,2-Dichlorobenzene	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
1,2-Dichloroethane	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
1,2-Dichloropropane	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
1,3,5-Trimethylbenzene	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
1,3-Dichlorobenzene	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
1,3-Dichloropropane	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
1,4-Dichlorobenzene	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
2,2-Dichloropropane	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
2-Chlorotoluene	ND		6.3	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
4-Chlorotoluene	ND		6.3	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Benzene	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Bromobenzene	ND		6.3	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Bromochloromethane	ND		6.3	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Bromodichloromethane	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Bromoform	ND		6.3	2.5	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Bromomethane	ND		6.3	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Carbon tetrachloride	ND		6.3	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Chlorobenzene	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Chloroethane	ND		6.3	2.5	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Chloroform	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Chloromethane	ND		6.3	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
cis-1,2-Dichloroethene	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
cis-1,3-Dichloropropene	ND	*	2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Dibromochloromethane	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Dibromomethane	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Dichlorodifluoromethane	ND		6.3	2.5	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Ethylbenzene	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Hexachlorobutadiene	ND		6.3	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Isopropylbenzene	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
m,p-Xylene	ND		5.1	2.5	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Methylene Chloride	ND		25	6.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Methyl-t-Butyl Ether (MTBE)	ND		6.3	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Naphthalene	ND		6.3	2.5	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
n-Butylbenzene	ND		6.3	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
N-Propylbenzene	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
o-Xylene	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1

Client Sample ID: SB-2B-15

Date Collected: 07/26/18 13:00
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-16
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		6.3	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Styrene	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Tert-amyl-methyl ether (TAME)	ND		6.3	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
tert-Butylbenzene	ND		6.3	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Tetrachloroethene	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Toluene	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
trans-1,2-Dichloroethene	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
trans-1,3-Dichloropropene	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Trichloroethene	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Trichlorofluoromethane	ND		6.3	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Vinyl chloride	ND		6.3	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Xylenes, Total	ND		5.1	2.5	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Isopropyl Ether (DIPE)	ND		6.3	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
Ethyl-t-butyl ether (ETBE)	ND		6.3	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
tert-Butyl alcohol (TBA)	ND		130	13	ug/Kg		07/31/18 08:28	07/31/18 12:12	1
p-Isopropyltoluene	ND		2.5	1.3	ug/Kg		07/31/18 08:28	07/31/18 12:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*79 - 123*	*07/31/18 08:28*	*07/31/18 12:12*	*1*
4-Bromofluorobenzene (Surr)	*98*		*79 - 120*	*07/31/18 08:28*	*07/31/18 12:12*	*1*
Dibromofluoromethane (Surr)	*97*		*60 - 120*	*07/31/18 08:28*	*07/31/18 12:12*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		540	200	ug/Kg		07/31/18 14:27	08/01/18 08:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*76*		*65 - 140*	*07/31/18 14:27*	*08/01/18 08:11*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		4.8	2.4	mg/Kg		08/02/18 06:31	08/03/18 01:45	1
C23-C40	**3.2**	**J B**	4.8	2.4	mg/Kg		08/02/18 06:31	08/03/18 01:45	1
C8 - C18	ND		4.8	2.4	mg/Kg		08/02/18 06:31	08/03/18 01:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*80*		*40 - 140*	*08/02/18 06:31*	*08/03/18 01:45*	*1*

Client Sample ID: SB-2B-20

Date Collected: 07/26/18 13:05
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-17
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		10	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
1,1,1-Trichloroethane	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
1,1,2,2-Tetrachloroethane	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
1,1,2-Trichloroethane	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
1,1-Dichloroethane	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
1,1-Dichloroethene	ND		10	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
1,1-Dichloropropene	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1

Client Sample ID: SB-2B-20
Date Collected: 07/26/18 13:05
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-17
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	ND		10	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
1,2,3-Trichloropropane	ND		20	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
1,2,4-Trichlorobenzene	ND		10	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
1,2,4-Trimethylbenzene	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
1,2-Dibromo-3-Chloropropane	ND		10	4.1	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
1,2-Dibromoethane (EDB)	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
1,2-Dichlorobenzene	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
1,2-Dichloroethane	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
1,2-Dichloropropane	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
1,3,5-Trimethylbenzene	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
1,3-Dichlorobenzene	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
1,3-Dichloropropane	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
1,4-Dichlorobenzene	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
2,2-Dichloropropane	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
2-Chlorotoluene	ND		10	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
4-Chlorotoluene	ND		10	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Benzene	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Bromobenzene	ND		10	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Bromochloromethane	ND		10	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Bromodichloromethane	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Bromoform	ND		10	4.1	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Bromomethane	ND		10	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Carbon tetrachloride	ND		10	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Chlorobenzene	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Chloroethane	ND		10	4.1	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Chloroform	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Chloromethane	ND		10	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
cis-1,2-Dichloroethene	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
cis-1,3-Dichloropropene	ND	*	4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Dibromochloromethane	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Dibromomethane	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Dichlorodifluoromethane	ND		10	4.1	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Ethylbenzene	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Hexachlorobutadiene	ND		10	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Isopropylbenzene	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
m,p-Xylene	ND		8.2	4.1	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Methylene Chloride	ND		41	10	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Methyl-t-Butyl Ether (MTBE)	ND		10	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Naphthalene	ND		10	4.1	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
n-Butylbenzene	ND		10	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
N-Propylbenzene	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
o-Xylene	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
sec-Butylbenzene	ND		10	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Styrene	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Tert-amyl-methyl ether (TAME)	ND		10	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
tert-Butylbenzene	ND		10	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Tetrachloroethene	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Toluene	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
trans-1,2-Dichloroethene	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1

Client Sample ID: SB-2B-20

Lab Sample ID: 440-216810-17

Date Collected: 07/26/18 13:05

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Trichloroethene	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Trichlorofluoromethane	ND		10	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Vinyl chloride	ND		10	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Xylenes, Total	ND		8.2	4.1	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Isopropyl Ether (DIPE)	ND		10	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
Ethyl-t-butyl ether (ETBE)	ND		10	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
tert-Butyl alcohol (TBA)	ND		200	20	ug/Kg		07/31/18 08:28	07/31/18 12:39	1
p-Isopropyltoluene	ND		4.1	2.0	ug/Kg		07/31/18 08:28	07/31/18 12:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*106*		*79 - 123*	*07/31/18 08:28*	*07/31/18 12:39*	*1*
4-Bromofluorobenzene (Surr)	*99*		*79 - 120*	*07/31/18 08:28*	*07/31/18 12:39*	*1*
Dibromofluoromethane (Surr)	*100*		*60 - 120*	*07/31/18 08:28*	*07/31/18 12:39*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		420	160	ug/Kg		07/31/18 14:27	08/01/18 03:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*65 - 140*	*07/31/18 14:27*	*08/01/18 03:25*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**3.5**	**J**	4.9	2.4	mg/Kg		08/02/18 06:31	08/03/18 02:05	1
C23-C40	**6.0**	**B**	4.9	2.4	mg/Kg		08/02/18 06:31	08/03/18 02:05	1
C8 - C18	ND		4.9	2.4	mg/Kg		08/02/18 06:31	08/03/18 02:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*80*		*40 - 140*	*08/02/18 06:31*	*08/03/18 02:05*	*1*

Client Sample ID: SB-2B-25

Lab Sample ID: 440-216810-18

Date Collected: 07/26/18 13:10

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		7.2	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
1,1,1-Trichloroethane	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
1,1,2,2-Tetrachloroethane	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
1,1,2-Trichloroethane	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
1,1-Dichloroethane	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
1,1-Dichloroethene	ND		7.2	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
1,1-Dichloropropene	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
1,2,3-Trichlorobenzene	ND		7.2	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
1,2,3-Trichloropropane	ND		14	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
1,2,4-Trichlorobenzene	ND		7.2	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
1,2,4-Trimethylbenzene	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
1,2-Dibromo-3-Chloropropane	ND		7.2	2.9	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
1,2-Dibromoethane (EDB)	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
1,2-Dichlorobenzene	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216810-1

Client Sample ID: SB-2B-25
Date Collected: 07/26/18 13:10
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-18
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
1,2-Dichloropropane	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
1,3,5-Trimethylbenzene	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
1,3-Dichlorobenzene	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
1,3-Dichloropropane	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
1,4-Dichlorobenzene	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
2,2-Dichloropropane	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
2-Chlorotoluene	ND		7.2	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
4-Chlorotoluene	ND		7.2	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Benzene	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Bromobenzene	ND		7.2	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Bromochloromethane	ND		7.2	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Bromodichloromethane	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Bromoform	ND		7.2	2.9	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Bromomethane	ND		7.2	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Carbon tetrachloride	ND		7.2	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Chlorobenzene	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Chloroethane	ND		7.2	2.9	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Chloroform	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Chloromethane	ND		7.2	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
cis-1,2-Dichloroethene	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
cis-1,3-Dichloropropene	ND	*	2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Dibromochloromethane	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Dibromomethane	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Dichlorodifluoromethane	ND		7.2	2.9	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Ethylbenzene	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Hexachlorobutadiene	ND		7.2	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Isopropylbenzene	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
m,p-Xylene	ND		5.7	2.9	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Methylene Chloride	ND		29	7.2	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Methyl-t-Butyl Ether (MTBE)	ND		7.2	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Naphthalene	ND		7.2	2.9	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
n-Butylbenzene	ND		7.2	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
N-Propylbenzene	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
o-Xylene	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
sec-Butylbenzene	ND		7.2	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Styrene	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Tert-amyl-methyl ether (TAME)	ND		7.2	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
tert-Butylbenzene	ND		7.2	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Tetrachloroethene	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Toluene	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
trans-1,2-Dichloroethene	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
trans-1,3-Dichloropropene	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Trichloroethene	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Trichlorofluoromethane	ND		7.2	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Vinyl chloride	ND		7.2	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Xylenes, Total	ND		5.7	2.9	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Isopropyl Ether (DIPE)	ND		7.2	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
Ethyl-t-butyl ether (ETBE)	ND		7.2	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1

Client Sample ID: SB-2B-25

Lab Sample ID: 440-216810-18

Date Collected: 07/26/18 13:10

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butyl alcohol (TBA)	ND		140	14	ug/Kg		07/31/18 08:28	07/31/18 13:07	1
p-Isopropyltoluene	ND		2.9	1.4	ug/Kg		07/31/18 08:28	07/31/18 13:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*106*		*79 - 123*	*07/31/18 08:28*	*07/31/18 13:07*	*1*
4-Bromofluorobenzene (Surr)	*101*		*79 - 120*	*07/31/18 08:28*	*07/31/18 13:07*	*1*
Dibromofluoromethane (Surr)	*103*		*60 - 120*	*07/31/18 08:28*	*07/31/18 13:07*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		500	190	ug/Kg		07/31/18 14:27	08/01/18 03:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*65 - 140*	*07/31/18 14:27*	*08/01/18 03:52*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**5.3**		5.0	2.5	mg/Kg		08/02/18 06:31	08/02/18 20:36	1
C23-C40	**36**	**B**	5.0	2.5	mg/Kg		08/02/18 06:31	08/02/18 20:36	1
C8 - C18	ND		5.0	2.5	mg/Kg		08/02/18 06:31	08/02/18 20:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*76*		*40 - 140*	*08/02/18 06:31*	*08/02/18 20:36*	*1*

Client Sample ID: SB-2B-30

Lab Sample ID: 440-216810-19

Date Collected: 07/26/18 13:15

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		210	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
1,1,1-Trichloroethane	ND		85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
1,1,2,2-Tetrachloroethane	ND		85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
1,1,2-Trichloroethane	ND	*	85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
1,1-Dichloroethane	ND		85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
1,1-Dichloroethene	ND		210	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
1,1-Dichloropropene	ND		85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
1,2,3-Trichlorobenzene	ND		210	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
1,2,3-Trichloropropane	ND		430	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
1,2,4-Trichlorobenzene	ND		210	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
1,2-Dibromo-3-Chloropropane	ND		210	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
1,2-Dibromoethane (EDB)	ND		85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
1,2-Dichlorobenzene	ND		85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
1,2-Dichloroethane	ND		85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
1,2-Dichloropropane	ND		85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
1,3-Dichlorobenzene	ND		85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
1,3-Dichloropropane	ND		85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
1,4-Dichlorobenzene	ND		85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
2,2-Dichloropropane	ND		170	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
2-Chlorotoluene	ND	*	210	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
4-Chlorotoluene	ND	*	210	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100

Client Sample ID: SB-2B-30
Date Collected: 07/26/18 13:15
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-19
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**3500**		85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Bromobenzene	ND		210	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Bromochloromethane	ND		210	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Bromodichloromethane	ND		85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Bromoform	ND		210	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Bromomethane	ND		210	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Carbon tetrachloride	ND		210	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Chlorobenzene	ND		85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Chloroethane	ND		210	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Chloroform	ND		85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Chloromethane	ND		210	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
cis-1,2-Dichloroethene	ND		85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
cis-1,3-Dichloropropene	ND	*	85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Dibromochloromethane	ND		85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Dibromomethane	ND		85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Dichlorodifluoromethane	ND		210	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Hexachlorobutadiene	ND		210	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Isopropylbenzene	ND	*	85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
m,p-Xylene	**2200**		170	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Methylene Chloride	ND		850	430	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Methyl-t-Butyl Ether (MTBE)	ND		210	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Naphthalene	**220**		210	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
n-Butylbenzene	ND	*	210	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
o-Xylene	**940**		85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
sec-Butylbenzene	ND	*	210	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Styrene	ND		85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Tert-amyl-methyl ether (TAME)	ND		210	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
tert-Butylbenzene	ND	*	210	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Tetrachloroethene	ND		85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
trans-1,2-Dichloroethene	ND		85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
trans-1,3-Dichloropropene	ND		85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Trichloroethene	ND		85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Trichlorofluoromethane	ND		210	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Vinyl chloride	ND		210	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Xylenes, Total	**3100**		170	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Isopropyl Ether (DIPE)	ND		210	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
Ethyl-t-butyl ether (ETBE)	ND		210	85	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
tert-Butyl alcohol (TBA)	ND		4300	2100	ug/Kg		07/30/18 14:40	08/01/18 16:11	100
p-Isopropyltoluene	ND	*	85	43	ug/Kg		07/30/18 14:40	08/01/18 16:11	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*111*		*60 - 140*	*07/30/18 14:40*	*08/01/18 16:11*	*100*
4-Bromofluorobenzene (Surr)	*114*		*65 - 140*	*07/30/18 14:40*	*08/01/18 16:11*	*100*
Dibromofluoromethane (Surr)	*89*		*55 - 140*	*07/30/18 14:40*	*08/01/18 16:11*	*100*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	**370**		85	43	ug/Kg		07/30/18 14:40	08/03/18 16:50	100
1,3,5-Trimethylbenzene	**100**		85	43	ug/Kg		07/30/18 14:40	08/03/18 16:50	100
Ethylbenzene	**480**		85	43	ug/Kg		07/30/18 14:40	08/03/18 16:50	100

Client Sample ID: SB-2B-30

Lab Sample ID: 440-216810-19

Date Collected: 07/26/18 13:15

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		85	43	ug/Kg		07/30/18 14:40	08/03/18 16:50	100
Toluene	**3400**		85	43	ug/Kg		07/30/18 14:40	08/03/18 16:50	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*60 - 140*	*07/30/18 14:40*	*08/03/18 16:50*	*100*
4-Bromofluorobenzene (Surr)	*94*		*65 - 140*	*07/30/18 14:40*	*08/03/18 16:50*	*100*
Dibromofluoromethane (Surr)	*101*		*55 - 140*	*07/30/18 14:40*	*08/03/18 16:50*	*100*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	**7300**	**E**	290	110	ug/Kg		07/31/18 14:27	08/01/18 04:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*65 - 140*	*07/31/18 14:27*	*08/01/18 04:18*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**2.6**	**J**	4.9	2.4	mg/Kg		08/02/18 06:31	08/03/18 02:24	1
C23-C40	**3.2**	**J B**	4.9	2.4	mg/Kg		08/02/18 06:31	08/03/18 02:24	1
C8 - C18	**3.2**	**J**	4.9	2.4	mg/Kg		08/02/18 06:31	08/03/18 02:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*80*		*40 - 140*	*08/02/18 06:31*	*08/03/18 02:24*	*1*

Client Sample ID: SB-2B-35

Lab Sample ID: 440-216810-20

Date Collected: 07/26/18 13:25

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,1,1-Trichloroethane	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,1,2,2-Tetrachloroethane	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,1,2-Trichloroethane	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,1-Dichloroethane	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,1-Dichloroethene	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,1-Dichloropropene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,2,3-Trichlorobenzene	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,2,3-Trichloropropane	ND		9.6	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,2,4-Trichlorobenzene	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,2,4-Trimethylbenzene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,2-Dibromo-3-Chloropropane	ND		4.8	1.9	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,2-Dibromoethane (EDB)	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,2-Dichlorobenzene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,2-Dichloroethane	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,2-Dichloropropane	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,3,5-Trimethylbenzene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,3-Dichlorobenzene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,3-Dichloropropane	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
1,4-Dichlorobenzene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
2,2-Dichloropropane	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1

Client Sample ID: SB-2B-35
Date Collected: 07/26/18 13:25
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-20
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
4-Chlorotoluene	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Benzene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Bromobenzene	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Bromochloromethane	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Bromodichloromethane	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Bromoform	ND		4.8	1.9	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Bromomethane	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Carbon tetrachloride	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Chlorobenzene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Chloroethane	ND		4.8	1.9	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Chloroform	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Chloromethane	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
cis-1,2-Dichloroethene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
cis-1,3-Dichloropropene	ND	*	1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Dibromochloromethane	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Dibromomethane	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Dichlorodifluoromethane	ND		4.8	1.9	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Ethylbenzene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Hexachlorobutadiene	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Isopropylbenzene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
m,p-Xylene	ND		3.8	1.9	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Methylene Chloride	ND		19	4.8	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Methyl-t-Butyl Ether (MTBE)	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Naphthalene	ND		4.8	1.9	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
n-Butylbenzene	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
N-Propylbenzene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
o-Xylene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
sec-Butylbenzene	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Styrene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Tert-amyl-methyl ether (TAME)	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
tert-Butylbenzene	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Tetrachloroethene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Toluene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
trans-1,2-Dichloroethene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
trans-1,3-Dichloropropene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Trichloroethene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Trichlorofluoromethane	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Vinyl chloride	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Xylenes, Total	ND		3.8	1.9	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Isopropyl Ether (DIPE)	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
Ethyl-t-butyl ether (ETBE)	ND		4.8	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
tert-Butyl alcohol (TBA)	ND		96	9.6	ug/Kg		07/31/18 08:28	07/31/18 13:34	1
p-Isopropyltoluene	ND		1.9	0.96	ug/Kg		07/31/18 08:28	07/31/18 13:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*79 - 123*	*07/31/18 08:28*	*07/31/18 13:34*	*1*
4-Bromofluorobenzene (Surr)	*100*		*79 - 120*	*07/31/18 08:28*	*07/31/18 13:34*	*1*
Dibromofluoromethane (Surr)	*107*		*60 - 120*	*07/31/18 08:28*	*07/31/18 13:34*	*1*

Client Sample ID: SB-2B-35

Lab Sample ID: 440-216810-20

Date Collected: 07/26/18 13:25

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		360	130	ug/Kg		07/31/18 14:27	08/01/18 04:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*65 - 140*	*07/31/18 14:27*	*08/01/18 04:45*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	3.1	J	4.8	2.4	mg/Kg		08/02/18 06:31	08/03/18 02:43	1
C23-C40	3.6	J B	4.8	2.4	mg/Kg		08/02/18 06:31	08/03/18 02:43	1
C8 - C18	2.8	J	4.8	2.4	mg/Kg		08/02/18 06:31	08/03/18 02:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*82*		*40 - 140*	*08/02/18 06:31*	*08/03/18 02:43*	*1*

Client Sample ID: SB-1B-15

Lab Sample ID: 440-216810-21

Date Collected: 07/27/18 07:35

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
1,1,1-Trichloroethane	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
1,1,2,2-Tetrachloroethane	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
1,1,2-Trichloroethane	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
1,1-Dichloroethane	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
1,1-Dichloroethene	ND		5.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
1,1-Dichloropropene	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
1,2,3-Trichlorobenzene	ND		5.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
1,2,3-Trichloropropane	ND		10	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
1,2,4-Trichlorobenzene	ND		5.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
1,2,4-Trimethylbenzene	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
1,2-Dibromo-3-Chloropropane	ND		5.0	2.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
1,2-Dibromoethane (EDB)	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
1,2-Dichlorobenzene	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
1,2-Dichloroethane	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
1,2-Dichloropropane	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
1,3,5-Trimethylbenzene	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
1,3-Dichlorobenzene	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
1,3-Dichloropropane	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
1,4-Dichlorobenzene	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
2,2-Dichloropropane	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
2-Chlorotoluene	ND		5.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
4-Chlorotoluene	ND		5.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Benzene	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Bromobenzene	ND		5.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Bromochloromethane	ND		5.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Bromodichloromethane	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Bromoform	ND		5.0	2.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Bromomethane	ND		5.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Carbon tetrachloride	ND		5.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216810-1

Client Sample ID: SB-1B-15
Date Collected: 07/27/18 07:35
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-21
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Chloroethane	ND		5.0	2.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Chloroform	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
cis-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
cis-1,3-Dichloropropene	ND	*	2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Dibromochloromethane	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Dibromomethane	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Dichlorodifluoromethane	ND		5.0	2.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Ethylbenzene	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Hexachlorobutadiene	ND		5.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Isopropylbenzene	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
m,p-Xylene	ND		4.0	2.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Methylene Chloride	ND		20	5.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
n-Butylbenzene	ND		5.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
N-Propylbenzene	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
o-Xylene	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
sec-Butylbenzene	ND		5.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Styrene	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Tert-amyl-methyl ether (TAME)	ND		5.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
tert-Butylbenzene	ND		5.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Tetrachloroethene	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Toluene	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
trans-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
trans-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Trichloroethene	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Trichlorofluoromethane	ND		5.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Vinyl chloride	ND		5.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Xylenes, Total	ND		4.0	2.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Isopropyl Ether (DIPE)	ND		5.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
Ethyl-t-butyl ether (ETBE)	ND		5.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
tert-Butyl alcohol (TBA)	ND		100	10	ug/Kg		07/31/18 08:28	07/31/18 14:29	1
p-Isopropyltoluene	ND		2.0	1.0	ug/Kg		07/31/18 08:28	07/31/18 14:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*79 - 123*	*07/31/18 08:28*	*07/31/18 14:29*	*1*
4-Bromofluorobenzene (Surr)	*99*		*79 - 120*	*07/31/18 08:28*	*07/31/18 14:29*	*1*
Dibromofluoromethane (Surr)	*104*		*60 - 120*	*07/31/18 08:28*	*07/31/18 14:29*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		400	150	ug/Kg		08/02/18 10:21	08/02/18 17:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*65 - 140*	*08/02/18 10:21*	*08/02/18 17:34*	*1*

Client Sample ID: SB-1B-15

Lab Sample ID: 440-216810-21

Date Collected: 07/27/18 07:35

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		08/02/18 07:15	08/02/18 21:13	1
C23-C40	**2.6**	**J B**	5.0	2.5	mg/Kg		08/02/18 07:15	08/02/18 21:13	1
C8 - C18	ND		5.0	2.5	mg/Kg		08/02/18 07:15	08/02/18 21:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*82*		*40 - 140*	*08/02/18 07:15*	*08/02/18 21:13*	*1*

Client Sample ID: SB-1B-20

Lab Sample ID: 440-216810-22

Date Collected: 07/27/18 07:40

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
1,1,1-Trichloroethane	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
1,1,2,2-Tetrachloroethane	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
1,1,2-Trichloroethane	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
1,1-Dichloroethane	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
1,1-Dichloroethene	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
1,1-Dichloropropene	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
1,2,3-Trichlorobenzene	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
1,2,3-Trichloropropane	ND		11	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
1,2,4-Trichlorobenzene	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
1,2,4-Trimethylbenzene	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
1,2-Dibromo-3-Chloropropane	ND		5.4	2.2	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
1,2-Dibromoethane (EDB)	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
1,2-Dichlorobenzene	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
1,2-Dichloroethane	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
1,2-Dichloropropane	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
1,3,5-Trimethylbenzene	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
1,3-Dichlorobenzene	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
1,3-Dichloropropane	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
1,4-Dichlorobenzene	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
2,2-Dichloropropane	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
2-Chlorotoluene	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
4-Chlorotoluene	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Benzene	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Bromobenzene	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Bromochloromethane	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Bromodichloromethane	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Bromoform	ND		5.4	2.2	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Bromomethane	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Carbon tetrachloride	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Chlorobenzene	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Chloroethane	ND		5.4	2.2	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Chloroform	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Chloromethane	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
cis-1,2-Dichloroethene	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
cis-1,3-Dichloropropene	ND	*	2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Dibromochloromethane	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1

Client Sample ID: SB-1B-20
Date Collected: 07/27/18 07:40
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-22
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Dichlorodifluoromethane	ND		5.4	2.2	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Ethylbenzene	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Hexachlorobutadiene	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Isopropylbenzene	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
m,p-Xylene	ND		4.3	2.2	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Methylene Chloride	ND		22	5.4	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Methyl-t-Butyl Ether (MTBE)	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Naphthalene	ND		5.4	2.2	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
n-Butylbenzene	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
N-Propylbenzene	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
o-Xylene	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
sec-Butylbenzene	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Styrene	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Tert-amyl-methyl ether (TAME)	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
tert-Butylbenzene	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Tetrachloroethene	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Toluene	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
trans-1,2-Dichloroethene	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
trans-1,3-Dichloropropene	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Trichloroethene	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Trichlorofluoromethane	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Vinyl chloride	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Xylenes, Total	ND		4.3	2.2	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Isopropyl Ether (DIPE)	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
Ethyl-t-butyl ether (ETBE)	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
tert-Butyl alcohol (TBA)	ND		110	11	ug/Kg		07/31/18 08:28	07/31/18 14:56	1
p-Isopropyltoluene	ND		2.2	1.1	ug/Kg		07/31/18 08:28	07/31/18 14:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*79 - 123*	*07/31/18 08:28*	*07/31/18 14:56*	*1*
4-Bromofluorobenzene (Surr)	*96*		*79 - 120*	*07/31/18 08:28*	*07/31/18 14:56*	*1*
Dibromofluoromethane (Surr)	*104*		*60 - 120*	*07/31/18 08:28*	*07/31/18 14:56*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		430	160	ug/Kg		08/03/18 09:32	08/03/18 11:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*69*		*65 - 140*	*08/03/18 09:32*	*08/03/18 11:58*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 08:06	1
C23-C40	**3.1**	**J B**	5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 08:06	1
C8 - C18	ND		5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 08:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*78*		*40 - 140*	*08/02/18 07:15*	*08/03/18 08:06*	*1*

Client Sample ID: SB-1B-25
Date Collected: 07/27/18 07:45
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-23
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.1	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
1,1,1-Trichloroethane	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
1,1,2,2-Tetrachloroethane	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
1,1,2-Trichloroethane	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
1,1-Dichloroethane	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
1,1-Dichloroethene	ND		4.1	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
1,1-Dichloropropene	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
1,2,3-Trichlorobenzene	ND		4.1	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
1,2,3-Trichloropropane	ND		8.1	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
1,2,4-Trichlorobenzene	ND		4.1	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
1,2,4-Trimethylbenzene	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
1,2-Dibromo-3-Chloropropane	ND		4.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
1,2-Dibromoethane (EDB)	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
1,2-Dichlorobenzene	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
1,2-Dichloroethane	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
1,2-Dichloropropane	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
1,3,5-Trimethylbenzene	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
1,3-Dichlorobenzene	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
1,3-Dichloropropane	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
1,4-Dichlorobenzene	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
2,2-Dichloropropane	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
2-Chlorotoluene	ND		4.1	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
4-Chlorotoluene	ND		4.1	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Benzene	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Bromobenzene	ND		4.1	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Bromochloromethane	ND		4.1	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Bromodichloromethane	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Bromoform	ND		4.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Bromomethane	ND		4.1	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Carbon tetrachloride	ND		4.1	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Chlorobenzene	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Chloroethane	ND		4.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Chloroform	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Chloromethane	ND		4.1	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
cis-1,2-Dichloroethene	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
cis-1,3-Dichloropropene	ND	*	1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Dibromochloromethane	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Dibromomethane	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Dichlorodifluoromethane	ND		4.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Ethylbenzene	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Hexachlorobutadiene	ND		4.1	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Isopropylbenzene	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
m,p-Xylene	ND		3.3	1.6	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Methylene Chloride	ND		16	4.1	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Methyl-t-Butyl Ether (MTBE)	ND		4.1	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Naphthalene	ND		4.1	1.6	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
n-Butylbenzene	ND		4.1	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
N-Propylbenzene	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
o-Xylene	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1

Client Sample ID: SB-1B-25

Date Collected: 07/27/18 07:45
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-23
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		4.1	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Styrene	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Tert-amyl-methyl ether (TAME)	ND		4.1	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
tert-Butylbenzene	ND		4.1	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Tetrachloroethene	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Toluene	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
trans-1,2-Dichloroethene	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
trans-1,3-Dichloropropene	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Trichloroethene	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Trichlorofluoromethane	ND		4.1	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Vinyl chloride	ND		4.1	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Xylenes, Total	ND		3.3	1.6	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Isopropyl Ether (DIPE)	ND		4.1	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
Ethyl-t-butyl ether (ETBE)	ND		4.1	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
tert-Butyl alcohol (TBA)	ND		81	8.1	ug/Kg		07/31/18 08:28	07/31/18 15:24	1
p-Isopropyltoluene	ND		1.6	0.81	ug/Kg		07/31/18 08:28	07/31/18 15:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*79 - 123*	*07/31/18 08:28*	*07/31/18 15:24*	*1*
4-Bromofluorobenzene (Surr)	*102*		*79 - 120*	*07/31/18 08:28*	*07/31/18 15:24*	*1*
Dibromofluoromethane (Surr)	*106*		*60 - 120*	*07/31/18 08:28*	*07/31/18 15:24*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		300	110	ug/Kg		08/03/18 09:32	08/03/18 12:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*65 - 140*	*08/03/18 09:32*	*08/03/18 12:27*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**3.8**	**J**	5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 09:55	1
C23-C40	**7.0**	**B**	5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 09:55	1
C8 - C18	**3.2**	**J**	5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 09:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*85*		*40 - 140*	*08/02/18 07:15*	*08/03/18 09:55*	*1*

Client Sample ID: SB-1B-30

Date Collected: 07/27/18 07:50
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-24
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		250	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
1,1,1-Trichloroethane	ND		100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
1,1,2,2-Tetrachloroethane	ND		100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
1,1,2-Trichloroethane	ND	*	100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
1,1-Dichloroethane	ND		100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
1,1-Dichloroethene	ND		250	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
1,1-Dichloropropene	ND		100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100

Client Sample ID: SB-1B-30
Date Collected: 07/27/18 07:50
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-24
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	ND		250	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
1,2,3-Trichloropropane	ND		500	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
1,2,4-Trichlorobenzene	ND		250	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
1,2,4-Trimethylbenzene	ND	*	100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
1,2-Dibromo-3-Chloropropane	ND		250	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
1,2-Dibromoethane (EDB)	ND		100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
1,2-Dichlorobenzene	ND		100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
1,2-Dichloroethane	ND		100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
1,2-Dichloropropane	ND		100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
1,3-Dichlorobenzene	ND		100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
1,3-Dichloropropane	ND		100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
1,4-Dichlorobenzene	ND		100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
2,2-Dichloropropane	ND		200	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
2-Chlorotoluene	ND	*	250	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
4-Chlorotoluene	ND	*	250	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Benzene	ND		100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Bromobenzene	ND		250	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Bromochloromethane	ND		250	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Bromodichloromethane	ND		100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Bromoform	ND		250	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Bromomethane	ND		250	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Carbon tetrachloride	ND		250	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Chlorobenzene	ND		100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Chloroethane	ND		250	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Chloroform	ND		100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Chloromethane	ND		250	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
cis-1,2-Dichloroethene	ND		100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
cis-1,3-Dichloropropene	ND	*	100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Dibromochloromethane	ND		100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Dibromomethane	ND		100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Dichlorodifluoromethane	ND		250	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Ethylbenzene	ND	*	100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Hexachlorobutadiene	ND		250	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Isopropylbenzene	ND	*	100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
m,p-Xylene	ND		200	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Methylene Chloride	ND		1000	500	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Methyl-t-Butyl Ether (MTBE)	ND		250	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Naphthalene	ND		250	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
n-Butylbenzene	ND	*	250	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
N-Propylbenzene	ND	*	100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
o-Xylene	ND		100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
sec-Butylbenzene	ND	*	250	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Styrene	ND		100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Tert-amyl-methyl ether (TAME)	ND		250	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
tert-Butylbenzene	ND	*	250	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Tetrachloroethene	ND		100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Toluene	ND	*	100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
trans-1,2-Dichloroethene	ND		100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
trans-1,3-Dichloropropene	ND		100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100

Client Sample ID: SB-1B-30

Lab Sample ID: 440-216810-24

Date Collected: 07/27/18 07:50

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		100	50	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Trichlorofluoromethane	ND		250	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Vinyl chloride	ND		250	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Xylenes, Total	ND		200	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Isopropyl Ether (DIPE)	ND		250	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
Ethyl-t-butyl ether (ETBE)	ND		250	100	ug/Kg		07/30/18 14:40	08/01/18 16:41	100
tert-Butyl alcohol (TBA)	ND		5000	2500	ug/Kg		07/30/18 14:40	08/01/18 16:41	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*112*		*60 - 140*	*07/30/18 14:40*	*08/01/18 16:41*	*100*
4-Bromofluorobenzene (Surr)	*114*		*65 - 140*	*07/30/18 14:40*	*08/01/18 16:41*	*100*
Dibromofluoromethane (Surr)	*89*		*55 - 140*	*07/30/18 14:40*	*08/01/18 16:41*	*100*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	**470**		100	50	ug/Kg		07/30/18 14:40	08/03/18 17:16	100
p-Isopropyltoluene	**140**		100	50	ug/Kg		07/30/18 14:40	08/03/18 17:16	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*60 - 140*	*07/30/18 14:40*	*08/03/18 17:16*	*100*
4-Bromofluorobenzene (Surr)	*97*		*65 - 140*	*07/30/18 14:40*	*08/03/18 17:16*	*100*
Dibromofluoromethane (Surr)	*98*		*55 - 140*	*07/30/18 14:40*	*08/03/18 17:16*	*100*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	**310000**		80000	40000	ug/Kg		07/30/18 14:40	08/06/18 15:32	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*65 - 140*	*07/30/18 14:40*	*08/06/18 15:32*	*200*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C23-C40	**51**	**B**	5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 10:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*81*		*40 - 140*	*08/02/18 07:15*	*08/03/18 10:40*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**1800**		100	50	mg/Kg		08/02/18 07:15	08/03/18 21:11	20
C8 - C18	**2600**		100	50	mg/Kg		08/02/18 07:15	08/03/18 21:11	20

Client Sample ID: CPT-LIF-1B-29

Lab Sample ID: 440-216810-25

Date Collected: 07/27/18 08:40

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.0	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
1,1,1-Trichloroethane	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
1,1,2,2-Tetrachloroethane	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
1,1,2-Trichloroethane	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216810-1

Client Sample ID: CPT-LIF-1B-29
Date Collected: 07/27/18 08:40
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-25
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
1,1-Dichloroethene	ND		4.0	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
1,1-Dichloropropene	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
1,2,3-Trichlorobenzene	ND		4.0	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
1,2,3-Trichloropropane	ND		7.9	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
1,2,4-Trichlorobenzene	ND		4.0	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
1,2,4-Trimethylbenzene	**100**		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
1,2-Dibromo-3-Chloropropane	ND		4.0	1.6	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
1,2-Dibromoethane (EDB)	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
1,2-Dichlorobenzene	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
1,2-Dichloroethane	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
1,2-Dichloropropane	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
1,3,5-Trimethylbenzene	**28**		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
1,3-Dichlorobenzene	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
1,3-Dichloropropane	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
1,4-Dichlorobenzene	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
2,2-Dichloropropane	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
2-Chlorotoluene	ND		4.0	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
4-Chlorotoluene	ND		4.0	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Benzene	**11**		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Bromobenzene	ND		4.0	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Bromochloromethane	ND		4.0	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Bromodichloromethane	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Bromoform	ND		4.0	1.6	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Bromomethane	ND		4.0	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Carbon tetrachloride	ND		4.0	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Chlorobenzene	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Chloroethane	ND		4.0	1.6	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Chloroform	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Chloromethane	ND		4.0	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
cis-1,2-Dichloroethene	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
cis-1,3-Dichloropropene	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Dibromochloromethane	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Dibromomethane	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Dichlorodifluoromethane	ND		4.0	1.6	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Ethylbenzene	**65**		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Hexachlorobutadiene	ND		4.0	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Isopropylbenzene	**5.9**		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
m,p-Xylene	**97**		3.2	1.6	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Methylene Chloride	ND		16	4.0	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Methyl-t-Butyl Ether (MTBE)	ND		4.0	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Naphthalene	**49**		4.0	1.6	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
n-Butylbenzene	**5.8**		4.0	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
N-Propylbenzene	**15**		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
o-Xylene	**44**		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
sec-Butylbenzene	**2.1**	**J**	4.0	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Styrene	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Tert-amyl-methyl ether (TAME)	ND		4.0	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
tert-Butylbenzene	ND		4.0	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1

Client Sample ID: CPT-LIF-1B-29

Lab Sample ID: 440-216810-25

Date Collected: 07/27/18 08:40

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Toluene	**14**		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
trans-1,2-Dichloroethene	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
trans-1,3-Dichloropropene	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Trichloroethene	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Trichlorofluoromethane	ND		4.0	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Vinyl chloride	ND		4.0	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Xylenes, Total	**140**		3.2	1.6	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Isopropyl Ether (DIPE)	ND		4.0	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
Ethyl-t-butyl ether (ETBE)	ND		4.0	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
tert-Butyl alcohol (TBA)	**17**	**J ID**	79	7.9	ug/Kg		07/31/18 13:12	07/31/18 18:42	1
p-Isopropyltoluene	ND		1.6	0.79	ug/Kg		07/31/18 13:12	07/31/18 18:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*111*		*79 - 123*	*07/31/18 13:12*	*07/31/18 18:42*	*1*
4-Bromofluorobenzene (Surr)	*102*		*79 - 120*	*07/31/18 13:12*	*07/31/18 18:42*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 120*	*07/31/18 13:12*	*07/31/18 18:42*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	**2500**		360	130	ug/Kg		08/02/18 10:21	08/02/18 18:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*65 - 140*	*08/02/18 10:21*	*08/02/18 18:59*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**240**		5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 10:17	1
C23-C40	**18**	**B**	5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 10:17	1
C8 - C18	**220**		5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 10:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*74*		*40 - 140*	*08/02/18 07:15*	*08/03/18 10:17*	*1*

Client Sample ID: CPT-LIF-101B-29

Lab Sample ID: 440-216810-26

Date Collected: 07/27/18 08:45

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		3.8	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
1,1,1-Trichloroethane	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
1,1,2,2-Tetrachloroethane	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
1,1,2-Trichloroethane	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
1,1-Dichloroethane	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
1,1-Dichloroethene	ND		3.8	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
1,1-Dichloropropene	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
1,2,3-Trichlorobenzene	ND		3.8	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
1,2,3-Trichloropropane	ND		7.6	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
1,2,4-Trichlorobenzene	ND		3.8	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
1,2,4-Trimethylbenzene	**67**		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1

Client Sample ID: CPT-LIF-101B-29
Date Collected: 07/27/18 08:45
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-26
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		3.8	1.5	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
1,2-Dibromoethane (EDB)	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
1,2-Dichlorobenzene	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
1,2-Dichloroethane	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
1,2-Dichloropropane	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
1,3,5-Trimethylbenzene	**18**		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
1,3-Dichlorobenzene	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
1,3-Dichloropropane	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
1,4-Dichlorobenzene	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
2,2-Dichloropropane	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
2-Chlorotoluene	ND		3.8	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
4-Chlorotoluene	ND		3.8	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Benzene	**8.6**		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Bromobenzene	ND		3.8	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Bromochloromethane	ND		3.8	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Bromodichloromethane	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Bromoform	ND		3.8	1.5	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Bromomethane	ND		3.8	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Carbon tetrachloride	ND		3.8	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Chlorobenzene	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Chloroethane	ND		3.8	1.5	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Chloroform	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Chloromethane	ND		3.8	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
cis-1,2-Dichloroethene	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
cis-1,3-Dichloropropene	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Dibromochloromethane	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Dibromomethane	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Dichlorodifluoromethane	ND		3.8	1.5	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Ethylbenzene	**44**		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Hexachlorobutadiene	ND		3.8	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Isopropylbenzene	**3.7**		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
m,p-Xylene	**67**		3.1	1.5	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Methylene Chloride	ND		15	3.8	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Methyl-t-Butyl Ether (MTBE)	ND		3.8	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Naphthalene	**31**		3.8	1.5	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
n-Butylbenzene	**3.3**	**J**	3.8	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
N-Propylbenzene	**9.0**		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
o-Xylene	**34**		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
sec-Butylbenzene	**1.3**	**J**	3.8	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Styrene	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Tert-amyl-methyl ether (TAME)	ND		3.8	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
tert-Butylbenzene	ND		3.8	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Tetrachloroethene	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Toluene	**11**		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
trans-1,2-Dichloroethene	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
trans-1,3-Dichloropropene	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Trichloroethene	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Trichlorofluoromethane	ND		3.8	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Vinyl chloride	ND		3.8	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1

Client Sample ID: CPT-LIF-101B-29

Lab Sample ID: 440-216810-26

Date Collected: 07/27/18 08:45

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	**100**		3.1	1.5	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Isopropyl Ether (DIPE)	ND		3.8	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
Ethyl-t-butyl ether (ETBE)	ND		3.8	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
tert-Butyl alcohol (TBA)	**19**	**J**	76	7.6	ug/Kg		07/27/18 15:00	08/01/18 14:52	1
p-Isopropyltoluene	ND		1.5	0.76	ug/Kg		07/27/18 15:00	08/01/18 14:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*79 - 123*	*07/27/18 15:00*	*08/01/18 14:52*	*1*
4-Bromofluorobenzene (Surr)	*93*		*79 - 120*	*07/27/18 15:00*	*08/01/18 14:52*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 120*	*07/27/18 15:00*	*08/01/18 14:52*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	**63000**		34000	17000	ug/Kg		07/30/18 14:40	08/02/18 22:13	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*65 - 140*	*07/30/18 14:40*	*08/02/18 22:13*	*100*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**290**		5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 11:02	1
C23-C40	**19**	**B**	5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 11:02	1
C8 - C18	**270**		5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 11:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*73*		*40 - 140*	*08/02/18 07:15*	*08/03/18 11:02*	*1*

Client Sample ID: CPT-LIF-1B-31

Lab Sample ID: 440-216810-27

Date Collected: 07/27/18 08:50

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
1,1,1-Trichloroethane	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
1,1,2,2-Tetrachloroethane	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
1,1,2-Trichloroethane	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
1,1-Dichloroethane	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
1,1-Dichloroethene	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
1,1-Dichloropropene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
1,2,3-Trichlorobenzene	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
1,2,3-Trichloropropane	ND		8.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
1,2,4-Trichlorobenzene	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
1,2,4-Trimethylbenzene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
1,2-Dibromo-3-Chloropropane	ND		4.4	1.8	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
1,2-Dibromoethane (EDB)	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
1,2-Dichlorobenzene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
1,2-Dichloroethane	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
1,2-Dichloropropane	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
1,3,5-Trimethylbenzene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
1,3-Dichlorobenzene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1

Client Sample ID: CPT-LIF-1B-31
Date Collected: 07/27/18 08:50
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-27
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichloropropane	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
1,4-Dichlorobenzene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
2,2-Dichloropropane	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
2-Chlorotoluene	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
4-Chlorotoluene	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Benzene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Bromobenzene	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Bromochloromethane	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Bromodichloromethane	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Bromoform	ND		4.4	1.8	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Bromomethane	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Carbon tetrachloride	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Chlorobenzene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Chloroethane	ND		4.4	1.8	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Chloroform	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Chloromethane	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
cis-1,2-Dichloroethene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
cis-1,3-Dichloropropene	ND	*	1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Dibromochloromethane	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Dibromomethane	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Dichlorodifluoromethane	ND		4.4	1.8	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Ethylbenzene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Hexachlorobutadiene	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Isopropylbenzene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
m,p-Xylene	ND		3.5	1.8	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Methylene Chloride	ND		18	4.4	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Methyl-t-Butyl Ether (MTBE)	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Naphthalene	ND		4.4	1.8	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
n-Butylbenzene	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
N-Propylbenzene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
o-Xylene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
sec-Butylbenzene	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Styrene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Tert-amyl-methyl ether (TAME)	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
tert-Butylbenzene	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Tetrachloroethene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Toluene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
trans-1,2-Dichloroethene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
trans-1,3-Dichloropropene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Trichloroethene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Trichlorofluoromethane	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Vinyl chloride	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Xylenes, Total	ND		3.5	1.8	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Isopropyl Ether (DIPE)	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
Ethyl-t-butyl ether (ETBE)	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
tert-Butyl alcohol (TBA)	ND		88	8.8	ug/Kg		07/31/18 08:28	07/31/18 15:51	1
p-Isopropyltoluene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 15:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*79 - 123*	*07/31/18 08:28*	*07/31/18 15:51*	*1*

Client Sample ID: CPT-LIF-1B-31

Lab Sample ID: 440-216810-27

Date Collected: 07/27/18 08:50

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*79 - 120*	*07/31/18 08:28*	*07/31/18 15:51*	*1*
Dibromofluoromethane (Surr)	*103*		*60 - 120*	*07/31/18 08:28*	*07/31/18 15:51*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		410	150	ug/Kg		08/02/18 10:21	08/02/18 19:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*65 - 140*	*08/02/18 10:21*	*08/02/18 19:27*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**6.1**		5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 04:49	1
C23-C40	**3.7**	**J B**	5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 04:49	1
C8 - C18	**6.0**		5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 04:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*78*		*40 - 140*	*08/02/18 07:15*	*08/03/18 04:49*	*1*

Client Sample ID: SB-4B-5

Lab Sample ID: 440-216810-28

Date Collected: 07/27/18 09:55

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		6.0	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
1,1,1-Trichloroethane	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
1,1,2,2-Tetrachloroethane	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
1,1,2-Trichloroethane	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
1,1-Dichloroethane	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
1,1-Dichloroethene	ND		6.0	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
1,1-Dichloropropene	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
1,2,3-Trichlorobenzene	ND		6.0	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
1,2,3-Trichloropropane	ND		12	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
1,2,4-Trichlorobenzene	ND		6.0	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
1,2,4-Trimethylbenzene	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
1,2-Dibromo-3-Chloropropane	ND		6.0	2.4	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
1,2-Dibromoethane (EDB)	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
1,2-Dichlorobenzene	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
1,2-Dichloroethane	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
1,2-Dichloropropane	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
1,3,5-Trimethylbenzene	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
1,3-Dichlorobenzene	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
1,3-Dichloropropane	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
1,4-Dichlorobenzene	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
2,2-Dichloropropane	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
2-Chlorotoluene	ND		6.0	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
4-Chlorotoluene	ND		6.0	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Benzene	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Bromobenzene	ND		6.0	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1

Client Sample ID: SB-4B-5
Date Collected: 07/27/18 09:55
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-28
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromochloromethane	ND		6.0	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Bromodichloromethane	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Bromoform	ND		6.0	2.4	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Bromomethane	ND		6.0	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Carbon tetrachloride	ND		6.0	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Chlorobenzene	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Chloroethane	ND		6.0	2.4	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Chloroform	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Chloromethane	ND		6.0	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
cis-1,2-Dichloroethene	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
cis-1,3-Dichloropropene	ND	*	2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Dibromochloromethane	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Dibromomethane	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Dichlorodifluoromethane	ND		6.0	2.4	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Ethylbenzene	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Hexachlorobutadiene	ND		6.0	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Isopropylbenzene	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
m,p-Xylene	ND		4.8	2.4	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Methylene Chloride	ND		24	6.0	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Methyl-t-Butyl Ether (MTBE)	ND		6.0	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Naphthalene	ND		6.0	2.4	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
n-Butylbenzene	ND		6.0	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
N-Propylbenzene	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
o-Xylene	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
sec-Butylbenzene	ND		6.0	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Styrene	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Tert-amyl-methyl ether (TAME)	ND		6.0	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
tert-Butylbenzene	ND		6.0	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Tetrachloroethene	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Toluene	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
trans-1,2-Dichloroethene	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
trans-1,3-Dichloropropene	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Trichloroethene	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Trichlorofluoromethane	ND		6.0	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Vinyl chloride	ND		6.0	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Xylenes, Total	ND		4.8	2.4	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Isopropyl Ether (DIPE)	ND		6.0	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
Ethyl-t-butyl ether (ETBE)	ND		6.0	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
tert-Butyl alcohol (TBA)	ND		120	12	ug/Kg		07/31/18 08:28	07/31/18 16:19	1
p-Isopropyltoluene	ND		2.4	1.2	ug/Kg		07/31/18 08:28	07/31/18 16:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*79 - 123*	*07/31/18 08:28*	*07/31/18 16:19*	*1*
4-Bromofluorobenzene (Surr)	*101*		*79 - 120*	*07/31/18 08:28*	*07/31/18 16:19*	*1*
Dibromofluoromethane (Surr)	*99*		*60 - 120*	*07/31/18 08:28*	*07/31/18 16:19*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		470	180	ug/Kg		08/03/18 09:32	08/03/18 15:36	1

Client Sample ID: SB-4B-5

Date Collected: 07/27/18 09:55
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-28

Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*65 - 140*	*08/03/18 09:32*	*08/03/18 15:36*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 05:10	1
C23-C40	**3.5**	**J B**	5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 05:10	1
C8 - C18	ND		5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 05:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*77*		*40 - 140*	*08/02/18 07:15*	*08/03/18 05:10*	*1*

Client Sample ID: SB-4B-10

Date Collected: 07/27/18 10:00
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-29

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.7	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
1,1,1-Trichloroethane	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
1,1,2,2-Tetrachloroethane	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
1,1,2-Trichloroethane	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
1,1-Dichloroethane	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
1,1-Dichloroethene	ND		4.7	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
1,1-Dichloropropene	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
1,2,3-Trichlorobenzene	ND		4.7	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
1,2,3-Trichloropropane	ND		9.5	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
1,2,4-Trichlorobenzene	ND		4.7	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
1,2,4-Trimethylbenzene	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
1,2-Dibromo-3-Chloropropane	ND		4.7	1.9	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
1,2-Dibromoethane (EDB)	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
1,2-Dichlorobenzene	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
1,2-Dichloroethane	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
1,2-Dichloropropane	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
1,3,5-Trimethylbenzene	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
1,3-Dichlorobenzene	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
1,3-Dichloropropane	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
1,4-Dichlorobenzene	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
2,2-Dichloropropane	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
2-Chlorotoluene	ND		4.7	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
4-Chlorotoluene	ND		4.7	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Benzene	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Bromobenzene	ND		4.7	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Bromochloromethane	ND		4.7	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Bromodichloromethane	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Bromoform	ND		4.7	1.9	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Bromomethane	ND		4.7	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Carbon tetrachloride	ND		4.7	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Chlorobenzene	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Chloroethane	ND		4.7	1.9	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Chloroform	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Chloromethane	ND		4.7	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1

Client Sample ID: SB-4B-10
Date Collected: 07/27/18 10:00
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-29
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
cis-1,3-Dichloropropene	ND	*	1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Dibromochloromethane	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Dibromomethane	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Dichlorodifluoromethane	ND		4.7	1.9	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Ethylbenzene	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Hexachlorobutadiene	ND		4.7	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Isopropylbenzene	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
m,p-Xylene	ND		3.8	1.9	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Methylene Chloride	ND		19	4.7	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Methyl-t-Butyl Ether (MTBE)	ND		4.7	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Naphthalene	ND		4.7	1.9	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
n-Butylbenzene	ND		4.7	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
N-Propylbenzene	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
o-Xylene	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
sec-Butylbenzene	ND		4.7	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Styrene	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Tert-amyl-methyl ether (TAME)	ND		4.7	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
tert-Butylbenzene	ND		4.7	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Tetrachloroethene	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Toluene	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
trans-1,2-Dichloroethene	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
trans-1,3-Dichloropropene	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Trichloroethene	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Trichlorofluoromethane	ND		4.7	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Vinyl chloride	ND		4.7	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Xylenes, Total	ND		3.8	1.9	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Isopropyl Ether (DIPE)	ND		4.7	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
Ethyl-t-butyl ether (ETBE)	ND		4.7	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
tert-Butyl alcohol (TBA)	ND		95	9.5	ug/Kg		07/31/18 08:28	07/31/18 16:46	1
p-Isopropyltoluene	ND		1.9	0.95	ug/Kg		07/31/18 08:28	07/31/18 16:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*79 - 123*	*07/31/18 08:28*	*07/31/18 16:46*	*1*
4-Bromofluorobenzene (Surr)	*99*		*79 - 120*	*07/31/18 08:28*	*07/31/18 16:46*	*1*
Dibromofluoromethane (Surr)	*104*		*60 - 120*	*07/31/18 08:28*	*07/31/18 16:46*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		350	130	ug/Kg		08/02/18 10:21	08/02/18 20:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*65 - 140*	*08/02/18 10:21*	*08/02/18 20:24*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 05:32	1
C23-C40	**3.1**	**J B**	5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 05:32	1
C8 - C18	ND		5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 05:32	1

Client Sample ID: SB-4B-10

Date Collected: 07/27/18 10:00
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-29
Matrix: Solid

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	83		40 - 140	08/02/18 07:15	08/03/18 05:32	1

Client Sample ID: SB-4B-15

Date Collected: 07/27/18 10:05
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-30
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
1,1,1-Trichloroethane	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
1,1,2,2-Tetrachloroethane	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
1,1,2-Trichloroethane	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
1,1-Dichloroethane	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
1,1-Dichloroethene	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
1,1-Dichloropropene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
1,2,3-Trichlorobenzene	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
1,2,3-Trichloropropane	ND		11	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
1,2,4-Trichlorobenzene	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
1,2,4-Trimethylbenzene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
1,2-Dibromo-3-Chloropropane	ND		5.4	2.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
1,2-Dibromoethane (EDB)	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
1,2-Dichlorobenzene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
1,2-Dichloroethane	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
1,2-Dichloropropane	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
1,3,5-Trimethylbenzene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
1,3-Dichlorobenzene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
1,3-Dichloropropane	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
1,4-Dichlorobenzene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
2,2-Dichloropropane	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
2-Chlorotoluene	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
4-Chlorotoluene	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Benzene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Bromobenzene	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Bromochloromethane	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Bromodichloromethane	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Bromoform	ND		5.4	2.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Bromomethane	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Carbon tetrachloride	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Chlorobenzene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Chloroethane	ND		5.4	2.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Chloroform	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Chloromethane	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
cis-1,2-Dichloroethene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
cis-1,3-Dichloropropene	ND	*	2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Dibromochloromethane	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Dibromomethane	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Dichlorodifluoromethane	ND		5.4	2.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Ethylbenzene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Hexachlorobutadiene	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Isopropylbenzene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1

Client Sample ID: SB-4B-15
Date Collected: 07/27/18 10:05
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-30
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	ND		4.3	2.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Methylene Chloride	ND		21	5.4	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Methyl-t-Butyl Ether (MTBE)	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Naphthalene	ND		5.4	2.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
n-Butylbenzene	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
N-Propylbenzene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
o-Xylene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
sec-Butylbenzene	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Styrene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Tert-amyl-methyl ether (TAME)	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
tert-Butylbenzene	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Tetrachloroethene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Toluene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
trans-1,2-Dichloroethene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
trans-1,3-Dichloropropene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Trichloroethene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Trichlorofluoromethane	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Vinyl chloride	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Xylenes, Total	ND		4.3	2.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Isopropyl Ether (DIPE)	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
Ethyl-t-butyl ether (ETBE)	ND		5.4	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
tert-Butyl alcohol (TBA)	ND		110	11	ug/Kg		07/31/18 08:28	07/31/18 17:14	1
p-Isopropyltoluene	ND		2.1	1.1	ug/Kg		07/31/18 08:28	07/31/18 17:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*79 - 123*	*07/31/18 08:28*	*07/31/18 17:14*	*1*
4-Bromofluorobenzene (Surr)	*101*		*79 - 120*	*07/31/18 08:28*	*07/31/18 17:14*	*1*
Dibromofluoromethane (Surr)	*106*		*60 - 120*	*07/31/18 08:28*	*07/31/18 17:14*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		330	120	ug/Kg		08/03/18 09:32	08/03/18 16:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*65 - 140*	*08/03/18 09:32*	*08/03/18 16:05*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 05:54	1
C23-C40	**3.2**	**J B**	5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 05:54	1
C8 - C18	ND		5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 05:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*73*		*40 - 140*	*08/02/18 07:15*	*08/03/18 05:54*	*1*

Client Sample ID: SB-4B-20
Date Collected: 07/27/18 10:10
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-31
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
1,1,1-Trichloroethane	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
1,1,2,2-Tetrachloroethane	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
1,1,2-Trichloroethane	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
1,1-Dichloroethane	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
1,1-Dichloroethene	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
1,1-Dichloropropene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
1,2,3-Trichlorobenzene	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
1,2,3-Trichloropropane	ND		8.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
1,2,4-Trichlorobenzene	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
1,2,4-Trimethylbenzene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
1,2-Dibromo-3-Chloropropane	ND		4.4	1.8	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
1,2-Dibromoethane (EDB)	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
1,2-Dichlorobenzene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
1,2-Dichloroethane	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
1,2-Dichloropropane	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
1,3,5-Trimethylbenzene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
1,3-Dichlorobenzene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
1,3-Dichloropropane	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
1,4-Dichlorobenzene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
2,2-Dichloropropane	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
2-Chlorotoluene	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
4-Chlorotoluene	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Benzene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Bromobenzene	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Bromochloromethane	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Bromodichloromethane	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Bromoform	ND		4.4	1.8	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Bromomethane	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Carbon tetrachloride	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Chlorobenzene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Chloroethane	ND		4.4	1.8	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Chloroform	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Chloromethane	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
cis-1,2-Dichloroethene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
cis-1,3-Dichloropropene	ND	*	1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Dibromochloromethane	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Dibromomethane	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Dichlorodifluoromethane	ND		4.4	1.8	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Ethylbenzene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Hexachlorobutadiene	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Isopropylbenzene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
m,p-Xylene	ND		3.5	1.8	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Methylene Chloride	ND		18	4.4	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Methyl-t-Butyl Ether (MTBE)	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Naphthalene	ND		4.4	1.8	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
n-Butylbenzene	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
N-Propylbenzene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
o-Xylene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1

Client Sample ID: SB-4B-20

Lab Sample ID: 440-216810-31

Date Collected: 07/27/18 10:10

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Styrene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Tert-amyl-methyl ether (TAME)	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
tert-Butylbenzene	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Tetrachloroethene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Toluene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
trans-1,2-Dichloroethene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
trans-1,3-Dichloropropene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Trichloroethene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Trichlorofluoromethane	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Vinyl chloride	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Xylenes, Total	ND		3.5	1.8	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Isopropyl Ether (DIPE)	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
Ethyl-t-butyl ether (ETBE)	ND		4.4	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
tert-Butyl alcohol (TBA)	ND		88	8.8	ug/Kg		07/31/18 08:28	07/31/18 17:41	1
p-Isopropyltoluene	ND		1.8	0.88	ug/Kg		07/31/18 08:28	07/31/18 17:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*79 - 123*	*07/31/18 08:28*	*07/31/18 17:41*	*1*
4-Bromofluorobenzene (Surr)	*97*		*79 - 120*	*07/31/18 08:28*	*07/31/18 17:41*	*1*
Dibromofluoromethane (Surr)	*109*		*60 - 120*	*07/31/18 08:28*	*07/31/18 17:41*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		390	150	ug/Kg		08/02/18 10:21	08/02/18 22:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*65 - 140*	*08/02/18 10:21*	*08/02/18 22:17*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**3.0**	**J**	5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 06:16	1
C23-C40	**4.1**	**J B**	5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 06:16	1
C8 - C18	**2.6**	**J**	5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 06:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*80*		*40 - 140*	*08/02/18 07:15*	*08/03/18 06:16*	*1*

Client Sample ID: SB-4B-25

Lab Sample ID: 440-216810-32

Date Collected: 07/27/18 10:15

Matrix: Solid

Date Received: 07/27/18 14:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.4	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
1,1,1-Trichloroethane	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
1,1,2,2-Tetrachloroethane	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
1,1,2-Trichloroethane	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
1,1-Dichloroethane	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
1,1-Dichloroethene	ND		4.4	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
1,1-Dichloropropene	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216810-1

Client Sample ID: SB-4B-25
Date Collected: 07/27/18 10:15
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-32
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	ND		4.4	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
1,2,3-Trichloropropane	ND		8.9	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
1,2,4-Trichlorobenzene	ND		4.4	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
1,2,4-Trimethylbenzene	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
1,2-Dibromo-3-Chloropropane	ND		4.4	1.8	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
1,2-Dibromoethane (EDB)	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
1,2-Dichlorobenzene	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
1,2-Dichloroethane	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
1,2-Dichloropropane	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
1,3,5-Trimethylbenzene	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
1,3-Dichlorobenzene	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
1,3-Dichloropropane	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
1,4-Dichlorobenzene	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
2,2-Dichloropropane	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
2-Chlorotoluene	ND		4.4	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
4-Chlorotoluene	ND		4.4	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Benzene	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Bromobenzene	ND		4.4	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Bromochloromethane	ND		4.4	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Bromodichloromethane	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Bromoform	ND		4.4	1.8	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Bromomethane	ND		4.4	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Carbon tetrachloride	ND		4.4	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Chlorobenzene	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Chloroethane	ND		4.4	1.8	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Chloroform	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Chloromethane	ND		4.4	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
cis-1,2-Dichloroethene	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
cis-1,3-Dichloropropene	ND	*	1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Dibromochloromethane	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Dibromomethane	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Dichlorodifluoromethane	ND		4.4	1.8	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Ethylbenzene	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Hexachlorobutadiene	ND		4.4	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Isopropylbenzene	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
m,p-Xylene	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Methylene Chloride	ND		18	4.4	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Methyl-t-Butyl Ether (MTBE)	ND		4.4	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Naphthalene	ND		4.4	1.8	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
n-Butylbenzene	ND		4.4	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
N-Propylbenzene	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
o-Xylene	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
sec-Butylbenzene	ND		4.4	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Styrene	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Tert-amyl-methyl ether (TAME)	ND		4.4	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
tert-Butylbenzene	ND		4.4	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Tetrachloroethene	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Toluene	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
trans-1,2-Dichloroethene	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1

Client Sample ID: SB-4B-25

Date Collected: 07/27/18 10:15
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-32

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Trichloroethene	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Trichlorofluoromethane	ND		4.4	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Vinyl chloride	ND		4.4	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Xylenes, Total	ND		3.6	1.8	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Isopropyl Ether (DIPE)	ND		4.4	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
Ethyl-t-butyl ether (ETBE)	ND		4.4	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
tert-Butyl alcohol (TBA)	ND		89	8.9	ug/Kg		07/31/18 08:28	07/31/18 18:09	1
p-Isopropyltoluene	ND		1.8	0.89	ug/Kg		07/31/18 08:28	07/31/18 18:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*79 - 123*	*07/31/18 08:28*	*07/31/18 18:09*	*1*
4-Bromofluorobenzene (Surr)	*103*		*79 - 120*	*07/31/18 08:28*	*07/31/18 18:09*	*1*
Dibromofluoromethane (Surr)	*104*		*60 - 120*	*07/31/18 08:28*	*07/31/18 18:09*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		430	160	ug/Kg		08/03/18 09:32	08/03/18 16:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*65 - 140*	*08/03/18 09:32*	*08/03/18 16:33*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**22**		5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 11:24	1
C23-C40	**14**	**B**	5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 11:24	1
C8 - C18	**8.3**		5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 11:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*84*		*40 - 140*	*08/02/18 07:15*	*08/03/18 11:24*	*1*

Client Sample ID: SB-4B-30

Date Collected: 07/27/18 10:20
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-33

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		3.7	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
1,1,1-Trichloroethane	ND		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
1,1,2,2-Tetrachloroethane	ND		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
1,1,2-Trichloroethane	ND		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
1,1-Dichloroethane	ND		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
1,1-Dichloroethene	ND		3.7	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
1,1-Dichloropropene	ND		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
1,2,3-Trichlorobenzene	ND		3.7	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
1,2,3-Trichloropropane	ND		7.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
1,2,4-Trichlorobenzene	ND		3.7	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
1,2,4-Trimethylbenzene	**96**		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
1,2-Dibromo-3-Chloropropane	ND		3.7	1.5	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
1,2-Dibromoethane (EDB)	ND		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
1,2-Dichlorobenzene	ND		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1

Client Sample ID: SB-4B-30
Date Collected: 07/27/18 10:20
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-33
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
1,2-Dichloropropane	ND		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
1,3,5-Trimethylbenzene	**140**		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
1,3-Dichlorobenzene	ND		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
1,3-Dichloropropane	ND		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
1,4-Dichlorobenzene	ND		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
2,2-Dichloropropane	ND		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
2-Chlorotoluene	ND		3.7	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
4-Chlorotoluene	ND		3.7	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Benzene	**9.5**		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Bromobenzene	ND		3.7	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Bromochloromethane	ND		3.7	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Bromodichloromethane	ND		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Bromoform	ND		3.7	1.5	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Bromomethane	ND		3.7	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Carbon tetrachloride	ND		3.7	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Chlorobenzene	ND		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Chloroethane	ND		3.7	1.5	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Chloroform	ND		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Chloromethane	ND		3.7	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
cis-1,2-Dichloroethene	ND		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
cis-1,3-Dichloropropene	ND	*	1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Dibromochloromethane	ND		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Dibromomethane	ND		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Dichlorodifluoromethane	ND		3.7	1.5	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Ethylbenzene	**200**		78	39	ug/Kg		07/30/18 14:40	08/03/18 17:42	100
Hexachlorobutadiene	ND		3.7	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Isopropylbenzene	**7.4**		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
m,p-Xylene	**490**		160	78	ug/Kg		07/30/18 14:40	08/03/18 17:42	100
Methylene Chloride	ND		15	3.7	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Methyl-t-Butyl Ether (MTBE)	**0.97**	**J**	3.7	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Naphthalene	**1.7**	**J**	3.7	1.5	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
n-Butylbenzene	ND		3.7	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
N-Propylbenzene	**15**		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
o-Xylene	**520**		78	39	ug/Kg		07/30/18 14:40	08/03/18 17:42	100
sec-Butylbenzene	**2.4**	**J**	3.7	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Styrene	**0.92**	**J**	1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Tert-amyl-methyl ether (TAME)	ND		3.7	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
tert-Butylbenzene	ND		3.7	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Tetrachloroethene	ND		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Toluene	**270**		78	39	ug/Kg		07/30/18 14:40	08/03/18 17:42	100
trans-1,2-Dichloroethene	ND		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
trans-1,3-Dichloropropene	ND		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Trichloroethene	ND		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Trichlorofluoromethane	ND		3.7	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Vinyl chloride	ND		3.7	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Xylenes, Total	**1000**		160	78	ug/Kg		07/30/18 14:40	08/03/18 17:42	100
Isopropyl Ether (DIPE)	ND		3.7	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
Ethyl-t-butyl ether (ETBE)	ND		3.7	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1

Client Sample ID: SB-4B-30

Date Collected: 07/27/18 10:20
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-33

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butyl alcohol (TBA)	ND		75	7.5	ug/Kg		07/31/18 13:12	07/31/18 18:36	1
p-Isopropyltoluene	**4.5**		1.5	0.75	ug/Kg		07/31/18 13:12	07/31/18 18:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*79 - 123*	*07/31/18 13:12*	*07/31/18 18:36*	*1*
Toluene-d8 (Surr)	*101*		*60 - 140*	*07/30/18 14:40*	*08/03/18 17:42*	*100*
4-Bromofluorobenzene (Surr)	*110*		*79 - 120*	*07/31/18 13:12*	*07/31/18 18:36*	*1*
4-Bromofluorobenzene (Surr)	*94*		*65 - 140*	*07/30/18 14:40*	*08/03/18 17:42*	*100*
Dibromofluoromethane (Surr)	*101*		*60 - 120*	*07/31/18 13:12*	*07/31/18 18:36*	*1*
Dibromofluoromethane (Surr)	*99*		*55 - 140*	*07/30/18 14:40*	*08/03/18 17:42*	*100*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	**4500**	**E**	350	130	ug/Kg		08/03/18 09:32	08/03/18 17:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*65 - 140*	*08/03/18 09:32*	*08/03/18 17:01*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**84**		5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 09:33	1
C23-C40	**25**	**B**	5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 09:33	1
C8 - C18	**89**		5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 09:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*74*		*40 - 140*	*08/02/18 07:15*	*08/03/18 09:33*	*1*

Client Sample ID: SB-4B-35

Date Collected: 07/27/18 10:25
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-34

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		210	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
1,1,1-Trichloroethane	ND		83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
1,1,2,2-Tetrachloroethane	ND		83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
1,1,2-Trichloroethane	ND	*	83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
1,1-Dichloroethane	ND		83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
1,1-Dichloroethene	ND		210	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
1,1-Dichloropropene	ND		83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
1,2,3-Trichlorobenzene	ND		210	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
1,2,3-Trichloropropane	ND		420	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
1,2,4-Trichlorobenzene	ND		210	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
1,2-Dibromo-3-Chloropropane	ND		210	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
1,2-Dibromoethane (EDB)	ND		83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
1,2-Dichlorobenzene	ND		83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
1,2-Dichloroethane	ND		83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
1,2-Dichloropropane	ND		83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
1,3-Dichlorobenzene	ND		83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
1,3-Dichloropropane	ND		83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
1,4-Dichlorobenzene	ND		83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100

Client Sample ID: SB-4B-35
Date Collected: 07/27/18 10:25
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-34
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,2-Dichloropropane	ND		170	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
2-Chlorotoluene	ND	*	210	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
4-Chlorotoluene	ND	*	210	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Benzene	ND		83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Bromobenzene	ND		210	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Bromochloromethane	ND		210	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Bromodichloromethane	ND		83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Bromoform	ND		210	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Bromomethane	ND		210	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Carbon tetrachloride	ND		210	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Chlorobenzene	ND		83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Chloroethane	ND		210	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Chloroform	ND		83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Chloromethane	ND		210	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
cis-1,2-Dichloroethene	ND		83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
cis-1,3-Dichloropropene	ND	*	83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Dibromochloromethane	ND		83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Dibromomethane	ND		83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Dichlorodifluoromethane	ND		210	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Hexachlorobutadiene	ND		210	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
m,p-Xylene	**6200**		170	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Methylene Chloride	ND		830	420	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Methyl-t-Butyl Ether (MTBE)	ND		210	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Naphthalene	**130**	**J**	210	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
o-Xylene	**4200**		83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Styrene	ND		83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Tert-amyl-methyl ether (TAME)	ND		210	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
tert-Butylbenzene	ND	*	210	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Tetrachloroethene	ND		83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
trans-1,2-Dichloroethene	ND		83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
trans-1,3-Dichloropropene	ND		83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Trichloroethene	ND		83	42	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Trichlorofluoromethane	ND		210	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Vinyl chloride	ND		210	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Xylenes, Total	**10000**		170	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Isopropyl Ether (DIPE)	ND		210	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
Ethyl-t-butyl ether (ETBE)	ND		210	83	ug/Kg		07/30/18 14:40	08/01/18 15:08	100
tert-Butyl alcohol (TBA)	ND		4200	2100	ug/Kg		07/30/18 14:40	08/01/18 15:08	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*113*		*60 - 140*	*07/30/18 14:40*	*08/01/18 15:08*	*100*
4-Bromofluorobenzene (Surr)	*114*		*65 - 140*	*07/30/18 14:40*	*08/01/18 15:08*	*100*
Dibromofluoromethane (Surr)	*87*		*55 - 140*	*07/30/18 14:40*	*08/01/18 15:08*	*100*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	**6200**		83	42	ug/Kg		07/30/18 14:40	08/03/18 18:08	100
1,3,5-Trimethylbenzene	**5400**		83	42	ug/Kg		07/30/18 14:40	08/03/18 18:08	100
Ethylbenzene	**1400**		83	42	ug/Kg		07/30/18 14:40	08/03/18 18:08	100
Isopropylbenzene	**310**		83	42	ug/Kg		07/30/18 14:40	08/03/18 18:08	100

Client Sample ID: SB-4B-35
Date Collected: 07/27/18 10:25
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-34
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	1500		210	83	ug/Kg		07/30/18 14:40	08/03/18 18:08	100
N-Propylbenzene	1000		83	42	ug/Kg		07/30/18 14:40	08/03/18 18:08	100
sec-Butylbenzene	360		210	42	ug/Kg		07/30/18 14:40	08/03/18 18:08	100
Toluene	420		83	42	ug/Kg		07/30/18 14:40	08/03/18 18:08	100
p-Isopropyltoluene	400		83	42	ug/Kg		07/30/18 14:40	08/03/18 18:08	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*60 - 140*	*07/30/18 14:40*	*08/03/18 18:08*	*100*
4-Bromofluorobenzene (Surr)	*99*		*65 - 140*	*07/30/18 14:40*	*08/03/18 18:08*	*100*
Dibromofluoromethane (Surr)	*98*		*55 - 140*	*07/30/18 14:40*	*08/03/18 18:08*	*100*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	310000		130000	67000	ug/Kg		07/30/18 14:40	08/03/18 08:40	400

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*65 - 140*	*07/30/18 14:40*	*08/03/18 08:40*	*400*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C23-C40	36	B	5.0	2.5	mg/Kg		08/02/18 07:15	08/03/18 09:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*75*		*40 - 140*	*08/02/18 07:15*	*08/03/18 09:11*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	850		25	13	mg/Kg		08/02/18 07:15	08/03/18 12:34	5
C8 - C18	1200		25	13	mg/Kg		08/02/18 07:15	08/03/18 12:34	5

Method Summary

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216810-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8015B	Gasoline Range Organics - (GC)	SW846	TAL IRV
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL IRV
3546	Microwave Extraction	SW846	TAL IRV
5035	Closed System Purge and Trap	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216810-1

Client Sample ID: SB-6B-15
Date Collected: 07/26/18 07:50
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.72 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490611	07/31/18 12:10	AYL	TAL IRV
Total/NA	Prep	5035			3.82 g	10 mL	490745	07/31/18 14:27	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490777	08/01/18 00:31	IM	TAL IRV
Total/NA	Prep	3546			15.23 g	1 mL	491116	08/02/18 06:31	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491222	08/03/18 04:01	LMB	TAL IRV

Client Sample ID: SB-6B-20
Date Collected: 07/26/18 07:55
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.37 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490611	07/31/18 12:38	AYL	TAL IRV
Total/NA	Prep	5035			6.13 g	10 mL	490745	07/31/18 14:27	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490777	08/01/18 00:59	IM	TAL IRV
Total/NA	Prep	3546			15.05 g	1 mL	491116	08/02/18 06:31	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491222	08/03/18 00:09	LMB	TAL IRV

Client Sample ID: SB-6B-25
Date Collected: 07/26/18 08:00
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.83 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490611	07/31/18 13:06	AYL	TAL IRV
Total/NA	Prep	5035			6.2 g	10 mL	490745	07/31/18 14:27	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490777	08/01/18 01:28	IM	TAL IRV
Total/NA	Prep	3546			15.48 g	1 mL	491116	08/02/18 06:31	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491222	08/02/18 21:54	LMB	TAL IRV
Total/NA	Prep	3546	DL		15.48 g	1 mL	491116	08/02/18 06:31	FTD	TAL IRV
Total/NA	Analysis	8015B	DL	5			491232	08/03/18 21:11	LMB	TAL IRV

Client Sample ID: SB-6B-30
Date Collected: 07/26/18 08:05
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3.58 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490611	07/31/18 13:34	AYL	TAL IRV
Total/NA	Prep	5035			4.6 g	10 mL	490745	07/31/18 14:27	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490777	08/01/18 01:57	IM	TAL IRV
Total/NA	Prep	3546			15.21 g	1 mL	491116	08/02/18 06:31	FTD	TAL IRV

Lab Chronicle

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216810-1

Client Sample ID: SB-6B-30

Date Collected: 07/26/18 08:05
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015B		1			491222	08/02/18 22:13	LMB	TAL IRV
Total/NA	Prep	3546	DL		15.21 g	1 mL	491116	08/02/18 06:31	FTD	TAL IRV
Total/NA	Analysis	8015B	DL	20			491232	08/03/18 21:33	LMB	TAL IRV

Client Sample ID: SB-6B-35

Date Collected: 07/26/18 08:10
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3.77 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490611	07/31/18 14:02	AYL	TAL IRV
Total/NA	Prep	5035			5.3 g	10 mL	490745	07/31/18 14:27	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490777	08/01/18 02:26	IM	TAL IRV
Total/NA	Prep	3546			15.24 g	1 mL	491116	08/02/18 06:31	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491222	08/03/18 00:28	LMB	TAL IRV

Client Sample ID: SB-5B-15

Date Collected: 07/26/18 09:40
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2.77 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490611	07/31/18 14:30	AYL	TAL IRV
Total/NA	Prep	5035			4.08 g	10 mL	490745	07/31/18 14:27	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490777	08/01/18 02:54	IM	TAL IRV
Total/NA	Prep	3546			15.16 g	1 mL	491116	08/02/18 06:31	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491222	08/02/18 22:32	LMB	TAL IRV

Client Sample ID: SB-5B-20

Date Collected: 07/26/18 09:45
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3.2 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490611	07/31/18 14:58	AYL	TAL IRV
Total/NA	Prep	5035			4.11 g	10 mL	490921	08/01/18 09:46	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490757	08/01/18 10:27	IM	TAL IRV
Total/NA	Prep	3546			15.44 g	2 mL	491116	08/02/18 06:31	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491222	08/03/18 03:03	LMB	TAL IRV

Client Sample ID: SB-5B-25

Lab Sample ID: 440-216810-8

Date Collected: 07/26/18 09:55
Matrix: Solid
Date Received: 07/27/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.97 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490611	07/31/18 15:26	AYL	TAL IRV
Total/NA	Prep	5035			6.21 g	10 mL	490745	07/31/18 14:27	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490777	08/01/18 03:52	IM	TAL IRV
Total/NA	Prep	3546			15.10 g	1 mL	491116	08/02/18 06:31	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491222	08/02/18 22:52	LMB	TAL IRV

Client Sample ID: SB-5B-30

Lab Sample ID: 440-216810-9

Date Collected: 07/26/18 10:00
Matrix: Solid
Date Received: 07/27/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035	RA		3.79 g	5 mL	490507	07/30/18 14:40	JB	TAL IRV
Total/NA	Analysis	8260B	RA	100	10 mL	10 mL	491355	08/03/18 16:23	AYL	TAL IRV
Total/NA	Prep	5035			3.79 g	5 mL	490507	07/30/18 14:40	JB	TAL IRV
Total/NA	Analysis	8260B		100	10 mL	10 mL	490869	08/01/18 15:41	AYL	TAL IRV
Total/NA	Prep	5035			3.79 g	5 mL	490507	07/30/18 14:40	JB	TAL IRV
Total/NA	Analysis	8015B		400	10 mL	10 mL	491158	08/03/18 08:13	IM	TAL IRV
Total/NA	Prep	3546			15.15 g	1 mL	491116	08/02/18 06:31	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491222	08/02/18 23:11	LMB	TAL IRV
Total/NA	Prep	3546	DL		15.15 g	1 mL	491116	08/02/18 06:31	FTD	TAL IRV
Total/NA	Analysis	8015B	DL	10			491232	08/03/18 21:55	LMB	TAL IRV

Client Sample ID: SB-3B-5

Lab Sample ID: 440-216810-10

Date Collected: 07/26/18 11:40
Matrix: Solid
Date Received: 07/27/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.41 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490611	07/31/18 15:54	AYL	TAL IRV
Total/NA	Prep	5035			3.46 g	10 mL	490745	07/31/18 14:27	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490777	08/01/18 04:21	IM	TAL IRV
Total/NA	Prep	3546			15.56 g	1 mL	491116	08/02/18 06:31	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491222	08/03/18 00:47	LMB	TAL IRV

Client Sample ID: SB-3B-10

Lab Sample ID: 440-216810-11

Date Collected: 07/26/18 11:45
Matrix: Solid
Date Received: 07/27/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.08 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490611	07/31/18 16:23	AYL	TAL IRV
Total/NA	Prep	5035			5.34 g	10 mL	490921	08/01/18 09:46	IM	TAL IRV

Lab Chronicle

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216810-1

Client Sample ID: SB-3B-10
Date Collected: 07/26/18 11:45
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015B		1	10 mL	10 mL	490757	08/01/18 10:54	IM	TAL IRV
Total/NA	Prep	3546			15.44 g	1 mL	491116	08/02/18 06:31	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491222	08/03/18 03:22	LMB	TAL IRV

Client Sample ID: SB-3B-15
Date Collected: 07/26/18 11:55
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.78 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490611	07/31/18 16:50	AYL	TAL IRV
Total/NA	Prep	5035			5.37 g	10 mL	490921	08/01/18 09:46	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490757	08/01/18 11:21	IM	TAL IRV
Total/NA	Prep	3546			15.41 g	1 mL	491116	08/02/18 06:31	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491222	08/02/18 23:30	LMB	TAL IRV

Client Sample ID: SB-3B-20
Date Collected: 07/26/18 12:00
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.31 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490611	07/31/18 17:18	AYL	TAL IRV
Total/NA	Prep	5035			6.01 g	10 mL	490745	07/31/18 14:27	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490777	08/01/18 06:45	IM	TAL IRV
Total/NA	Prep	3546			15.07 g	1 mL	491116	08/02/18 06:31	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491222	08/03/18 01:07	LMB	TAL IRV

Client Sample ID: SB-3B-25
Date Collected: 07/26/18 12:05
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.06 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490611	07/31/18 17:46	AYL	TAL IRV
Total/NA	Prep	5035			5.57 g	10 mL	490745	07/31/18 14:27	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490777	08/01/18 07:13	IM	TAL IRV
Total/NA	Prep	3546			15.25 g	1 mL	491116	08/02/18 06:31	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491222	08/03/18 01:26	LMB	TAL IRV

Lab Chronicle

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216810-1

Client Sample ID: SB-3B-30

Date Collected: 07/26/18 12:10
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-15

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.21 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490611	07/31/18 18:14	AYL	TAL IRV
Total/NA	Prep	5035			4.23 g	10 mL	490745	07/31/18 14:27	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490777	08/01/18 07:42	IM	TAL IRV
Total/NA	Prep	3546			15.23 g	1 mL	491116	08/02/18 06:31	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491222	08/03/18 03:42	LMB	TAL IRV

Client Sample ID: SB-2B-15

Date Collected: 07/26/18 13:00
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-16

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3.95 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490615	07/31/18 12:12	AYL	TAL IRV
Total/NA	Prep	5035			3.72 g	10 mL	490745	07/31/18 14:27	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490777	08/01/18 08:11	IM	TAL IRV
Total/NA	Prep	3546			15.49 g	1 mL	491116	08/02/18 06:31	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491222	08/03/18 01:45	LMB	TAL IRV

Client Sample ID: SB-2B-20

Date Collected: 07/26/18 13:05
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-17

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2.44 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490615	07/31/18 12:39	AYL	TAL IRV
Total/NA	Prep	5035			4.78 g	10 mL	490745	07/31/18 14:27	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490757	08/01/18 03:25	IM	TAL IRV
Total/NA	Prep	3546			15.34 g	1 mL	491116	08/02/18 06:31	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491222	08/03/18 02:05	LMB	TAL IRV

Client Sample ID: SB-2B-25

Date Collected: 07/26/18 13:10
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-18

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3.49 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490615	07/31/18 13:07	AYL	TAL IRV
Total/NA	Prep	5035			4.04 g	10 mL	490745	07/31/18 14:27	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490757	08/01/18 03:52	IM	TAL IRV
Total/NA	Prep	3546			15.06 g	1 mL	491116	08/02/18 06:31	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491222	08/02/18 20:36	LMB	TAL IRV

Lab Chronicle

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216810-1

Client Sample ID: SB-2B-30

Date Collected: 07/26/18 13:15
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-19

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035	RA		5.88 g	5 mL	490507	07/30/18 14:40	JB	TAL IRV
Total/NA	Analysis	8260B	RA	100	10 mL	10 mL	491355	08/03/18 16:50	AYL	TAL IRV
Total/NA	Prep	5035			5.88 g	5 mL	490507	07/30/18 14:40	JB	TAL IRV
Total/NA	Analysis	8260B		100	10 mL	10 mL	490869	08/01/18 16:11	AYL	TAL IRV
Total/NA	Prep	5035			6.9 g	10 mL	490745	07/31/18 14:27	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490757	08/01/18 04:18	IM	TAL IRV
Total/NA	Prep	3546			15.34 g	1 mL	491116	08/02/18 06:31	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491222	08/03/18 02:24	LMB	TAL IRV

Client Sample ID: SB-2B-35

Date Collected: 07/26/18 13:25
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-20

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.2 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490615	07/31/18 13:34	AYL	TAL IRV
Total/NA	Prep	5035			5.59 g	10 mL	490745	07/31/18 14:27	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	490757	08/01/18 04:45	IM	TAL IRV
Total/NA	Prep	3546			15.50 g	1 mL	491116	08/02/18 06:31	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491222	08/03/18 02:43	LMB	TAL IRV

Client Sample ID: SB-1B-15

Date Collected: 07/27/18 07:35
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-21

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490615	07/31/18 14:29	AYL	TAL IRV
Total/NA	Prep	5035			5.02 g	10 mL	491182	08/02/18 10:21	LNP	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	491157	08/02/18 17:34	EI	TAL IRV
Total/NA	Prep	3546			15.02 g	1 mL	491132	08/02/18 07:15	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491232	08/02/18 21:13	LMB	TAL IRV

Client Sample ID: SB-1B-20

Date Collected: 07/27/18 07:40
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-22

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.6 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490615	07/31/18 14:56	AYL	TAL IRV
Total/NA	Prep	5035			4.62 g	10 mL	491414	08/03/18 09:32	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	491363	08/03/18 11:58	IM	TAL IRV
Total/NA	Prep	3546			15.02 g	1 mL	491132	08/02/18 07:15	FTD	TAL IRV

Lab Chronicle

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216810-1

Client Sample ID: SB-1B-20

Date Collected: 07/27/18 07:40
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-22

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015B		1			491232	08/03/18 08:06	LMB	TAL IRV

Client Sample ID: SB-1B-25

Date Collected: 07/27/18 07:45
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-23

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.14 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490615	07/31/18 15:24	AYL	TAL IRV
Total/NA	Prep	5035			6.64 g	10 mL	491414	08/03/18 09:32	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	491363	08/03/18 12:27	IM	TAL IRV
Total/NA	Prep	3546			15.00 g	1 mL	491132	08/02/18 07:15	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491232	08/03/18 09:55	LMB	TAL IRV

Client Sample ID: SB-1B-30

Date Collected: 07/27/18 07:50
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-24

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035	RA		5.01 g	5 mL	490507	07/30/18 14:40	JB	TAL IRV
Total/NA	Analysis	8260B	RA	100	10 mL	10 mL	491355	08/03/18 17:16	AYL	TAL IRV
Total/NA	Prep	5035			5.01 g	5 mL	490507	07/30/18 14:40	JB	TAL IRV
Total/NA	Analysis	8260B		100	10 mL	10 mL	490869	08/01/18 16:41	AYL	TAL IRV
Total/NA	Prep	5035			5.01 g	5 mL	490507	07/30/18 14:40	JB	TAL IRV
Total/NA	Analysis	8015B		200	10 mL	10 mL	491707	08/06/18 15:32	IM	TAL IRV
Total/NA	Prep	3546			15.00 g	1 mL	491132	08/02/18 07:15	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491232	08/03/18 10:40	LMB	TAL IRV
Total/NA	Prep	3546	DL		15.00 g	1 mL	491132	08/02/18 07:15	FTD	TAL IRV
Total/NA	Analysis	8015B	DL	20			491233	08/03/18 21:11	LMB	TAL IRV

Client Sample ID: CPT-LIF-1B-29

Date Collected: 07/27/18 08:40
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-25

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.29 g	10 mL	490642	07/31/18 13:12	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490611	07/31/18 18:42	AYL	TAL IRV
Total/NA	Prep	5035			5.58 g	10 mL	491182	08/02/18 10:21	LNP	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	491157	08/02/18 18:59	EI	TAL IRV
Total/NA	Prep	3546			15.02 g	1 mL	491132	08/02/18 07:15	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491232	08/03/18 10:17	LMB	TAL IRV

Lab Chronicle

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216810-1

Client Sample ID: CPT-LIF-101B-29

Lab Sample ID: 440-216810-26

Date Collected: 07/27/18 08:45

Matrix: Solid

Date Received: 07/27/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.55 g	10 mL	490891	07/27/18 15:00	HR	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490861	08/01/18 14:52	AYL	TAL IRV
Total/NA	Prep	5035			5.89 g	5 mL	490507	07/30/18 14:40	JB	TAL IRV
Total/NA	Analysis	8015B		100	10 mL	10 mL	491158	08/02/18 22:13	IM	TAL IRV
Total/NA	Prep	3546			15.05 g	1 mL	491132	08/02/18 07:15	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491232	08/03/18 11:02	LMB	TAL IRV

Client Sample ID: CPT-LIF-1B-31

Lab Sample ID: 440-216810-27

Date Collected: 07/27/18 08:50

Matrix: Solid

Date Received: 07/27/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.71 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490615	07/31/18 15:51	AYL	TAL IRV
Total/NA	Prep	5035			4.91 g	10 mL	491182	08/02/18 10:21	LNP	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	491157	08/02/18 19:27	EI	TAL IRV
Total/NA	Prep	3546			15.01 g	1 mL	491132	08/02/18 07:15	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491232	08/03/18 04:49	LMB	TAL IRV

Client Sample ID: SB-4B-5

Lab Sample ID: 440-216810-28

Date Collected: 07/27/18 09:55

Matrix: Solid

Date Received: 07/27/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.15 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490615	07/31/18 16:19	AYL	TAL IRV
Total/NA	Prep	5035			4.24 g	10 mL	491414	08/03/18 09:32	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	491363	08/03/18 15:36	IM	TAL IRV
Total/NA	Prep	3546			15.00 g	1 mL	491132	08/02/18 07:15	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491232	08/03/18 05:10	LMB	TAL IRV

Client Sample ID: SB-4B-10

Lab Sample ID: 440-216810-29

Date Collected: 07/27/18 10:00

Matrix: Solid

Date Received: 07/27/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.28 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490615	07/31/18 16:46	AYL	TAL IRV
Total/NA	Prep	5035			5.66 g	10 mL	491182	08/02/18 10:21	LNP	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	491157	08/02/18 20:24	EI	TAL IRV
Total/NA	Prep	3546			15.02 g	1 mL	491132	08/02/18 07:15	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491232	08/03/18 05:32	LMB	TAL IRV

Client Sample ID: SB-4B-15

Date Collected: 07/27/18 10:05
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-30

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.67 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490615	07/31/18 17:14	AYL	TAL IRV
Total/NA	Prep	5035			6.05 g	10 mL	491414	08/03/18 09:32	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	491363	08/03/18 16:05	IM	TAL IRV
Total/NA	Prep	3546			14.98 g	1 mL	491132	08/02/18 07:15	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491232	08/03/18 05:54	LMB	TAL IRV

Client Sample ID: SB-4B-20

Date Collected: 07/27/18 10:10
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-31

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.69 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490615	07/31/18 17:41	AYL	TAL IRV
Total/NA	Prep	5035			5.13 g	10 mL	491182	08/02/18 10:21	LNP	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	491157	08/02/18 22:17	EI	TAL IRV
Total/NA	Prep	3546			15.03 g	1 mL	491132	08/02/18 07:15	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491232	08/03/18 06:16	LMB	TAL IRV

Client Sample ID: SB-4B-25

Date Collected: 07/27/18 10:15
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-32

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.63 g	10 mL	490642	07/31/18 08:28	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490615	07/31/18 18:09	AYL	TAL IRV
Total/NA	Prep	5035			4.69 g	10 mL	491414	08/03/18 09:32	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	491363	08/03/18 16:33	IM	TAL IRV
Total/NA	Prep	3546			14.98 g	1 mL	491132	08/02/18 07:15	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491232	08/03/18 11:24	LMB	TAL IRV

Client Sample ID: SB-4B-30

Date Collected: 07/27/18 10:20
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-33

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.45 g	5 mL	490507	07/30/18 14:40	JB	TAL IRV
Total/NA	Analysis	8260B		100	10 mL	10 mL	491355	08/03/18 17:42	AYL	TAL IRV
Total/NA	Prep	5035			6.68 g	10 mL	490642	07/31/18 13:12	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	490615	07/31/18 18:36	AYL	TAL IRV
Total/NA	Prep	5035			5.67 g	10 mL	491414	08/03/18 09:32	IM	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	491363	08/03/18 17:01	IM	TAL IRV
Total/NA	Prep	3546			15.02 g	1 mL	491132	08/02/18 07:15	FTD	TAL IRV

Lab Chronicle

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216810-1

Client Sample ID: SB-4B-30

Date Collected: 07/27/18 10:20
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-33

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015B		1			491232	08/03/18 09:33	LMB	TAL IRV

Client Sample ID: SB-4B-35

Date Collected: 07/27/18 10:25
Date Received: 07/27/18 14:35

Lab Sample ID: 440-216810-34

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035	RA		6 g	5 mL	490507	07/30/18 14:40	JB	TAL IRV
Total/NA	Analysis	8260B	RA	100	10 mL	10 mL	491355	08/03/18 18:08	AYL	TAL IRV
Total/NA	Prep	5035			6 g	5 mL	490507	07/30/18 14:40	JB	TAL IRV
Total/NA	Analysis	8260B		100	10 mL	10 mL	490869	08/01/18 15:08	AYL	TAL IRV
Total/NA	Prep	5035			6 g	5 mL	490507	07/30/18 14:40	JB	TAL IRV
Total/NA	Analysis	8015B		400	10 mL	10 mL	491158	08/03/18 08:40	IM	TAL IRV
Total/NA	Prep	3546			15.00 g	1 mL	491132	08/02/18 07:15	FTD	TAL IRV
Total/NA	Analysis	8015B		1			491232	08/03/18 09:11	LMB	TAL IRV
Total/NA	Prep	3546	DL		15.00 g	1 mL	491132	08/02/18 07:15	FTD	TAL IRV
Total/NA	Analysis	8015B	DL	5			491233	08/03/18 12:34	LMB	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-490611/4
Matrix: Solid
Analysis Batch: 490611

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	1.0	ug/Kg			07/31/18 08:26	1
1,1,1-Trichloroethane	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
1,1,2,2-Tetrachloroethane	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
1,1,2-Trichloroethane	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
1,1-Dichloroethane	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
1,1-Dichloroethene	ND		5.0	1.0	ug/Kg			07/31/18 08:26	1
1,1-Dichloropropene	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
1,2,3-Trichlorobenzene	ND		5.0	1.0	ug/Kg			07/31/18 08:26	1
1,2,3-Trichloropropane	ND		10	1.0	ug/Kg			07/31/18 08:26	1
1,2,4-Trichlorobenzene	ND		5.0	1.0	ug/Kg			07/31/18 08:26	1
1,2,4-Trimethylbenzene	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
1,2-Dibromo-3-Chloropropane	ND		5.0	2.0	ug/Kg			07/31/18 08:26	1
1,2-Dibromoethane (EDB)	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
1,2-Dichlorobenzene	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
1,2-Dichloroethane	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
1,2-Dichloropropane	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
1,3,5-Trimethylbenzene	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
1,3-Dichlorobenzene	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
1,3-Dichloropropane	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
1,4-Dichlorobenzene	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
2,2-Dichloropropane	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
2-Chlorotoluene	ND		5.0	1.0	ug/Kg			07/31/18 08:26	1
4-Chlorotoluene	ND		5.0	1.0	ug/Kg			07/31/18 08:26	1
Benzene	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
Bromobenzene	ND		5.0	1.0	ug/Kg			07/31/18 08:26	1
Bromochloromethane	ND		5.0	1.0	ug/Kg			07/31/18 08:26	1
Bromodichloromethane	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
Bromoform	ND		5.0	2.0	ug/Kg			07/31/18 08:26	1
Bromomethane	ND		5.0	1.0	ug/Kg			07/31/18 08:26	1
Carbon tetrachloride	ND		5.0	1.0	ug/Kg			07/31/18 08:26	1
Chlorobenzene	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
Chloroethane	ND		5.0	2.0	ug/Kg			07/31/18 08:26	1
Chloroform	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
Chloromethane	ND		5.0	1.0	ug/Kg			07/31/18 08:26	1
cis-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
cis-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
Dibromochloromethane	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
Dibromomethane	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
Dichlorodifluoromethane	ND		5.0	2.0	ug/Kg			07/31/18 08:26	1
Ethylbenzene	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
Hexachlorobutadiene	ND		5.0	1.0	ug/Kg			07/31/18 08:26	1
Isopropylbenzene	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
m,p-Xylene	ND		4.0	2.0	ug/Kg			07/31/18 08:26	1
Methylene Chloride	ND		20	5.0	ug/Kg			07/31/18 08:26	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0	1.0	ug/Kg			07/31/18 08:26	1
Naphthalene	ND		5.0	2.0	ug/Kg			07/31/18 08:26	1
n-Butylbenzene	ND		5.0	1.0	ug/Kg			07/31/18 08:26	1
N-Propylbenzene	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-490611/4
Matrix: Solid
Analysis Batch: 490611

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
sec-Butylbenzene	ND		5.0	1.0	ug/Kg			07/31/18 08:26	1
Styrene	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
Tert-amyl-methyl ether (TAME)	ND		5.0	1.0	ug/Kg			07/31/18 08:26	1
tert-Butylbenzene	ND		5.0	1.0	ug/Kg			07/31/18 08:26	1
Tetrachloroethene	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
Toluene	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
trans-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
trans-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
Trichloroethene	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1
Trichlorofluoromethane	ND		5.0	1.0	ug/Kg			07/31/18 08:26	1
Vinyl chloride	ND		5.0	1.0	ug/Kg			07/31/18 08:26	1
Xylenes, Total	ND		4.0	2.0	ug/Kg			07/31/18 08:26	1
Isopropyl Ether (DIPE)	ND		5.0	1.0	ug/Kg			07/31/18 08:26	1
Ethyl-t-butyl ether (ETBE)	ND		5.0	1.0	ug/Kg			07/31/18 08:26	1
tert-Butyl alcohol (TBA)	ND		100	10	ug/Kg			07/31/18 08:26	1
p-Isopropyltoluene	ND		2.0	1.0	ug/Kg			07/31/18 08:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*109*		*79 - 123*		*07/31/18 08:26*	*1*
4-Bromofluorobenzene (Surr)	*105*		*79 - 120*		*07/31/18 08:26*	*1*
Dibromofluoromethane (Surr)	*94*		*60 - 120*		*07/31/18 08:26*	*1*

Lab Sample ID: LCS 440-490611/5
Matrix: Solid
Analysis Batch: 490611

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	53.8		ug/Kg		108	70 - 130
1,1,1-Trichloroethane	50.0	50.7		ug/Kg		101	65 - 135
1,1,2,2-Tetrachloroethane	50.0	59.8		ug/Kg		120	55 - 140
1,1,2-Trichloroethane	50.0	59.8		ug/Kg		120	65 - 135
1,1-Dichloroethane	50.0	52.1		ug/Kg		104	70 - 130
1,1-Dichloroethene	50.0	47.4		ug/Kg		95	70 - 125
1,1-Dichloropropene	50.0	52.7		ug/Kg		105	70 - 130
1,2,3-Trichlorobenzene	50.0	62.3		ug/Kg		125	60 - 130
1,2,3-Trichloropropane	50.0	58.2		ug/Kg		116	60 - 135
1,2,4-Trichlorobenzene	50.0	57.7		ug/Kg		115	70 - 135
1,2,4-Trimethylbenzene	50.0	58.0		ug/Kg		116	70 - 125
1,2-Dibromo-3-Chloropropane	50.0	57.9		ug/Kg		116	50 - 135
1,2-Dibromoethane (EDB)	50.0	57.2		ug/Kg		114	70 - 130
1,2-Dichlorobenzene	50.0	55.7		ug/Kg		111	75 - 120
1,2-Dichloroethane	50.0	51.7		ug/Kg		103	60 - 140
1,2-Dichloropropane	50.0	54.4		ug/Kg		109	70 - 130
1,3,5-Trimethylbenzene	50.0	57.4		ug/Kg		115	70 - 125
1,3-Dichlorobenzene	50.0	57.3		ug/Kg		115	75 - 125
1,3-Dichloropropane	50.0	58.2		ug/Kg		116	70 - 125
1,4-Dichlorobenzene	50.0	57.5		ug/Kg		115	75 - 120

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-490611/5
Matrix: Solid
Analysis Batch: 490611

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	50.0	58.3		ug/Kg		117	60 - 145
2-Chlorotoluene	50.0	58.5		ug/Kg		117	70 - 125
4-Chlorotoluene	50.0	58.8		ug/Kg		118	75 - 125
Benzene	50.0	51.2		ug/Kg		102	65 - 120
Bromobenzene	50.0	54.7		ug/Kg		109	75 - 120
Bromochloromethane	50.0	47.4		ug/Kg		95	70 - 135
Bromodichloromethane	50.0	52.9		ug/Kg		106	70 - 135
Bromoform	50.0	61.6		ug/Kg		123	55 - 135
Bromomethane	50.0	42.4		ug/Kg		85	60 - 145
Carbon tetrachloride	50.0	51.0		ug/Kg		102	65 - 140
Chlorobenzene	50.0	51.9		ug/Kg		104	75 - 120
Chloroethane	50.0	41.4		ug/Kg		83	60 - 140
Chloroform	50.0	53.1		ug/Kg		106	70 - 130
Chloromethane	50.0	33.6		ug/Kg		67	45 - 145
cis-1,2-Dichloroethene	50.0	51.9		ug/Kg		104	70 - 125
cis-1,3-Dichloropropene	50.0	61.8		ug/Kg		124	75 - 125
Dibromochloromethane	50.0	54.4		ug/Kg		109	65 - 140
Dibromomethane	50.0	52.2		ug/Kg		104	70 - 130
Dichlorodifluoromethane	50.0	29.1		ug/Kg		58	35 - 160
Ethylbenzene	50.0	55.1		ug/Kg		110	70 - 125
Hexachlorobutadiene	50.0	59.7		ug/Kg		119	60 - 135
Isopropylbenzene	50.0	54.6		ug/Kg		109	75 - 130
m,p-Xylene	50.0	53.9		ug/Kg		108	70 - 125
Methylene Chloride	50.0	45.9		ug/Kg		92	55 - 135
Methyl-t-Butyl Ether (MTBE)	50.0	51.6		ug/Kg		103	60 - 140
Naphthalene	50.0	60.9		ug/Kg		122	55 - 135
n-Butylbenzene	50.0	60.0		ug/Kg		120	70 - 130
N-Propylbenzene	50.0	60.3		ug/Kg		121	70 - 130
o-Xylene	50.0	52.3		ug/Kg		105	70 - 125
sec-Butylbenzene	50.0	61.4		ug/Kg		123	70 - 125
Styrene	50.0	53.6		ug/Kg		107	75 - 130
Tert-amyl-methyl ether (TAME)	50.0	52.5		ug/Kg		105	60 - 145
tert-Butylbenzene	50.0	56.8		ug/Kg		114	70 - 125
Tetrachloroethene	50.0	56.9		ug/Kg		114	70 - 125
Toluene	50.0	58.9		ug/Kg		118	70 - 125
trans-1,2-Dichloroethene	50.0	49.0		ug/Kg		98	70 - 125
trans-1,3-Dichloropropene	50.0	56.5		ug/Kg		113	70 - 135
Trichloroethene	50.0	51.5		ug/Kg		103	70 - 125
Trichlorofluoromethane	50.0	46.7		ug/Kg		93	60 - 145
Vinyl chloride	50.0	39.1		ug/Kg		78	55 - 135
Isopropyl Ether (DIPE)	50.0	56.1		ug/Kg		112	60 - 140
Ethyl-t-butyl ether (ETBE)	50.0	53.5		ug/Kg		107	60 - 140
tert-Butyl alcohol (TBA)	500	587		ug/Kg		117	70 - 135
p-Isopropyltoluene	50.0	59.0		ug/Kg		118	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*79 - 123*
4-Bromofluorobenzene (Surr)	*104*		*79 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-490611/5
Matrix: Solid
Analysis Batch: 490611

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Dibromofluoromethane (Surr)	*103*		*60 - 120*

Lab Sample ID: LCSD 440-490611/6
Matrix: Solid
Analysis Batch: 490611

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane			50.0	49.2		ug/Kg		98	70 - 130	9	20
1,1,1-Trichloroethane			50.0	49.9		ug/Kg		100	65 - 135	2	20
1,1,2,2-Tetrachloroethane			50.0	56.7		ug/Kg		113	55 - 140	5	30
1,1,2-Trichloroethane			50.0	56.3		ug/Kg		113	65 - 135	6	20
1,1-Dichloroethane			50.0	49.0		ug/Kg		98	70 - 130	6	20
1,1-Dichloroethene			50.0	49.0		ug/Kg		98	70 - 125	3	20
1,1-Dichloropropene			50.0	49.1		ug/Kg		98	70 - 130	7	20
1,2,3-Trichlorobenzene			50.0	56.2		ug/Kg		112	60 - 130	10	20
1,2,3-Trichloropropane			50.0	61.8		ug/Kg		124	60 - 135	6	25
1,2,4-Trichlorobenzene			50.0	54.4		ug/Kg		109	70 - 135	6	20
1,2,4-Trimethylbenzene			50.0	55.6		ug/Kg		111	70 - 125	4	20
1,2-Dibromo-3-Chloropropane			50.0	56.5		ug/Kg		113	50 - 135	3	30
1,2-Dibromoethane (EDB)			50.0	53.0		ug/Kg		106	70 - 130	8	20
1,2-Dichlorobenzene			50.0	53.0		ug/Kg		106	75 - 120	5	20
1,2-Dichloroethane			50.0	49.3		ug/Kg		99	60 - 140	5	20
1,2-Dichloropropane			50.0	53.0		ug/Kg		106	70 - 130	3	20
1,3,5-Trimethylbenzene			50.0	55.9		ug/Kg		112	70 - 125	3	20
1,3-Dichlorobenzene			50.0	51.9		ug/Kg		104	75 - 125	10	20
1,3-Dichloropropane			50.0	56.0		ug/Kg		112	70 - 125	4	20
1,4-Dichlorobenzene			50.0	54.7		ug/Kg		109	75 - 120	5	20
2,2-Dichloropropane			50.0	56.8		ug/Kg		114	60 - 145	3	20
2-Chlorotoluene			50.0	54.7		ug/Kg		109	70 - 125	7	20
4-Chlorotoluene			50.0	56.3		ug/Kg		113	75 - 125	4	20
Benzene			50.0	51.1		ug/Kg		102	65 - 120	0	20
Bromobenzene			50.0	54.5		ug/Kg		109	75 - 120	0	20
Bromochloromethane			50.0	48.2		ug/Kg		96	70 - 135	2	20
Bromodichloromethane			50.0	50.5		ug/Kg		101	70 - 135	5	20
Bromoform			50.0	56.6		ug/Kg		113	55 - 135	9	25
Bromomethane			50.0	41.3		ug/Kg		83	60 - 145	3	20
Carbon tetrachloride			50.0	51.9		ug/Kg		104	65 - 140	2	20
Chlorobenzene			50.0	53.3		ug/Kg		107	75 - 120	3	20
Chloroethane			50.0	37.6		ug/Kg		75	60 - 140	10	25
Chloroform			50.0	51.8		ug/Kg		104	70 - 130	2	20
Chloromethane			50.0	32.8		ug/Kg		66	45 - 145	2	25
cis-1,2-Dichloroethene			50.0	50.4		ug/Kg		101	70 - 125	3	20
cis-1,3-Dichloropropene			50.0	59.5		ug/Kg		119	75 - 125	4	20
Dibromochloromethane			50.0	54.3		ug/Kg		109	65 - 140	0	20
Dibromomethane			50.0	49.2		ug/Kg		98	70 - 130	6	20
Dichlorodifluoromethane			50.0	27.4		ug/Kg		55	35 - 160	6	30
Ethylbenzene			50.0	54.0		ug/Kg		108	70 - 125	2	20
Hexachlorobutadiene			50.0	55.8		ug/Kg		112	60 - 135	7	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-490611/6
Matrix: Solid
Analysis Batch: 490611

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Isopropylbenzene			50.0	52.9		ug/Kg		106	75 - 130	3	20
m,p-Xylene			50.0	51.4		ug/Kg		103	70 - 125	5	20
Methylene Chloride			50.0	45.5		ug/Kg		91	55 - 135	1	20
Methyl-t-Butyl Ether (MTBE)			50.0	48.6		ug/Kg		97	60 - 140	6	25
Naphthalene			50.0	57.9		ug/Kg		116	55 - 135	5	25
n-Butylbenzene			50.0	57.8		ug/Kg		116	70 - 130	4	20
N-Propylbenzene			50.0	57.5		ug/Kg		115	70 - 130	5	20
o-Xylene			50.0	53.0		ug/Kg		106	70 - 125	1	20
sec-Butylbenzene			50.0	55.6		ug/Kg		111	70 - 125	10	20
Styrene			50.0	52.1		ug/Kg		104	75 - 130	3	20
Tert-amyl-methyl ether (TAME)			50.0	51.0		ug/Kg		102	60 - 145	3	20
tert-Butylbenzene			50.0	54.9		ug/Kg		110	70 - 125	3	20
Tetrachloroethene			50.0	54.1		ug/Kg		108	70 - 125	5	20
Toluene			50.0	57.2		ug/Kg		114	70 - 125	3	20
trans-1,2-Dichloroethene			50.0	49.0		ug/Kg		98	70 - 125	0	20
trans-1,3-Dichloropropene			50.0	56.4		ug/Kg		113	70 - 135	0	20
Trichloroethene			50.0	49.6		ug/Kg		99	70 - 125	4	20
Trichlorofluoromethane			50.0	43.3		ug/Kg		87	60 - 145	7	25
Vinyl chloride			50.0	39.0		ug/Kg		78	55 - 135	0	25
Isopropyl Ether (DIPE)			50.0	54.3		ug/Kg		109	60 - 140	3	20
Ethyl-t-butyl ether (ETBE)			50.0	52.7		ug/Kg		105	60 - 140	1	20
tert-Butyl alcohol (TBA)			500	587		ug/Kg		117	70 - 135	0	20
p-Isopropyltoluene			50.0	54.2		ug/Kg		108	75 - 125	8	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*79 - 123*
4-Bromofluorobenzene (Surr)	*106*		*79 - 120*
Dibromofluoromethane (Surr)	*101*		*60 - 120*

Lab Sample ID: MB 440-490615/5
Matrix: Solid
Analysis Batch: 490615

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	1.0	ug/Kg			07/31/18 09:27	1
1,1,1-Trichloroethane	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
1,1,2,2-Tetrachloroethane	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
1,1,2-Trichloroethane	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
1,1-Dichloroethane	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
1,1-Dichloroethene	ND		5.0	1.0	ug/Kg			07/31/18 09:27	1
1,1-Dichloropropene	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
1,2,3-Trichlorobenzene	ND		5.0	1.0	ug/Kg			07/31/18 09:27	1
1,2,3-Trichloropropane	ND		10	1.0	ug/Kg			07/31/18 09:27	1
1,2,4-Trichlorobenzene	ND		5.0	1.0	ug/Kg			07/31/18 09:27	1
1,2,4-Trimethylbenzene	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
1,2-Dibromo-3-Chloropropane	ND		5.0	2.0	ug/Kg			07/31/18 09:27	1
1,2-Dibromoethane (EDB)	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
1,2-Dichlorobenzene	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216810-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-490615/5
Matrix: Solid
Analysis Batch: 490615

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
1,2-Dichloropropane	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
1,3,5-Trimethylbenzene	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
1,3-Dichlorobenzene	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
1,3-Dichloropropane	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
1,4-Dichlorobenzene	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
2,2-Dichloropropane	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
2-Chlorotoluene	ND		5.0	1.0	ug/Kg			07/31/18 09:27	1
4-Chlorotoluene	ND		5.0	1.0	ug/Kg			07/31/18 09:27	1
Benzene	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
Bromobenzene	ND		5.0	1.0	ug/Kg			07/31/18 09:27	1
Bromochloromethane	ND		5.0	1.0	ug/Kg			07/31/18 09:27	1
Bromodichloromethane	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
Bromoform	ND		5.0	2.0	ug/Kg			07/31/18 09:27	1
Bromomethane	ND		5.0	1.0	ug/Kg			07/31/18 09:27	1
Carbon tetrachloride	ND		5.0	1.0	ug/Kg			07/31/18 09:27	1
Chlorobenzene	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
Chloroethane	ND		5.0	2.0	ug/Kg			07/31/18 09:27	1
Chloroform	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
Chloromethane	ND		5.0	1.0	ug/Kg			07/31/18 09:27	1
cis-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
cis-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
Dibromochloromethane	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
Dibromomethane	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
Dichlorodifluoromethane	ND		5.0	2.0	ug/Kg			07/31/18 09:27	1
Ethylbenzene	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
Hexachlorobutadiene	ND		5.0	1.0	ug/Kg			07/31/18 09:27	1
Isopropylbenzene	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
m,p-Xylene	ND		4.0	2.0	ug/Kg			07/31/18 09:27	1
Methylene Chloride	ND		20	5.0	ug/Kg			07/31/18 09:27	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0	1.0	ug/Kg			07/31/18 09:27	1
Naphthalene	ND		5.0	2.0	ug/Kg			07/31/18 09:27	1
n-Butylbenzene	ND		5.0	1.0	ug/Kg			07/31/18 09:27	1
N-Propylbenzene	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
o-Xylene	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
sec-Butylbenzene	ND		5.0	1.0	ug/Kg			07/31/18 09:27	1
Styrene	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
Tert-amyl-methyl ether (TAME)	ND		5.0	1.0	ug/Kg			07/31/18 09:27	1
tert-Butylbenzene	ND		5.0	1.0	ug/Kg			07/31/18 09:27	1
Tetrachloroethene	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
Toluene	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
trans-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
trans-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
Trichloroethene	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1
Trichlorofluoromethane	ND		5.0	1.0	ug/Kg			07/31/18 09:27	1
Vinyl chloride	ND		5.0	1.0	ug/Kg			07/31/18 09:27	1
Xylenes, Total	ND		4.0	2.0	ug/Kg			07/31/18 09:27	1
Isopropyl Ether (DIPE)	ND		5.0	1.0	ug/Kg			07/31/18 09:27	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-490615/5
Matrix: Solid
Analysis Batch: 490615

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl-t-butyl ether (ETBE)	ND		5.0	1.0	ug/Kg			07/31/18 09:27	1
tert-Butyl alcohol (TBA)	ND		100	10	ug/Kg			07/31/18 09:27	1
p-Isopropyltoluene	ND		2.0	1.0	ug/Kg			07/31/18 09:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*106*		*79 - 123*		*07/31/18 09:27*	*1*
4-Bromofluorobenzene (Surr)	*100*		*79 - 120*		*07/31/18 09:27*	*1*
Dibromofluoromethane (Surr)	*98*		*60 - 120*		*07/31/18 09:27*	*1*

Lab Sample ID: LCS 440-490615/6
Matrix: Solid
Analysis Batch: 490615

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	51.6		ug/Kg		103	70 - 130
1,1,1-Trichloroethane	50.0	46.9		ug/Kg		94	65 - 135
1,1,2,2-Tetrachloroethane	50.0	56.9		ug/Kg		114	55 - 140
1,1,2-Trichloroethane	50.0	56.9		ug/Kg		114	65 - 135
1,1-Dichloroethane	50.0	50.1		ug/Kg		100	70 - 130
1,1-Dichloroethene	50.0	46.2		ug/Kg		92	70 - 125
1,1-Dichloropropene	50.0	51.1		ug/Kg		102	70 - 130
1,2,3-Trichlorobenzene	50.0	57.0		ug/Kg		114	60 - 130
1,2,3-Trichloropropane	50.0	57.3		ug/Kg		115	60 - 135
1,2,4-Trichlorobenzene	50.0	58.9		ug/Kg		118	70 - 135
1,2,4-Trimethylbenzene	50.0	53.4		ug/Kg		107	70 - 125
1,2-Dibromo-3-Chloropropane	50.0	53.0		ug/Kg		106	50 - 135
1,2-Dibromoethane (EDB)	50.0	52.5		ug/Kg		105	70 - 130
1,2-Dichlorobenzene	50.0	54.3		ug/Kg		109	75 - 120
1,2-Dichloroethane	50.0	49.9		ug/Kg		100	60 - 140
1,2-Dichloropropane	50.0	54.0		ug/Kg		108	70 - 130
1,3,5-Trimethylbenzene	50.0	54.7		ug/Kg		109	70 - 125
1,3-Dichlorobenzene	50.0	51.8		ug/Kg		104	75 - 125
1,3-Dichloropropane	50.0	55.5		ug/Kg		111	70 - 125
1,4-Dichlorobenzene	50.0	50.4		ug/Kg		101	75 - 120
2,2-Dichloropropane	50.0	49.6		ug/Kg		99	60 - 145
2-Chlorotoluene	50.0	52.9		ug/Kg		106	70 - 125
4-Chlorotoluene	50.0	56.2		ug/Kg		112	75 - 125
Benzene	50.0	51.0		ug/Kg		102	65 - 120
Bromobenzene	50.0	55.7		ug/Kg		111	75 - 120
Bromochloromethane	50.0	52.5		ug/Kg		105	70 - 135
Bromodichloromethane	50.0	50.6		ug/Kg		101	70 - 135
Bromoform	50.0	52.0		ug/Kg		104	55 - 135
Bromomethane	50.0	36.7		ug/Kg		73	60 - 145
Carbon tetrachloride	50.0	44.1		ug/Kg		88	65 - 140
Chlorobenzene	50.0	50.7		ug/Kg		101	75 - 120
Chloroethane	50.0	36.0		ug/Kg		72	60 - 140
Chloroform	50.0	49.0		ug/Kg		98	70 - 130
Chloromethane	50.0	26.6		ug/Kg		53	45 - 145

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-490615/6
Matrix: Solid
Analysis Batch: 490615

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	50.0	53.7		ug/Kg		107	70 - 125
cis-1,3-Dichloropropene	50.0	59.6		ug/Kg		119	75 - 125
Dibromochloromethane	50.0	52.7		ug/Kg		105	65 - 140
Dibromomethane	50.0	53.2		ug/Kg		106	70 - 130
Dichlorodifluoromethane	50.0	22.5		ug/Kg		45	35 - 160
Ethylbenzene	50.0	52.7		ug/Kg		105	70 - 125
Hexachlorobutadiene	50.0	50.3		ug/Kg		101	60 - 135
Isopropylbenzene	50.0	52.4		ug/Kg		105	75 - 130
m,p-Xylene	50.0	56.2		ug/Kg		112	70 - 125
Methylene Chloride	50.0	49.3		ug/Kg		99	55 - 135
Methyl-t-Butyl Ether (MTBE)	50.0	56.4		ug/Kg		113	60 - 140
Naphthalene	50.0	58.8		ug/Kg		118	55 - 135
n-Butylbenzene	50.0	52.3		ug/Kg		105	70 - 130
N-Propylbenzene	50.0	55.0		ug/Kg		110	70 - 130
o-Xylene	50.0	54.4		ug/Kg		109	70 - 125
sec-Butylbenzene	50.0	52.6		ug/Kg		105	70 - 125
Styrene	50.0	51.3		ug/Kg		103	75 - 130
Tert-amyl-methyl ether (TAME)	50.0	54.4		ug/Kg		109	60 - 145
tert-Butylbenzene	50.0	55.2		ug/Kg		110	70 - 125
Tetrachloroethene	50.0	49.9		ug/Kg		100	70 - 125
Toluene	50.0	53.2		ug/Kg		106	70 - 125
trans-1,2-Dichloroethene	50.0	52.8		ug/Kg		106	70 - 125
trans-1,3-Dichloropropene	50.0	53.6		ug/Kg		107	70 - 135
Trichloroethene	50.0	50.0		ug/Kg		100	70 - 125
Trichlorofluoromethane	50.0	36.3		ug/Kg		73	60 - 145
Vinyl chloride	50.0	27.4		ug/Kg		55	55 - 135
Isopropyl Ether (DIPE)	50.0	52.2		ug/Kg		104	60 - 140
Ethyl-t-butyl ether (ETBE)	50.0	56.2		ug/Kg		112	60 - 140
tert-Butyl alcohol (TBA)	500	532		ug/Kg		106	70 - 135
p-Isopropyltoluene	50.0	52.5		ug/Kg		105	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*79 - 123*
4-Bromofluorobenzene (Surr)	*102*		*79 - 120*
Dibromofluoromethane (Surr)	*96*		*60 - 120*

Lab Sample ID: LCSD 440-490615/7
Matrix: Solid
Analysis Batch: 490615

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	50.0	55.9		ug/Kg		112	70 - 130	8	20
1,1,1-Trichloroethane	50.0	48.4		ug/Kg		97	65 - 135	3	20
1,1,2,2-Tetrachloroethane	50.0	57.5		ug/Kg		115	55 - 140	1	30
1,1,2-Trichloroethane	50.0	60.6		ug/Kg		121	65 - 135	6	20
1,1-Dichloroethane	50.0	52.1		ug/Kg		104	70 - 130	4	20
1,1-Dichloroethene	50.0	47.2		ug/Kg		94	70 - 125	2	20
1,1-Dichloropropene	50.0	52.3		ug/Kg		105	70 - 130	2	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-490615/7
Matrix: Solid
Analysis Batch: 490615

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichlorobenzene	50.0	58.6		ug/Kg		117	60 - 130	3	20
1,2,3-Trichloropropane	50.0	58.0		ug/Kg		116	60 - 135	1	25
1,2,4-Trichlorobenzene	50.0	60.4		ug/Kg		121	70 - 135	2	20
1,2,4-Trimethylbenzene	50.0	54.8		ug/Kg		110	70 - 125	3	20
1,2-Dibromo-3-Chloropropane	50.0	50.8		ug/Kg		102	50 - 135	4	30
1,2-Dibromoethane (EDB)	50.0	56.5		ug/Kg		113	70 - 130	7	20
1,2-Dichlorobenzene	50.0	56.5		ug/Kg		113	75 - 120	4	20
1,2-Dichloroethane	50.0	54.2		ug/Kg		108	60 - 140	8	20
1,2-Dichloropropane	50.0	57.2		ug/Kg		114	70 - 130	6	20
1,3,5-Trimethylbenzene	50.0	55.0		ug/Kg		110	70 - 125	0	20
1,3-Dichlorobenzene	50.0	52.5		ug/Kg		105	75 - 125	1	20
1,3-Dichloropropane	50.0	59.6		ug/Kg		119	70 - 125	7	20
1,4-Dichlorobenzene	50.0	51.9		ug/Kg		104	75 - 120	3	20
2,2-Dichloropropane	50.0	51.0		ug/Kg		102	60 - 145	3	20
2-Chlorotoluene	50.0	54.2		ug/Kg		108	70 - 125	2	20
4-Chlorotoluene	50.0	56.6		ug/Kg		113	75 - 125	1	20
Benzene	50.0	53.9		ug/Kg		108	65 - 120	5	20
Bromobenzene	50.0	56.9		ug/Kg		114	75 - 120	2	20
Bromochloromethane	50.0	55.6		ug/Kg		111	70 - 135	6	20
Bromodichloromethane	50.0	54.4		ug/Kg		109	70 - 135	7	20
Bromoform	50.0	56.2		ug/Kg		112	55 - 135	8	25
Bromomethane	50.0	39.1		ug/Kg		78	60 - 145	6	20
Carbon tetrachloride	50.0	45.4		ug/Kg		91	65 - 140	3	20
Chlorobenzene	50.0	53.7		ug/Kg		107	75 - 120	6	20
Chloroethane	50.0	36.7		ug/Kg		73	60 - 140	2	25
Chloroform	50.0	51.8		ug/Kg		104	70 - 130	6	20
Chloromethane	50.0	28.1		ug/Kg		56	45 - 145	6	25
cis-1,2-Dichloroethene	50.0	56.1		ug/Kg		112	70 - 125	4	20
cis-1,3-Dichloropropene	50.0	64.4	*	ug/Kg		129	75 - 125	8	20
Dibromochloromethane	50.0	56.5		ug/Kg		113	65 - 140	7	20
Dibromomethane	50.0	56.2		ug/Kg		112	70 - 130	5	20
Dichlorodifluoromethane	50.0	23.2		ug/Kg		46	35 - 160	3	30
Ethylbenzene	50.0	54.5		ug/Kg		109	70 - 125	3	20
Hexachlorobutadiene	50.0	48.7		ug/Kg		97	60 - 135	3	20
Isopropylbenzene	50.0	54.6		ug/Kg		109	75 - 130	4	20
m,p-Xylene	50.0	58.2		ug/Kg		116	70 - 125	3	20
Methylene Chloride	50.0	52.1		ug/Kg		104	55 - 135	5	20
Methyl-t-Butyl Ether (MTBE)	50.0	59.7		ug/Kg		119	60 - 140	6	25
Naphthalene	50.0	59.3		ug/Kg		119	55 - 135	1	25
n-Butylbenzene	50.0	52.4		ug/Kg		105	70 - 130	0	20
N-Propylbenzene	50.0	54.7		ug/Kg		109	70 - 130	0	20
o-Xylene	50.0	57.7		ug/Kg		115	70 - 125	6	20
sec-Butylbenzene	50.0	52.5		ug/Kg		105	70 - 125	0	20
Styrene	50.0	54.9		ug/Kg		110	75 - 130	7	20
Tert-amyl-methyl ether (TAME)	50.0	57.5		ug/Kg		115	60 - 145	6	20
tert-Butylbenzene	50.0	55.1		ug/Kg		110	70 - 125	0	20
Tetrachloroethene	50.0	50.6		ug/Kg		101	70 - 125	1	20
Toluene	50.0	55.4		ug/Kg		111	70 - 125	4	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-490615/7
Matrix: Solid
Analysis Batch: 490615

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
trans-1,2-Dichloroethene			50.0	53.8		ug/Kg		108	70 - 125	2	20
trans-1,3-Dichloropropene			50.0	57.7		ug/Kg		115	70 - 135	7	20
Trichloroethene			50.0	52.2		ug/Kg		104	70 - 125	4	20
Trichlorofluoromethane			50.0	36.8		ug/Kg		74	60 - 145	2	25
Vinyl chloride			50.0	28.5		ug/Kg		57	55 - 135	4	25
Isopropyl Ether (DIPE)			50.0	55.5		ug/Kg		111	60 - 140	6	20
Ethyl-t-butyl ether (ETBE)			50.0	60.6		ug/Kg		121	60 - 140	7	20
tert-Butyl alcohol (TBA)			500	565		ug/Kg		113	70 - 135	6	20
p-Isopropyltoluene			50.0	53.1		ug/Kg		106	75 - 125	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*79 - 123*
4-Bromofluorobenzene (Surr)	*100*		*79 - 120*
Dibromofluoromethane (Surr)	*98*		*60 - 120*

Lab Sample ID: MB 440-490861/4
Matrix: Solid
Analysis Batch: 490861

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	1.0	ug/Kg			08/01/18 08:20	1
1,1,1-Trichloroethane	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
1,1,2,2-Tetrachloroethane	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
1,1,2-Trichloroethane	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
1,1-Dichloroethane	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
1,1-Dichloroethene	ND		5.0	1.0	ug/Kg			08/01/18 08:20	1
1,1-Dichloropropene	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
1,2,3-Trichlorobenzene	ND		5.0	1.0	ug/Kg			08/01/18 08:20	1
1,2,3-Trichloropropane	ND		10	1.0	ug/Kg			08/01/18 08:20	1
1,2,4-Trichlorobenzene	ND		5.0	1.0	ug/Kg			08/01/18 08:20	1
1,2,4-Trimethylbenzene	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
1,2-Dibromo-3-Chloropropane	ND		5.0	2.0	ug/Kg			08/01/18 08:20	1
1,2-Dibromoethane (EDB)	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
1,2-Dichlorobenzene	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
1,2-Dichloroethane	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
1,2-Dichloropropane	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
1,3,5-Trimethylbenzene	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
1,3-Dichlorobenzene	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
1,3-Dichloropropane	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
1,4-Dichlorobenzene	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
2,2-Dichloropropane	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
2-Chlorotoluene	ND		5.0	1.0	ug/Kg			08/01/18 08:20	1
4-Chlorotoluene	ND		5.0	1.0	ug/Kg			08/01/18 08:20	1
Benzene	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
Bromobenzene	ND		5.0	1.0	ug/Kg			08/01/18 08:20	1
Bromochloromethane	ND		5.0	1.0	ug/Kg			08/01/18 08:20	1
Bromodichloromethane	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
Bromoform	ND		5.0	2.0	ug/Kg			08/01/18 08:20	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-490861/4
Matrix: Solid
Analysis Batch: 490861

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	ND		5.0	1.0	ug/Kg			08/01/18 08:20	1
Carbon tetrachloride	ND		5.0	1.0	ug/Kg			08/01/18 08:20	1
Chlorobenzene	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
Chloroethane	ND		5.0	2.0	ug/Kg			08/01/18 08:20	1
Chloroform	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
Chloromethane	ND		5.0	1.0	ug/Kg			08/01/18 08:20	1
cis-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
cis-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
Dibromochloromethane	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
Dibromomethane	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
Dichlorodifluoromethane	ND		5.0	2.0	ug/Kg			08/01/18 08:20	1
Ethylbenzene	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
Hexachlorobutadiene	ND		5.0	1.0	ug/Kg			08/01/18 08:20	1
Isopropylbenzene	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
m,p-Xylene	ND		4.0	2.0	ug/Kg			08/01/18 08:20	1
Methylene Chloride	ND		20	5.0	ug/Kg			08/01/18 08:20	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0	1.0	ug/Kg			08/01/18 08:20	1
Naphthalene	ND		5.0	2.0	ug/Kg			08/01/18 08:20	1
n-Butylbenzene	ND		5.0	1.0	ug/Kg			08/01/18 08:20	1
N-Propylbenzene	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
o-Xylene	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
sec-Butylbenzene	ND		5.0	1.0	ug/Kg			08/01/18 08:20	1
Styrene	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
Tert-amyl-methyl ether (TAME)	ND		5.0	1.0	ug/Kg			08/01/18 08:20	1
tert-Butylbenzene	ND		5.0	1.0	ug/Kg			08/01/18 08:20	1
Tetrachloroethene	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
Toluene	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
trans-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
trans-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
Trichloroethene	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1
Trichlorofluoromethane	ND		5.0	1.0	ug/Kg			08/01/18 08:20	1
Vinyl chloride	ND		5.0	1.0	ug/Kg			08/01/18 08:20	1
Xylenes, Total	ND		4.0	2.0	ug/Kg			08/01/18 08:20	1
Isopropyl Ether (DIPE)	ND		5.0	1.0	ug/Kg			08/01/18 08:20	1
Ethyl-t-butyl ether (ETBE)	ND		5.0	1.0	ug/Kg			08/01/18 08:20	1
tert-Butyl alcohol (TBA)	ND		100	10	ug/Kg			08/01/18 08:20	1
p-Isopropyltoluene	ND		2.0	1.0	ug/Kg			08/01/18 08:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*79 - 123*		*08/01/18 08:20*	*1*
4-Bromofluorobenzene (Surr)	*99*		*79 - 120*		*08/01/18 08:20*	*1*
Dibromofluoromethane (Surr)	*99*		*60 - 120*		*08/01/18 08:20*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-490861/5
Matrix: Solid
Analysis Batch: 490861

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	50.2		ug/Kg		100	70 - 130
1,1,1-Trichloroethane	50.0	49.7		ug/Kg		99	65 - 135
1,1,2,2-Tetrachloroethane	50.0	58.7		ug/Kg		117	55 - 140
1,1,2-Trichloroethane	50.0	58.9		ug/Kg		118	65 - 135
1,1-Dichloroethane	50.0	50.4		ug/Kg		101	70 - 130
1,1-Dichloroethene	50.0	47.2		ug/Kg		94	70 - 125
1,1-Dichloropropene	50.0	50.6		ug/Kg		101	70 - 130
1,2,3-Trichlorobenzene	50.0	56.7		ug/Kg		113	60 - 130
1,2,3-Trichloropropane	50.0	60.7		ug/Kg		121	60 - 135
1,2,4-Trichlorobenzene	50.0	53.4		ug/Kg		107	70 - 135
1,2,4-Trimethylbenzene	50.0	53.8		ug/Kg		108	70 - 125
1,2-Dibromo-3-Chloropropane	50.0	63.3		ug/Kg		127	50 - 135
1,2-Dibromoethane (EDB)	50.0	54.7		ug/Kg		109	70 - 130
1,2-Dichlorobenzene	50.0	53.1		ug/Kg		106	75 - 120
1,2-Dichloroethane	50.0	52.0		ug/Kg		104	60 - 140
1,2-Dichloropropane	50.0	52.1		ug/Kg		104	70 - 130
1,3,5-Trimethylbenzene	50.0	54.4		ug/Kg		109	70 - 125
1,3-Dichlorobenzene	50.0	51.3		ug/Kg		103	75 - 125
1,3-Dichloropropane	50.0	55.7		ug/Kg		111	70 - 125
1,4-Dichlorobenzene	50.0	52.6		ug/Kg		105	75 - 120
2,2-Dichloropropane	50.0	57.1		ug/Kg		114	60 - 145
2-Chlorotoluene	50.0	54.7		ug/Kg		109	70 - 125
4-Chlorotoluene	50.0	55.0		ug/Kg		110	75 - 125
Benzene	50.0	50.2		ug/Kg		100	65 - 120
Bromobenzene	50.0	53.8		ug/Kg		108	75 - 120
Bromochloromethane	50.0	49.0		ug/Kg		98	70 - 135
Bromodichloromethane	50.0	50.7		ug/Kg		101	70 - 135
Bromoform	50.0	57.3		ug/Kg		115	55 - 135
Bromomethane	50.0	42.0		ug/Kg		84	60 - 145
Carbon tetrachloride	50.0	50.3		ug/Kg		101	65 - 140
Chlorobenzene	50.0	49.9		ug/Kg		100	75 - 120
Chloroethane	50.0	38.7		ug/Kg		77	60 - 140
Chloroform	50.0	51.1		ug/Kg		102	70 - 130
Chloromethane	50.0	33.0		ug/Kg		66	45 - 145
cis-1,2-Dichloroethene	50.0	51.1		ug/Kg		102	70 - 125
cis-1,3-Dichloropropene	50.0	59.2		ug/Kg		118	75 - 125
Dibromochloromethane	50.0	52.6		ug/Kg		105	65 - 140
Dibromomethane	50.0	48.9		ug/Kg		98	70 - 130
Dichlorodifluoromethane	50.0	26.5		ug/Kg		53	35 - 160
Ethylbenzene	50.0	52.5		ug/Kg		105	70 - 125
Hexachlorobutadiene	50.0	53.0		ug/Kg		106	60 - 135
Isopropylbenzene	50.0	51.3		ug/Kg		103	75 - 130
m,p-Xylene	50.0	52.2		ug/Kg		104	70 - 125
Methylene Chloride	50.0	48.4		ug/Kg		97	55 - 135
Methyl-t-Butyl Ether (MTBE)	50.0	52.1		ug/Kg		104	60 - 140
Naphthalene	50.0	60.5		ug/Kg		121	55 - 135
n-Butylbenzene	50.0	55.6		ug/Kg		111	70 - 130
N-Propylbenzene	50.0	55.0		ug/Kg		110	70 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-490861/5
Matrix: Solid
Analysis Batch: 490861

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
o-Xylene	50.0	53.3		ug/Kg		107	70 - 125
sec-Butylbenzene	50.0	54.2		ug/Kg		108	70 - 125
Styrene	50.0	53.2		ug/Kg		106	75 - 130
Tert-amyl-methyl ether (TAME)	50.0	51.2		ug/Kg		102	60 - 145
tert-Butylbenzene	50.0	52.6		ug/Kg		105	70 - 125
Tetrachloroethene	50.0	55.0		ug/Kg		110	70 - 125
Toluene	50.0	54.8		ug/Kg		110	70 - 125
trans-1,2-Dichloroethene	50.0	47.0		ug/Kg		94	70 - 125
trans-1,3-Dichloropropene	50.0	54.6		ug/Kg		109	70 - 135
Trichloroethene	50.0	53.1		ug/Kg		106	70 - 125
Trichlorofluoromethane	50.0	43.0		ug/Kg		86	60 - 145
Vinyl chloride	50.0	36.0		ug/Kg		72	55 - 135
Isopropyl Ether (DIPE)	50.0	53.3		ug/Kg		107	60 - 140
Ethyl-t-butyl ether (ETBE)	50.0	52.5		ug/Kg		105	60 - 140
tert-Butyl alcohol (TBA)	500	555		ug/Kg		111	70 - 135
p-Isopropyltoluene	50.0	53.6		ug/Kg		107	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*104*		*79 - 123*
4-Bromofluorobenzene (Surr)	*105*		*79 - 120*
Dibromofluoromethane (Surr)	*101*		*60 - 120*

Lab Sample ID: LCSD 440-490861/6
Matrix: Solid
Analysis Batch: 490861

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	50.0	46.5		ug/Kg		93	70 - 130	8	20
1,1,1-Trichloroethane	50.0	51.2		ug/Kg		102	65 - 135	3	20
1,1,2,2-Tetrachloroethane	50.0	57.3		ug/Kg		115	55 - 140	2	30
1,1,2-Trichloroethane	50.0	52.5		ug/Kg		105	65 - 135	12	20
1,1-Dichloroethane	50.0	50.7		ug/Kg		101	70 - 130	1	20
1,1-Dichloroethene	50.0	47.8		ug/Kg		96	70 - 125	1	20
1,1-Dichloropropene	50.0	51.5		ug/Kg		103	70 - 130	2	20
1,2,3-Trichlorobenzene	50.0	55.5		ug/Kg		111	60 - 130	2	20
1,2,3-Trichloropropane	50.0	58.8		ug/Kg		118	60 - 135	3	25
1,2,4-Trichlorobenzene	50.0	52.2		ug/Kg		104	70 - 135	2	20
1,2,4-Trimethylbenzene	50.0	50.5		ug/Kg		101	70 - 125	6	20
1,2-Dibromo-3-Chloropropane	50.0	53.5		ug/Kg		107	50 - 135	17	30
1,2-Dibromoethane (EDB)	50.0	51.6		ug/Kg		103	70 - 130	6	20
1,2-Dichlorobenzene	50.0	49.4		ug/Kg		99	75 - 120	7	20
1,2-Dichloroethane	50.0	51.2		ug/Kg		102	60 - 140	2	20
1,2-Dichloropropane	50.0	52.0		ug/Kg		104	70 - 130	0	20
1,3,5-Trimethylbenzene	50.0	53.1		ug/Kg		106	70 - 125	2	20
1,3-Dichlorobenzene	50.0	49.7		ug/Kg		99	75 - 125	3	20
1,3-Dichloropropane	50.0	50.6		ug/Kg		101	70 - 125	10	20
1,4-Dichlorobenzene	50.0	52.5		ug/Kg		105	75 - 120	0	20
2,2-Dichloropropane	50.0	59.2		ug/Kg		118	60 - 145	4	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-490861/6
Matrix: Solid
Analysis Batch: 490861

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Chlorotoluene			50.0	52.5		ug/Kg		105	70 - 125	4	20
4-Chlorotoluene			50.0	51.8		ug/Kg		104	75 - 125	6	20
Benzene			50.0	52.4		ug/Kg		105	65 - 120	4	20
Bromobenzene			50.0	49.7		ug/Kg		99	75 - 120	8	20
Bromochloromethane			50.0	49.9		ug/Kg		100	70 - 135	2	20
Bromodichloromethane			50.0	51.8		ug/Kg		104	70 - 135	2	20
Bromoform			50.0	55.7		ug/Kg		111	55 - 135	3	25
Bromomethane			50.0	43.8		ug/Kg		88	60 - 145	4	20
Carbon tetrachloride			50.0	49.0		ug/Kg		98	65 - 140	3	20
Chlorobenzene			50.0	49.2		ug/Kg		98	75 - 120	1	20
Chloroethane			50.0	41.2		ug/Kg		82	60 - 140	6	25
Chloroform			50.0	51.3		ug/Kg		103	70 - 130	0	20
Chloromethane			50.0	33.9		ug/Kg		68	45 - 145	3	25
cis-1,2-Dichloroethene			50.0	47.4		ug/Kg		95	70 - 125	8	20
cis-1,3-Dichloropropene			50.0	54.5		ug/Kg		109	75 - 125	8	20
Dibromochloromethane			50.0	50.4		ug/Kg		101	65 - 140	4	20
Dibromomethane			50.0	50.1		ug/Kg		100	70 - 130	2	20
Dichlorodifluoromethane			50.0	26.0		ug/Kg		52	35 - 160	2	30
Ethylbenzene			50.0	50.0		ug/Kg		100	70 - 125	5	20
Hexachlorobutadiene			50.0	53.4		ug/Kg		107	60 - 135	1	20
Isopropylbenzene			50.0	50.4		ug/Kg		101	75 - 130	2	20
m,p-Xylene			50.0	50.5		ug/Kg		101	70 - 125	3	20
Methylene Chloride			50.0	45.6		ug/Kg		91	55 - 135	6	20
Methyl-t-Butyl Ether (MTBE)			50.0	49.6		ug/Kg		99	60 - 140	5	25
Naphthalene			50.0	57.1		ug/Kg		114	55 - 135	6	25
n-Butylbenzene			50.0	53.6		ug/Kg		107	70 - 130	4	20
N-Propylbenzene			50.0	53.2		ug/Kg		106	70 - 130	3	20
o-Xylene			50.0	50.4		ug/Kg		101	70 - 125	6	20
sec-Butylbenzene			50.0	52.7		ug/Kg		105	70 - 125	3	20
Styrene			50.0	50.5		ug/Kg		101	75 - 130	5	20
Tert-amyl-methyl ether (TAME)			50.0	51.9		ug/Kg		104	60 - 145	1	20
tert-Butylbenzene			50.0	51.8		ug/Kg		104	70 - 125	1	20
Tetrachloroethene			50.0	49.2		ug/Kg		98	70 - 125	11	20
Toluene			50.0	52.8		ug/Kg		106	70 - 125	4	20
trans-1,2-Dichloroethene			50.0	46.7		ug/Kg		93	70 - 125	1	20
trans-1,3-Dichloropropene			50.0	51.0		ug/Kg		102	70 - 135	7	20
Trichloroethene			50.0	53.0		ug/Kg		106	70 - 125	0	20
Trichlorofluoromethane			50.0	44.6		ug/Kg		89	60 - 145	4	25
Vinyl chloride			50.0	37.1		ug/Kg		74	55 - 135	3	25
Isopropyl Ether (DIPE)			50.0	54.0		ug/Kg		108	60 - 140	1	20
Ethyl-t-butyl ether (ETBE)			50.0	52.0		ug/Kg		104	60 - 140	1	20
tert-Butyl alcohol (TBA)			500	548		ug/Kg		110	70 - 135	1	20
p-Isopropyltoluene			50.0	52.5		ug/Kg		105	75 - 125	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*94*		*79 - 123*
4-Bromofluorobenzene (Surr)	*98*		*79 - 120*
Dibromofluoromethane (Surr)	*105*		*60 - 120*

Lab Sample ID: MB 440-490869/4
Matrix: Solid
Analysis Batch: 490869

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		250	100	ug/Kg			08/01/18 08:41	100
1,1,1-Trichloroethane	ND		100	50	ug/Kg			08/01/18 08:41	100
1,1,2,2-Tetrachloroethane	ND		100	50	ug/Kg			08/01/18 08:41	100
1,1,2-Trichloroethane	ND		100	50	ug/Kg			08/01/18 08:41	100
1,1-Dichloroethane	ND		100	50	ug/Kg			08/01/18 08:41	100
1,1-Dichloroethene	ND		250	100	ug/Kg			08/01/18 08:41	100
1,1-Dichloropropene	ND		100	50	ug/Kg			08/01/18 08:41	100
1,2,3-Trichlorobenzene	ND		250	100	ug/Kg			08/01/18 08:41	100
1,2,3-Trichloropropane	ND		500	100	ug/Kg			08/01/18 08:41	100
1,2,4-Trichlorobenzene	ND		250	100	ug/Kg			08/01/18 08:41	100
1,2,4-Trimethylbenzene	ND		100	50	ug/Kg			08/01/18 08:41	100
1,2-Dibromo-3-Chloropropane	ND		250	100	ug/Kg			08/01/18 08:41	100
1,2-Dibromoethane (EDB)	ND		100	50	ug/Kg			08/01/18 08:41	100
1,2-Dichlorobenzene	ND		100	50	ug/Kg			08/01/18 08:41	100
1,2-Dichloroethane	ND		100	50	ug/Kg			08/01/18 08:41	100
1,2-Dichloropropane	ND		100	50	ug/Kg			08/01/18 08:41	100
1,3,5-Trimethylbenzene	ND		100	50	ug/Kg			08/01/18 08:41	100
1,3-Dichlorobenzene	ND		100	50	ug/Kg			08/01/18 08:41	100
1,3-Dichloropropane	ND		100	50	ug/Kg			08/01/18 08:41	100
1,4-Dichlorobenzene	ND		100	50	ug/Kg			08/01/18 08:41	100
2,2-Dichloropropane	ND		200	100	ug/Kg			08/01/18 08:41	100
2-Chlorotoluene	ND		250	100	ug/Kg			08/01/18 08:41	100
4-Chlorotoluene	ND		250	50	ug/Kg			08/01/18 08:41	100
Benzene	ND		100	50	ug/Kg			08/01/18 08:41	100
Bromobenzene	ND		250	100	ug/Kg			08/01/18 08:41	100
Bromochloromethane	ND		250	100	ug/Kg			08/01/18 08:41	100
Bromodichloromethane	ND		100	50	ug/Kg			08/01/18 08:41	100
Bromoform	ND		250	100	ug/Kg			08/01/18 08:41	100
Bromomethane	ND		250	100	ug/Kg			08/01/18 08:41	100
Carbon tetrachloride	ND		250	100	ug/Kg			08/01/18 08:41	100
Chlorobenzene	ND		100	50	ug/Kg			08/01/18 08:41	100
Chloroethane	ND		250	100	ug/Kg			08/01/18 08:41	100
Chloroform	ND		100	50	ug/Kg			08/01/18 08:41	100
Chloromethane	ND		250	100	ug/Kg			08/01/18 08:41	100
cis-1,2-Dichloroethene	ND		100	50	ug/Kg			08/01/18 08:41	100
cis-1,3-Dichloropropene	ND		100	50	ug/Kg			08/01/18 08:41	100
Dibromochloromethane	ND		100	50	ug/Kg			08/01/18 08:41	100
Dibromomethane	ND		100	50	ug/Kg			08/01/18 08:41	100
Dichlorodifluoromethane	ND		250	100	ug/Kg			08/01/18 08:41	100
Ethylbenzene	ND		100	50	ug/Kg			08/01/18 08:41	100
Hexachlorobutadiene	ND		250	100	ug/Kg			08/01/18 08:41	100
Isopropylbenzene	ND		100	50	ug/Kg			08/01/18 08:41	100
m,p-Xylene	ND		200	100	ug/Kg			08/01/18 08:41	100
Methylene Chloride	ND		1000	500	ug/Kg			08/01/18 08:41	100
Methyl-t-Butyl Ether (MTBE)	ND		250	100	ug/Kg			08/01/18 08:41	100
Naphthalene	ND		250	100	ug/Kg			08/01/18 08:41	100
n-Butylbenzene	ND		250	100	ug/Kg			08/01/18 08:41	100
N-Propylbenzene	ND		100	50	ug/Kg			08/01/18 08:41	100
o-Xylene	ND		100	50	ug/Kg			08/01/18 08:41	100
sec-Butylbenzene	ND		250	50	ug/Kg			08/01/18 08:41	100

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-490869/4
Matrix: Solid
Analysis Batch: 490869

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		100	50	ug/Kg			08/01/18 08:41	100
Tert-amyl-methyl ether (TAME)	ND		250	100	ug/Kg			08/01/18 08:41	100
tert-Butylbenzene	ND		250	100	ug/Kg			08/01/18 08:41	100
Tetrachloroethene	ND		100	50	ug/Kg			08/01/18 08:41	100
Toluene	ND		100	50	ug/Kg			08/01/18 08:41	100
trans-1,2-Dichloroethene	ND		100	50	ug/Kg			08/01/18 08:41	100
trans-1,3-Dichloropropene	ND		100	50	ug/Kg			08/01/18 08:41	100
Trichloroethene	ND		100	50	ug/Kg			08/01/18 08:41	100
Trichlorofluoromethane	ND		250	100	ug/Kg			08/01/18 08:41	100
Vinyl chloride	ND		250	100	ug/Kg			08/01/18 08:41	100
Xylenes, Total	ND		200	100	ug/Kg			08/01/18 08:41	100
Isopropyl Ether (DIPE)	ND		250	100	ug/Kg			08/01/18 08:41	100
Ethyl-t-butyl ether (ETBE)	ND		250	100	ug/Kg			08/01/18 08:41	100
tert-Butyl alcohol (TBA)	ND		5000	2500	ug/Kg			08/01/18 08:41	100
p-Isopropyltoluene	ND		100	50	ug/Kg			08/01/18 08:41	100

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*116*		*60 - 140*		*08/01/18 08:41*	*100*
4-Bromofluorobenzene (Surr)	*115*		*65 - 140*		*08/01/18 08:41*	*100*
Dibromofluoromethane (Surr)	*95*		*55 - 140*		*08/01/18 08:41*	*100*

Lab Sample ID: LCS 440-490869/23
Matrix: Solid
Analysis Batch: 490869

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	2500	2710		ug/Kg		108	70 - 140
1,1,1-Trichloroethane	2500	2840		ug/Kg		114	65 - 140
1,1,2,2-Tetrachloroethane	2500	3150		ug/Kg		126	55 - 135
1,1,2-Trichloroethane	2500	3170		ug/Kg		127	65 - 130
1,1-Dichloroethane	2500	2730		ug/Kg		109	65 - 130
1,1-Dichloroethene	2500	2830		ug/Kg		113	75 - 140
1,1-Dichloropropene	2500	3000		ug/Kg		120	70 - 130
1,2,3-Trichlorobenzene	2500	3140		ug/Kg		126	60 - 135
1,2,3-Trichloropropane	2500	3070		ug/Kg		123	55 - 130
1,2,4-Trichlorobenzene	2500	3260		ug/Kg		131	65 - 135
1,2,4-Trimethylbenzene	2500	3430	*	ug/Kg		137	70 - 125
1,2-Dibromo-3-Chloropropane	2500	3070		ug/Kg		123	45 - 135
1,2-Dibromoethane (EDB)	2500	2930		ug/Kg		117	70 - 130
1,2-Dichlorobenzene	2500	2960		ug/Kg		118	70 - 120
1,2-Dichloroethane	2500	2530		ug/Kg		101	60 - 145
1,2-Dichloropropane	2500	2780		ug/Kg		111	75 - 125
1,3,5-Trimethylbenzene	2500	3440	*	ug/Kg		137	70 - 125
1,3-Dichlorobenzene	2500	2890		ug/Kg		116	70 - 125
1,3-Dichloropropane	2500	3080		ug/Kg		123	65 - 130
1,4-Dichlorobenzene	2500	2890		ug/Kg		116	70 - 125
2,2-Dichloropropane	2500	3220		ug/Kg		129	60 - 145
2-Chlorotoluene	2500	3320	*	ug/Kg		133	70 - 125

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-490869/23
Matrix: Solid
Analysis Batch: 490869

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Chlorotoluene	2500	3330	*	ug/Kg		133	70 - 125
Benzene	2500	2940		ug/Kg		117	65 - 120
Bromobenzene	2500	2920		ug/Kg		117	70 - 120
Bromochloromethane	2500	2680		ug/Kg		107	65 - 125
Bromodichloromethane	2500	2810		ug/Kg		112	65 - 135
Bromoform	2500	2580		ug/Kg		103	50 - 130
Bromomethane	2500	2610		ug/Kg		104	30 - 140
Carbon tetrachloride	2500	2730		ug/Kg		109	65 - 145
Chlorobenzene	2500	2830		ug/Kg		113	70 - 125
Chloroethane	2500	2390		ug/Kg		96	40 - 140
Chloroform	2500	2930		ug/Kg		117	75 - 130
Chloromethane	2500	1490		ug/Kg		60	30 - 140
cis-1,2-Dichloroethene	2500	2950		ug/Kg		118	65 - 130
cis-1,3-Dichloropropene	2500	3410	*	ug/Kg		136	70 - 130
Dibromochloromethane	2500	2890		ug/Kg		116	65 - 140
Dibromomethane	2500	2610		ug/Kg		104	65 - 130
Dichlorodifluoromethane	2500	1150		ug/Kg		46	10 - 155
Ethylbenzene	2500	3130	*	ug/Kg		125	80 - 120
Hexachlorobutadiene	2500	3210		ug/Kg		129	60 - 135
Isopropylbenzene	2500	3330	*	ug/Kg		133	70 - 125
m,p-Xylene	2500	3130		ug/Kg		125	70 - 125
Methylene Chloride	2500	2950		ug/Kg		118	60 - 140
Methyl-t-Butyl Ether (MTBE)	2500	2830		ug/Kg		113	55 - 145
Naphthalene	2500	3110		ug/Kg		124	50 - 140
n-Butylbenzene	2500	3590	*	ug/Kg		144	70 - 130
N-Propylbenzene	2500	3490	*	ug/Kg		139	70 - 130
o-Xylene	2500	3130		ug/Kg		125	70 - 125
sec-Butylbenzene	2500	3480	*	ug/Kg		139	70 - 125
Styrene	2500	2970		ug/Kg		119	70 - 135
Tert-amyl-methyl ether (TAME)	2500	2800		ug/Kg		112	60 - 145
tert-Butylbenzene	2500	3260	*	ug/Kg		130	70 - 125
Tetrachloroethene	2500	2730		ug/Kg		109	65 - 125
Toluene	2500	3180	*	ug/Kg		127	80 - 120
trans-1,2-Dichloroethene	2500	2940		ug/Kg		118	65 - 130
trans-1,3-Dichloropropene	2500	3160		ug/Kg		126	65 - 135
Trichloroethene	2500	2660		ug/Kg		106	70 - 130
Trichlorofluoromethane	2500	2490		ug/Kg		100	50 - 145
Vinyl chloride	2500	2020		ug/Kg		81	10 - 120
Isopropyl Ether (DIPE)	2500	2300		ug/Kg		92	60 - 140
Ethyl-t-butyl ether (ETBE)	2500	2510		ug/Kg		100	60 - 140
tert-Butyl alcohol (TBA)	25000	27500		ug/Kg		110	65 - 140
p-Isopropyltoluene	2500	3370	*	ug/Kg		135	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*109*		*60 - 140*
4-Bromofluorobenzene (Surr)	*117*		*65 - 140*
Dibromofluoromethane (Surr)	*95*		*55 - 140*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-490869/24
Matrix: Solid
Analysis Batch: 490869

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	2500	2720		ug/Kg		109	70 - 140	0	20
1,1,1-Trichloroethane	2500	2780		ug/Kg		111	65 - 140	2	20
1,1,2,2-Tetrachloroethane	2500	3320		ug/Kg		133	55 - 135	5	25
1,1,2-Trichloroethane	2500	3270	*	ug/Kg		131	65 - 130	3	20
1,1-Dichloroethane	2500	2630		ug/Kg		105	65 - 130	4	20
1,1-Dichloroethene	2500	2870		ug/Kg		115	75 - 140	2	20
1,1-Dichloropropene	2500	2900		ug/Kg		116	70 - 130	3	20
1,2,3-Trichlorobenzene	2500	3190		ug/Kg		128	60 - 135	2	20
1,2,3-Trichloropropane	2500	3260		ug/Kg		130	55 - 130	6	25
1,2,4-Trichlorobenzene	2500	3380		ug/Kg		135	65 - 135	4	20
1,2,4-Trimethylbenzene	2500	3430	*	ug/Kg		137	70 - 125	0	20
1,2-Dibromo-3-Chloropropane	2500	3350		ug/Kg		134	45 - 135	9	25
1,2-Dibromoethane (EDB)	2500	3090		ug/Kg		123	70 - 130	5	20
1,2-Dichlorobenzene	2500	2960		ug/Kg		118	70 - 120	0	20
1,2-Dichloroethane	2500	2550		ug/Kg		102	60 - 145	1	20
1,2-Dichloropropane	2500	2780		ug/Kg		111	75 - 125	0	20
1,3,5-Trimethylbenzene	2500	3380	*	ug/Kg		135	70 - 125	2	20
1,3-Dichlorobenzene	2500	2900		ug/Kg		116	70 - 125	0	20
1,3-Dichloropropane	2500	3130		ug/Kg		125	65 - 130	1	20
1,4-Dichlorobenzene	2500	2900		ug/Kg		116	70 - 125	0	20
2,2-Dichloropropane	2500	3040		ug/Kg		122	60 - 145	6	25
2-Chlorotoluene	2500	3290	*	ug/Kg		132	70 - 125	1	20
4-Chlorotoluene	2500	3420	*	ug/Kg		137	70 - 125	3	20
Benzene	2500	2940		ug/Kg		118	65 - 120	0	20
Bromobenzene	2500	2880		ug/Kg		115	70 - 120	1	20
Bromochloromethane	2500	2650		ug/Kg		106	65 - 125	1	20
Bromodichloromethane	2500	2830		ug/Kg		113	65 - 135	1	20
Bromoform	2500	2730		ug/Kg		109	50 - 130	6	25
Bromomethane	2500	2520		ug/Kg		101	30 - 140	3	30
Carbon tetrachloride	2500	2650		ug/Kg		106	65 - 145	3	20
Chlorobenzene	2500	2870		ug/Kg		115	70 - 125	1	20
Chloroethane	2500	2340		ug/Kg		94	40 - 140	2	25
Chloroform	2500	2940		ug/Kg		118	75 - 130	0	20
Chloromethane	2500	1480		ug/Kg		59	30 - 140	1	25
cis-1,2-Dichloroethene	2500	2870		ug/Kg		115	65 - 130	3	20
cis-1,3-Dichloropropene	2500	3440	*	ug/Kg		138	70 - 130	1	20
Dibromochloromethane	2500	2960		ug/Kg		118	65 - 140	2	20
Dibromomethane	2500	2680		ug/Kg		107	65 - 130	3	20
Dichlorodifluoromethane	2500	1060		ug/Kg		42	10 - 155	8	30
Ethylbenzene	2500	3110	*	ug/Kg		125	80 - 120	0	20
Hexachlorobutadiene	2500	3260		ug/Kg		130	60 - 135	1	20
Isopropylbenzene	2500	3300	*	ug/Kg		132	70 - 125	1	20
m,p-Xylene	2500	3090		ug/Kg		124	70 - 125	1	20
Methylene Chloride	2500	2870		ug/Kg		115	60 - 140	3	20
Methyl-t-Butyl Ether (MTBE)	2500	2970		ug/Kg		119	55 - 145	5	25
Naphthalene	2500	3400		ug/Kg		136	50 - 140	9	25
n-Butylbenzene	2500	3550	*	ug/Kg		142	70 - 130	1	20
N-Propylbenzene	2500	3430	*	ug/Kg		137	70 - 130	2	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-490869/24
Matrix: Solid
Analysis Batch: 490869

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
o-Xylene			2500	3110		ug/Kg		124	70 - 125	1	20
sec-Butylbenzene			2500	3400	*	ug/Kg		136	70 - 125	2	20
Styrene			2500	3010		ug/Kg		120	70 - 135	1	20
Tert-amyl-methyl ether (TAME)			2500	2900		ug/Kg		116	60 - 145	4	25
tert-Butylbenzene			2500	3250	*	ug/Kg		130	70 - 125	0	20
Tetrachloroethene			2500	2740		ug/Kg		110	65 - 125	0	20
Toluene			2500	3160	*	ug/Kg		126	80 - 120	1	20
trans-1,2-Dichloroethene			2500	2840		ug/Kg		114	65 - 130	4	20
trans-1,3-Dichloropropene			2500	3210		ug/Kg		128	65 - 135	1	20
Trichloroethene			2500	2600		ug/Kg		104	70 - 130	2	20
Trichlorofluoromethane			2500	2300		ug/Kg		92	50 - 145	8	25
Vinyl chloride			2500	1840		ug/Kg		74	10 - 120	9	30
Isopropyl Ether (DIPE)			2500	2300		ug/Kg		92	60 - 140	0	20
Ethyl-t-butyl ether (ETBE)			2500	2580		ug/Kg		103	60 - 140	3	20
tert-Butyl alcohol (TBA)			25000	24900		ug/Kg		100	65 - 140	10	20
p-Isopropyltoluene			2500	3340	*	ug/Kg		134	70 - 125	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*110*		*60 - 140*
4-Bromofluorobenzene (Surr)	*113*		*65 - 140*
Dibromofluoromethane (Surr)	*91*		*55 - 140*

Lab Sample ID: MB 440-491355/5
Matrix: Solid
Analysis Batch: 491355

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		250	100	ug/Kg			08/03/18 08:48	100
1,1,1-Trichloroethane	ND		100	50	ug/Kg			08/03/18 08:48	100
1,1,2,2-Tetrachloroethane	ND		100	50	ug/Kg			08/03/18 08:48	100
1,1,2-Trichloroethane	ND		100	50	ug/Kg			08/03/18 08:48	100
1,1-Dichloroethane	ND		100	50	ug/Kg			08/03/18 08:48	100
1,1-Dichloroethene	ND		250	100	ug/Kg			08/03/18 08:48	100
1,1-Dichloropropene	ND		100	50	ug/Kg			08/03/18 08:48	100
1,2,3-Trichlorobenzene	ND		250	100	ug/Kg			08/03/18 08:48	100
1,2,3-Trichloropropane	ND		500	100	ug/Kg			08/03/18 08:48	100
1,2,4-Trichlorobenzene	ND		250	100	ug/Kg			08/03/18 08:48	100
1,2,4-Trimethylbenzene	ND		100	50	ug/Kg			08/03/18 08:48	100
1,2-Dibromo-3-Chloropropane	ND		250	100	ug/Kg			08/03/18 08:48	100
1,2-Dibromoethane (EDB)	ND		100	50	ug/Kg			08/03/18 08:48	100
1,2-Dichlorobenzene	ND		100	50	ug/Kg			08/03/18 08:48	100
1,2-Dichloroethane	ND		100	50	ug/Kg			08/03/18 08:48	100
1,2-Dichloropropane	ND		100	50	ug/Kg			08/03/18 08:48	100
1,3,5-Trimethylbenzene	ND		100	50	ug/Kg			08/03/18 08:48	100
1,3-Dichlorobenzene	ND		100	50	ug/Kg			08/03/18 08:48	100
1,3-Dichloropropane	ND		100	50	ug/Kg			08/03/18 08:48	100
1,4-Dichlorobenzene	ND		100	50	ug/Kg			08/03/18 08:48	100
2,2-Dichloropropane	ND		200	100	ug/Kg			08/03/18 08:48	100

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-491355/5
Matrix: Solid
Analysis Batch: 491355

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		250	100	ug/Kg			08/03/18 08:48	100
4-Chlorotoluene	ND		250	50	ug/Kg			08/03/18 08:48	100
Benzene	ND		100	50	ug/Kg			08/03/18 08:48	100
Bromobenzene	ND		250	100	ug/Kg			08/03/18 08:48	100
Bromochloromethane	ND		250	100	ug/Kg			08/03/18 08:48	100
Bromodichloromethane	ND		100	50	ug/Kg			08/03/18 08:48	100
Bromoform	ND		250	100	ug/Kg			08/03/18 08:48	100
Bromomethane	ND		250	100	ug/Kg			08/03/18 08:48	100
Carbon tetrachloride	ND		250	100	ug/Kg			08/03/18 08:48	100
Chlorobenzene	ND		100	50	ug/Kg			08/03/18 08:48	100
Chloroethane	ND		250	100	ug/Kg			08/03/18 08:48	100
Chloroform	ND		100	50	ug/Kg			08/03/18 08:48	100
Chloromethane	ND		250	100	ug/Kg			08/03/18 08:48	100
cis-1,2-Dichloroethene	ND		100	50	ug/Kg			08/03/18 08:48	100
cis-1,3-Dichloropropene	ND		100	50	ug/Kg			08/03/18 08:48	100
Dibromochloromethane	ND		100	50	ug/Kg			08/03/18 08:48	100
Dibromomethane	ND		100	50	ug/Kg			08/03/18 08:48	100
Dichlorodifluoromethane	ND		250	100	ug/Kg			08/03/18 08:48	100
Ethylbenzene	ND		100	50	ug/Kg			08/03/18 08:48	100
Hexachlorobutadiene	ND		250	100	ug/Kg			08/03/18 08:48	100
Isopropylbenzene	ND		100	50	ug/Kg			08/03/18 08:48	100
m,p-Xylene	ND		200	100	ug/Kg			08/03/18 08:48	100
Methylene Chloride	ND		1000	500	ug/Kg			08/03/18 08:48	100
Methyl-t-Butyl Ether (MTBE)	ND		250	100	ug/Kg			08/03/18 08:48	100
Naphthalene	ND		250	100	ug/Kg			08/03/18 08:48	100
n-Butylbenzene	ND		250	100	ug/Kg			08/03/18 08:48	100
N-Propylbenzene	ND		100	50	ug/Kg			08/03/18 08:48	100
o-Xylene	ND		100	50	ug/Kg			08/03/18 08:48	100
sec-Butylbenzene	ND		250	50	ug/Kg			08/03/18 08:48	100
Styrene	ND		100	50	ug/Kg			08/03/18 08:48	100
Tert-amyl-methyl ether (TAME)	ND		250	100	ug/Kg			08/03/18 08:48	100
tert-Butylbenzene	ND		250	100	ug/Kg			08/03/18 08:48	100
Tetrachloroethene	ND		100	50	ug/Kg			08/03/18 08:48	100
Toluene	ND		100	50	ug/Kg			08/03/18 08:48	100
trans-1,2-Dichloroethene	ND		100	50	ug/Kg			08/03/18 08:48	100
trans-1,3-Dichloropropene	ND		100	50	ug/Kg			08/03/18 08:48	100
Trichloroethene	ND		100	50	ug/Kg			08/03/18 08:48	100
Trichlorofluoromethane	ND		250	100	ug/Kg			08/03/18 08:48	100
Vinyl chloride	ND		250	100	ug/Kg			08/03/18 08:48	100
Xylenes, Total	ND		200	100	ug/Kg			08/03/18 08:48	100
Isopropyl Ether (DIPE)	ND		250	100	ug/Kg			08/03/18 08:48	100
Ethyl-t-butyl ether (ETBE)	ND		250	100	ug/Kg			08/03/18 08:48	100
tert-Butyl alcohol (TBA)	ND		5000	2500	ug/Kg			08/03/18 08:48	100
p-Isopropyltoluene	ND		100	50	ug/Kg			08/03/18 08:48	100

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*107*		*60 - 140*		*08/03/18 08:48*	*100*
4-Bromofluorobenzene (Surr)	*96*		*65 - 140*		*08/03/18 08:48*	*100*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-491355/5
Matrix: Solid
Analysis Batch: 491355

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*98*		*55 - 140*		*08/03/18 08:48*	*100*

Lab Sample ID: LCS 440-491355/6
Matrix: Solid
Analysis Batch: 491355

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	2500	2580		ug/Kg		103	70 - 140
1,1,1-Trichloroethane	2500	2580		ug/Kg		103	65 - 140
1,1,2,2-Tetrachloroethane	2500	2290		ug/Kg		92	55 - 135
1,1,2-Trichloroethane	2500	2660		ug/Kg		107	65 - 130
1,1-Dichloroethane	2500	2620		ug/Kg		105	65 - 130
1,1-Dichloroethene	2500	2720		ug/Kg		109	75 - 140
1,1-Dichloropropene	2500	2420		ug/Kg		97	70 - 130
1,2,3-Trichlorobenzene	2500	2880		ug/Kg		115	60 - 135
1,2,3-Trichloropropane	2500	2390		ug/Kg		96	55 - 130
1,2,4-Trichlorobenzene	2500	2890		ug/Kg		115	65 - 135
1,2,4-Trimethylbenzene	2500	2490		ug/Kg		99	70 - 125
1,2-Dibromo-3-Chloropropane	2500	2090		ug/Kg		84	45 - 135
1,2-Dibromoethane (EDB)	2500	2610		ug/Kg		104	70 - 130
1,2-Dichlorobenzene	2500	2700		ug/Kg		108	70 - 120
1,2-Dichloroethane	2500	2370		ug/Kg		95	60 - 145
1,2-Dichloropropane	2500	2590		ug/Kg		104	75 - 125
1,3,5-Trimethylbenzene	2500	2510		ug/Kg		100	70 - 125
1,3-Dichlorobenzene	2500	2650		ug/Kg		106	70 - 125
1,3-Dichloropropane	2500	2560		ug/Kg		102	65 - 130
1,4-Dichlorobenzene	2500	2610		ug/Kg		104	70 - 125
2,2-Dichloropropane	2500	2520		ug/Kg		101	60 - 145
2-Chlorotoluene	2500	2520		ug/Kg		101	70 - 125
4-Chlorotoluene	2500	2530		ug/Kg		101	70 - 125
Benzene	2500	2560		ug/Kg		102	65 - 120
Bromobenzene	2500	2500		ug/Kg		100	70 - 120
Bromochloromethane	2500	2600		ug/Kg		104	65 - 125
Bromodichloromethane	2500	2550		ug/Kg		102	65 - 135
Bromoform	2500	2600		ug/Kg		104	50 - 130
Bromomethane	2500	2230		ug/Kg		89	30 - 140
Carbon tetrachloride	2500	2450		ug/Kg		98	65 - 145
Chlorobenzene	2500	2620		ug/Kg		105	70 - 125
Chloroethane	2500	2420		ug/Kg		97	40 - 140
Chloroform	2500	2580		ug/Kg		103	75 - 130
Chloromethane	2500	2160		ug/Kg		87	30 - 140
cis-1,2-Dichloroethene	2500	2670		ug/Kg		107	65 - 130
cis-1,3-Dichloropropene	2500	2660		ug/Kg		106	70 - 130
Dibromochloromethane	2500	2640		ug/Kg		105	65 - 140
Dibromomethane	2500	2220		ug/Kg		89	65 - 130
Dichlorodifluoromethane	2500	1820		ug/Kg		73	10 - 155
Ethylbenzene	2500	2710		ug/Kg		108	80 - 120
Hexachlorobutadiene	2500	2680		ug/Kg		107	60 - 135

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-491355/6
Matrix: Solid
Analysis Batch: 491355

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Isopropylbenzene	2500	2700		ug/Kg		108	70 - 125
m,p-Xylene	2500	2600		ug/Kg		104	70 - 125
Methylene Chloride	2500	2360		ug/Kg		94	60 - 140
Methyl-t-Butyl Ether (MTBE)	2500	2550		ug/Kg		102	55 - 145
Naphthalene	2500	2740		ug/Kg		110	50 - 140
n-Butylbenzene	2500	2550		ug/Kg		102	70 - 130
N-Propylbenzene	2500	2550		ug/Kg		102	70 - 130
o-Xylene	2500	2530		ug/Kg		101	70 - 125
sec-Butylbenzene	2500	2470		ug/Kg		99	70 - 125
Styrene	2500	2530		ug/Kg		101	70 - 135
Tert-amyl-methyl ether (TAME)	2500	2560		ug/Kg		102	60 - 145
tert-Butylbenzene	2500	2590		ug/Kg		103	70 - 125
Tetrachloroethene	2500	2680		ug/Kg		107	65 - 125
Toluene	2500	2790		ug/Kg		111	80 - 120
trans-1,2-Dichloroethene	2500	2730		ug/Kg		109	65 - 130
trans-1,3-Dichloropropene	2500	2560		ug/Kg		102	65 - 135
Trichloroethene	2500	2580		ug/Kg		103	70 - 130
Trichlorofluoromethane	2500	2460		ug/Kg		99	50 - 145
Vinyl chloride	2500	1230		ug/Kg		49	10 - 120
Isopropyl Ether (DIPE)	2500	3020		ug/Kg		121	60 - 140
Ethyl-t-butyl ether (ETBE)	2500	2720		ug/Kg		109	60 - 140
tert-Butyl alcohol (TBA)	25000	25900		ug/Kg		104	65 - 140
p-Isopropyltoluene	2500	2590		ug/Kg		103	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*60 - 140*
4-Bromofluorobenzene (Surr)	*93*		*65 - 140*
Dibromofluoromethane (Surr)	*101*		*55 - 140*

Lab Sample ID: LCSD 440-491355/7
Matrix: Solid
Analysis Batch: 491355

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	2500	2560		ug/Kg		102	70 - 140	1	20
1,1,1-Trichloroethane	2500	2550		ug/Kg		102	65 - 140	1	20
1,1,2,2-Tetrachloroethane	2500	2300		ug/Kg		92	55 - 135	0	25
1,1,2-Trichloroethane	2500	2540		ug/Kg		101	65 - 130	5	20
1,1-Dichloroethane	2500	2580		ug/Kg		103	65 - 130	1	20
1,1-Dichloroethene	2500	2660		ug/Kg		107	75 - 140	2	20
1,1-Dichloropropene	2500	2430		ug/Kg		97	70 - 130	1	20
1,2,3-Trichlorobenzene	2500	2920		ug/Kg		117	60 - 135	1	20
1,2,3-Trichloropropane	2500	2440		ug/Kg		97	55 - 130	2	25
1,2,4-Trichlorobenzene	2500	2860		ug/Kg		114	65 - 135	1	20
1,2,4-Trimethylbenzene	2500	2540		ug/Kg		101	70 - 125	2	20
1,2-Dibromo-3-Chloropropane	2500	2120		ug/Kg		85	45 - 135	1	25
1,2-Dibromoethane (EDB)	2500	2510		ug/Kg		101	70 - 130	4	20
1,2-Dichlorobenzene	2500	2680		ug/Kg		107	70 - 120	1	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-491355/7
Matrix: Solid
Analysis Batch: 491355

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichloroethane	2500	2380		ug/Kg		95	60 - 145	0	20
1,2-Dichloropropane	2500	2550		ug/Kg		102	75 - 125	2	20
1,3,5-Trimethylbenzene	2500	2570		ug/Kg		103	70 - 125	3	20
1,3-Dichlorobenzene	2500	2670		ug/Kg		107	70 - 125	1	20
1,3-Dichloropropane	2500	2470		ug/Kg		99	65 - 130	3	20
1,4-Dichlorobenzene	2500	2620		ug/Kg		105	70 - 125	0	20
2,2-Dichloropropane	2500	2470		ug/Kg		99	60 - 145	2	25
2-Chlorotoluene	2500	2530		ug/Kg		101	70 - 125	0	20
4-Chlorotoluene	2500	2540		ug/Kg		102	70 - 125	0	20
Benzene	2500	2530		ug/Kg		101	65 - 120	1	20
Bromobenzene	2500	2500		ug/Kg		100	70 - 120	0	20
Bromochloromethane	2500	2660		ug/Kg		106	65 - 125	2	20
Bromodichloromethane	2500	2500		ug/Kg		100	65 - 135	2	20
Bromoform	2500	2460		ug/Kg		98	50 - 130	6	25
Bromomethane	2500	2320		ug/Kg		93	30 - 140	4	30
Carbon tetrachloride	2500	2450		ug/Kg		98	65 - 145	0	20
Chlorobenzene	2500	2530		ug/Kg		101	70 - 125	4	20
Chloroethane	2500	2400		ug/Kg		96	40 - 140	1	25
Chloroform	2500	2570		ug/Kg		103	75 - 130	1	20
Chloromethane	2500	2140		ug/Kg		85	30 - 140	1	25
cis-1,2-Dichloroethene	2500	2630		ug/Kg		105	65 - 130	1	20
cis-1,3-Dichloropropene	2500	2550		ug/Kg		102	70 - 130	4	20
Dibromochloromethane	2500	2580		ug/Kg		103	65 - 140	2	20
Dibromomethane	2500	2250		ug/Kg		90	65 - 130	1	20
Dichlorodifluoromethane	2500	1700		ug/Kg		68	10 - 155	7	30
Ethylbenzene	2500	2640		ug/Kg		106	80 - 120	2	20
Hexachlorobutadiene	2500	2720		ug/Kg		109	60 - 135	2	20
Isopropylbenzene	2500	2620		ug/Kg		105	70 - 125	3	20
m,p-Xylene	2500	2530		ug/Kg		101	70 - 125	3	20
Methylene Chloride	2500	2330		ug/Kg		93	60 - 140	1	20
Methyl-t-Butyl Ether (MTBE)	2500	2520		ug/Kg		101	55 - 145	1	25
Naphthalene	2500	2780		ug/Kg		111	50 - 140	1	25
n-Butylbenzene	2500	2500		ug/Kg		100	70 - 130	2	20
N-Propylbenzene	2500	2520		ug/Kg		101	70 - 130	1	20
o-Xylene	2500	2450		ug/Kg		98	70 - 125	3	20
sec-Butylbenzene	2500	2460		ug/Kg		98	70 - 125	0	20
Styrene	2500	2450		ug/Kg		98	70 - 135	3	20
Tert-amyl-methyl ether (TAME)	2500	2460		ug/Kg		99	60 - 145	4	25
tert-Butylbenzene	2500	2570		ug/Kg		103	70 - 125	1	20
Tetrachloroethene	2500	2610		ug/Kg		104	65 - 125	3	20
Toluene	2500	2710		ug/Kg		108	80 - 120	3	20
trans-1,2-Dichloroethene	2500	2690		ug/Kg		107	65 - 130	2	20
trans-1,3-Dichloropropene	2500	2470		ug/Kg		99	65 - 135	3	20
Trichloroethene	2500	2570		ug/Kg		103	70 - 130	1	20
Trichlorofluoromethane	2500	2410		ug/Kg		97	50 - 145	2	25
Vinyl chloride	2500	1130		ug/Kg		45	10 - 120	8	30
Isopropyl Ether (DIPE)	2500	3010		ug/Kg		120	60 - 140	0	20
Ethyl-t-butyl ether (ETBE)	2500	2680		ug/Kg		107	60 - 140	1	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-491355/7
Matrix: Solid
Analysis Batch: 491355

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
tert-Butyl alcohol (TBA)			25000	26900		ug/Kg		108	65 - 140	4	20
p-Isopropyltoluene			2500	2610		ug/Kg		105	70 - 125	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*60 - 140*
4-Bromofluorobenzene (Surr)	*95*		*65 - 140*
Dibromofluoromethane (Surr)	*100*		*55 - 140*

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 440-490757/46
Matrix: Solid
Analysis Batch: 490757

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		400	150	ug/Kg			08/01/18 07:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*119*		*65 - 140*		*08/01/18 07:28*	*1*

Lab Sample ID: LCS 440-490757/33
Matrix: Solid
Analysis Batch: 490757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
GRO (C4-C12)			1600	1440		ug/Kg		90	70 - 135

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*114*		*65 - 140*

Lab Sample ID: LCSD 440-490757/34
Matrix: Solid
Analysis Batch: 490757

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)			1600	1420		ug/Kg		89	70 - 135	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*118*		*65 - 140*

Lab Sample ID: MB 440-490777/33
Matrix: Solid
Analysis Batch: 490777

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		400	150	ug/Kg			08/01/18 00:02	1

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: MB 440-490777/33
Matrix: Solid
Analysis Batch: 490777

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		65 - 140		08/01/18 00:02	1

Lab Sample ID: LCS 440-490777/31
Matrix: Solid
Analysis Batch: 490777

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)			1600	1350		ug/Kg		84	70 - 135		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		65 - 140

Lab Sample ID: LCSD 440-490777/32
Matrix: Solid
Analysis Batch: 490777

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)			1600	1380		ug/Kg		87	70 - 135	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		65 - 140

Lab Sample ID: MB 440-491157/5
Matrix: Solid
Analysis Batch: 491157

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		400	150	ug/Kg			08/02/18 10:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	74		65 - 140		08/02/18 10:34	1

Lab Sample ID: LCS 440-491157/3
Matrix: Solid
Analysis Batch: 491157

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)			1600	1280		ug/Kg		80	70 - 135		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	94		65 - 140

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: LCSD 440-491157/4
Matrix: Solid
Analysis Batch: 491157

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)			1600	1380		ug/Kg		86	70 - 135	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*65 - 140*

Lab Sample ID: 440-216720-A-2 MS
Matrix: Solid
Analysis Batch: 491157

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)	ND		1590	993		ug/Kg		62	60 - 140		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*65 - 140*

Lab Sample ID: 440-216720-A-2 MSD
Matrix: Solid
Analysis Batch: 491157

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)	ND		1590	1020		ug/Kg		64	60 - 140	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*65 - 140*

Lab Sample ID: MB 440-491158/5
Matrix: Solid
Analysis Batch: 491158

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		40000	20000	ug/Kg			08/02/18 10:29	100

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*65 - 140*		*08/02/18 10:29*	*100*

Lab Sample ID: LCS 440-491158/3
Matrix: Solid
Analysis Batch: 491158

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)			160000	154000		ug/Kg		96	70 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*129*		*65 - 140*

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: LCSD 440-491158/4
Matrix: Solid
Analysis Batch: 491158

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)			160000	161000		ug/Kg		101	70 - 135	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*134*		*65 - 140*

Lab Sample ID: MB 440-491363/5
Matrix: Solid
Analysis Batch: 491363

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		400	150	ug/Kg			08/03/18 08:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*65 - 140*		*08/03/18 08:41*	*1*

Lab Sample ID: LCS 440-491363/3
Matrix: Solid
Analysis Batch: 491363

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)			1600	1390		ug/Kg		87	70 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*65 - 140*

Lab Sample ID: LCSD 440-491363/4
Matrix: Solid
Analysis Batch: 491363

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)			1600	1360		ug/Kg		85	70 - 135	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*65 - 140*

Lab Sample ID: 440-216927-B-3 MS
Matrix: Solid
Analysis Batch: 491363

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)	7700		7690	15600		ug/Kg		104	60 - 140		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*69*		*65 - 140*

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: 440-216927-B-3 MSD
Matrix: Solid
Analysis Batch: 491363

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)	7700		6840	13200		ug/Kg		81	60 - 140	17	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*58*	*X*	*65 - 140*

Lab Sample ID: MB 440-491707/5
Matrix: Solid
Analysis Batch: 491707

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		40000	20000	ug/Kg			08/06/18 11:46	100

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*65 - 140*		*08/06/18 11:46*	*100*

Lab Sample ID: LCS 440-491707/3
Matrix: Solid
Analysis Batch: 491707

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)			160000	155000		ug/Kg		97	70 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*130*		*65 - 140*

Lab Sample ID: LCSD 440-491707/4
Matrix: Solid
Analysis Batch: 491707

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)			160000	160000		ug/Kg		100	70 - 135	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*132*		*65 - 140*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 440-491116/1-A
Matrix: Solid
Analysis Batch: 491222

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 491116

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		08/02/18 06:31	08/02/18 19:57	1
C23-C40	2.74	J	5.0	2.5	mg/Kg		08/02/18 06:31	08/02/18 19:57	1
C8 - C18	ND		5.0	2.5	mg/Kg		08/02/18 06:31	08/02/18 19:57	1

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 440-491116/1-A
Matrix: Solid
Analysis Batch: 491222

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 491116

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	80		40 - 140	08/02/18 06:31	08/02/18 19:57	1

Lab Sample ID: LCS 440-491116/2-A
Matrix: Solid
Analysis Batch: 491222

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 491116

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C10-C28			66.7	53.7		mg/Kg		81	45 - 115		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
n-Octacosane	87		40 - 140

Lab Sample ID: 440-216810-18 MS
Matrix: Solid
Analysis Batch: 491222

Client Sample ID: SB-2B-25
Prep Type: Total/NA
Prep Batch: 491116

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
C10-C28	15		66.2	70.8		mg/Kg		84	40 - 120		

Surrogate	MS %Recovery	MS Qualifier	Limits
n-Octacosane	87		40 - 140

Lab Sample ID: 440-216810-18 MSD
Matrix: Solid
Analysis Batch: 491222

Client Sample ID: SB-2B-25
Prep Type: Total/NA
Prep Batch: 491116

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28	15		65.7	77.4		mg/Kg		95	40 - 120	9	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
n-Octacosane	92		40 - 140

Lab Sample ID: MB 440-491132/1-A
Matrix: Solid
Analysis Batch: 491232

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 491132

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		08/02/18 07:15	08/02/18 20:30	1
C23-C40	3.18	J	5.0	2.5	mg/Kg		08/02/18 07:15	08/02/18 20:30	1
C8 - C18	ND		5.0	2.5	mg/Kg		08/02/18 07:15	08/02/18 20:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	90		40 - 140	08/02/18 07:15	08/02/18 20:30	1

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 440-491132/2-A
Matrix: Solid
Analysis Batch: 491232

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 491132

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C10-C28			66.7	60.5		mg/Kg		91	45 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane	*87*		*40 - 140*

Lab Sample ID: 440-216810-21 MS
Matrix: Solid
Analysis Batch: 491232

Client Sample ID: SB-1B-15
Prep Type: Total/NA
Prep Batch: 491132

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
C10-C28	ND		66.6	57.3		mg/Kg		86	40 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
n-Octacosane	*84*		*40 - 140*

Lab Sample ID: 440-216810-21 MSD
Matrix: Solid
Analysis Batch: 491232

Client Sample ID: SB-1B-15
Prep Type: Total/NA
Prep Batch: 491132

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28	ND		66.6	53.0		mg/Kg		80	40 - 120	8	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
n-Octacosane	*77*		*40 - 140*

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Prep Batch: 490507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-9 - RA	SB-5B-30	Total/NA	Solid	5035	
440-216810-9	SB-5B-30	Total/NA	Solid	5035	
440-216810-19 - RA	SB-2B-30	Total/NA	Solid	5035	
440-216810-19	SB-2B-30	Total/NA	Solid	5035	
440-216810-24 - RA	SB-1B-30	Total/NA	Solid	5035	
440-216810-24	SB-1B-30	Total/NA	Solid	5035	
440-216810-33	SB-4B-30	Total/NA	Solid	5035	
440-216810-34 - RA	SB-4B-35	Total/NA	Solid	5035	
440-216810-34	SB-4B-35	Total/NA	Solid	5035	

Analysis Batch: 490611

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-1	SB-6B-15	Total/NA	Solid	8260B	490642
440-216810-2	SB-6B-20	Total/NA	Solid	8260B	490642
440-216810-3	SB-6B-25	Total/NA	Solid	8260B	490642
440-216810-4	SB-6B-30	Total/NA	Solid	8260B	490642
440-216810-5	SB-6B-35	Total/NA	Solid	8260B	490642
440-216810-6	SB-5B-15	Total/NA	Solid	8260B	490642
440-216810-7	SB-5B-20	Total/NA	Solid	8260B	490642
440-216810-8	SB-5B-25	Total/NA	Solid	8260B	490642
440-216810-10	SB-3B-5	Total/NA	Solid	8260B	490642
440-216810-11	SB-3B-10	Total/NA	Solid	8260B	490642
440-216810-12	SB-3B-15	Total/NA	Solid	8260B	490642
440-216810-13	SB-3B-20	Total/NA	Solid	8260B	490642
440-216810-14	SB-3B-25	Total/NA	Solid	8260B	490642
440-216810-15	SB-3B-30	Total/NA	Solid	8260B	490642
440-216810-25	CPT-LIF-1B-29	Total/NA	Solid	8260B	490642
MB 440-490611/4	Method Blank	Total/NA	Solid	8260B	
LCS 440-490611/5	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 440-490611/6	Lab Control Sample Dup	Total/NA	Solid	8260B	

Analysis Batch: 490615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-16	SB-2B-15	Total/NA	Solid	8260B	490642
440-216810-17	SB-2B-20	Total/NA	Solid	8260B	490642
440-216810-18	SB-2B-25	Total/NA	Solid	8260B	490642
440-216810-20	SB-2B-35	Total/NA	Solid	8260B	490642
440-216810-21	SB-1B-15	Total/NA	Solid	8260B	490642
440-216810-22	SB-1B-20	Total/NA	Solid	8260B	490642
440-216810-23	SB-1B-25	Total/NA	Solid	8260B	490642
440-216810-27	CPT-LIF-1B-31	Total/NA	Solid	8260B	490642
440-216810-28	SB-4B-5	Total/NA	Solid	8260B	490642
440-216810-29	SB-4B-10	Total/NA	Solid	8260B	490642
440-216810-30	SB-4B-15	Total/NA	Solid	8260B	490642
440-216810-31	SB-4B-20	Total/NA	Solid	8260B	490642
440-216810-32	SB-4B-25	Total/NA	Solid	8260B	490642
440-216810-33	SB-4B-30	Total/NA	Solid	8260B	490642
MB 440-490615/5	Method Blank	Total/NA	Solid	8260B	
LCS 440-490615/6	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 440-490615/7	Lab Control Sample Dup	Total/NA	Solid	8260B	

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Prep Batch: 490642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-1	SB-6B-15	Total/NA	Solid	5035	
440-216810-2	SB-6B-20	Total/NA	Solid	5035	
440-216810-3	SB-6B-25	Total/NA	Solid	5035	
440-216810-4	SB-6B-30	Total/NA	Solid	5035	
440-216810-5	SB-6B-35	Total/NA	Solid	5035	
440-216810-6	SB-5B-15	Total/NA	Solid	5035	
440-216810-7	SB-5B-20	Total/NA	Solid	5035	
440-216810-8	SB-5B-25	Total/NA	Solid	5035	
440-216810-10	SB-3B-5	Total/NA	Solid	5035	
440-216810-11	SB-3B-10	Total/NA	Solid	5035	
440-216810-12	SB-3B-15	Total/NA	Solid	5035	
440-216810-13	SB-3B-20	Total/NA	Solid	5035	
440-216810-14	SB-3B-25	Total/NA	Solid	5035	
440-216810-15	SB-3B-30	Total/NA	Solid	5035	
440-216810-16	SB-2B-15	Total/NA	Solid	5035	
440-216810-17	SB-2B-20	Total/NA	Solid	5035	
440-216810-18	SB-2B-25	Total/NA	Solid	5035	
440-216810-20	SB-2B-35	Total/NA	Solid	5035	
440-216810-21	SB-1B-15	Total/NA	Solid	5035	
440-216810-22	SB-1B-20	Total/NA	Solid	5035	
440-216810-23	SB-1B-25	Total/NA	Solid	5035	
440-216810-25	CPT-LIF-1B-29	Total/NA	Solid	5035	
440-216810-27	CPT-LIF-1B-31	Total/NA	Solid	5035	
440-216810-28	SB-4B-5	Total/NA	Solid	5035	
440-216810-29	SB-4B-10	Total/NA	Solid	5035	
440-216810-30	SB-4B-15	Total/NA	Solid	5035	
440-216810-31	SB-4B-20	Total/NA	Solid	5035	
440-216810-32	SB-4B-25	Total/NA	Solid	5035	
440-216810-33	SB-4B-30	Total/NA	Solid	5035	

Analysis Batch: 490861

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-26	CPT-LIF-101B-29	Total/NA	Solid	8260B	490891
MB 440-490861/4	Method Blank	Total/NA	Solid	8260B	
LCS 440-490861/5	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 440-490861/6	Lab Control Sample Dup	Total/NA	Solid	8260B	

Analysis Batch: 490869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-9	SB-5B-30	Total/NA	Solid	8260B	490507
440-216810-19	SB-2B-30	Total/NA	Solid	8260B	490507
440-216810-24	SB-1B-30	Total/NA	Solid	8260B	490507
440-216810-34	SB-4B-35	Total/NA	Solid	8260B	490507
MB 440-490869/4	Method Blank	Total/NA	Solid	8260B	
LCS 440-490869/23	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 440-490869/24	Lab Control Sample Dup	Total/NA	Solid	8260B	

Prep Batch: 490891

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-26	CPT-LIF-101B-29	Total/NA	Solid	5035	

GC/MS VOA (Continued)

Analysis Batch: 491355

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-9 - RA	SB-5B-30	Total/NA	Solid	8260B	490507
440-216810-19 - RA	SB-2B-30	Total/NA	Solid	8260B	490507
440-216810-24 - RA	SB-1B-30	Total/NA	Solid	8260B	490507
440-216810-33	SB-4B-30	Total/NA	Solid	8260B	490507
440-216810-34 - RA	SB-4B-35	Total/NA	Solid	8260B	490507
MB 440-491355/5	Method Blank	Total/NA	Solid	8260B	
LCS 440-491355/6	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 440-491355/7	Lab Control Sample Dup	Total/NA	Solid	8260B	

GC VOA

Prep Batch: 490507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-9	SB-5B-30	Total/NA	Solid	5035	
440-216810-24	SB-1B-30	Total/NA	Solid	5035	
440-216810-26	CPT-LIF-101B-29	Total/NA	Solid	5035	
440-216810-34	SB-4B-35	Total/NA	Solid	5035	

Prep Batch: 490745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-1	SB-6B-15	Total/NA	Solid	5035	
440-216810-2	SB-6B-20	Total/NA	Solid	5035	
440-216810-3	SB-6B-25	Total/NA	Solid	5035	
440-216810-4	SB-6B-30	Total/NA	Solid	5035	
440-216810-5	SB-6B-35	Total/NA	Solid	5035	
440-216810-6	SB-5B-15	Total/NA	Solid	5035	
440-216810-8	SB-5B-25	Total/NA	Solid	5035	
440-216810-10	SB-3B-5	Total/NA	Solid	5035	
440-216810-13	SB-3B-20	Total/NA	Solid	5035	
440-216810-14	SB-3B-25	Total/NA	Solid	5035	
440-216810-15	SB-3B-30	Total/NA	Solid	5035	
440-216810-16	SB-2B-15	Total/NA	Solid	5035	
440-216810-17	SB-2B-20	Total/NA	Solid	5035	
440-216810-18	SB-2B-25	Total/NA	Solid	5035	
440-216810-19	SB-2B-30	Total/NA	Solid	5035	
440-216810-20	SB-2B-35	Total/NA	Solid	5035	

Analysis Batch: 490757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-7	SB-5B-20	Total/NA	Solid	8015B	490921
440-216810-11	SB-3B-10	Total/NA	Solid	8015B	490921
440-216810-12	SB-3B-15	Total/NA	Solid	8015B	490921
440-216810-17	SB-2B-20	Total/NA	Solid	8015B	490745
440-216810-18	SB-2B-25	Total/NA	Solid	8015B	490745
440-216810-19	SB-2B-30	Total/NA	Solid	8015B	490745
440-216810-20	SB-2B-35	Total/NA	Solid	8015B	490745
MB 440-490757/46	Method Blank	Total/NA	Solid	8015B	
LCS 440-490757/33	Lab Control Sample	Total/NA	Solid	8015B	
LCSD 440-490757/34	Lab Control Sample Dup	Total/NA	Solid	8015B	

GC VOA (Continued)

Analysis Batch: 490777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-1	SB-6B-15	Total/NA	Solid	8015B	490745
440-216810-2	SB-6B-20	Total/NA	Solid	8015B	490745
440-216810-3	SB-6B-25	Total/NA	Solid	8015B	490745
440-216810-4	SB-6B-30	Total/NA	Solid	8015B	490745
440-216810-5	SB-6B-35	Total/NA	Solid	8015B	490745
440-216810-6	SB-5B-15	Total/NA	Solid	8015B	490745
440-216810-8	SB-5B-25	Total/NA	Solid	8015B	490745
440-216810-10	SB-3B-5	Total/NA	Solid	8015B	490745
440-216810-13	SB-3B-20	Total/NA	Solid	8015B	490745
440-216810-14	SB-3B-25	Total/NA	Solid	8015B	490745
440-216810-15	SB-3B-30	Total/NA	Solid	8015B	490745
440-216810-16	SB-2B-15	Total/NA	Solid	8015B	490745
MB 440-490777/33	Method Blank	Total/NA	Solid	8015B	
LCS 440-490777/31	Lab Control Sample	Total/NA	Solid	8015B	
LCSD 440-490777/32	Lab Control Sample Dup	Total/NA	Solid	8015B	

Prep Batch: 490921

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-7	SB-5B-20	Total/NA	Solid	5035	
440-216810-11	SB-3B-10	Total/NA	Solid	5035	
440-216810-12	SB-3B-15	Total/NA	Solid	5035	

Analysis Batch: 491157

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-21	SB-1B-15	Total/NA	Solid	8015B	491182
440-216810-25	CPT-LIF-1B-29	Total/NA	Solid	8015B	491182
440-216810-27	CPT-LIF-1B-31	Total/NA	Solid	8015B	491182
440-216810-29	SB-4B-10	Total/NA	Solid	8015B	491182
440-216810-31	SB-4B-20	Total/NA	Solid	8015B	491182
MB 440-491157/5	Method Blank	Total/NA	Solid	8015B	
LCS 440-491157/3	Lab Control Sample	Total/NA	Solid	8015B	
LCSD 440-491157/4	Lab Control Sample Dup	Total/NA	Solid	8015B	
440-216720-A-2 MS	Matrix Spike	Total/NA	Solid	8015B	
440-216720-A-2 MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	

Analysis Batch: 491158

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-9	SB-5B-30	Total/NA	Solid	8015B	490507
440-216810-26	CPT-LIF-101B-29	Total/NA	Solid	8015B	490507
440-216810-34	SB-4B-35	Total/NA	Solid	8015B	490507
MB 440-491158/5	Method Blank	Total/NA	Solid	8015B	
LCS 440-491158/3	Lab Control Sample	Total/NA	Solid	8015B	
LCSD 440-491158/4	Lab Control Sample Dup	Total/NA	Solid	8015B	

Prep Batch: 491182

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-21	SB-1B-15	Total/NA	Solid	5035	
440-216810-25	CPT-LIF-1B-29	Total/NA	Solid	5035	
440-216810-27	CPT-LIF-1B-31	Total/NA	Solid	5035	
440-216810-29	SB-4B-10	Total/NA	Solid	5035	
440-216810-31	SB-4B-20	Total/NA	Solid	5035	

Analysis Batch: 491363

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-22	SB-1B-20	Total/NA	Solid	8015B	491414
440-216810-23	SB-1B-25	Total/NA	Solid	8015B	491414
440-216810-28	SB-4B-5	Total/NA	Solid	8015B	491414
440-216810-30	SB-4B-15	Total/NA	Solid	8015B	491414
440-216810-32	SB-4B-25	Total/NA	Solid	8015B	491414
440-216810-33	SB-4B-30	Total/NA	Solid	8015B	491414
MB 440-491363/5	Method Blank	Total/NA	Solid	8015B	
LCS 440-491363/3	Lab Control Sample	Total/NA	Solid	8015B	
LCSD 440-491363/4	Lab Control Sample Dup	Total/NA	Solid	8015B	
440-216927-B-3 MS	Matrix Spike	Total/NA	Solid	8015B	
440-216927-B-3 MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	

Prep Batch: 491414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-22	SB-1B-20	Total/NA	Solid	5035	
440-216810-23	SB-1B-25	Total/NA	Solid	5035	
440-216810-28	SB-4B-5	Total/NA	Solid	5035	
440-216810-30	SB-4B-15	Total/NA	Solid	5035	
440-216810-32	SB-4B-25	Total/NA	Solid	5035	
440-216810-33	SB-4B-30	Total/NA	Solid	5035	

Analysis Batch: 491707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-24	SB-1B-30	Total/NA	Solid	8015B	490507
MB 440-491707/5	Method Blank	Total/NA	Solid	8015B	
LCS 440-491707/3	Lab Control Sample	Total/NA	Solid	8015B	
LCSD 440-491707/4	Lab Control Sample Dup	Total/NA	Solid	8015B	

GC Semi VOA

Prep Batch: 491116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-1	SB-6B-15	Total/NA	Solid	3546	
440-216810-2	SB-6B-20	Total/NA	Solid	3546	
440-216810-3	SB-6B-25	Total/NA	Solid	3546	
440-216810-3 - DL	SB-6B-25	Total/NA	Solid	3546	
440-216810-4	SB-6B-30	Total/NA	Solid	3546	
440-216810-4 - DL	SB-6B-30	Total/NA	Solid	3546	
440-216810-5	SB-6B-35	Total/NA	Solid	3546	
440-216810-6	SB-5B-15	Total/NA	Solid	3546	
440-216810-7	SB-5B-20	Total/NA	Solid	3546	
440-216810-8	SB-5B-25	Total/NA	Solid	3546	
440-216810-9	SB-5B-30	Total/NA	Solid	3546	
440-216810-9 - DL	SB-5B-30	Total/NA	Solid	3546	
440-216810-10	SB-3B-5	Total/NA	Solid	3546	
440-216810-11	SB-3B-10	Total/NA	Solid	3546	
440-216810-12	SB-3B-15	Total/NA	Solid	3546	
440-216810-13	SB-3B-20	Total/NA	Solid	3546	
440-216810-14	SB-3B-25	Total/NA	Solid	3546	
440-216810-15	SB-3B-30	Total/NA	Solid	3546	
440-216810-16	SB-2B-15	Total/NA	Solid	3546	
440-216810-17	SB-2B-20	Total/NA	Solid	3546	
440-216810-18	SB-2B-25	Total/NA	Solid	3546	

GC Semi VOA (Continued)

Prep Batch: 491116 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-19	SB-2B-30	Total/NA	Solid	3546	
440-216810-20	SB-2B-35	Total/NA	Solid	3546	
MB 440-491116/1-A	Method Blank	Total/NA	Solid	3546	
LCS 440-491116/2-A	Lab Control Sample	Total/NA	Solid	3546	
440-216810-18 MS	SB-2B-25	Total/NA	Solid	3546	
440-216810-18 MSD	SB-2B-25	Total/NA	Solid	3546	

Prep Batch: 491132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-21	SB-1B-15	Total/NA	Solid	3546	
440-216810-22	SB-1B-20	Total/NA	Solid	3546	
440-216810-23	SB-1B-25	Total/NA	Solid	3546	
440-216810-24	SB-1B-30	Total/NA	Solid	3546	
440-216810-24 - DL	SB-1B-30	Total/NA	Solid	3546	
440-216810-25	CPT-LIF-1B-29	Total/NA	Solid	3546	
440-216810-26	CPT-LIF-101B-29	Total/NA	Solid	3546	
440-216810-27	CPT-LIF-1B-31	Total/NA	Solid	3546	
440-216810-28	SB-4B-5	Total/NA	Solid	3546	
440-216810-29	SB-4B-10	Total/NA	Solid	3546	
440-216810-30	SB-4B-15	Total/NA	Solid	3546	
440-216810-31	SB-4B-20	Total/NA	Solid	3546	
440-216810-32	SB-4B-25	Total/NA	Solid	3546	
440-216810-33	SB-4B-30	Total/NA	Solid	3546	
440-216810-34	SB-4B-35	Total/NA	Solid	3546	
440-216810-34 - DL	SB-4B-35	Total/NA	Solid	3546	
MB 440-491132/1-A	Method Blank	Total/NA	Solid	3546	
LCS 440-491132/2-A	Lab Control Sample	Total/NA	Solid	3546	
440-216810-21 MS	SB-1B-15	Total/NA	Solid	3546	
440-216810-21 MSD	SB-1B-15	Total/NA	Solid	3546	

Analysis Batch: 491222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-1	SB-6B-15	Total/NA	Solid	8015B	491116
440-216810-2	SB-6B-20	Total/NA	Solid	8015B	491116
440-216810-3	SB-6B-25	Total/NA	Solid	8015B	491116
440-216810-4	SB-6B-30	Total/NA	Solid	8015B	491116
440-216810-5	SB-6B-35	Total/NA	Solid	8015B	491116
440-216810-6	SB-5B-15	Total/NA	Solid	8015B	491116
440-216810-7	SB-5B-20	Total/NA	Solid	8015B	491116
440-216810-8	SB-5B-25	Total/NA	Solid	8015B	491116
440-216810-9	SB-5B-30	Total/NA	Solid	8015B	491116
440-216810-10	SB-3B-5	Total/NA	Solid	8015B	491116
440-216810-11	SB-3B-10	Total/NA	Solid	8015B	491116
440-216810-12	SB-3B-15	Total/NA	Solid	8015B	491116
440-216810-13	SB-3B-20	Total/NA	Solid	8015B	491116
440-216810-14	SB-3B-25	Total/NA	Solid	8015B	491116
440-216810-15	SB-3B-30	Total/NA	Solid	8015B	491116
440-216810-16	SB-2B-15	Total/NA	Solid	8015B	491116
440-216810-17	SB-2B-20	Total/NA	Solid	8015B	491116
440-216810-18	SB-2B-25	Total/NA	Solid	8015B	491116
440-216810-19	SB-2B-30	Total/NA	Solid	8015B	491116

GC Semi VOA (Continued)

Analysis Batch: 491222 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-20	SB-2B-35	Total/NA	Solid	8015B	491116
MB 440-491116/1-A	Method Blank	Total/NA	Solid	8015B	491116
LCS 440-491116/2-A	Lab Control Sample	Total/NA	Solid	8015B	491116
440-216810-18 MS	SB-2B-25	Total/NA	Solid	8015B	491116
440-216810-18 MSD	SB-2B-25	Total/NA	Solid	8015B	491116

Analysis Batch: 491232

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-3 - DL	SB-6B-25	Total/NA	Solid	8015B	491116
440-216810-4 - DL	SB-6B-30	Total/NA	Solid	8015B	491116
440-216810-9 - DL	SB-5B-30	Total/NA	Solid	8015B	491116
440-216810-21	SB-1B-15	Total/NA	Solid	8015B	491132
440-216810-22	SB-1B-20	Total/NA	Solid	8015B	491132
440-216810-23	SB-1B-25	Total/NA	Solid	8015B	491132
440-216810-24	SB-1B-30	Total/NA	Solid	8015B	491132
440-216810-25	CPT-LIF-1B-29	Total/NA	Solid	8015B	491132
440-216810-26	CPT-LIF-101B-29	Total/NA	Solid	8015B	491132
440-216810-27	CPT-LIF-1B-31	Total/NA	Solid	8015B	491132
440-216810-28	SB-4B-5	Total/NA	Solid	8015B	491132
440-216810-29	SB-4B-10	Total/NA	Solid	8015B	491132
440-216810-30	SB-4B-15	Total/NA	Solid	8015B	491132
440-216810-31	SB-4B-20	Total/NA	Solid	8015B	491132
440-216810-32	SB-4B-25	Total/NA	Solid	8015B	491132
440-216810-33	SB-4B-30	Total/NA	Solid	8015B	491132
440-216810-34	SB-4B-35	Total/NA	Solid	8015B	491132
MB 440-491132/1-A	Method Blank	Total/NA	Solid	8015B	491132
LCS 440-491132/2-A	Lab Control Sample	Total/NA	Solid	8015B	491132
440-216810-21 MS	SB-1B-15	Total/NA	Solid	8015B	491132
440-216810-21 MSD	SB-1B-15	Total/NA	Solid	8015B	491132

Analysis Batch: 491233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216810-24 - DL	SB-1B-30	Total/NA	Solid	8015B	491132
440-216810-34 - DL	SB-4B-35	Total/NA	Solid	8015B	491132

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
ID	Analyte identified by RT & presence of single mass ion

GC VOA

Qualifier	Qualifier Description
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: CH2M Hill, Inc.
Project/Site: KMEP Norwalk Site

TestAmerica Job ID: 440-216810-1

Laboratory: TestAmerica Irvine

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	CA01531	06-30-19
Arizona	State Program	9	AZ0671	10-14-18 *
California	LA Cty Sanitation Districts	9	10256	06-30-19
California	State Program	9	CA ELAP 2706	06-30-19
Guam	State Program	9	Cert. No. 17-003R	01-23-19
Hawaii	State Program	9	N/A	01-29-19
Kansas	NELAP	7	E-10420	07-31-19
Nevada	State Program	9	CA015312018-1	07-31-19
New Mexico	State Program	6	N/A	01-29-19
Oregon	NELAP	10	4028	01-29-19
USDA	Federal		P330-15-00184	07-09-21
Washington	State Program	10	C900	09-03-18 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Irvine

17461 Derian Ave
Suite 100
Irvine, CA 92614
Phone: 949.261.1022 Fax:

Temperature on Receipt Terracores Frozen
07.27.18 Time: 15:50 Initials: VG

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Eric Davis	Site Contact: Melvin Thomas	Date: 7/27/18	COC No:
Company Name: Jacobs Engineering	Tel/Fax: 404-323-1600	Lab Contact:	Carrier:	1 of 3 COCs
Address: 2600 Michelson Dr. Suite 500	Analysis Turnaround Time			Sampler:
City/State/Zip: Irvine, CA 92612	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 949-224-7530	TAT if different from Below			Walk-in Client:
Fax: 949-224-7501	☐ 2 weeks			Lab Sampling:
Project Name: KMEP Norwalk	☐ 1 week			
Site: Norwalk, Ca	☐ 2 days			Job / SDG No :
PO#	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	TPH-D	TPH-G	TPH-Jet	TPH-Motor oil	VOC 8260	Sample Specific Notes:
SB-6B-15	7/26/18	0750											
SB-6B-20		0755											
SB-6B-25		0800											
SB-6B-30		0805											
SB-6B-35		0810											
SB-5B-15		0940											
SB-5B-20		0945											
SB-5B-25		0955											
SB-5B-30		1000											
SB-3B-5		1140											
SB-3B-10		1145											
SB-3B-15		1155											

440-216810 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____			
Relinquished by:	Company: Jacobs	Date/Time: 1435/7-27-18	Received by:	Company: TAT RV	Date/Time: 7/27/18 1435	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:	
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:	

2.8/2.9 1.7/1.8 IR 89

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
Phone: 949.261.1022 Fax:

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Eric Davis	Site Contact: Melinda Thomas	Date: 7/27/18	COC No:
Company Name: Jacobs Engineering	Tel/Fax: 404-323-1600	Lab Contact:	Carrier:	2 of 3 COCs
Address: 2600 Michelson Dr. Suite 500	Analysis Turnaround Time			Sampler:
City/State/Zip: Irvine, CA 92612	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 949-224-7530	TAT if different from Below ____			Walk-in Client:
Fax: 949-224-7501	☐ 2 weeks			Lab Sampling:
Project Name: KMEP Norwalk	☐ 1 week			Job / SDG No.:
Site: Norwalk, Ca	☐ 2 days			
PO #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	TPH-G	7 PAH-D	TPH-Set	TPH-motor	VOC 8260	Sample Specific Notes:
SB-3B-20	7/26/18	1200											
SB-3B-25		1205											
SB-3B-30		1210											
SB-2B-15		1300											
SB-2B-20		1305											
SB-2B-25		1310											
SB-2B-30		1315											
SB-2B-35		1325											
SB-1B-15	7/27/18	0735											
SB-1B-20		0740											
SB-1B-25		0745											
SB-1B-30		0750											PID - 1715 ppm

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments:

1.7 1.8
2.8 2.9 IR 89

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: 2.8 Corr'd: 2.9		Therm ID No.: IR 89
Relinquished by:	Company: Jacobs	Date/Time: 1435/7-27-18	Received by:	Company: TAIRV	Date/Time: 7/27/18 1435
Relinquished by	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
Phone: 949.261.1022 Fax:

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Eric Davis	Site Contact: Malcolm Thomas	Date: 7/27/18	COC No:
Company Name: Jacobs Engineering	Tel/Fax: 404-323-1600	Lab Contact:	Carrier:	2 of 3 COCs
Address: 2600 Michelson Dr. Suite 500	Analysis Turnaround Time			Sampler:
City/State/Zip: Irvine, CA 92612	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 949-224-7530	TAT if different from Below			Walk-in Client:
Fax: 949-224-7501	☐ 2 weeks			Lab Sampling:
Project Name: KMEP Norwalk	☐ 1 week			
Site: Norwalk, Ca	☐ 2 days			Job / SDG No.:
PO#	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	TPH-G	TPH-D	TPH-Jet	TPH-motor	VOC 8260	Sample Specific Notes:
CPT-LIF-1B-29	072718	0840											
CPT-LIF-101B-29		0845											
CPT-LIF-1B-31		0850											
SB-4B-5		0955											
SB-4B-10		1000											
SB-4B-15		1005											
SB-4B-20		1010											
SB-4B-25		1015											
SB-4B-30		1020											
SB-4B-35		1025											

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

1.7 1.8
2.8 2.9

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temp (°C): Obs'd: 2.8 Corr'd: 2.9	Therm ID No.: IR88

Relinquished by:	Company: Jacobs	Date/Time: 1435 7-27-18	Received by:	Company: TA-Rv	Date/Time: 7/27/18 1435
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Login Sample Receipt Checklist

Client: CH2M Hill, Inc.

Job Number: 440-216810-1

Login Number: 216810
List Number: 1
Creator: Garcia, Veronica G

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Appendix H
PTS Laboratory Reports and Core Photographs

PTS Laboratories

Project Name: KMEP - Norwalk
Project Number: N/A

PTS File No: 48157
Client: JACOBS ENGINEERING

TEST PROGRAM - 20180730

CORE ID	Depth ft.	Core Recovery ft.	Slab and Core Photo	Combined Grain Size Analysis ASTM D4464/422	Pore Fluid Saturation Package	Free Product Mobility Pkg.		Comments
		Core:	1/4:3/4	Grab	Vert. 1.5"	Vert. 1.5"		Keep core frozen
Date Received: 20180730								
CPT-LIF-2B-23	**23-23.7**	**0.56**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X $6^{3/4"}$ Acetate Tube Sleeve
CPT-LIF-1B-29.5	**29-29.6**	**0.56**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X $6^{3/4"}$ Acetate Tube Sleeve
CPT-LIF-1B-31	**31-31.6**	**0.56**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X $6^{3/4"}$ Acetate Tube Sleeve
CPT-LIF-1B-27	**27-27.6**	**0.5**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X 6" Acetate Tube Sleeve
CPT-LIF-1B-28	**28-28.6**	**0.5**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X 6" Acetate Tube Sleeve
CPT-LIF-3B-27	**27-27.7**	**0.56**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X $6^{3/4"}$ Acetate Tube Sleeve
CPT-LIF-2B-27.5	**27.5-28.2**	**0.56**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X $6^{3/4"}$ Acetate Tube Sleeve
CPT-LIF-3B-29	**29-29.8**	**0.58**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X 7" Acetate Tube Sleeve
CPT-LIF-4B-28	**28-28.7**	**0.65**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X $7^{3/4"}$ Acetate Tube Sleeve
CPT-LIF-1B-33	**33-33.6**	**0.56**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X $6^{3/4"}$ Acetate Tube Sleeve
CPT-LIF-2B-25.5	**25.5-26.2**	**0.5**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X 6" Acetate Tube Sleeve
CPT-LIF-4B-26	**26-26.7**	**0.56**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X $6^{3/4"}$ Acetate Tube Sleeve
CPT-LIF-2B-29.5	**29.5-30.2**	**0.5**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X 6" Acetate Tube Sleeve
TOTALS:	**cores**	**7.15**	**13**	**13**	**13**	**13**		

Laboratory Test Program Notes

Contaminant identification:

FPM Sample locations to be selected by JACOBS Eng. personnel from core photography/Post-PFS.

Grain Size Analysis: Laser or sieve method; includes tabular data, graphics and statistical sorting in Excel format.

Pore Fluid Saturation Package: API RP40 Dean-Stark Method: Includes initial pore fluid saturations, total porosity, air-filled porosity, grain density, dry bulk density and moisture content.

Free Product Mobility Package: Applied centrifugal force demonstrates product mobility; includes residual saturations by Dean-Stark, total porosity, grain and dry bulk density.

Client Name: Jacobs Engineering

PTS Laboratories
PTS File No.: 48157

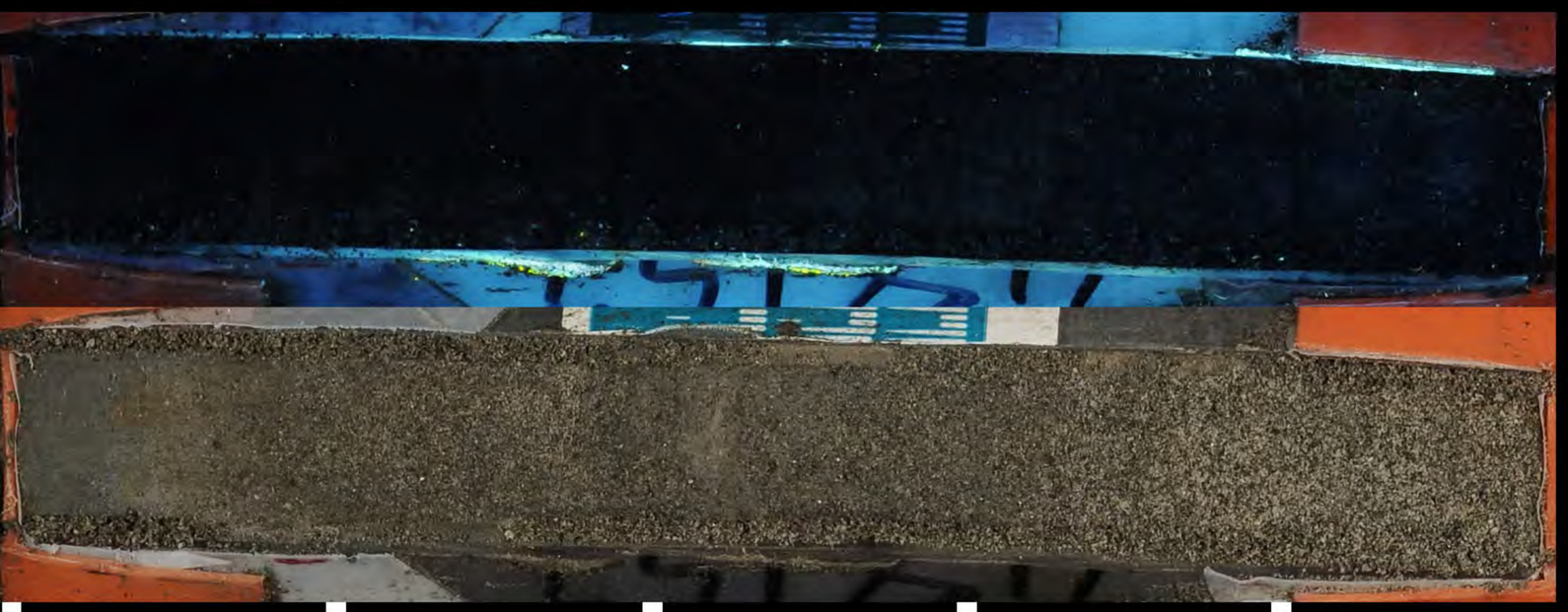
Project Name: KMEP - Norwalk

Boring ID.: CPT-LIF-1B-27

Project No.: N/A

Client Name: Jacobs Engineering

PTS Laboratories
PTS File No.: 48157



28.0

Each Interval Equals One Tenth of a Foot

29.0

Project Name: KMEP - Norwalk Boring ID.: CPT-LIF-1B-28

Project No.: N/A

Client Name: Jacobs Engineering

PTS Laboratories
PTS File No.: 48157

29.0

Each Interval Equals One Tenth of a Foot

30.0

Project Name: KMEP - Norwalk

Boring ID.: CPT-LIF-1B-29.5

Project No.: N/A

Client Name: Jacobs Engineering

PTS Laboratories
PTS File No.: 48157

31.0

Each Interval Equals One Tenth of a Foot

32.0

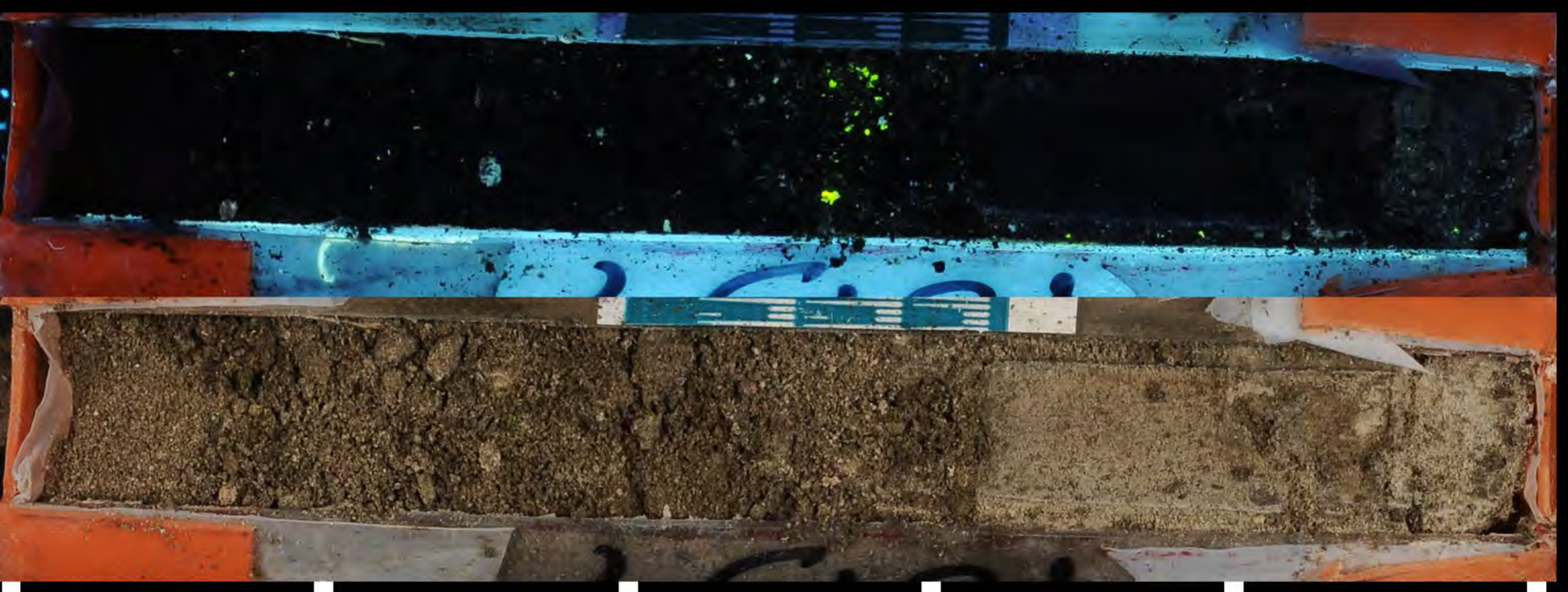
Project Name: KMEP - Norwalk

Boring ID.: CPT-LIF-1B-31

Project No.: N/A

Client Name: Jacobs Engineering

PTS Laboratories
PTS File No.: 48157



33.0

Each Interval Equals One Tenth of a Foot

34.0

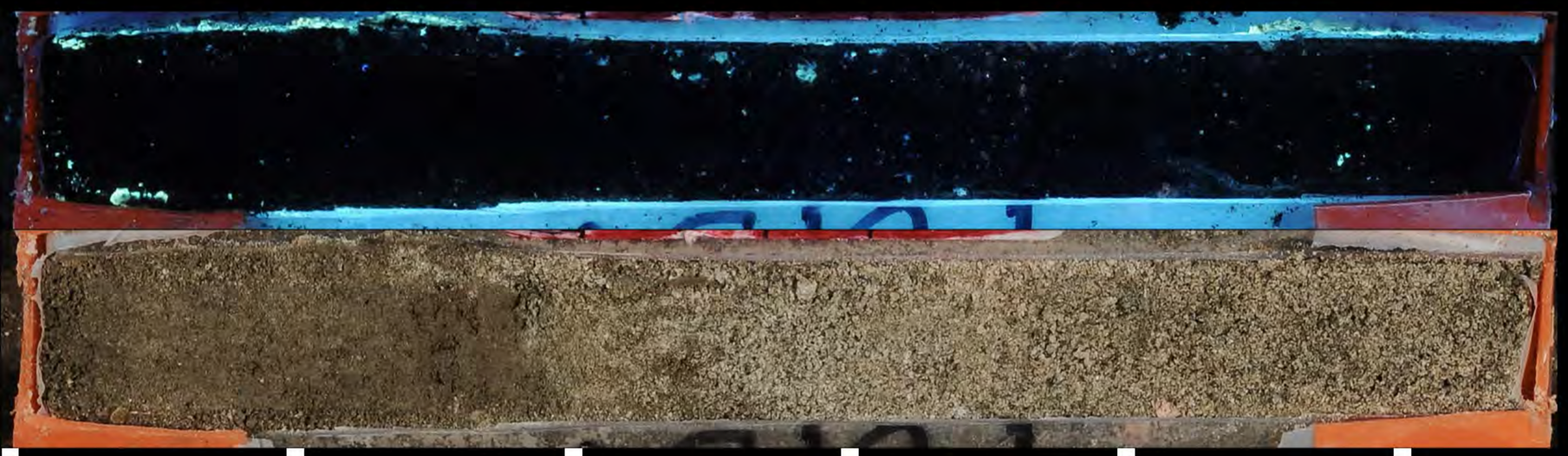
Project Name: KMEP - Norwalk

Boring ID.: CPT-LIF-1B-33

Project No.: N/A

Client Name: Jacobs Engineering

PTS Laboratories
PTS File No.: 48157



23.0

Each Interval Equals One Tenth of a Foot

24.0

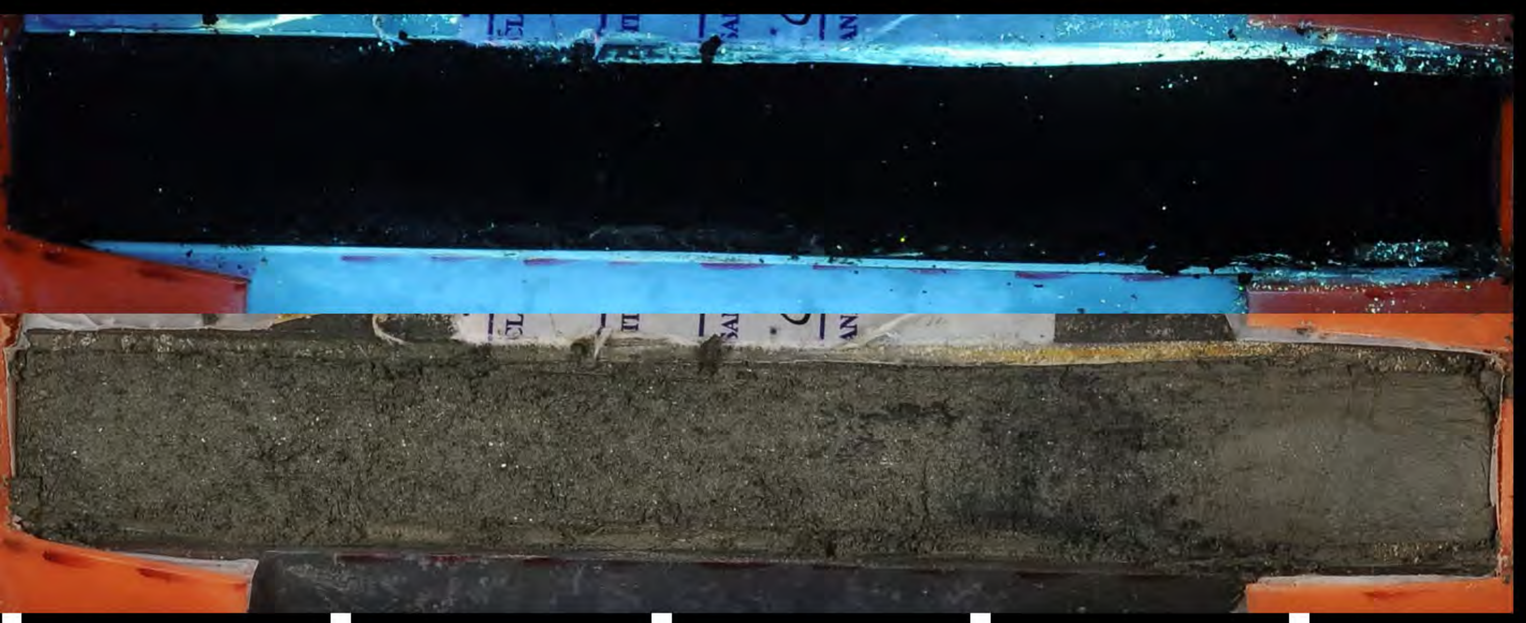
Project Name: KMEP - Norwalk

Boring ID.: CPT-LIF-2B-23

Project No.: N/A

Client Name: Jacobs Engineering

PTS Laboratories
PTS File No.: 48157



25.5

Each Interval Equals One Tenth of a Foot

26.5

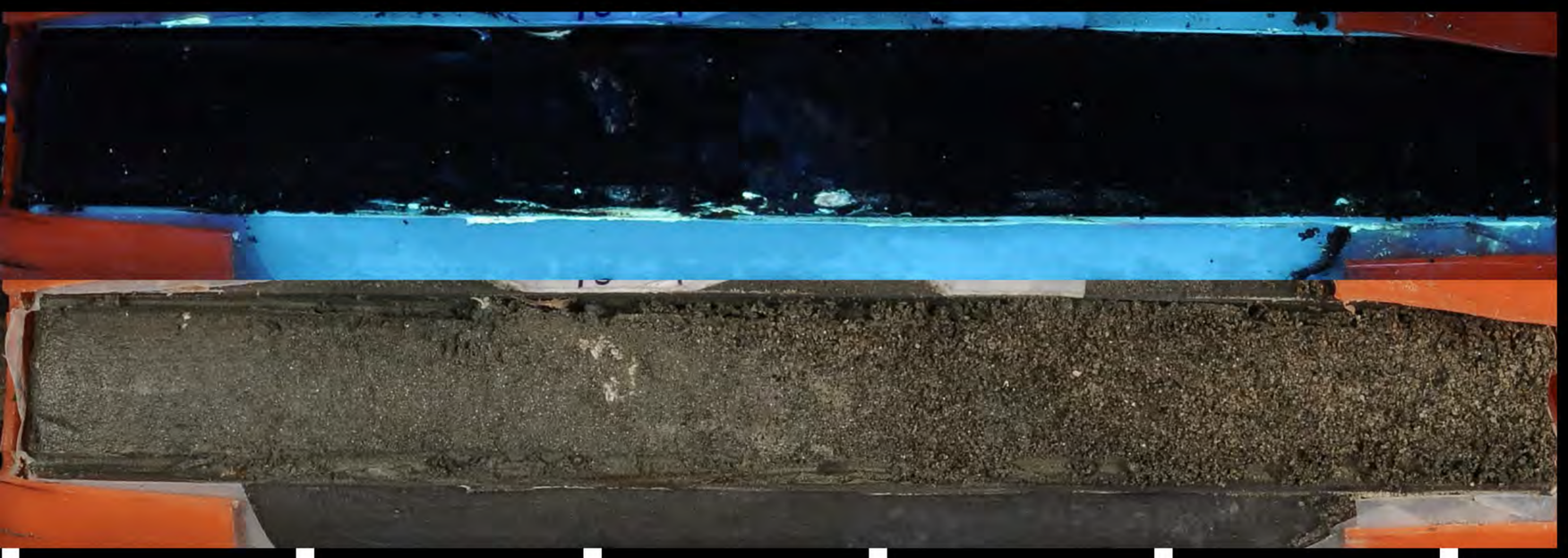
Project Name: KMEP - Norwalk

Boring ID.: CPT-LIF-2B-25.5

Project No.: N/A

Client Name: Jacobs Engineering

PTS Laboratories
PTS File No.: 48157



27.5

Each Interval Equals One Tenth of a Foot

28.5

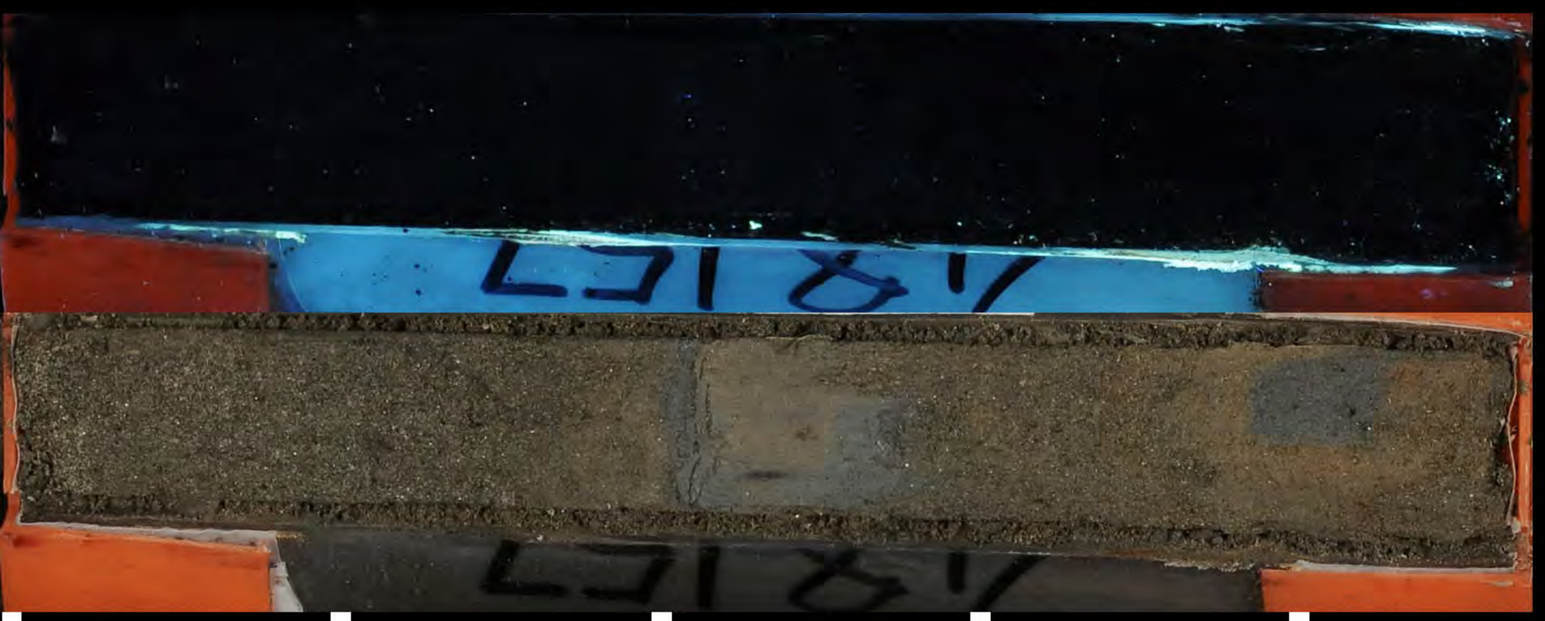
Project Name: KMEP - Norwalk

Boring ID.: CPT-LIF-2B-27.5

Project No.: N/A

Client Name: Jacobs Engineering

PTS Laboratories
PTS File No.: 48157



Project Name: KMEP - Norwalk

Boring ID.: CPT-LIF-2B 29.5

Project No.: N/A

Client Name: Jacobs Engineering

PTS Laboratories
PTS File No.: 48157

27.0

Each Interval Equals One Tenth of a Foot

28.0

Project Name: KMEP - Norwalk

Boring ID.: CPT-LIF-3B-27

Project No.: N/A

Client Name: Jacobs Engineering

PTS Laboratories
PTS File No.: 48157

29.0

Each Interval Equals One Tenth of a Foot

30.0

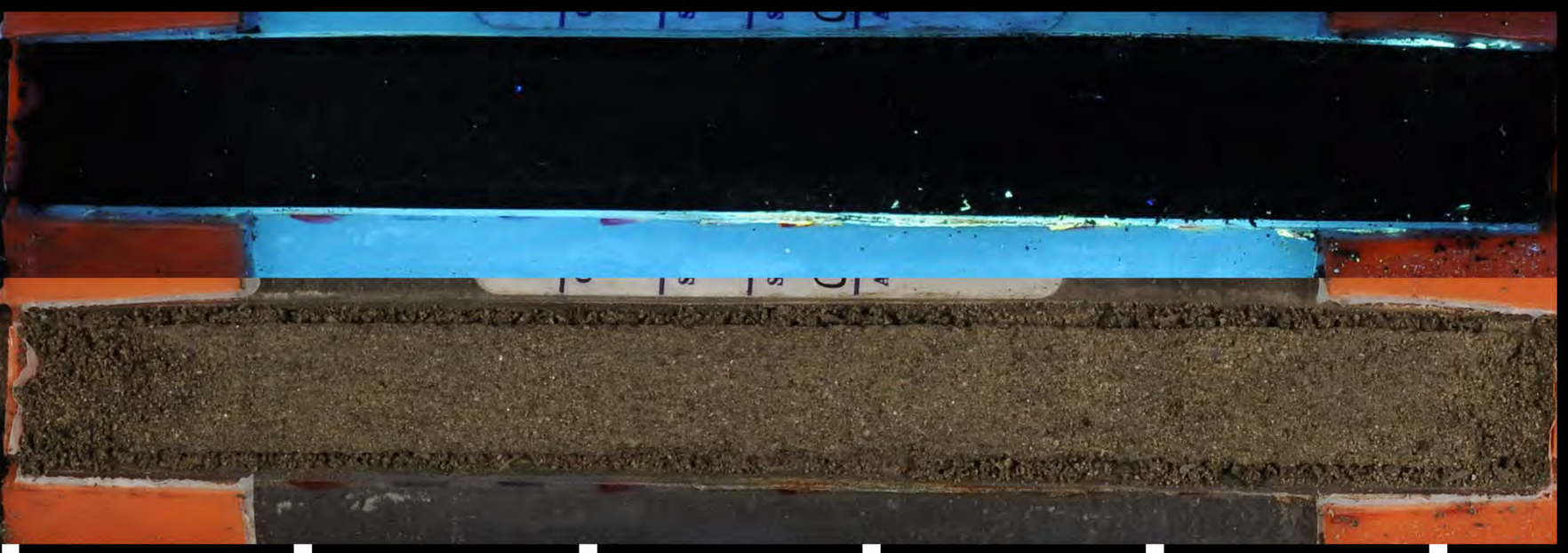
Project Name: KMEP - Norwalk

Boring ID.: CPT-LIF-3B-29

Project No.: N/A

Client Name: Jacobs Engineering

PTS Laboratories
PTS File No.: 48157



26.0

Each Interval Equals One Tenth of a Foot

27.0

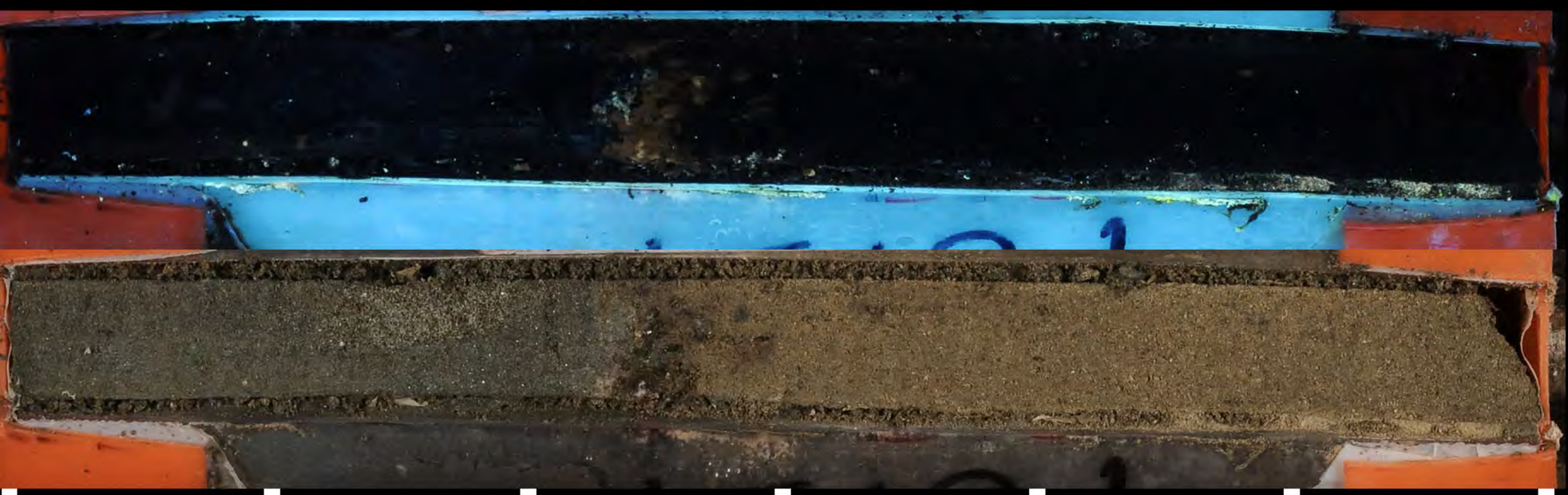
Project Name: KMEP - Norwalk

Boring ID.: CPT-LIF-4B-26

Project No.: N/A

Client Name: Jacobs Engineering

PTS Laboratories
PTS File No.: 48157



28.0

Each Interval Equals One Tenth of a Foot

29.0

Project Name: KMEP - Norwalk

Boring ID.: CPT-LIF-4B-28

Project No.: N/A

PTS Laboratories, Inc.

CHAIN OF CUSTODY RECORD

PAGE 1 OF 2

COMPANY	Jacobs Engineering
ADDRESS	2600 Michelson Dr.
CITY	Irvine, CA
ZIP CODE	Suite Sa[illegible]
PROJECT MANAGER	Eric Davis
email	(404)-323-1600
PROJECT NAME	KMEP-Norwalk
PHONE NUMBER	
PROJECT NUMBER	
FAX NUMBER	
SITE LOCATION	Norwalk, CA
SAMPLER SIGNATURE	[signature]

PO#:

TURNAROUND TIME: 24 HOURS ☐ 72 HOURS ☐ 5 DAYS ☐ NORMAL ☒

OTHER:

SAMPLE INTEGRITY (CHECK): INTACT X TEMP(F) 31.1°F

PTS QUOTE NO.:

PTS FILE: 48157

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	DEPTH, FT	NUMBER OF SAMPLES	SOIL PROPERTIES PACKAGE	HYDRAULIC CONDUCTIVITY PACKAGE	PORE FLUID SATURATIONS PACKAGE	TCEQ/TNRCC PROPERTIES PACKAGE	CAPILLARITY PACKAGE	FLUID PROPERTIES PACKAGE	PHOTOLOG: CORE PHOTOGRAPHY	VAPOR TRANSPORT PACKAGE	POROSITY: TOTAL, AIR FILLED, WATER FILLED	POROSITY: EFFECTIVE, ASTM D425M	SPECIFIC GRAVITY, ASTM D854	BULK DENSITY (DRY), API RP40 or ASTM D2937	AIR PERMEABILITY, API RP40	HYDRAULIC CONDUCTIVITY, EPA9100/API RP40 or D5084	GRAIN SIZE DISTRIBUTION, ASTM D422 or 4464M	TOC: WALKLEY-BLACK	ATTERBERG LIMITS, ASTM D4318	VAPOR INTRUSION PACKAGE	FREE PRODUCT MOBILITY PACKAGE
✓ CPT-LIF-2B-23'	7-25-18	1441	23-23.7				X				X								X				X
✓ CPT-LIF-1B-29.5'	7-27-18	0851	29-29.6				〃				〃								〃				〃
✓ CPT-LIF-1B-31'	7-27-18	0853	31-31.6				〃				〃								〃				〃
✓ CPT-LIF-1B-27'	7-27-18	0848	27-27.6				〃				〃								〃				〃
✓ CPT-LIF-1B-28'	7-27-18	0849	28-28.6				〃				〃								〃				〃
✓ CPT-LIF-3B-27'	~~7-25-18~~ 7-25-18	0900	27-27.7				〃				〃								〃				〃
✓ CPT-LIF-2B-27.5'	7-25-18	1450	27.5-28.2				〃				〃								〃				〃
✓ CPT-LIF-3B-29'	7-25-18	0915	29-29.8				〃				〃								〃				〃
✓ CPT-LIF-4B-28'	7-25-18	1325	28-28.7				〃				〃								〃				〃
✓ CPT-LIF-1B-33'	7-27-18	0856	33-33.6				〃				〃								〃				〃
✓ CPT-LIF-2B-25.5'	7-25-18	1449	25.5-26.2				〃				〃								〃				〃

COMMENTS: ~~FP (HOLD)~~ MT Free Product Mobility Package Analyses should be based on results from initial pore fluid saturation analysis

1. RELINQUISHED BY	2. RECEIVED BY	3. RELINQUISHED BY	4. RECEIVED BY
[signature]	[signature]		
COMPANY: Jacobs	COMPANY: PTS Laboratories, Inc	COMPANY:	COMPANY:
DATE: 7-27-18 TIME: 1400	DATE: 7/30/18 TIME: 1210	DATE: TIME:	DATE: TIME:

PTS Laboratories, Inc.

CHAIN OF CUSTODY RECORD

COMPANY: Jacobs Engineering

ADDRESS: 26600 Michelson Dr. CITY: Irvine, Ca ZIP CODE: Suite 500

PROJECT MANAGER: Eric Davis email: (404)-323-1600

PROJECT NAME: Norwalk-KMEP PHONE NUMBER:

PROJECT NUMBER: FAX NUMBER:

SITE LOCATION: Norwalk, Ca

SAMPLER SIGNATURE:

PO#:

TURNAROUND TIME
24 HOURS ☐ 5 DAYS ☐
72 HOURS ☐ NORMAL ☒

OTHER:

SAMPLE INTEGRITY (CHECK):
INTACT X TEMP(F) 31.1°F

PTS QUOTE NO.:

PTS FILE: 48157

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	DEPTH, FT	NUMBER OF SAMPLES	SOIL PROPERTIES PACKAGE	HYDRAULIC CONDUCTIVITY PACKAGE	PORE FLUID SATURATIONS PACKAGE	TCEQ/TNRCC PROPERTIES PACKAGE	CAPILLARITY PACKAGE	FLUID PROPERTIES PACKAGE	PHOTOLOG: CORE PHOTOGRAPHY	VAPOR TRANSPORT PACKAGE	POROSITY: TOTAL, AIR FILLED, WATER FILLED	POROSITY: EFFECTIVE, ASTM D425M	SPECIFIC GRAVITY, ASTM D854	BULK DENSITY (DRY), API RP40 or ASTM D2937	AIR PERMEABILITY, API RP40	HYDRAULIC CONDUCTIVITY, EPA9100/API RP40 or D5084	GRAIN SIZE DISTRIBUTION, ASTM D422 or 4464M	TOC: WALKLEY-BLACK	ATTERBERG LIMITS, ASTM D4318	VAPOR INTRUSION PACKAGE	FREE PRODUCT MOBILITY PACKAGE	COMMENTS
CPT-LIF-4B-26	7-25-18	1310	26-26.7'				X				X								X				X	
CPT-LIF-2B-29.5	7-25-18	1452	29.5-30.2'				X				X								X				X	

1. RELINQUISHED BY	2. RECEIVED BY	3. RELINQUISHED BY	4. RECEIVED BY
COMPANY: Jacobs	COMPANY: PTS Laboratories, Inc	COMPANY:	COMPANY:
DATE: 7-27-18 TIME: 1400	DATE: 7/30/18 TIME: 12:10	DATE: TIME:	DATE: TIME:

5730 Centralcrest St. • Houston, TX 77092
Telephone (713) 316-1800 • Fax (877) 225-9953

August 15, 2018

Eric Davis.
Project Manager,
Jacobs Engineering.
2600 Michelson Dr. Suite 500,
Irvine, CA 92612.

Re: PTS File No: 48157
Project Name: KMEP-Norwalk
Project Number: N/A

Subject: **Final Report for Grain Size Distribution and Free Product Mobility Package.**

Dear Eric Davis,

Please find enclosed report for Physical Properties analyses conducted upon samples received from your **KMEP-Norwalk** project. All analyses were performed by applicable ASTM, EPA, or API methodologies. The samples are currently in storage and will be retained for thirty days past the completion of testing at no charge. Please note that the samples will be disposed of at that time. You may contact me regarding storage, disposal, or return of the samples

PTS Laboratories appreciates the opportunity to be of service. If you have any questions or require additional information, please contact myself or Emeka Anazodo at (713) 316-1800.

Sincerely,
PTS Laboratories, Inc.

C.A.Umeh

Chidi Umeh
Flow Laboratory Supervisor

Encl.

PTS Laboratories

Project Name: KMEP - Norwalk
Project Number: N/A

PTS File No: 48157
Client: JACOBS ENGINEERING

TEST PROGRAM - 20180730

CORE ID	Depth ft.	Core Recovery ft.	Slab and Core Photo	Grain Size Analysis ASTM D4464/422	Pore Fluid Saturation Package	Free Product Mobility Pkg.		Comments
		Core:	1/4:3/4	Grab	Vert. 1.5"	Vert. 1.5"		Keep core frozen
Date Received: 20180730								
CPT-LIF-2B-23	23-23.7	0.56	1	X	X			$1^{3/4"}$ X $6^{3/4"}$ Acetate Tube Sleeve
CPT-LIF-1B-29.5	29-29.6	0.56	1	X	X			$1^{3/4"}$ X $6^{3/4"}$ Acetate Tube Sleeve
CPT-LIF-1B-31	31-31.6	0.56	1	X	X			$1^{3/4"}$ X $6^{3/4"}$ Acetate Tube Sleeve
CPT-LIF-1B-27	27-27.6	0.5	1	X	X	X		$1^{3/4"}$ X 6" Acetate Tube Sleeve
CPT-LIF-1B-28	28-28.6	0.5	1	X	X			$1^{3/4"}$ X 6" Acetate Tube Sleeve
CPT-LIF-3B-27	27-27.7	0.56	1	X	X			$1^{3/4"}$ X $6^{3/4"}$ Acetate Tube Sleeve
CPT-LIF-2B-27.5	27.5-28.2	0.56	1	X	X	X		$1^{3/4"}$ X $6^{3/4"}$ Acetate Tube Sleeve
CPT-LIF-3B-29	29-29.8	0.58	1	X	X			$1^{3/4"}$ X 7" Acetate Tube Sleeve
CPT-LIF-4B-28	28-28.7	0.65	1	X	X	X		$1^{3/4"}$ X $7^{3/4"}$ Acetate Tube Sleeve
CPT-LIF-1B-33	33-33.6	0.56	1	X	X			$1^{3/4"}$ X $6^{3/4"}$ Acetate Tube Sleeve
CPT-LIF-2B-25.5	25.5-26.2	0.5	1	X	X			$1^{3/4"}$ X 6" Acetate Tube Sleeve
CPT-LIF-4B-26	26-26.7	0.56	1	X	X			$1^{3/4"}$ X $6^{3/4"}$ Acetate Tube Sleeve
CPT-LIF-2B-29.5	29.5-30.2	0.5	1	X	X			$1^{3/4"}$ X 6" Acetate Tube Sleeve
TOTALS:	cores	7.15	13	13	13	3		

Laboratory Test Program Notes

Contaminant identification:

FPM Sample locations to be selected by JACOBS Eng. personnel from core photography/Post-PFS.

Grain Size Analysis: Laser or sieve method; includes tabular data, graphics and statistical sorting in Excel format.

Pore Fluid Saturation Package: API RP40 Dean-Stark Method: Includes initial pore fluid saturations, total porosity, air-filled porosity, grain density, dry bulk density and moisture content.

Free Product Mobility Package: Applied centrifugal force demonstrates product mobility; includes residual saturations by Dean-Stark, total porosity, grain and dry bulk density.

PTS Laboratories

PTS File No: 48157
Client: Jacobs Engineering
Report Date: 08/15/18

FREE PRODUCT MOBILITY: INITIAL AND RESIDUAL SATURATIONS

(Centrifugal method: samples spun under air)

Project Name: KMEP - Norwalk
Project Number: N/A

				METHODS:	API RP 40		API RP 40	ASTM D425M, DEAN-STARK			
								PORE FLUID SATURATIONS (3), % Pv			
				TOTAL SAMPLE VOLUME		DENSITY			Initial Fluid Saturations		After Centrifuge at 25xG	
SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	ANALYSIS DATE	INITIAL cc	FINAL cc	DRY BULK, g/cc	GRAIN, g/cc	TOTAL POROSITY (2), %Vb	WATER (Swi) SATURATION	NAPL (Soi) SATURATION	WATER (Srw) SATURATION	NAPL (Sor) SATURATION
CPT-LIF-1B-27	27.1	V	20180809	62.669	56.58	1.31	2.72	51.7	59.2	9.0	27.4	9.0
NOTE: No Visible NAPL produced. Produced water is clear Amber-light with moderate gasoline/HC odor. Sample intact.												
CPT-LIF-2B-27.5	27.75	V	20180809	62.198	58.29	1.35	2.72	50.5	75.7	1.2	34.1	1.2
NOTE: No Visible NAPL produced. Produced water is clear light yellow with faint organic odor. Sample intact with slight fines on endplate.												
CPT-LIF-4B-28	28.25	V	20180809	62.376	58.83	1.48	2.71	45.4	39.9	2.9	24.0	2.9
NOTE: No Visible NAPL produced. Produced water is clear with faint organic/hydrocarbon odor. Sample intact.												

(1) Sample Orientation: H = horizontal; V = vertical; R = remold

(2) Total Porosity = all non & interconnected pore channels.

(3) Fluid density used to calculate pore fluid saturations: Water =0.9995 g/cc, NAPL = 0.866 g/cc.

Swi = Initial Water Saturation as received prior to centrifuging at 25xG, Soi = Initial NAPL Saturation as received prior to centrifuging at 25xG for 10 hours.

Srw = Residual Water Saturation after centrifuging at 25xG, Sor = Residual NAPL Saturation after centrifuging at 25xG for duration of 10 hours

Vb = Bulk Volume, cc; Pv = Pore Volume, cc; ND = Not Detected

PTS Laboratories, Inc.

Jacobs Engineering
PTS File No: 48157

PARTICLE SIZE SUMMARY

(METHODOLOGY: ASTM D422/D4464M)

PROJECT NAME: KMEP-Norwalk
PROJECT NO: N/A

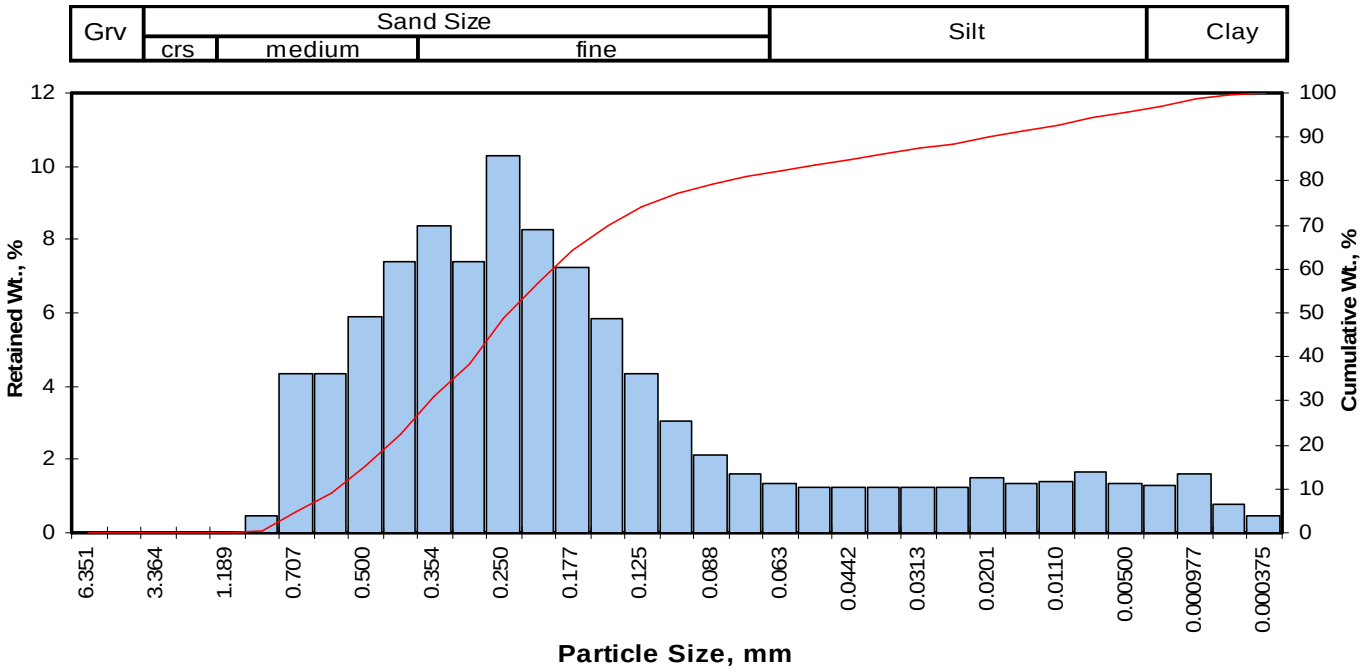
Sample ID	Depth, ft.	Mean Grain Size Description (1)	Median Grain Size mm	Particle Size Distribution, wt. percent						Silt & Clay
				Gravel	Sand Size			Silt	Clay	
					Coarse	Medium	Fine			
CPT-LIF-2B-23	23.25-23.4	Fine sand	0.243	0.00	0.00	22.47	58.54	14.80	4.18	18.98
CPT-LIF-1B-29.5	29.7-29.85	Silt	0.017	0.00	0.00	0.00	5.52	72.09	22.39	94.48
CPT-LIF-1B-31	31.0-31.15	Silt	0.022	0.00	0.00	0.27	15.59	63.67	20.48	84.14
CPT-LIF-1B-27	27.3-27.45	Silt	0.010	0.00	0.00	0.00	2.87	64.57	32.57	97.13
CPT-LIF-1B-28	28.35-28.5	Fine sand	0.225	0.00	0.00	16.90	67.33	12.52	3.24	15.76
CPT-LIF-3B-27	27.35-27.50	Fine sand	0.323	0.00	0.00	42.06	29.67	16.59	11.69	28.28
CPT-LIF-2B-27.5	27.85-28.00	Fine sand	0.289	0.00	0.00	28.27	58.62	9.55	3.56	13.11
CPT-LIF-3B-29	29.35-29.50	Fine sand	0.088	0.00	0.00	7.59	45.60	37.64	9.17	46.81
CPT-LIF-4B-28	28.35-28.50	Fine sand	0.211	0.00	0.00	27.91	41.22	21.95	8.93	30.87
CPT-LIF-1B-33	33.20-33.35	Fine sand	0.216	0.00	0.00	19.29	58.46	15.15	7.10	22.24
CPT-LIF-2B-25.5	25.65-25.8	Silt	0.022	0.00	0.00	1.00	14.56	65.75	18.69	84.44
CPT-LIF-4B-26	26.40-26.55	Fine sand	0.210	0.00	0.00	22.72	47.44	22.82	7.03	29.84
CPT-LIF-2B-29.5	29.70-29.85	Fine sand	0.063	0.00	0.00	4.02	44.22	34.86	16.90	51.76

(1) Based on Mean from Trask

PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client:	Jacobs Engineering	**PTS File No:**	48157
Project:	KMEP-Norwalk	**Sample ID:**	CPT-LIF-2B-23
Project No:	N/A	**Depth, ft:**	23.25-23.4



Opening		Phi of	U.S.	Sample Weight,	Increment Weight,	Cumulative Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	0.48	0.48	0.48
0.0278	0.707	0.50	25	4.36	4.36	4.84
0.0234	0.595	0.75	30	4.35	4.35	9.19
0.0197	0.500	1.00	35	5.90	5.90	15.09
0.0166	0.420	1.25	40	7.38	7.38	22.47
0.0139	0.354	1.50	45	8.38	8.38	30.86
0.0117	0.297	1.75	50	7.41	7.41	38.27
0.0098	0.250	2.00	60	10.30	10.30	48.57
0.0083	0.210	2.25	70	8.27	8.27	56.84
0.0070	0.177	2.50	80	7.22	7.22	64.06
0.0059	0.149	2.75	100	5.83	5.83	69.89
0.0049	0.125	3.00	120	4.34	4.34	74.23
0.0041	0.105	3.25	140	3.06	3.06	77.30
0.0035	0.088	3.50	170	2.13	2.13	79.43
0.0029	0.074	3.75	200	1.59	1.59	81.02
0.0025	0.063	4.00	230	1.34	1.34	82.36
0.0021	0.053	4.25	270	1.25	1.25	83.61
0.00174	0.0442	4.50	325	1.23	1.23	84.84
0.00146	0.0372	4.75	400	1.25	1.25	86.09
0.00123	0.0313	5.00	450	1.25	1.25	87.34
0.000986	0.0250	5.32	500	1.22	1.22	88.56
0.000790	0.0201	5.64	635	1.48	1.48	90.04
0.000615	0.0156	6.00		1.37	1.37	91.41
0.000435	0.0110	6.50		1.40	1.40	92.81
0.000308	0.00781	7.00		1.67	1.67	94.48
0.000197	0.00500	7.65		1.34	1.34	95.82
0.000077	0.00195	9.00		1.28	1.28	97.10
0.000038	0.000977	10.00		1.62	1.62	98.72
0.000019	0.000488	11.00		0.80	0.80	99.52
0.000015	0.000375	11.38		0.48	0.48	100.00
TOTALS				**100.00**	**100.00**	**100.00**

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	0.51	0.0277	0.703
10	0.78	0.0229	0.581
16	1.03	0.0193	0.489
25	1.33	0.0157	0.399
40	1.79	0.0114	0.289
50	2.04	0.0096	0.243
60	2.36	0.0077	0.195
75	3.06	0.0047	0.120
84	4.33	0.0020	0.050
90	5.63	0.0008	0.020
95	7.25	0.0003	0.007

Measure	Trask	Inman	Folk-Ward
Median, phi	2.04	2.04	2.04
Median, in.	0.0096	0.0096	0.0096
Median, mm	0.243	0.243	0.243
Mean, phi	1.95	2.68	2.47
Mean, in.	0.0102	0.0061	0.0071
Mean, mm	0.259	0.156	0.181
Sorting	1.826	1.650	1.846
Skewness	0.901	0.386	0.466
Kurtosis	0.249	1.043	1.590

Grain Size Description (ASTM-USCS Scale)	Fine sand (based on Mean from Trask)

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	22.47
Fine Sand	200	58.54
Silt	>0.005 mm	14.80
Clay	<0.005 mm	4.18
	Total	**100**

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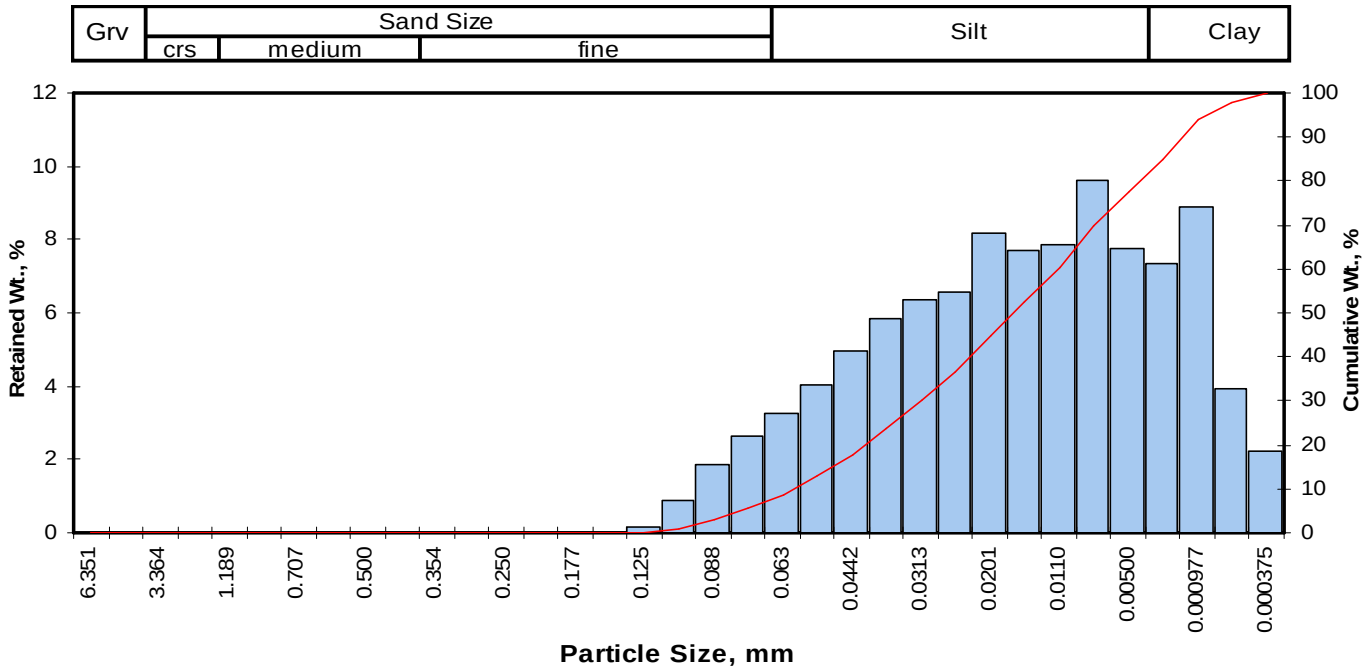
PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client:	Jacobs Engineering	**PTS File No:**	48157
Project:	KMEP-Norwalk	**Sample ID:**	CPT-LIF-1B-29.5
Project No:	N/A	**Depth, ft:**	29.7-29.85



Opening		Phi of	U.S.	Sample Weight,	Increment Weight,	Cumulative Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	0.00	0.00	0.00
0.0278	0.707	0.50	25	0.00	0.00	0.00
0.0234	0.595	0.75	30	0.00	0.00	0.00
0.0197	0.500	1.00	35	0.00	0.00	0.00
0.0166	0.420	1.25	40	0.00	0.00	0.00
0.0139	0.354	1.50	45	0.00	0.00	0.00
0.0117	0.297	1.75	50	0.00	0.00	0.00
0.0098	0.250	2.00	60	0.00	0.00	0.00
0.0083	0.210	2.25	70	0.00	0.00	0.00
0.0070	0.177	2.50	80	0.00	0.00	0.00
0.0059	0.149	2.75	100	0.00	0.00	0.00
0.0049	0.125	3.00	120	0.14	0.14	0.14
0.0041	0.105	3.25	140	0.88	0.88	1.02
0.0035	0.088	3.50	170	1.87	1.87	2.90
0.0029	0.074	3.75	200	2.61	2.62	5.52
0.0025	0.063	4.00	230	3.24	3.25	8.76
0.0021	0.053	4.25	270	4.05	4.06	12.82
0.00174	0.0442	4.50	325	4.97	4.98	17.80
0.00146	0.0372	4.75	400	5.82	5.83	23.64
0.00123	0.0313	5.00	450	6.33	6.35	29.98
0.000986	0.0250	5.32	500	6.53	6.55	36.53
0.000790	0.0201	5.64	635	8.15	8.17	44.70
0.000615	0.0156	6.00		7.67	7.69	52.39
0.000435	0.0110	6.50		7.86	7.88	60.27
0.000308	0.00781	7.00		9.58	9.60	69.87
0.000197	0.00500	7.65		7.72	7.74	77.61
0.000077	0.00195	9.00		7.31	7.33	84.93
0.000038	0.000977	10.00		8.85	8.87	93.81
0.000019	0.000488	11.00		3.94	3.95	97.75
0.000015	0.000375	11.38		2.24	2.25	100.00
TOTALS				**99.80**	**100.00**	**100.00**

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	3.70	0.0030	0.077
10	4.08	0.0023	0.059
16	4.41	0.0019	0.047
25	4.80	0.0014	0.036
40	5.46	0.0009	0.023
50	5.89	0.0007	0.017
60	6.48	0.0004	0.011
75	7.43	0.0002	0.006
84	8.83	0.0001	0.002
90	9.57	0.0001	0.001
95	10.30	0.0000	0.001

Measure	Trask	Inman	Folk-Ward
Median, phi	5.89	5.89	5.89
Median, in.	0.0007	0.0007	0.0007
Median, mm	0.017	0.017	0.017
Mean, phi	5.59	6.62	6.37
Mean, in.	0.0008	0.0004	0.0005
Mean, mm	0.021	0.010	0.012
Sorting	2.483	2.209	2.105
Skewness	0.854	0.331	0.334
Kurtosis	0.259	0.494	1.031
Grain Size Description (ASTM-USCS Scale)		Silt (based on Mean from Trask)	

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	0.00
Fine Sand	200	5.52
Silt	>0.005 mm	72.09
Clay	<0.005 mm	22.39
	Total	**100**

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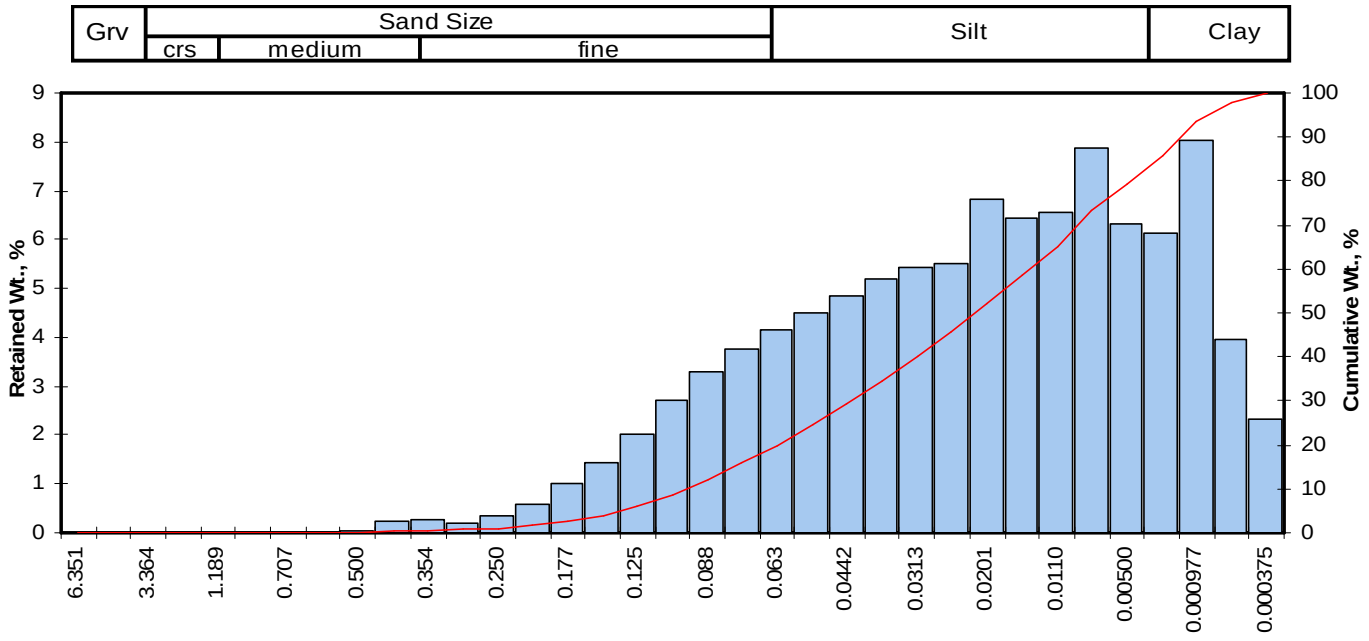
PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client:	Jacobs Engineering	**PTS File No:**	48157
Project:	KMEP-Norwalk	**Sample ID:**	CPT-LIF-1B-31
Project No:	N/A	**Depth, ft:**	31.0-31.15



Particle Size, mm

Opening		Phi of	U.S.	Sample Weight,	Increment Weight,	Cumulative Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	0.00	0.00	0.00
0.0278	0.707	0.50	25	0.00	0.00	0.00
0.0234	0.595	0.75	30	0.00	0.00	0.00
0.0197	0.500	1.00	35	0.05	0.05	0.05
0.0166	0.420	1.25	40	0.22	0.22	0.27
0.0139	0.354	1.50	45	0.27	0.27	0.54
0.0117	0.297	1.75	50	0.19	0.19	0.73
0.0098	0.250	2.00	60	0.34	0.34	1.07
0.0083	0.210	2.25	70	0.59	0.59	1.66
0.0070	0.177	2.50	80	0.99	0.99	2.66
0.0059	0.149	2.75	100	1.42	1.42	4.08
0.0049	0.125	3.00	120	2.02	2.02	6.10
0.0041	0.105	3.25	140	2.69	2.70	8.80
0.0035	0.088	3.50	170	3.29	3.30	12.10
0.0029	0.074	3.75	200	3.75	3.76	15.86
0.0025	0.063	4.00	230	4.13	4.14	20.00
0.0021	0.053	4.25	270	4.49	4.50	24.50
0.00174	0.0442	4.50	325	4.83	4.84	29.34
0.00146	0.0372	4.75	400	5.20	5.21	34.55
0.00123	0.0313	5.00	450	5.42	5.43	39.98
0.000986	0.0250	5.32	500	5.49	5.50	45.49
0.000790	0.0201	5.64	635	6.82	6.84	52.32
0.000615	0.0156	6.00		6.41	6.42	58.75
0.000435	0.0110	6.50		6.54	6.56	65.30
0.000308	0.00781	7.00		7.87	7.89	73.19
0.000197	0.00500	7.65		6.32	6.33	79.52
0.000077	0.00195	9.00		6.12	6.13	85.66
0.000038	0.000977	10.00		8.01	8.03	93.69
0.000019	0.000488	11.00		3.96	3.97	97.65
0.000015	0.000375	11.38		2.34	2.35	100.00
TOTALS				**99.80**	**100.00**	**100.00**

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	2.86	0.0054	0.137
10	3.34	0.0039	0.099
16	3.76	0.0029	0.074
25	4.28	0.0020	0.052
40	5.00	0.0012	0.031
50	5.53	0.0009	0.022
60	6.10	0.0006	0.015
75	7.18	0.0003	0.007
84	8.63	0.0001	0.003
90	9.54	0.0001	0.001
95	10.33	0.0000	0.001

Measure	Trask	Inman	Folk-Ward
Median, phi	5.53	5.53	5.53
Median, in.	0.0009	0.0009	0.0009
Median, mm	0.022	0.022	0.022
Mean, phi	5.10	6.20	5.97
Mean, in.	0.0012	0.0005	0.0006
Mean, mm	0.029	0.014	0.016
Sorting	2.740	2.438	2.350
Skewness	0.871	0.273	0.279
Kurtosis	0.230	0.532	1.052
Grain Size Description (ASTM-USCS Scale)		Silt (based on Mean from Trask)	

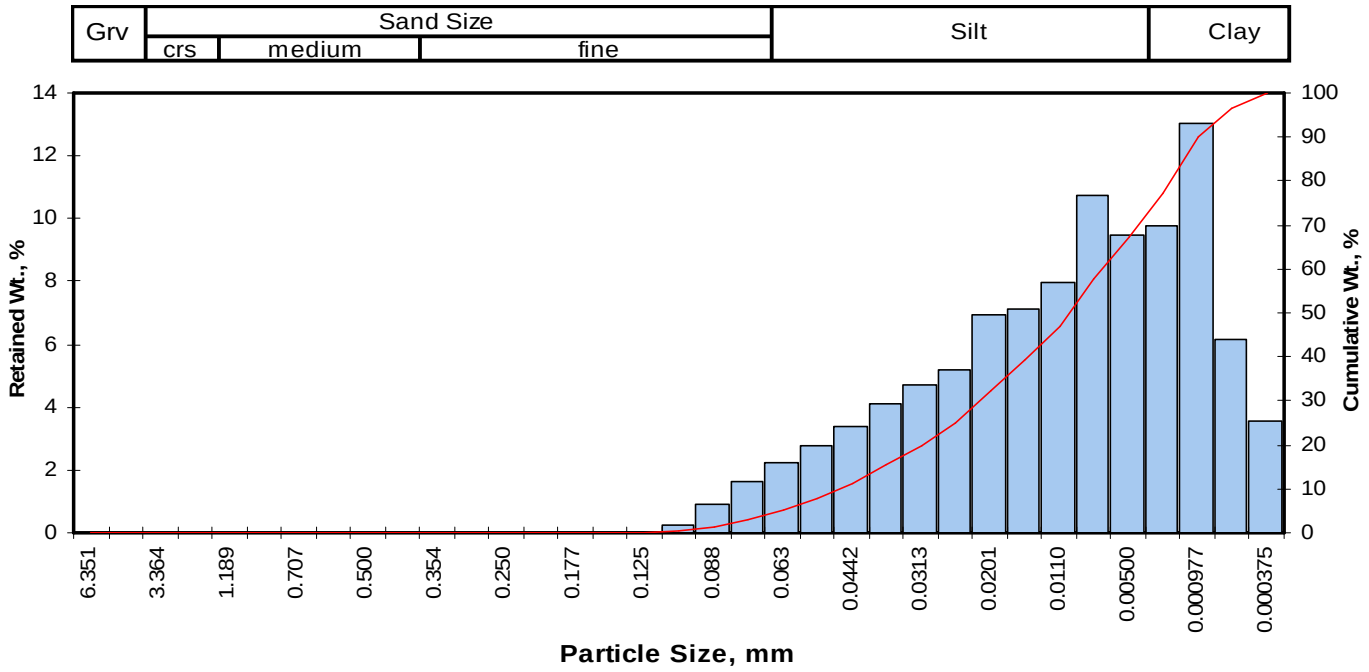
Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	0.27
Fine Sand	200	15.59
Silt	>0.005 mm	63.67
Clay	<0.005 mm	20.48
	Total	**100**

Phone: (713) 316-1800 Fax: (877) 255-9953

PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client:	Jacobs Engineering	**PTS File No:**	48157
Project:	KMEP-Norwalk	**Sample ID:**	CPT-LIF-1B-27
Project No:	N/A	**Depth, ft:**	27.3-27.45



Opening		Phi of	U.S.	Sample	Increment	Cumulative
Inches	Millimeters	Screen	No.	Weight, grams	Weight, percent	Weight, percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	0.00	0.00	0.00
0.0278	0.707	0.50	25	0.00	0.00	0.00
0.0234	0.595	0.75	30	0.00	0.00	0.00
0.0197	0.500	1.00	35	0.00	0.00	0.00
0.0166	0.420	1.25	40	0.00	0.00	0.00
0.0139	0.354	1.50	45	0.00	0.00	0.00
0.0117	0.297	1.75	50	0.00	0.00	0.00
0.0098	0.250	2.00	60	0.00	0.00	0.00
0.0083	0.210	2.25	70	0.00	0.00	0.00
0.0070	0.177	2.50	80	0.00	0.00	0.00
0.0059	0.149	2.75	100	0.00	0.00	0.00
0.0049	0.125	3.00	120	0.02	0.02	0.02
0.0041	0.105	3.25	140	0.26	0.26	0.28
0.0035	0.088	3.50	170	0.93	0.93	1.21
0.0029	0.074	3.75	200	1.65	1.66	2.87
0.0025	0.063	4.00	230	2.22	2.23	5.09
0.0021	0.053	4.25	270	2.75	2.76	7.85
0.00174	0.0442	4.50	325	3.35	3.36	11.22
0.00146	0.0372	4.75	400	4.08	4.09	15.31
0.00123	0.0313	5.00	450	4.70	4.72	20.03
0.000986	0.0250	5.32	500	5.15	5.17	25.20
0.000790	0.0201	5.64	635	6.90	6.93	32.12
0.000615	0.0156	6.00		7.09	7.12	39.24
0.000435	0.0110	6.50		7.93	7.96	47.20
0.000308	0.00781	7.00		10.70	10.74	57.94
0.000197	0.00500	7.65		9.46	9.49	67.43
0.000077	0.00195	9.00		9.73	9.77	77.20
0.000038	0.000977	10.00		13.00	13.05	90.24
0.000019	0.000488	11.00		6.15	6.17	96.42
0.000015	0.000375	11.38		3.57	3.58	100.00
TOTALS				**99.60**	**100.00**	**100.00**

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	3.99	0.0025	0.063
10	4.41	0.0019	0.047
16	4.79	0.0014	0.036
25	5.31	0.0010	0.025
40	6.05	0.0006	0.015
50	6.63	0.0004	0.010
60	7.14	0.0003	0.007
75	8.70	0.0001	0.002
84	9.52	0.0001	0.001
90	9.98	0.0000	0.001
95	10.77	0.0000	0.001

Measure	Trask	Inman	Folk-Ward
Median, phi	6.63	6.63	6.63
Median, in.	0.0004	0.0004	0.0004
Median, mm	0.010	0.010	0.010
Mean, phi	6.18	7.15	6.98
Mean, in.	0.0005	0.0003	0.0003
Mean, mm	0.014	0.007	0.008
Sorting	3.235	2.367	2.211
Skewness	0.773	0.221	0.221
Kurtosis	0.248	0.432	0.820
Grain Size Description (ASTM-USCS Scale)		Silt (based on Mean from Trask)	

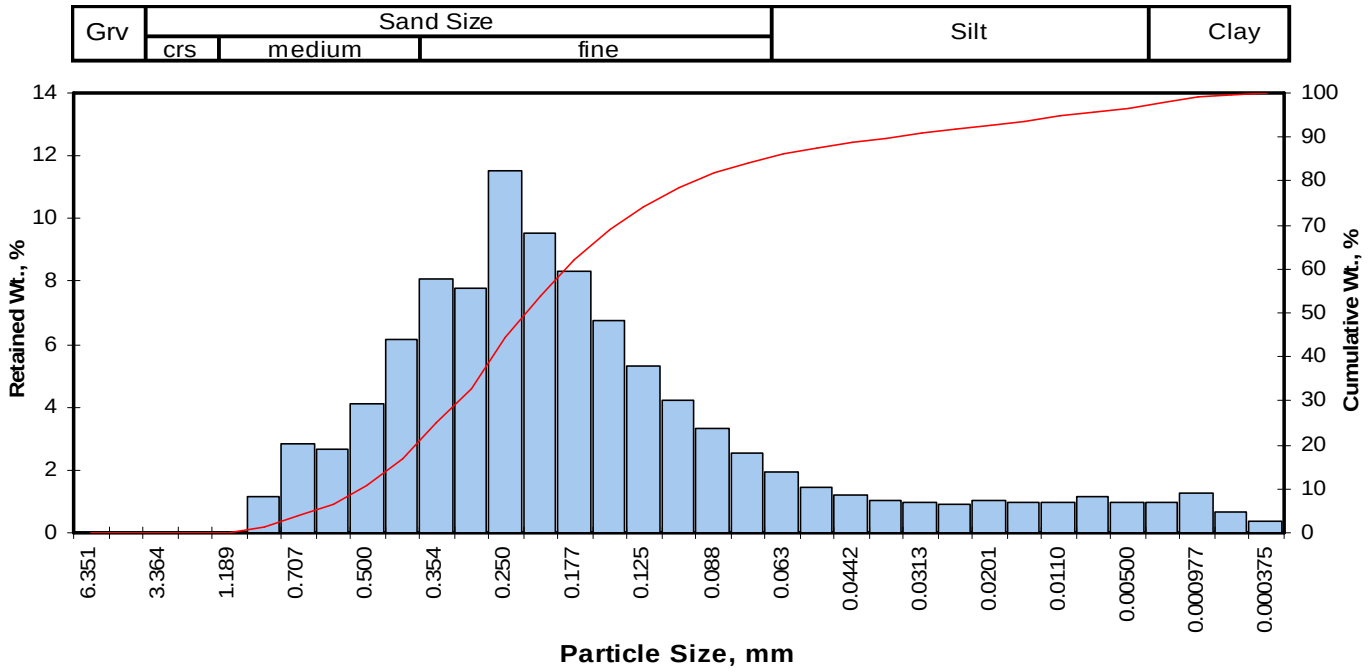
Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	0.00
Fine Sand	200	2.87
Silt	>0.005 mm	64.57
Clay	<0.005 mm	32.57
	Total	**100**

Phone: (713) 316-1800 Fax: (877) 255-9953

PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client:	Jacobs Engineering	**PTS File No:**	48157
Project:	KMEP-Norwalk	**Sample ID:**	CPT-LIF-1B-28
Project No:	N/A	**Depth, ft:**	28.35-28.5



Opening		Phi of	U.S.	Sample Weight,	Increment Weight,	Cumulative Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	1.12	1.12	1.12
0.0278	0.707	0.50	25	2.82	2.82	3.94
0.0234	0.595	0.75	30	2.67	2.67	6.62
0.0197	0.500	1.00	35	4.13	4.13	10.75
0.0166	0.420	1.25	40	6.15	6.15	16.90
0.0139	0.354	1.50	45	8.05	8.06	24.96
0.0117	0.297	1.75	50	7.80	7.81	32.77
0.0098	0.250	2.00	60	11.50	11.51	44.28
0.0083	0.210	2.25	70	9.51	9.52	53.79
0.0070	0.177	2.50	80	8.32	8.33	62.12
0.0059	0.149	2.75	100	6.76	6.77	68.89
0.0049	0.125	3.00	120	5.31	5.31	74.20
0.0041	0.105	3.25	140	4.20	4.20	78.40
0.0035	0.088	3.50	170	3.30	3.30	81.71
0.0029	0.074	3.75	200	2.53	2.53	84.24
0.0025	0.063	4.00	230	1.91	1.91	86.15
0.0021	0.053	4.25	270	1.46	1.46	87.61
0.00174	0.0442	4.50	325	1.18	1.18	88.79
0.00146	0.0372	4.75	400	1.04	1.04	89.83
0.00123	0.0313	5.00	450	0.95	0.95	90.78
0.000986	0.0250	5.32	500	0.89	0.89	91.67
0.000790	0.0201	5.64	635	1.04	1.04	92.71
0.000615	0.0156	6.00		0.95	0.95	93.66
0.000435	0.0110	6.50		0.96	0.96	94.63
0.000308	0.00781	7.00		1.17	1.17	95.80
0.000197	0.00500	7.65		0.96	0.96	96.76
0.000077	0.00195	9.00		0.95	0.95	97.71
0.000038	0.000977	10.00		1.27	1.27	98.98
0.000019	0.000488	11.00		0.64	0.64	99.62
0.000015	0.000375	11.38		0.38	0.38	100.00
TOTALS				**99.90**	**100.00**	**100.00**

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	0.60	0.0260	0.660
10	0.95	0.0203	0.516
16	1.21	0.0170	0.431
25	1.50	0.0139	0.353
40	1.91	0.0105	0.267
50	2.15	0.0089	0.225
60	2.44	0.0073	0.185
75	3.05	0.0048	0.121
84	3.73	0.0030	0.076
90	4.79	0.0014	0.036
95	6.66	0.0004	0.010

Measure	Trask	Inman	Folk-Ward
Median, phi	2.15	2.15	2.15
Median, in.	0.0089	0.0089	0.0089
Median, mm	0.225	0.225	0.225
Mean, phi	2.08	2.47	2.36
Mean, in.	0.0093	0.0071	0.0077
Mean, mm	0.237	0.180	0.194
Sorting	1.709	1.257	1.547
Skewness	0.918	0.254	0.371
Kurtosis	0.242	1.412	1.606
Grain Size Description (ASTM-USCS Scale)		Fine sand (based on Mean from Trask)	

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	16.90
Fine Sand	200	67.33
Silt	>0.005 mm	12.52
Clay	<0.005 mm	3.24
	Total	**100**

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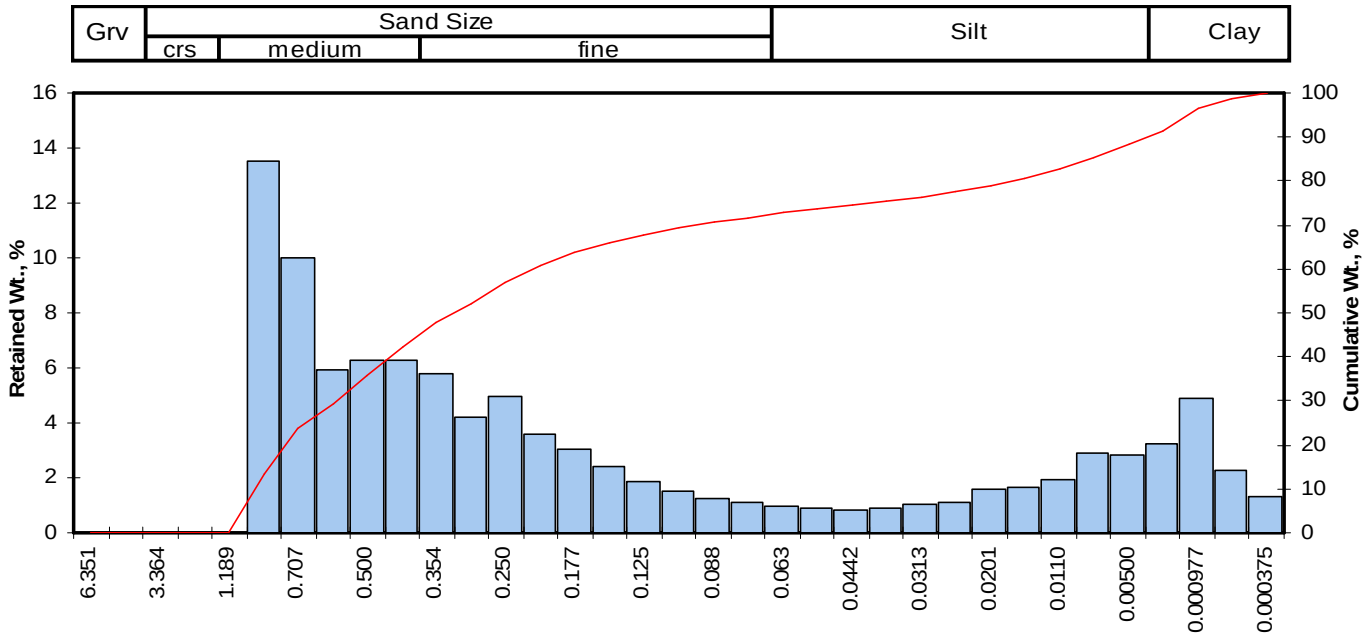
Particle Size Analysis - ASTM D4464M

Client:	Jacobs Engineering	**PTS File No:**	48157
Project:	KMEP-Norwalk	**Sample ID:**	CPT-LIF-3B-27
Project No:	N/A	**Depth, ft:**	27.35-27.50



Opening		Phi of	U.S.	Sample	Increment	Cumulative
Inches	Millimeters	Screen	No.	Weight, grams	Weight, percent	Weight, percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	13.50	13.52	13.52
0.0278	0.707	0.50	25	10.00	10.02	23.54
0.0234	0.595	0.75	30	5.93	5.94	29.48
0.0197	0.500	1.00	35	6.28	6.29	35.77
0.0166	0.420	1.25	40	6.28	6.29	42.06
0.0139	0.354	1.50	45	5.75	5.76	47.82
0.0117	0.297	1.75	50	4.20	4.21	52.02
0.0098	0.250	2.00	60	4.96	4.97	56.99
0.0083	0.210	2.25	70	3.60	3.61	60.60
0.0070	0.177	2.50	80	3.00	3.00	63.60
0.0059	0.149	2.75	100	2.38	2.38	65.99
0.0049	0.125	3.00	120	1.86	1.86	67.85
0.0041	0.105	3.25	140	1.52	1.52	69.37
0.0035	0.088	3.50	170	1.27	1.27	70.64
0.0029	0.074	3.75	200	1.08	1.08	71.72
0.0025	0.063	4.00	230	0.94	0.94	72.67
0.0021	0.053	4.25	270	0.87	0.87	73.54
0.00174	0.0442	4.50	325	0.86	0.86	74.40
0.00146	0.0372	4.75	400	0.91	0.91	75.31
0.00123	0.0313	5.00	450	1.02	1.02	76.33
0.000986	0.0250	5.32	500	1.12	1.12	77.45
0.000790	0.0201	5.64	635	1.55	1.55	79.01
0.000615	0.0156	6.00		1.65	1.65	80.66
0.000435	0.0110	6.50		1.94	1.94	82.60
0.000308	0.00781	7.00		2.86	2.86	85.47
0.000197	0.00500	7.65		2.84	2.84	88.31
0.000077	0.00195	9.00		3.23	3.24	91.55
0.000038	0.000977	10.00		4.86	4.87	96.41
0.000019	0.000488	11.00		2.29	2.29	98.71
0.000015	0.000375	11.38		1.29	1.29	100.00
TOTALS				**99.80**	**100.00**	**100.00**

Cumulative Weight Percent greater than			
Weight percent	Phi Value	Particle Size Inches	Particle Size Millimeters
5	-0.07	0.0412	1.046
10	0.12	0.0362	0.920
16	0.31	0.0317	0.806
25	0.56	0.0267	0.678
40	1.17	0.0175	0.445
50	1.63	0.0127	0.323
60	2.21	0.0085	0.216
75	4.66	0.0016	0.039
84	6.74	0.0004	0.009
90	8.35	0.0001	0.003
95	9.71	0.0000	0.001

Measure	Trask	Inman	Folk-Ward
Median, phi	1.63	1.63	1.63
Median, in.	0.0127	0.0127	0.0127
Median, mm	0.323	0.323	0.323
Mean, phi	1.48	3.53	2.90
Mean, in.	0.0141	0.0034	0.0053
Mean, mm	0.358	0.087	0.134
Sorting	4.146	3.216	3.089
Skewness	0.506	0.590	0.622
Kurtosis	0.348	0.520	0.976
Grain Size Description (ASTM-USCS Scale)		Fine sand (based on Mean from Trask)	

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	42.06
Fine Sand	200	29.67
Silt	>0.005 mm	16.59
Clay	<0.005 mm	11.69
	Total	**100**

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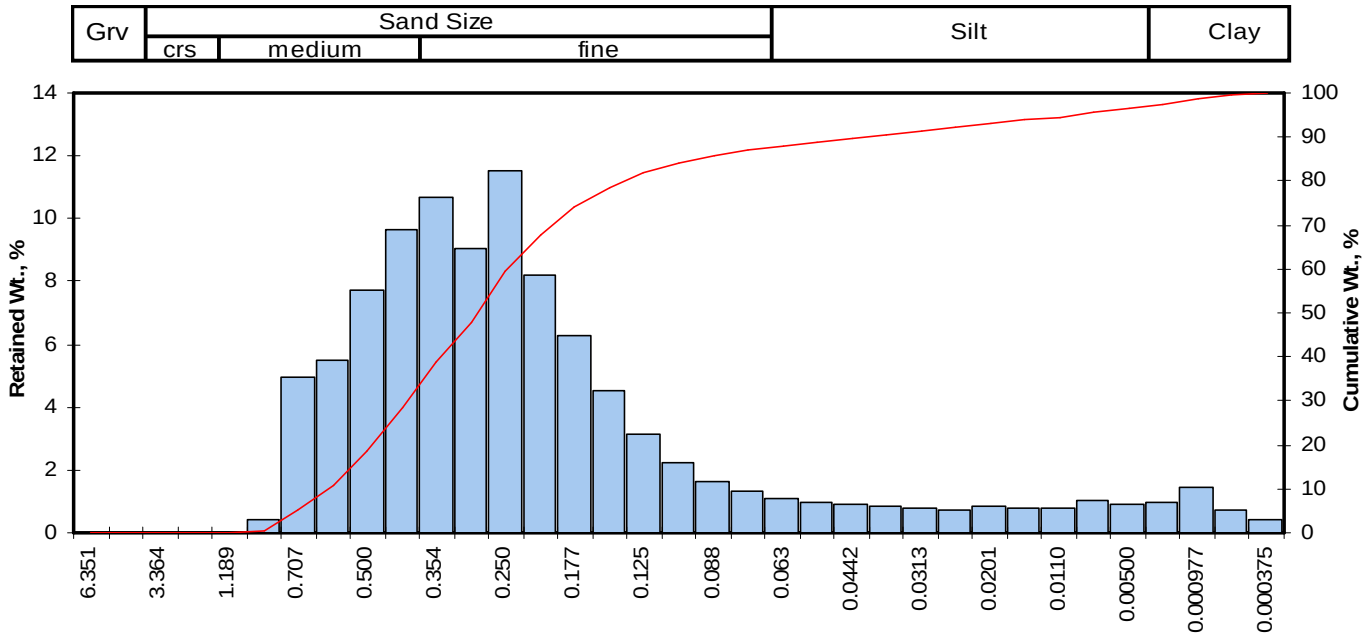
Particle Size Analysis - ASTM D4464M

Client:	Jacobs Engineering	**PTS File No:**	48157
Project:	KMEP-Norwalk	**Sample ID:**	CPT-LIF-2B-27.5
Project No:	N/A	**Depth, ft:**	27.85-28.00



Opening		Phi of	U.S.	Sample	Increment	Cumulative
Inches	Millimeters	Screen	No.	Weight, grams	Weight, percent	Weight, percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	0.45	0.45	0.45
0.0278	0.707	0.50	25	4.93	4.93	5.38
0.0234	0.595	0.75	30	5.49	5.49	10.88
0.0197	0.500	1.00	35	7.70	7.71	18.59
0.0166	0.420	1.25	40	9.67	9.68	28.27
0.0139	0.354	1.50	45	10.70	10.71	38.98
0.0117	0.297	1.75	50	9.04	9.05	48.02
0.0098	0.250	2.00	60	11.50	11.51	59.53
0.0083	0.210	2.25	70	8.19	8.20	67.73
0.0070	0.177	2.50	80	6.30	6.31	74.04
0.0059	0.149	2.75	100	4.54	4.54	78.58
0.0049	0.125	3.00	120	3.14	3.14	81.72
0.0041	0.105	3.25	140	2.22	2.22	83.95
0.0035	0.088	3.50	170	1.64	1.64	85.59
0.0029	0.074	3.75	200	1.30	1.30	86.89
0.0025	0.063	4.00	230	1.10	1.10	87.99
0.0021	0.053	4.25	270	0.98	0.98	88.97
0.00174	0.0442	4.50	325	0.88	0.88	89.85
0.00146	0.0372	4.75	400	0.82	0.82	90.67
0.00123	0.0313	5.00	450	0.77	0.77	91.44
0.000986	0.0250	5.32	500	0.72	0.72	92.16
0.000790	0.0201	5.64	635	0.84	0.84	93.00
0.000615	0.0156	6.00		0.76	0.76	93.76
0.000435	0.0110	6.50		0.78	0.78	94.55
0.000308	0.00781	7.00		1.00	1.00	95.55
0.000197	0.00500	7.65		0.89	0.89	96.44
0.000077	0.00195	9.00		0.95	0.95	97.39
0.000038	0.000977	10.00		1.42	1.42	98.81
0.000019	0.000488	11.00		0.75	0.75	99.56
0.000015	0.000375	11.38		0.44	0.44	100.00
TOTALS				**99.90**	**100.00**	**100.00**

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	0.48	0.0282	0.717
10	0.71	0.0241	0.611
16	0.92	0.0209	0.530
25	1.17	0.0175	0.446
40	1.53	0.0136	0.347
50	1.79	0.0114	0.289
60	2.01	0.0097	0.248
75	2.55	0.0067	0.170
84	3.26	0.0041	0.105
90	4.55	0.0017	0.043
95	6.73	0.0004	0.009

Measure	Trask	Inman	Folk-Ward
Median, phi	1.79	1.79	1.79
Median, in.	0.0114	0.0114	0.0114
Median, mm	0.289	0.289	0.289
Mean, phi	1.70	2.09	1.99
Mean, in.	0.0121	0.0093	0.0099
Mean, mm	0.308	0.235	0.252
Sorting	1.617	1.171	1.532
Skewness	0.955	0.251	0.416
Kurtosis	0.242	1.667	1.845
Grain Size Description (ASTM-USCS Scale)		Fine sand (based on Mean from Trask)	

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	28.27
Fine Sand	200	58.62
Silt	>0.005 mm	9.55
Clay	<0.005 mm	3.56
	Total	**100**

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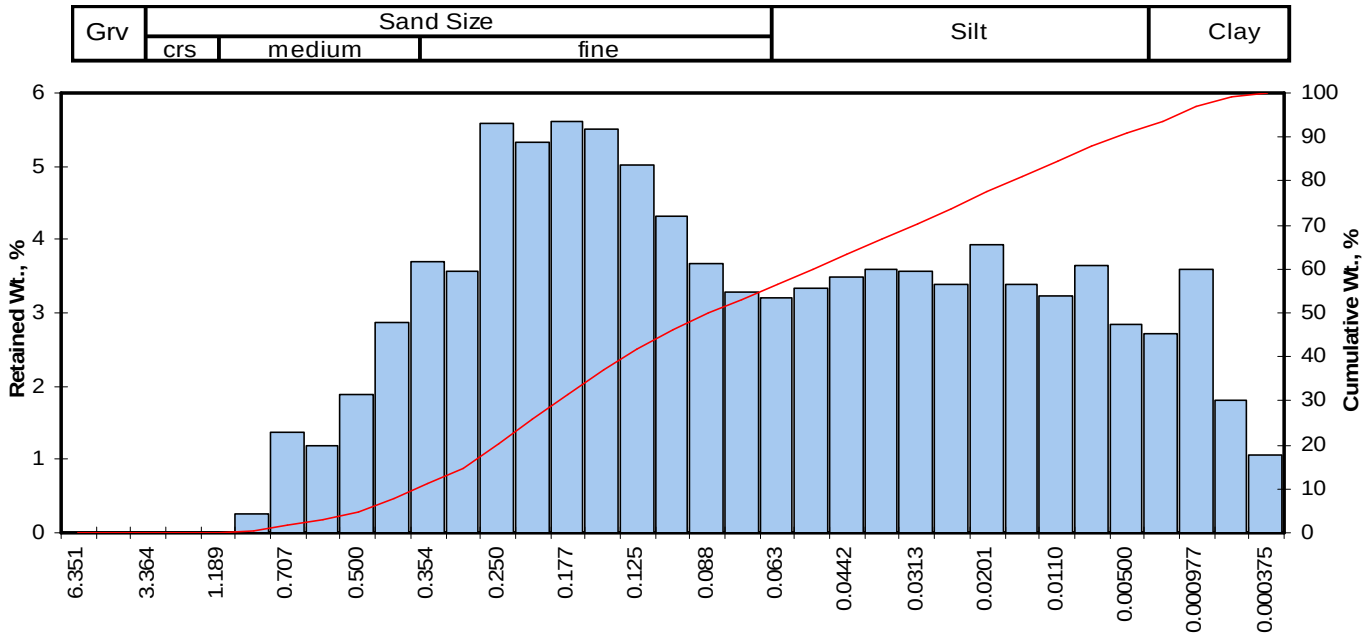
PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client:	Jacobs Engineering	**PTS File No:**	48157
Project:	KMEP-Norwalk	**Sample ID:**	CPT-LIF-3B-29
Project No:	N/A	**Depth, ft:**	29.35-29.50



Opening		Phi of	U.S.	Sample Weight,	Increment Weight,	Cumulative Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	0.25	0.25	0.25
0.0278	0.707	0.50	25	1.38	1.38	1.63
0.0234	0.595	0.75	30	1.19	1.19	2.82
0.0197	0.500	1.00	35	1.89	1.89	4.71
0.0166	0.420	1.25	40	2.87	2.87	7.59
0.0139	0.354	1.50	45	3.69	3.69	11.28
0.0117	0.297	1.75	50	3.57	3.57	14.85
0.0098	0.250	2.00	60	5.59	5.60	20.45
0.0083	0.210	2.25	70	5.33	5.33	25.78
0.0070	0.177	2.50	80	5.61	5.62	31.40
0.0059	0.149	2.75	100	5.50	5.50	36.90
0.0049	0.125	3.00	120	5.01	5.01	41.92
0.0041	0.105	3.25	140	4.31	4.31	46.23
0.0035	0.088	3.50	170	3.67	3.67	49.90
0.0029	0.074	3.75	200	3.28	3.28	53.19
0.0025	0.063	4.00	230	3.21	3.21	56.40
0.0021	0.053	4.25	270	3.33	3.33	59.73
0.00174	0.0442	4.50	325	3.49	3.49	63.23
0.00146	0.0372	4.75	400	3.60	3.60	66.83
0.00123	0.0313	5.00	450	3.56	3.56	70.39
0.000986	0.0250	5.32	500	3.39	3.39	73.79
0.000790	0.0201	5.64	635	3.93	3.93	77.72
0.000615	0.0156	6.00		3.39	3.39	81.11
0.000435	0.0110	6.50		3.22	3.22	84.34
0.000308	0.00781	7.00		3.65	3.65	87.99
0.000197	0.00500	7.65		2.84	2.84	90.83
0.000077	0.00195	9.00		2.71	2.71	93.54
0.000038	0.000977	10.00		3.58	3.58	97.13
0.000019	0.000488	11.00		1.81	1.81	98.94
0.000015	0.000375	11.38		1.06	1.06	100.00
TOTALS				**99.90**	**100.00**	**100.00**

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	1.02	0.0193	0.491
10	1.41	0.0148	0.375
16	1.80	0.0113	0.287
25	2.21	0.0085	0.216
40	2.90	0.0053	0.134
50	3.51	0.0035	0.088
60	4.27	0.0020	0.052
75	5.42	0.0009	0.023
84	6.45	0.0005	0.011
90	7.46	0.0002	0.006
95	9.41	0.0001	0.001

Measure	Trask	Inman	Folk-Ward
Median, phi	3.51	3.51	3.51
Median, in.	0.0035	0.0035	0.0035
Median, mm	0.088	0.088	0.088
Mean, phi	3.06	4.12	3.92
Mean, in.	0.0047	0.0023	0.0026
Mean, mm	0.120	0.057	0.066
Sorting	3.037	2.323	2.432
Skewness	0.807	0.266	0.337
Kurtosis	0.260	0.804	1.072

Grain Size Description (ASTM-USCS Scale)	Fine sand (based on Mean from Trask)

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	7.59
Fine Sand	200	45.60
Silt	>0.005 mm	37.64
Clay	<0.005 mm	9.17
	Total	**100**

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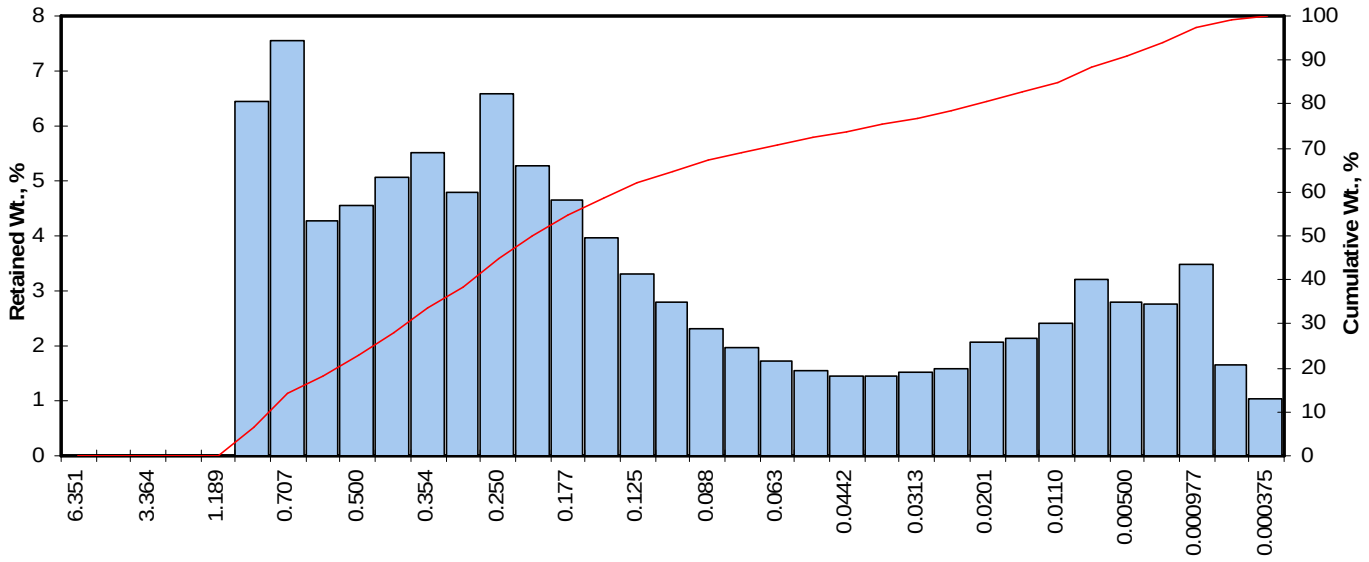
PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client:	Jacobs Engineering	**PTS File No:**	48157
Project:	KMEP-Norwalk	**Sample ID:**	CPT-LIF-4B-28
Project No:	N/A	**Depth, ft:**	28.35-28.50

Grv	Sand Size			Silt	Clay
	crs	medium	fine		



Particle Size, mm

Opening		Phi of	U.S.	Sample Weight,	Increment Weight,	Cumulative Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	6.46	6.46	6.46
0.0278	0.707	0.50	25	7.54	7.55	14.01
0.0234	0.595	0.75	30	4.28	4.28	18.29
0.0197	0.500	1.00	35	4.55	4.55	22.85
0.0166	0.420	1.25	40	5.06	5.06	27.91
0.0139	0.354	1.50	45	5.52	5.52	33.43
0.0117	0.297	1.75	50	4.80	4.80	38.24
0.0098	0.250	2.00	60	6.59	6.59	44.83
0.0083	0.210	2.25	70	5.27	5.27	50.11
0.0070	0.177	2.50	80	4.66	4.66	54.77
0.0059	0.149	2.75	100	3.96	3.96	58.73
0.0049	0.125	3.00	120	3.32	3.32	62.05
0.0041	0.105	3.25	140	2.78	2.78	64.84
0.0035	0.088	3.50	170	2.32	2.32	67.16
0.0029	0.074	3.75	200	1.97	1.97	69.13
0.0025	0.063	4.00	230	1.73	1.73	70.86
0.0021	0.053	4.25	270	1.56	1.56	72.42
0.00174	0.0442	4.50	325	1.46	1.46	73.88
0.00146	0.0372	4.75	400	1.46	1.46	75.34
0.00123	0.0313	5.00	450	1.51	1.51	76.85
0.000986	0.0250	5.32	500	1.58	1.58	78.43
0.000790	0.0201	5.64	635	2.08	2.08	80.52
0.000615	0.0156	6.00		2.14	2.14	82.66
0.000435	0.0110	6.50		2.41	2.41	85.07
0.000308	0.00781	7.00		3.22	3.22	88.29
0.000197	0.00500	7.65		2.78	2.78	91.07
0.000077	0.00195	9.00		2.75	2.75	93.83
0.000038	0.000977	10.00		3.47	3.47	97.30
0.000019	0.000488	11.00		1.67	1.67	98.97
0.000015	0.000375	11.38		1.03	1.03	100.00
TOTALS				**99.90**	**100.00**	**100.00**

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	0.14	0.0358	0.910
10	0.37	0.0305	0.775
16	0.62	0.0257	0.652
25	1.11	0.0183	0.464
40	1.82	0.0112	0.284
50	2.25	0.0083	0.211
60	2.85	0.0055	0.139
75	4.69	0.0015	0.039
84	6.28	0.0005	0.013
90	7.40	0.0002	0.006
95	9.34	0.0001	0.002

Measure	Trask	Inman	Folk-Ward
Median, phi	2.25	2.25	2.25
Median, in.	0.0083	0.0083	0.0083
Median, mm	0.211	0.211	0.211
Mean, phi	1.99	3.45	3.05
Mean, in.	0.0099	0.0036	0.0048
Mean, mm	0.252	0.092	0.121
Sorting	3.464	2.831	2.810
Skewness	0.636	0.425	0.483
Kurtosis	0.277	0.625	1.052
Grain Size Description (ASTM-USCS Scale)		Fine sand (based on Mean from Trask)	

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	27.91
Fine Sand	200	41.22
Silt	>0.005 mm	21.95
Clay	<0.005 mm	8.93
	Total	**100**

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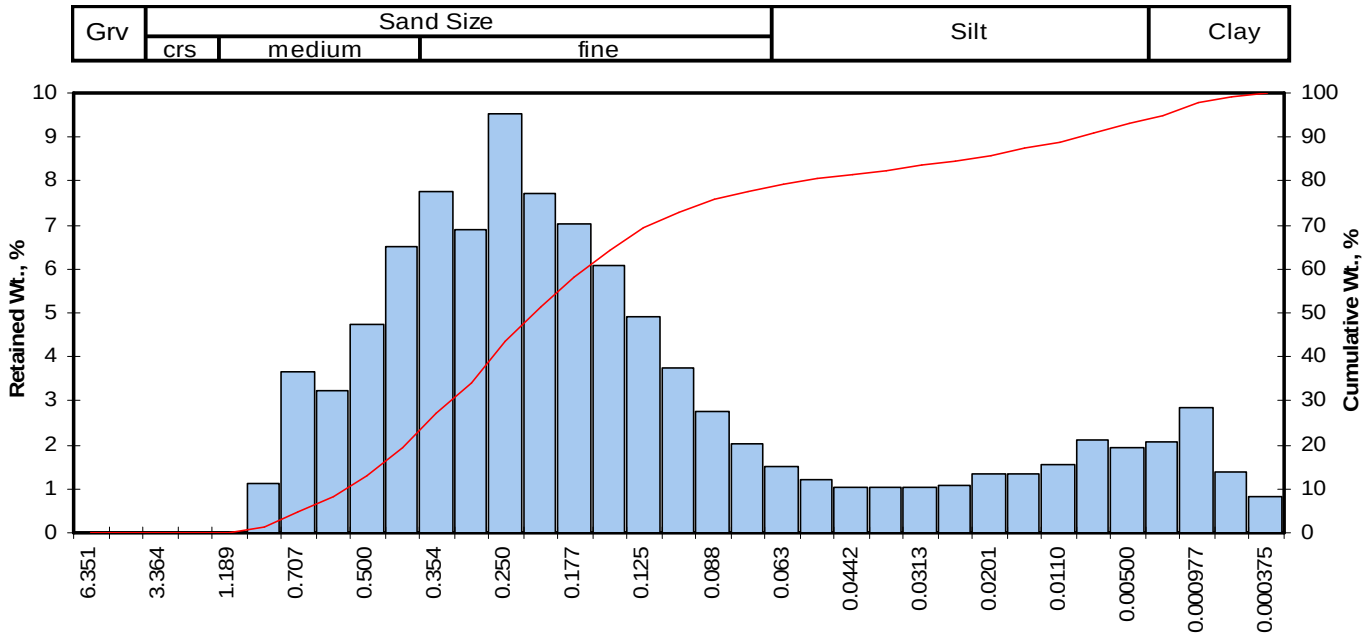
PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client:	Jacobs Engineering	**PTS File No:**	48157
Project:	KMEP-Norwalk	**Sample ID:**	CPT-LIF-1B-33
Project No:	N/A	**Depth, ft:**	33.20-33.35



Opening		Phi of	U.S.	Sample	Increment	Cumulative
Inches	Millimeters	Screen	No.	Weight, grams	Weight, percent	Weight, percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	1.12	1.12	1.12
0.0278	0.707	0.50	25	3.66	3.66	4.79
0.0234	0.595	0.75	30	3.25	3.25	8.04
0.0197	0.500	1.00	35	4.74	4.75	12.78
0.0166	0.420	1.25	40	6.50	6.51	19.29
0.0139	0.354	1.50	45	7.73	7.74	27.03
0.0117	0.297	1.75	50	6.89	6.90	33.93
0.0098	0.250	2.00	60	9.51	9.52	43.45
0.0083	0.210	2.25	70	7.72	7.73	51.18
0.0070	0.177	2.50	80	7.03	7.04	58.21
0.0059	0.149	2.75	100	6.07	6.08	64.29
0.0049	0.125	3.00	120	4.91	4.92	69.21
0.0041	0.105	3.25	140	3.76	3.76	72.97
0.0035	0.088	3.50	170	2.77	2.77	75.74
0.0029	0.074	3.75	200	2.01	2.01	77.76
0.0025	0.063	4.00	230	1.50	1.50	79.26
0.0021	0.053	4.25	270	1.20	1.20	80.46
0.00174	0.0442	4.50	325	1.05	1.05	81.51
0.00146	0.0372	4.75	400	1.02	1.02	82.53
0.00123	0.0313	5.00	450	1.04	1.04	83.57
0.000986	0.0250	5.32	500	1.06	1.06	84.63
0.000790	0.0201	5.64	635	1.34	1.34	85.97
0.000615	0.0156	6.00		1.35	1.35	87.33
0.000435	0.0110	6.50		1.53	1.53	88.86
0.000308	0.00781	7.00		2.11	2.11	90.97
0.000197	0.00500	7.65		1.93	1.93	92.90
0.000077	0.00195	9.00		2.05	2.05	94.95
0.000038	0.000977	10.00		2.86	2.86	97.82
0.000019	0.000488	11.00		1.38	1.38	99.20
0.000015	0.000375	11.38		0.80	0.80	100.00
TOTALS				**99.90**	**100.00**	**100.00**

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	0.52	0.0275	0.699
10	0.85	0.0218	0.554
16	1.12	0.0181	0.459
25	1.43	0.0146	0.370
40	1.91	0.0105	0.266
50	2.21	0.0085	0.216
60	2.57	0.0066	0.168
75	3.43	0.0036	0.093
84	5.13	0.0011	0.029
90	6.77	0.0004	0.009
95	9.02	0.0001	0.002

Measure	Trask	Inman	Folk-Ward
Median, phi	2.21	2.21	2.21
Median, in.	0.0085	0.0085	0.0085
Median, mm	0.216	0.216	0.216
Mean, phi	2.11	3.13	2.82
Mean, in.	0.0091	0.0045	0.0056
Mean, mm	0.231	0.115	0.141
Sorting	1.999	2.003	2.289
Skewness	0.858	0.457	0.529
Kurtosis	0.255	1.122	1.743
Grain Size Description (ASTM-USCS Scale)		Fine sand (based on Mean from Trask)	

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	19.29
Fine Sand	200	58.46
Silt	>0.005 mm	15.15
Clay	<0.005 mm	7.10
	Total	**100**

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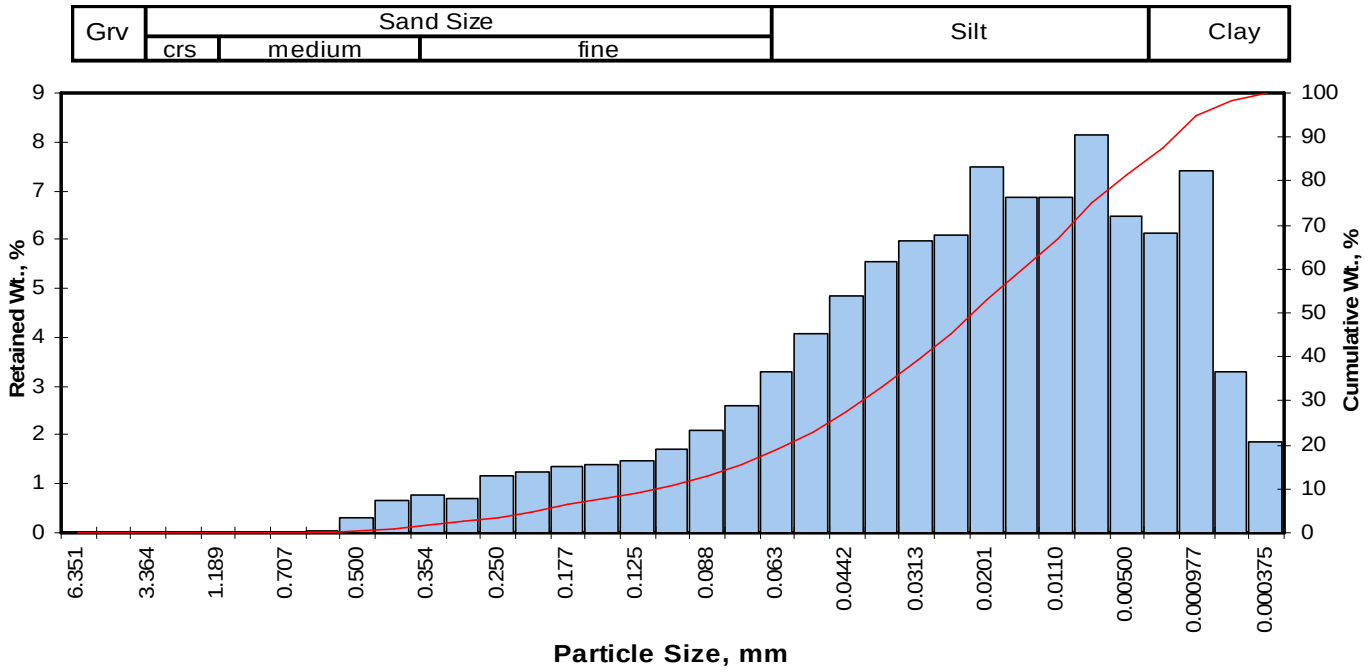
PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client:	Jacobs Engineering	**PTS File No:**	48157
Project:	KMEP-Norwalk	**Sample ID:**	CPT-LIF-2B-25.5
Project No:	N/A	**Depth, ft:**	25.65-25.8



Opening		Phi of	U.S.	Sample Weight,	Increment Weight,	Cumulative Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	0.00	0.00	0.00
0.0278	0.707	0.50	25	0.00	0.00	0.00
0.0234	0.595	0.75	30	0.05	0.05	0.05
0.0197	0.500	1.00	35	0.30	0.30	0.35
0.0166	0.420	1.25	40	0.65	0.65	1.00
0.0139	0.354	1.50	45	0.79	0.79	1.79
0.0117	0.297	1.75	50	0.70	0.70	2.50
0.0098	0.250	2.00	60	1.15	1.15	3.65
0.0083	0.210	2.25	70	1.23	1.23	4.88
0.0070	0.177	2.50	80	1.37	1.37	6.25
0.0059	0.149	2.75	100	1.40	1.40	7.66
0.0049	0.125	3.00	120	1.48	1.48	9.14
0.0041	0.105	3.25	140	1.71	1.71	10.85
0.0035	0.088	3.50	170	2.09	2.09	12.94
0.0029	0.074	3.75	200	2.61	2.61	15.56
0.0025	0.063	4.00	230	3.30	3.31	18.87
0.0021	0.053	4.25	270	4.08	4.09	22.95
0.00174	0.0442	4.50	325	4.83	4.84	27.79
0.00146	0.0372	4.75	400	5.53	5.54	33.33
0.00123	0.0313	5.00	450	5.96	5.97	39.30
0.000986	0.0250	5.32	500	6.09	6.10	45.40
0.000790	0.0201	5.64	635	7.49	7.50	52.91
0.000615	0.0156	6.00		6.87	6.88	59.79
0.000435	0.0110	6.50		6.87	6.88	66.67
0.000308	0.00781	7.00		8.15	8.16	74.84
0.000197	0.00500	7.65		6.46	6.47	81.31
0.000077	0.00195	9.00		6.11	6.12	87.43
0.000038	0.000977	10.00		7.40	7.41	94.84
0.000019	0.000488	11.00		3.28	3.29	98.13
0.000015	0.000375	11.38		1.87	1.87	100.00
TOTALS				**99.80**	**100.00**	**100.00**

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	2.27	0.0082	0.207
10	3.13	0.0045	0.115
16	3.78	0.0029	0.073
25	4.36	0.0019	0.049
40	5.04	0.0012	0.030
50	5.52	0.0009	0.022
60	6.02	0.0006	0.015
75	7.02	0.0003	0.008
84	8.24	0.0001	0.003
90	9.35	0.0001	0.002
95	10.05	0.0000	0.001

Measure	Trask	Inman	Folk-Ward
Median, phi	5.52	5.52	5.52
Median, in.	0.0009	0.0009	0.0009
Median, mm	0.022	0.022	0.022
Mean, phi	5.14	6.01	5.85
Mean, in.	0.0011	0.0006	0.0007
Mean, mm	0.028	0.015	0.017
Sorting	2.515	2.229	2.293
Skewness	0.889	0.223	0.194
Kurtosis	0.182	0.744	1.198
Grain Size Description (ASTM-USCS Scale)		Silt (based on Mean from Trask)	

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	1.00
Fine Sand	200	14.56
Silt	>0.005 mm	65.75
Clay	<0.005 mm	18.69
	Total	**100**

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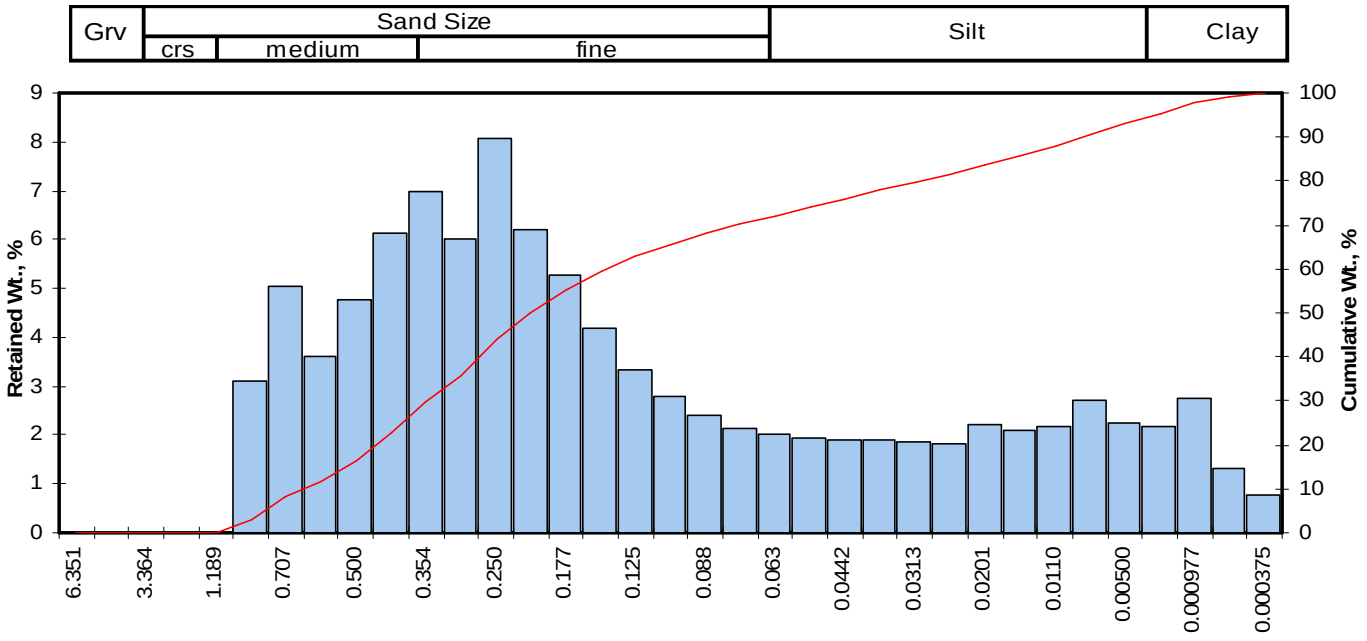
PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client:	Jacobs Engineering	**PTS File No:**	48157
Project:	KMEP-Norwalk	**Sample ID:**	CPT-LIF-4B-26
Project No:	N/A	**Depth, ft:**	26.40-26.55



Opening		Phi of	U.S.	Sample Weight,	Increment Weight,	Cumulative Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	3.12	3.12	3.12
0.0278	0.707	0.50	25	5.05	5.05	8.18
0.0234	0.595	0.75	30	3.61	3.61	11.79
0.0197	0.500	1.00	35	4.78	4.78	16.57
0.0166	0.420	1.25	40	6.14	6.14	22.72
0.0139	0.354	1.50	45	6.98	6.99	29.70
0.0117	0.297	1.75	50	6.02	6.02	35.73
0.0098	0.250	2.00	60	8.06	8.07	43.80
0.0083	0.210	2.25	70	6.22	6.22	50.02
0.0070	0.177	2.50	80	5.26	5.26	55.28
0.0059	0.149	2.75	100	4.20	4.20	59.49
0.0049	0.125	3.00	120	3.34	3.34	62.83
0.0041	0.105	3.25	140	2.78	2.78	65.61
0.0035	0.088	3.50	170	2.40	2.40	68.01
0.0029	0.074	3.75	200	2.14	2.14	70.16
0.0025	0.063	4.00	230	2.01	2.01	72.17
0.0021	0.053	4.25	270	1.95	1.95	74.12
0.00174	0.0442	4.50	325	1.90	1.90	76.02
0.00146	0.0372	4.75	400	1.88	1.88	77.90
0.00123	0.0313	5.00	450	1.85	1.85	79.75
0.000986	0.0250	5.32	500	1.81	1.81	81.57
0.000790	0.0201	5.64	635	2.21	2.21	83.78
0.000615	0.0156	6.00		2.08	2.08	85.86
0.000435	0.0110	6.50		2.17	2.17	88.03
0.000308	0.00781	7.00		2.70	2.70	90.73
0.000197	0.00500	7.65		2.24	2.24	92.97
0.000077	0.00195	9.00		2.18	2.18	95.16
0.000038	0.000977	10.00		2.76	2.76	97.92
0.000019	0.000488	11.00		1.31	1.31	99.23
0.000015	0.000375	11.38		0.77	0.77	100.00
TOTALS				**99.90**	**100.00**	**100.00**

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	0.34	0.0310	0.788
10	0.63	0.0255	0.648
16	0.97	0.0201	0.510
25	1.33	0.0156	0.397
40	1.88	0.0107	0.271
50	2.25	0.0083	0.210
60	2.79	0.0057	0.145
75	4.37	0.0019	0.049
84	5.68	0.0008	0.020
90	6.86	0.0003	0.009
95	8.90	0.0001	0.002

Measure	Trask	Inman	Folk-Ward
Median, phi	2.25	2.25	2.25
Median, in.	0.0083	0.0083	0.0083
Median, mm	0.210	0.210	0.210
Mean, phi	2.17	3.32	2.97
Mean, in.	0.0088	0.0039	0.0050
Mean, mm	0.223	0.100	0.128
Sorting	2.862	2.354	2.474
Skewness	0.660	0.457	0.506
Kurtosis	0.273	0.818	1.156
Grain Size Description (ASTM-USCS Scale)		Fine sand (based on Mean from Trask)	

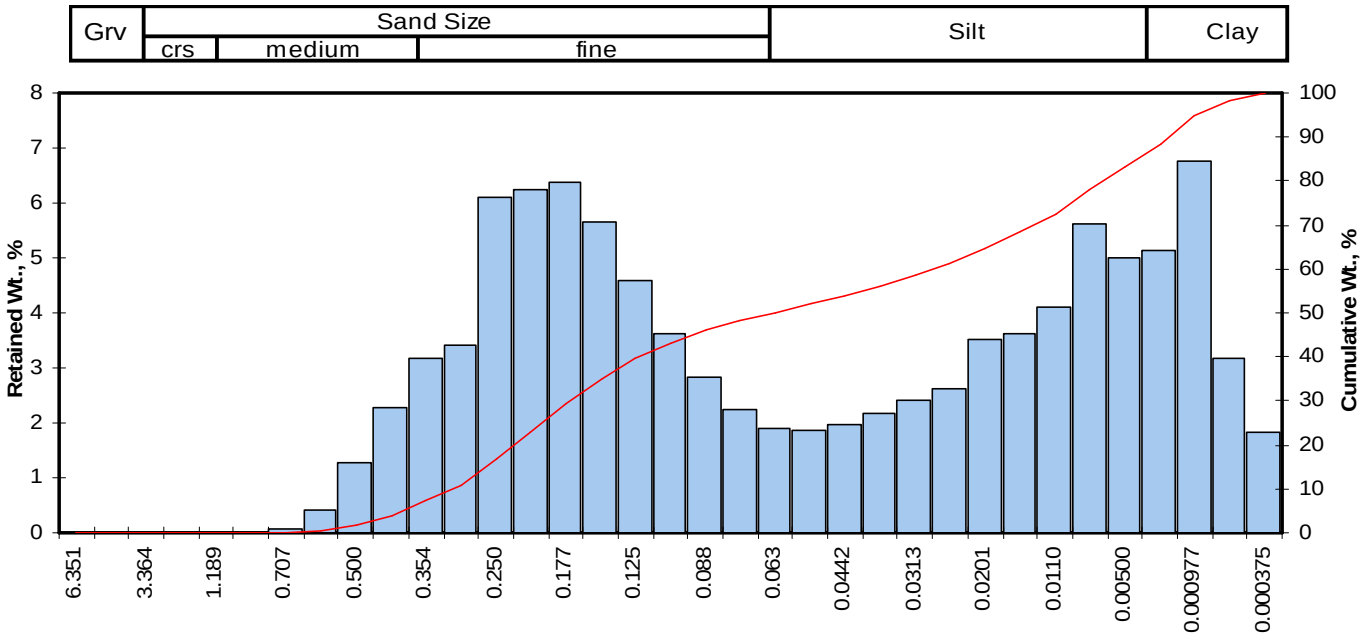
Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	22.72
Fine Sand	200	47.44
Silt	>0.005 mm	22.82
Clay	<0.005 mm	7.03
	Total	**100**

Phone: (713) 316-1800 Fax: (877) 255-9953

PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client:	Jacobs Engineering	**PTS File No:**	48157
Project:	KMEP-Norwalk	**Sample ID:**	CPT-LIF-2B-29.5
Project No:	N/A	**Depth, ft:**	29.70-29.85



Opening		Phi of	U.S.	Sample Weight,	Increment Weight,	Cumulative Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	0.00	0.00	0.00
0.0278	0.707	0.50	25	0.05	0.05	0.05
0.0234	0.595	0.75	30	0.43	0.43	0.48
0.0197	0.500	1.00	35	1.26	1.26	1.75
0.0166	0.420	1.25	40	2.27	2.27	4.02
0.0139	0.354	1.50	45	3.17	3.18	7.20
0.0117	0.297	1.75	50	3.41	3.42	10.61
0.0098	0.250	2.00	60	6.08	6.09	16.70
0.0083	0.210	2.25	70	6.22	6.23	22.94
0.0070	0.177	2.50	80	6.36	6.37	29.31
0.0059	0.149	2.75	100	5.66	5.67	34.98
0.0049	0.125	3.00	120	4.59	4.60	39.58
0.0041	0.105	3.25	140	3.62	3.63	43.20
0.0035	0.088	3.50	170	2.81	2.82	46.02
0.0029	0.074	3.75	200	2.22	2.22	48.24
0.0025	0.063	4.00	230	1.91	1.91	50.16
0.0021	0.053	4.25	270	1.86	1.86	52.02
0.00174	0.0442	4.50	325	1.96	1.96	53.98
0.00146	0.0372	4.75	400	2.18	2.18	56.17
0.00123	0.0313	5.00	450	2.42	2.42	58.59
0.000986	0.0250	5.32	500	2.62	2.62	61.22
0.000790	0.0201	5.64	635	3.51	3.52	64.73
0.000615	0.0156	6.00		3.63	3.64	68.37
0.000435	0.0110	6.50		4.10	4.11	72.48
0.000308	0.00781	7.00		5.60	5.61	78.09
0.000197	0.00500	7.65		5.00	5.01	83.10
0.000077	0.00195	9.00		5.14	5.15	88.25
0.000038	0.000977	10.00		6.76	6.77	95.02
0.000019	0.000488	11.00		3.15	3.16	98.18
0.000015	0.000375	11.38		1.82	1.82	100.00
TOTALS				**99.80**	**100.00**	**100.00**

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	1.33	0.0157	0.399
10	1.71	0.0121	0.307
16	1.97	0.0100	0.255
25	2.33	0.0078	0.199
40	3.03	0.0048	0.122
50	3.98	0.0025	0.063
60	5.17	0.0011	0.028
75	6.72	0.0004	0.009
84	7.88	0.0002	0.004
90	9.26	0.0001	0.002
95	10.00	0.0000	0.001

Measure	Trask	Inman	Folk-Ward
Median, phi	3.98	3.98	3.98
Median, in.	0.0025	0.0025	0.0025
Median, mm	0.063	0.063	0.063
Mean, phi	3.26	4.93	4.61
Mean, in.	0.0041	0.0013	0.0016
Mean, mm	0.104	0.033	0.041
Sorting	4.585	2.956	2.791
Skewness	0.684	0.320	0.354
Kurtosis	0.310	0.467	0.809

Grain Size Description (ASTM-USCS Scale)	Fine sand (based on Mean from Trask)

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	4.02
Fine Sand	200	44.22
Silt	>0.005 mm	34.86
Clay	<0.005 mm	16.90
	Total	**100**

Phone: (713) 316-1800
Fax: (877) 255-9953

PTS Laboratories, Inc.

CHAIN OF CUSTODY RECORD

PAGE 1 OF 2

COMPANY	Jacobs Engineering
ADDRESS	2600 Michelson Dr.
CITY	Irvine, CA
ZIP CODE	Suite Suite
PROJECT MANAGER	Eric Davis
email	(404)-323-1600
PROJECT NAME	KMEP-Norwalk
PHONE NUMBER	
PROJECT NUMBER	
FAX NUMBER	
SITE LOCATION	Norwalk, CA
SAMPLER SIGNATURE	(signature)

PO#	
TURNAROUND TIME	24 HOURS ☐ 72 HOURS ☐ 5 DAYS ☐ NORMAL ☒
OTHER:	
SAMPLE INTEGRITY (CHECK):	INTACT X TEMP(F) 31.1°F
PTS QUOTE NO.	
PTS FILE:	48157

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	DEPTH, FT	NUMBER OF SAMPLES	SOIL PROPERTIES PACKAGE	HYDRAULIC CONDUCTIVITY PACKAGE	PORE FLUID SATURATIONS PACKAGE	TCEQ/TNRCC PROPERTIES PACKAGE	CAPILLARITY PACKAGE	FLUID PROPERTIES PACKAGE	PHOTOLOG: CORE PHOTOGRAPHY	VAPOR TRANSPORT PACKAGE	POROSITY: TOTAL, AIR FILLED, WATER FILLED	POROSITY: EFFECTIVE, ASTM D425M	SPECIFIC GRAVITY, ASTM D854	BULK DENSITY (DRY), API RP40 or ASTM D2937	AIR PERMEABILITY, API RP40	HYDRAULIC CONDUCTIVITY, EPA9100/API RP40 or D5084	GRAIN SIZE DISTRIBUTION, ASTM D422 or 4464M	TOC: WALKLEY-BLACK	ATTERBERG LIMITS, ASTM D4318	VAPOR INTRUSION PACKAGE	FREE PRODUCT MOBILITY PACKAGE
CPT-LIF-2B-23'	7-25-18	1441	23-23.7				X				X								X				X
CPT-LIF-1B-29.5'	7-27-18	0851	29-29.6				〃				〃								〃				〃
CPT-LIF-1B-31'	7-27-18	0853	31-31.6				〃				〃								〃				〃
CPT-LIF-1B-27'	7-27-18	0848	27-27.6				〃				〃								〃				〃
CPT-LIF-1B-28'	7-27-18	0849	28-28.6				〃				〃								〃				〃
CPT-LIF-3B-27'	7-25-18	0900	27-27.7				〃				〃								〃				〃
CPT-LIF-2B-27.5'	7-25-18	1450	27.5-28.2				〃				〃								〃				〃
CPT-LIF-3B-29'	7-25-18	0915	29-29.8				〃				〃								〃				〃
CPT-LIF-4B-28'	7-25-18	1325	28-28.7				〃				〃								〃				〃
CPT-LIF-1B-33'	7-27-18	0856	33-33.6				〃				〃								〃				〃
CPT-LIF-2B-25.5'	7-25-18	1449	25.5-26.2				〃				〃								〃				〃

COMMENTS

Free Product Mobility Package Analyses should be based on results from initial pore fluid saturation analysis

1. RELINQUISHED BY	2. RECEIVED BY	3. RELINQUISHED BY	4. RECEIVED BY
(signature)	(signature)		
COMPANY: Jacobs	COMPANY: PTS Laboratories, Inc	COMPANY	COMPANY
DATE: 7-27-18 TIME: 1400	DATE: 7/30/18 TIME: 1210	DATE TIME	DATE TIME

PTS Laboratories, Inc.

CHAIN OF CUSTODY RECORD

COMPANY: Jacobs Engineering

ADDRESS: 26600 Michelson Dr. CITY: Irvine, Ca ZIP CODE: Suite 500

PROJECT MANAGER: Eric Davis email: (404)-323-1600

PROJECT NAME: Norwalk-KMEP PHONE NUMBER:

PROJECT NUMBER: FAX NUMBER:

SITE LOCATION: Norwalk, Ca

SAMPLER SIGNATURE:

PO#:

TURNAROUND TIME
24 HOURS ☐ 5 DAYS ☐
72 HOURS ☐ NORMAL ☒

OTHER:

SAMPLE INTEGRITY (CHECK):
INTACT X TEMP(F) 31.1°F

PTS QUOTE NO.:

PTS FILE: 48157

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	DEPTH, FT	NUMBER OF SAMPLES	SOIL PROPERTIES PACKAGE	HYDRAULIC CONDUCTIVITY PACKAGE	PORE FLUID SATURATIONS PACKAGE	TCEQ/TNRCC PROPERTIES PACKAGE	CAPILLARITY PACKAGE	FLUID PROPERTIES PACKAGE	PHOTOLOG: CORE PHOTOGRAPHY	VAPOR TRANSPORT PACKAGE	POROSITY: TOTAL, AIR FILLED, WATER FILLED	POROSITY: EFFECTIVE, ASTM D425M	SPECIFIC GRAVITY, ASTM D854	BULK DENSITY (DRY), API RP40 or ASTM D2937	AIR PERMEABILITY, API RP40	HYDRAULIC CONDUCTIVITY, EPA9100/API RP40 or D5084	GRAIN SIZE DISTRIBUTION, ASTM D422 or 4464M	TOC: WALKLEY-BLACK	ATTERBERG LIMITS, ASTM D4318	VAPOR INTRUSION PACKAGE	FREE PRODUCT MOBILITY PACKAGE	COMMENTS
CPT-LIF-4B-26	7-25-18	1310	26-26.7'				X				X								X				X	
CPT-LIF-2B-29.5	7-25-18	1452	29.5-30.2'				X				X								X				X	

1. RELINQUISHED BY	2. RECEIVED BY	3. RELINQUISHED BY	4. RECEIVED BY
COMPANY: Jacobs	COMPANY: PTS Laboratories, Inc	COMPANY:	COMPANY:
DATE: 7-27-18 TIME: 1400	DATE: 7/30/18 TIME: 12:10	DATE: TIME:	DATE: TIME:

5730 Centralcrest St. • Houston, TX 77092
Telephone (713) 316-1800 • Fax (877) 225-9953

August 6, 2018

Eric Davis.
Project Manager,
Jacobs Engineering.
2600 Michelson Dr.Suite 500,
Irvine, CA 92612.

Re: PTS File No: 48157
Project Name: KMEP-Norwalk
Project Number: N/A

Subject: **Pore Fluid Saturation Package Only**

Dear Eric Davis,

Please find enclosed report for Pore Fluid Saturation Package only conducted upon samples received from your **KMEP** project. All analyses were performed by applicable ASTM, EPA, or API methodologies. The samples are currently in storage and will be retained for thirty days past the completion of **other tests** at no charge. Please note that the samples will be disposed of at that time. You may contact me regarding storage, disposal, or return of the samples

PTS Laboratories appreciates the opportunity to be of service. If you have any questions or require additional information, please contact myself or Emeka Anazodo at (713) 316-1800.

Sincerely,
PTS Laboratories, Inc.

C.A.Umeh

Chidi Umeh
Flow Laboratory Supervisor

Encl.

PTS Laboratories

Project Name: KMEP - Norwalk
Project Number: N/A

PTS File No: 48157
Client: JACOBS ENGINEERING

TEST PROGRAM - 20180730

CORE ID	Depth ft.	Core Recovery ft.	Slab and Core Photo	Combined Grain Size Analysis ASTM D4464/422	Pore Fluid Saturation Package	Free Product Mobility Pkg.		Comments
		Core:	1/4:3/4	Grab	Vert. 1.5"	Vert. 1.5"		Keep core frozen
Date Received: 20180730								
CPT-LIF-2B-23	**23-23.7**	**0.56**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X $6^{3/4"}$ Acetate Tube Sleeve
CPT-LIF-1B-29.5	**29-29.6**	**0.56**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X $6^{3/4"}$ Acetate Tube Sleeve
CPT-LIF-1B-31	**31-31.6**	**0.56**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X $6^{3/4"}$ Acetate Tube Sleeve
CPT-LIF-1B-27	**27-27.6**	**0.5**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X 6" Acetate Tube Sleeve
CPT-LIF-1B-28	**28-28.6**	**0.5**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X 6" Acetate Tube Sleeve
CPT-LIF-3B-27	**27-27.7**	**0.56**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X $6^{3/4"}$ Acetate Tube Sleeve
CPT-LIF-2B-27.5	**27.5-28.2**	**0.56**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X $6^{3/4"}$ Acetate Tube Sleeve
CPT-LIF-3B-29	**29-29.8**	**0.58**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X 7" Acetate Tube Sleeve
CPT-LIF-4B-28	**28-28.7**	**0.65**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X $7^{3/4"}$ Acetate Tube Sleeve
CPT-LIF-1B-33	**33-33.6**	**0.56**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X $6^{3/4"}$ Acetate Tube Sleeve
CPT-LIF-2B-25.5	**25.5-26.2**	**0.5**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X 6" Acetate Tube Sleeve
CPT-LIF-4B-26	**26-26.7**	**0.56**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X $6^{3/4"}$ Acetate Tube Sleeve
CPT-LIF-2B-29.5	**29.5-30.2**	**0.5**	**1**	**X**	**X**	**X**		$1^{3/4"}$ X 6" Acetate Tube Sleeve
TOTALS:	**cores**	**7.15**	**13**	**13**	**13**	**13**		

Laboratory Test Program Notes

Contaminant identification:

FPM Sample locations to be selected by JACOBS Eng. personnel from core photography/Post-PFS.

Grain Size Analysis: Laser or sieve method; includes tabular data, graphics and statistical sorting in Excel format.

Pore Fluid Saturation Package: API RP40 Dean-Stark Method: Includes initial pore fluid saturations, total porosity, air-filled porosity, grain density, dry bulk density and moisture content.

Free Product Mobility Package: Applied centrifugal force demonstrates product mobility; includes residual saturations by Dean-Stark, total porosity, grain and dry bulk density.

PTS Laboratories

PTS File No: 48157
Client: Jacobs Engineering
Report Date: 08/06/18

PHYSICAL PROPERTIES DATA - PORE FLUID SATURATIONS

Project Name: KMEP - Norwalk
Project No: N/A

			METHODS:	API RP 40 / ASTM D2216	API RP 40		API RP 40		API RP 40	
					DENSITY		POROSITY, %Vb (2)		PORE FLUID SATURATIONS, % Pv (3)	
SAMPLE ID.	PTS Plug ID	DEPTH, ft.	SAMPLE ORIENTATION (1)	MOISTURE CONTENT, % weight	DRY BULK, g/cc	GRAIN, g/cc	TOTAL	AIR FILLED	WATER	NAPL
CPT-LIF-2B-23	1	23.45	H	3.1	1.3	2.7	50.0	45.8	7.9	0.5
CPT-LIF-1B-29.5	2	29.60	H	23.2	1.4	2.7	48.7	16.3	66.3	0.3
CPT-LIF-1B-31	3	31.25	H	22.7	1.5	2.7	44.8	10.4	76.3	0.4
CPT-LIF-1B-27	4	27.25	H	26.9	1.3	2.7	50.9	14.4	66.2	5.6
CPT-LIF-1B-28	5	28.25	H	12.7	1.6	2.7	42.1	22.0	46.4	1.4
CPT-LIF-3B-27	6	27.30	H	6.5	1.3	2.7	50.9	42.3	15.6	1.3
CPT-LIF-2B-27.5	7	27.60	H	33.7	1.3	2.7	54.2	11.5	74.2	4.5
CPT-LIF-3B-29	8	29.30	H	11.8	1.5	2.7	45.8	28.3	37.2	1.0
CPT-LIF-4B-28	9	28.10	H	25.9	1.4	2.7	49.1	12.8	70.7	3.2
CPT-LIF-1B-33	10	33.10	H	3.0	1.4	2.7	49.1	45.0	8.0	0.3
CPT-LIF-2B-25.5	11	25.60	H	29.0	1.4	2.7	50.1	10.4	75.4	3.8
CPT-LIF-4B-26	12	26.30	H	9.3	1.5	2.7	42.8	28.4	33.4	0.2
CPT-LIF-2B-29.5	13	29.60	H	15.9	1.3	2.7	50.6	29.2	41.9	0.3

(1) Sample Orientation: H = horizontal; V = vertical; R = remold
(2) Total Porosity = all non & interconnected pore channels; Air Filled = pore channels not occupied by pore fluids.
(3) Fluid density used to calculate pore fluid saturations: Water =0.9996 g/cc, NAPL = 0.8660 g/cc.
Vb = Bulk Volume, cc; Pv = Pore Volume, cc; ND = Not Detected

PTS Laboratories, Inc.

CHAIN OF CUSTODY RECORD

PAGE 1 OF 2

COMPANY	Jacobs Engineering
ADDRESS	2600 Michelson Dr.
CITY	Irvine, CA
ZIP CODE	[illegible]
PROJECT MANAGER	Eric Davis
email	(404)-323-1600
PROJECT NAME	KMEP-Norwalk
PHONE NUMBER	
PROJECT NUMBER	
FAX NUMBER	
SITE LOCATION	Norwalk, CA
SAMPLER SIGNATURE	[signature]

PO#:

TURNAROUND TIME: 24 HOURS ☐ 72 HOURS ☐ 5 DAYS ☐ NORMAL ☒

OTHER:

SAMPLE INTEGRITY (CHECK): INTACT X TEMP(F) 31.1°F

PTS QUOTE NO.

PTS FILE: 48157

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CPT-LIF-2B-23'	7-25-18	1441	23-23.7				X				X								X				X
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CPT-LIF-2B-25.5'	7-25-18	1449	25.5-26.2				〃				〃								〃				〃

COMMENTS: Free Product Mobility Package Analyses should be based on results from initial pore fluid saturation analysis

1. RELINQUISHED BY	2. RECEIVED BY	3. RELINQUISHED BY	4. RECEIVED BY
[signature]	[signature]		
COMPANY: Jacobs	COMPANY: PTS Laboratories, Inc	COMPANY:	COMPANY:
DATE: 7-27-18 TIME: 1400	DATE: 7/30/18 TIME: 1210	DATE: TIME:	DATE: TIME:

PTS Laboratories, Inc.

CHAIN OF CUSTODY RECORD

COMPANY: Jacobs Engineering

ADDRESS: 26600 Michelson Dr. CITY: Irvine, Ca ZIP CODE: Suite 500

PROJECT MANAGER: Eric Davis email: (404)-323-1600

PROJECT NAME: Norwalk-KMEP PHONE NUMBER:

PROJECT NUMBER: FAX NUMBER:

SITE LOCATION: Norwalk, Ca

SAMPLER SIGNATURE:

PO#:

TURNAROUND TIME
24 HOURS ☐ 5 DAYS ☐
72 HOURS ☐ NORMAL ☒

OTHER:

SAMPLE INTEGRITY (CHECK):
INTACT X TEMP(F) 31.1°F

PTS QUOTE NO.:

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CPT-LIF-2B-29.5	7-25-18	1452	29.5-30.2'				X				X								X				X	

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COMPANY: Jacobs	COMPANY: PTS Laboratories, Inc	COMPANY:	COMPANY:
DATE: 7-27-18 TIME: 1400	DATE: 7/30/18 TIME: 12:10	DATE: TIME:	DATE: TIME: