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January 31, 2014

Mr. Keith Nowell
Alameda County Health Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

RE: Site Investigation and Conceptual Site Model
10151 International Blvd, Oakland, California
Fuel Leak Case No.: RO0002444

Dear Mr. Nowell,

I declare under penalty of perjury that to the best of my knowledge the information and/or recommendations contained in the attached report is/are true and correct.

If you have any questions or need additional information, please contact me at (925) 790-6463.

Sincerely,

Timothy L. Bishop
Union Oil of California – Project Manager

Attachment:
Site Investigation and Conceptual Site Model Report

ARCADIS
Infrastructure · Water · Environment · Buildings

Imagine the result

Union Oil Company of California

Site Investigation and Conceptual Site Model

Union Oil Station No. 7124
10151 International Boulevard
Oakland, California
ACEH Case No. RO2444

January 2014

ARCADIS

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Site Investigation and Conceptual Site Model

Union Oil Service Station No. 7124
10151 International Boulevard, Oakland, California

Prepared for:
Union Oil Company of California

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Our Ref.:
B0047297.0002

Date:
January 2014

Table of Contents

Appendices

Acronyms and Abbreviations

1,2-DCA	1,2-dichloroethane
ACEH	Alameda County Environmental Health Services
ARCADIS	ARCADIS U.S., Inc.
BC Laboratories	BC Laboratories Inc.
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
CDWR	California Department of Water Resources
COC	constituent of concern
CPT	cone penetrometer test
CSM	Site Investigation and Conceptual Site Model
CUG	cleanup goal
DIPE	di-isopropyl ether
DN	denitrifying bacteria
EBMUD	East Bay Municipal Utilities District
EDB	1,2-dibromoethane
ESL	environmental screening level
ETBE	ethyl tert-butyl ether
HASP	Health and Safety Plan
IDW	investigation-derived waste
MCL	Maximum Contaminant Level
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MRL	method reporting limit
MTBE	methyl tertiary-butyl ether
PAH	polycyclic aromatic hydrocarbon

R^2 value	coefficient of determination
revised work plan	Revised Site Assessment Work Plan
SB	soil boring
SFRWQCB	San Francisco Regional Water Quality Control Board
site	Union Oil Service Station No. 7124, located at 10151 International Boulevard in Oakland, California
SRB	sulfate-reducing bacteria
TAME	tert-amyl methyl ether
TBA	tertiary-butyl alcohol
TPH-g	total petroleum hydrocarbons - gasoline range organics
Union Oil	Union Oil Company of California
USEPA	United States Environmental Protection Agency
UST	underground storage tank
work plan	Site Assessment Work Plan Work Plan
µg/L	micrograms per liter
°C	degrees Celsius

1. Introduction

On behalf of Chevron Environmental Management Company's affiliate, Union Oil Company of California (Union Oil), ARCADIS U.S., Inc. (ARCADIS) prepared this Site Investigation and Conceptual Site Model (CSM) for the Union Oil Service Station No. 7124, located at 10151 International Boulevard in Oakland, California (site; Figure 1).

This CSM describes the site investigation work conducted from November 12 through 18, 2013, in accordance with Response to Comments and Revised Site Assessment Work Plan (revised work plan [ARCADIS 2013a]) and the September 13, 2013 email correspondence with Alameda County Environmental Health (ACEH) containing the Revised Site Investigation Work Plan Addendum (addendum [ARCADIS 2013b]). This CSM also includes a comprehensive site assessment, regional and site-specific geology and hydrogeology, review of soil and groundwater conditions at the site (including the distribution of constituents of concern [COCs]), and linear regression evaluation).

2. Site Description

The site is located at the western corner of the intersection of International Boulevard and 102nd Avenue in Oakland, California (Figures 1 and 2). The site is currently an operational, Royal-branded service station.

The site is located in a mixed commercial and residential use area. Properties immediately adjacent to the site are primarily commercial, including Abe's Lotto Liquors to the north, Commercial Auto Transmissions to the south across 102nd Avenue, and check cashing, hardware, and auto transmission stores to the east across International Boulevard. A residential property is located immediately adjacent to the west of the site.

A leaking underground storage tank site (Quan's Automotive) is located at the eastern corner of 101st Avenue and International Boulevard (Alameda County Environmental Health Services [ACEH] #RO0000162).

There are four site monitoring wells and well construction details are provided on Table 1. The average groundwater depth at the site is approximately 16.7 feet below ground surface (bgs) and the flow direction is predominantly toward the north-northwest but has varied overtime between west to northwest.

Appendix A provides additional information regarding the site history.

3. 2013 Site Investigation

Between November 12 through 18, 2013, ARCADIS implemented the work plan and addendum (ARCADIS 2013a, 2013b). Using a direct-push drill rig, cone penetrometer test (CPT) borings were advanced to collect soil lithology and soil samples and depth discrete groundwater samples were collected using HydroPunch™ technology. All soil boring (SB) and CPT locations are shown on Figure 2 and soil boring logs are provided in Appendix B.

3.1 Work Plan Modifications

Modifications to the work plan (ARCADIS 2013a) are summarized below:

- The work plan and addendum (ARCADIS 2013a, 2013b) proposed advancing four CPT locations (CPT-1 through CPT-4) to an approximate depth of 30 feet bgs. Per the revised work plan and addendum (ARCADIS 2013a, 2013b):
  - One additional CPT location (CPT-5) was advanced to close potential data gaps in data collection as noted by the ACEH in correspondence and presented in the addendum (ARCADIS 2013b).
  - Borehole total depths were adjusted as indicated below based on field observations, including refusal:
    - CPT-1: 66.1 feet bgs
    - SB-8/CPT-2: 44.6 feet bgs
    - CPT-3: 41.5 feet bgs
    - CPT-4: 43.1 feet bgs
    - CPT-5: 44.6 feet bgs
- The work plan and addendum (ARCADIS 2013a, 2013b) proposed collecting soil samples at 5 and 8 feet bgs or where petroleum impacts were observed. Per the revised work plan and addendum (ARCADIS 2013a, 2013b):
  - In borehole location SB-8/CPT-2, additional soil samples were collected from each 5-foot interval from 10 to 40 feet bgs.

- The soil samples were submitted for laboratory analysis as described in Section 3.5.1.

- The revised work plan and addendum (ARCADIS 2013a, 2013b) proposed submitting soil samples for polycyclic aromatic hydrocarbon (PAH) analysis, including naphthalene, at locations CPT-1 and CPT-2. Per the revised work plan and addendum (ARCADIS 2013a, 2013b), all soil samples submitted for laboratory analysis were analyzed for PAHs, including naphthalene.

3.2 Permitting and Utility Locating

ARCADIS secured the necessary soil boring permits from the Alameda County Public Works Agency prior to commencing field activities. The executed permits are included in Appendix C.

Underground Service Alert North was contacted 48 hours prior to the start of any intrusive subsurface activities. Each boring location was cleared of utilities by a private utility locator prior to work.

3.3 Site-Specific Health and Safety Plan

ARCADIS prepared a site-specific Health and Safety Plan (HASP) for direct-push drilling and soil and groundwater sampling activities at the site, as required by the Occupational Health and Safety Administration Standard Hazardous Waste Operations and Emergency Response guidelines (29 Code of Federal Regulations 1910.120). The HASP was reviewed and signed by ARCADIS personnel and subcontractors prior to performing work at the site.

3.4 Cone Penetrometer Testing

Prior to drilling, the proposed CPT boring locations were manually cleared of underground utilities by advancing a hand auger to approximately 8 feet, 1 inch bgs. Boring CPT-1 was advanced to 66.1 feet bgs to vertically define the extent of hydrocarbon impacts. Borings SB-8/CPT-2, CPT-3, CPT-4, and CPT-5 were terminated at depths ranging from 41.5 to 44.6 feet bgs due to refusal. CPTs were conducted using a piezocone connected by stainless steel rods to a hydraulic direct-push system that advanced the piezocone through the soil. The piezocone measured friction, tip resistance, and pore pressure; these parameters were recorded and used to determine the lithology on a nearly continuous geologic log. CPT was performed in

accordance with ASTM International standard D-5778-95 (2000). The CPT logs are included in Appendix B. Geologic cross sections are included in Appendix D.

3.5 Soil and Groundwater Sample Collection

Soil and groundwater samples were collected during borehole advancement. This section describes the sample collection and laboratory analytical methods.

3.5.1 Soil Sample Collection

Soil samples were collected and placed into laboratory-provided sealed containers for field screening and laboratory analysis. The field screening data were collected using a photo ionization detector to measure the total organic vapor concentration in the head space of the sealed containers. Shallow soil samples were collected for laboratory analysis during hand augering at CPT-1, CPT-2, CPT-3, CPT-4, and CPT-5 at 5 and 8 feet bgs. One soil boring (SB-8/CPT-2) was advanced to 44.6 feet bgs via direct-push technology. Soil samples from SB-8/CPT-2 were collected for laboratory analysis from each 5-foot interval between 10 to 40 feet bgs. All soil samples were placed on ice, cooled to approximately 4 degrees Celsius (°C) and transported to BC Laboratories Inc. (BC Laboratories), a California Department of Public Health certified analytical laboratory, under proper chain of custody procedures. The soil samples were analyzed for the following:

- Total petroleum hydrocarbons-gasoline range organics (TPH-g [C_6-C_{12}]) by United States Environmental Protection Agency (USEPA) Method 8015B
- Benzene, toluene, ethylbenzene, and xylenes (BTEX) by USEPA Method 8260B
- Methyl tertiary-butyl ether (MTBE), di-isopropyl ether (DIPE), tert-amyl methyl ether (TAME), ethyl tert-butyl ether (ETBE), ethanol, 1,2-dibromoethane (EDB), and 1,2-dichloroethane (1,2-DCA) by USEPA Method 8260B
- PAHs, including naphthalene, by USEPA Method 8270C

3.5.2 Groundwater Sample Collection

A direct-push rig was used to advance soil borings into the groundwater bearing zone. Groundwater samples (HP-1 through HP-5) were collected using a HydroPunch™ sampling device from two 4-foot intervals at each boring location. The sampled

intervals ranged from 28 to 59 feet bgs. Grab groundwater sample collection was attempted at shallower depths (10 to 20 feet bgs), but groundwater was not encountered. All groundwater samples were placed on ice, cooled to approximately 4 °C and transported to BC Laboratories under proper chain of custody procedures. The groundwater samples were analyzed for the following:

- TPH-g (C_6-C_{12}) USEPA Method 8015B

3.6 BTEX by USEPA Method 8260B Investigation Results

3.6.1 Cone Penetrometer Test Investigation Results

Soil types encountered during the CPT investigation were consistent with previous subsurface observations at the site. Silts and clays were the dominant soil type from approximately 8 to 38 feet bgs. A layer of sand was encountered at depths ranging from approximately 38 to 42 feet bgs. The sand layer varies in thickness from 2 to 6 feet. Geologic cross sections are included in Appendix D. Additional lithology details are provided in Section 4.1.

3.6.2 Soil Results

Soil samples were submitted for laboratory analysis to BC Laboratories. Soil samples with detected COCs are summarized below; all other soil samples were below the method reporting limit (MRL):

- TPH-g was detected at 7.6 milligrams per kilogram (mg/kg) in the soil sample collected at approximately 26.5 feet bgs from SB-8/CPT-2.

- Tert-butyl alcohol (TBA) was detected at four borehole locations: CPT-1, SB-8/CPT-2, CPT-3, and CPT-4. Detected TBA concentrations ranged from 0.093 (CPT-1 at 8 feet bgs) to 0.29 mg/kg (SB-8/CPT-2 at 19.5 feet bgs).

- MTBE was detected at 0.0060 mg/kg in the soil sample collected at 36 feet bgs from SB-8/CPT-2.

All soil sample analytical results for site COCs were below their respective Environmental Screening Level (ESL). The soil analytical results are presented in Table 2 and on Figure 4. The laboratory analytical data are provided in Appendix E.

3.6.3 Groundwater Results

Groundwater samples were submitted for laboratory analysis to BC Laboratories. Groundwater samples with detected COCs are summarized below; all other groundwater samples were below the MRL. All groundwater sample analytical results for site COCs, except TPH-g, were below their respective ESL for groundwater as a potential drinking water source. The TPH-g concentration is below the ESL for groundwater that is not a potential drinking water source.

- TPH-g was detected at 230 micrograms per liter (µg/L) in HP-2 at 40-44 feet bgs.
- MTBE was detected at 1.6 µg/L in HP-5 at 28-32 feet bgs.

The groundwater analytical results are presented in Table 3 and on Figure 5. The laboratory analytical data are provided in Appendix E.

3.7 Equipment Decontamination

All down-hole equipment was washed with Alconox® and water upon completion of each borehole. All rods and sampling equipment were steam-cleaned following the completion of each borehole.

3.8 Borehole Abandonment

Following completion of borehole advancement, each borehole was backfilled to approximately 1 foot bgs using neat cement. The ground surface to 1 foot bgs interval was backfilled with concrete to match the existing surface conditions.

3.9 Investigation-Derived Waste Disposal

Investigation-derived waste (IDW) produced during drilling operations was containerized in 55-gallon drums and temporarily stored on site pending characterization for off-site disposal. A composite IDW sample was collected for waste profiling purposes. IDW will be removed from the site and transported to an approved landfill based on the analytical results of the composite soil sample.

4. Conceptual Site Model

This section summarizes the CSM, which includes site geology and hydrogeology, previous work conducted at the site, distribution of fuel hydrocarbons and oxygenates in the subsurface, and linear regression analysis.

4.1 Regional and Site Geology and Hydrogeology

The site is located in the East Bay Plain Subbasin within the Santa Clara Valley Groundwater Basin. According to the California Department of Water Resources (CDWR) Bulletin 118, this subbasin is a northwest-trending alluvial plain bounded to the north by San Pablo Bay, to the east by Franciscan Basement Rock, and to the south by the Niles Cone Groundwater Basin. The East Bay Plain Subbasin extends to the west beneath San Francisco Bay. The East Bay Plain aquifer consists of unconsolidated sediment of Quaternary age. These deposits include the early Pleistocene Santa Clara Formation, late Pleistocene Alameda Formation, early Holocene Temescal Formation, and artificial fill (CDWR 2004).

Based on the soil investigation activities performed at the site, the site is underlain by silt and clay to depths of approximately 38 feet bgs. Thin lenses of interbedded sand and silty sand are present in this interval. A layer of sand was encountered at depths ranging from approximately 38 to 42 feet bgs. The sand layer varies in thickness from 2 to 6 feet. Below the sand layer, silt and clay are encountered to a total explored depth of 68 feet bgs. Copies of available boring logs are provided in Appendix B. Geologic cross sections are included in Appendix C.

Water in the City of Oakland is provided by the East Bay Municipal Utilities District (EBMUD). A majority of EBMUD's water supply (90 percent) comes from the Mokelumne River watershed in the Sierra Nevada Mountains. EBMUD uses its six water treatment facilities to filter and process more than 375 million gallons of water per day (EBMUD 2013).

Groundwater elevations at the site have historically ranged from approximately 19.11 to 25.52 feet above mean sea level. Groundwater elevations fluctuate seasonally by only a few feet. Four active groundwater monitoring wells (MW-1 through MW-4) are located at the site. Previous groundwater data have indicated a variable groundwater flow direction. During the most recent groundwater monitoring event in the second half of 2013, groundwater flow was to the south-southwest with a hydraulic gradient of 0.007 foot per foot (ARCADIS 2013c). The groundwater elevation contour map for the

most recent sampling event conducted in October 2013 is presented on Figure 3. Well construction details are provided in Table 1.

4.2 Summary of Previous Work

Investigations and remedial actions have been conducted at the site since 1997. The investigations conducted at the site have primarily been in response to elevated levels of petroleum hydrocarbons discovered during product line and dispenser removal and replacement. This section summarizes site assessment and remediation activities. Previous environmental investigations with site characterizations, release history, and sampling results are summarized in Appendix A.

In 1997, a soil gas survey was conducted to determine baseline concentrations of petroleum hydrocarbons in soil vapor at the site. Five soil gas probes were installed near the underground storage tank (USTs), product islands, and product piping. Laboratory analytical results were not available in the reviewed material reviewed (Pacific Environmental Group 1997).

In March 2000, the product lines and dispensers were removed and replaced. Eight soil samples were collected from beneath the product dispensers and three soil samples were collected from beneath the product lines. Elevated concentrations of TPH-g, BTEX, and MTBE were detected. Subsequently, approximately 60 cubic yards of impacted soil were excavated.

In February 2002, groundwater monitoring wells MW-1 through MW-4 were installed at the site. Well construction details are provided in Table 1. Boring logs are included in Appendix B. Soil and groundwater samples were collected during well installation activities. The results are discussed in Appendix A.

In September 2008, seven soil borings (SB-1 through SB-7) were advanced (two on site and five off site). The soil borings were advanced to depths ranging from 30 to 40 feet bgs. Soil and groundwater samples were collected during soil boring advancement activities. The results are discussed in Appendix A.

4.3 Current and Historical Distribution of Residual Petroleum Hydrocarbons and Fuel Oxygenates

Subsurface fuel hydrocarbon and oxygenate concentrations have decreased through time as a result of natural biodegradation, and are likely to continue decreasing. The

distribution of residual petroleum hydrocarbons and fuel oxygenates in soil and groundwater is described in the following sections.

4.4 Distribution of Constituents of Concern in Soil

More than 70 soil samples have been collected at the site since 2002 (post soil excavation activities conducted in 2000). Soil samples were collected at depths ranging from 5 to 40 feet bgs to characterize residual concentrations of fuel hydrocarbons and oxygenates in the site soil. Detected hydrocarbons and fuel oxygenates were identified in soil collected at depths between 6.5 and 36 feet bgs. The highest COCs were reported between 16 and 19.5 feet bgs. Soil samples collected below 20 feet bgs represent saturated soil conditions. Although hydrocarbons and fuel oxygenates were detected, none of the concentrations exceed the ESL. The highest concentration of each hydrocarbon or fuel oxygenate compound is provided below:

- TPH-g at 42 mg/kg on February 28, 2002 (MW-3 at16 feet bgs)
- MTBE at 1.2 mg/kg on February 28, 2002 (MW-3 at 16 feet bgs)
- Ethylbenzene at 0.36 mg/kg on February 28,2002 (MW-3 at 16 feet bgs)
- Total xylenes at 0.26 mg/kg on February 28, 2002 (MW-3 at 16 feet bgs)
- TBA at 0.29 mg/kg on November 18, 2013 (SB-8/CPT-2 at 19.5 feet bgs)

Soil analytical results, including ESLs, are provided in Table 2. Soil sample locations are presented on Figure 2. Cross sections showing the vertical distribution of fuel hydrocarbons and oxygenates in soil are included in Appendix C.

4.5 Distribution of Constituents of Concern in Groundwater

COCs in groundwater at the site include TPH-g, BTEX, and MTBE. Site COCs in groundwater at the site have been monitored since April 8, 2002. The monitoring well network consists of four wells (MW-1 through MW-4). The monitoring wells were sampled quarterly from 2002 until 2010 when the sampling frequency was reduced to semiannual. Recent and historical groundwater analytical results are presented in Table 3 and well construction details are presented in Table 1.

Dissolved-phase concentrations in groundwater samples collected during the second semiannual sampling event 2013 (ARCADIS 2013c), as well as historical maximum concentrations reported in groundwater, indicate the following:

- *TPH-g.* In October 2013, TPH-g concentrations at the site ranged from less than the MRL of 50 µg/L in monitoring well MW-1 to 880 µg/L in well MW-3. The historical maximum concentration of TPH-g was 130,000 µg/L at monitoring wells MW-3 and MW-4 on April 2, 2003.

- *Benzene.* In October 2013, benzene concentrations were not detected above the MRL of 0.50 µg/L. The historical maximum concentration of benzene was 65 µg/L at monitoring well MW-3 on April 8, 2002.

- *Toluene.* In October 2013, toluene concentrations were not detected above the MRL of 1 µg/L. The historical maximum concentration of toluene (0.99 µg/L) was detected in monitoring well MW-3 on January 12, 2005. The maximum concentration of toluene does not exceed the ESL for groundwater as a potential drinking water resource (12 µg/L).

- *Ethylbenzene.* In October 2013, ethylbenzene concentrations were not detected above the MRL of 0.5 µg/L. The historical maximum concentration of ethylbenzene (400 µg/L) was detected in monitoring well MW-3 on April 8, 2002.

- *Total xylenes.* In October 2013, total xylene concentrations were not detected above the MRL of 1 µg/L. The historical maximum concentration of total xylenes (2.2 µg/L) was detected in monitoring well MW-3 on January 12, 2005. The maximum concentration of toluene does not exceed the ESL for groundwater as a potential drinking water resource (20 µg/L).

- *MTBE.* In October 2013, MTBE was detected in well MW-3 at a concentration of 12 µg/L. The historical maximum concentration of MTBE was 10,000 µg/L at monitoring well MW-3 on January 24, 2003.

Isoconcentration maps for select COCs (TPH-g, benzene, and MTBE) are included on Figures 6, 7, and 8. Impacted groundwater appears to be the greatest north of the UST area, near monitoring well MW-3.

4.6 Linear Regression Analysis and Plume Stability

A statistical analysis of historical groundwater monitoring data was completed to assess trends in TPH-g and MTBE concentrations with time. Graphs of log-normalized concentration versus time were created, and a linear regression trend test was used to evaluate the statistical significance of both increasing and decreasing COC

concentration trends (Appendix F). The statistical analysis was based on a review of the available historical groundwater monitoring data collected between April 2002 and October 2013 for four monitoring wells (MW-1 through MW-4).

COC concentrations were screened against cleanup goals (CUGs), which were defined as the relevant Maximum Contaminant Levels (MCLs), or where an MCL did not exist, the ESLs. The COCs at the site include TPH-g, BTEX, and MTBE. The California Primary MCLs for BTEX constituents in groundwater are 1, 150, 300, and 1,750 µg/L, respectively. The primary MCL for MTBE is 13 µg/L. An MCL has not been established for TPH-g. Therefore, the San Francisco Regional Water Quality Control Board (SFRWQCB) ESL for groundwater as a potential drinking water source of 500 µg/L was used for TPH-g (SFRWQCB 2013).

There has been no active remediation at the site, and historical concentration trends are expected to be representative of ongoing trends in COC concentrations under natural attenuation for the foreseeable future.

Linear regression analysis was completed for those monitoring wells where:

- COC concentrations were above the respective MRL for at least 50 percent of data collected between April 2002 and October 2013.
- COC concentrations were greater than the relevant CUG at least once in the last 4 years (since January 2010).
- At least eight data points were present in the dataset.

4.6.1 Linear Regression Methodology

Linear regression analyses using natural log-normalized concentration data were conducted to estimate trend direction, attenuation rates, and approximate time to achieve CUGs for the selected locations and COCs (USEPA 2002). Results of the linear regression analyses, including coefficients of determination (R^2 values), p-values of the correlation, and trend directions, are summarized in Table 4; individual analyses are included in Appendix F. The R^2 value is a measure of how well the linear regression model fits the site data. R^2 values less than 0.1 indicate a weak model fit, while R^2 values closer to 1 indicate a stronger model fit. The p-value of the correlation provides a measure of the level of statistical significance of the slope of the trend line. Trends were accepted as statistically significant for p-values less than or equal to 0.05

(95 percent confidence level). The trend direction was defined as decreasing if the slope of the linear regression was negative and increasing if the slope of the regression was positive.

Where concentrations were less than reporting limits (nondetect), the concentrations were set equal to the MRLs. Use of the MRL for concentrations that were below detection provides a conservative estimate for evaluating the concentration trends through time. No qualified data were used in the regression analyses.

Concentrations of all COCs at MW-1 were less than the MRLs for the majority of the sampling history. Concentrations of BTEX constituents at MW-2, MW-3, and MW-4 and MTBE at MW-2 and MW-4 were less than the MRL for the majority of the sampling history and did not meet the linear regression criteria outlined above

4.6.2 Linear Regression Results

Results of the linear regression analyses are summarized in Table 4, and the distributions of COCs in groundwater are presented on Figures 6, 7, and 8. Results from the linear regression analyses indicate the following:

- There is evidence of natural attenuation of COCs at the site.
- Concentrations of COCs at all monitoring wells where current concentrations are greater than the CUG exhibit statistically significant decreasing trends.
- The most recent concentrations of COCs at monitoring wells sampled during October 2013 were less than the relevant CUGs or detection, except TPH-g in monitoring well MW-3.

Concentration trends specific to each COC are discussed below.

4.6.2.1 Total Petroleum Hydrocarbons-Gasoline Range Organics

Concentrations of TPH-g at MW-3 showed a statistically significant decreasing trend, with concentrations fluctuating around the CUG since June 2013.

4.6.2.2 Methyl Tert-Butyl Ether

Concentrations of MTBE were less than the CUG at MW-4 in October 2013 and showed a statistically significant decreasing trend.

4.7 Groundwater Geochemical Data

Decreasing TPH-g and MTBE concentration trends represent the primary line of evidence for natural attenuation of the dissolved-phase petroleum hydrocarbons and overall plume stability. However, geochemical indicator parameters can provide an additional line of evidence to document that groundwater conditions are favorable for biodegradation processes to occur.

Hydrocarbon compounds in groundwater can serve as sources of carbon and/or energy (substrate) for naturally occurring bacteria, and biodegradation of these constituents can occur by both aerobic and anaerobic microbial processes. Bacteria obtain energy for cell production and maintenance by facilitating reduction-oxidation reactions involving the transfer of electrons from electron donors (i.e., the target substrate or hydrocarbon constituent) to available electron acceptors. In aerobic environments, oxygen serves as the electron acceptor and becomes reduced while the primary substrate is oxidized. Oxidation of the primary substrate results in its mineralization to harmless byproducts (carbon dioxide and water). Under anaerobic conditions, other inorganic compounds act as electron acceptors and become reduced while the primary substrate is oxidized.

Anaerobic oxidation processes consume these alternate electron acceptors in the following order of preference: nitrate (nitrate reduction), ferric iron (ferric iron reduction), sulfate (sulfate reduction), and carbon dioxide (methanogenesis). The key bacteria involved in anaerobic oxidation are the denitrifying bacteria (DN), iron-reducing bacteria, sulfate-reducing bacteria (SRB), and methanogenic bacteria, all of which are widely distributed in the natural environment.

DN, iron-reducing bacteria, and SRB use nitrate, oxidized iron, and sulfate as electron acceptors resulting in depleted concentrations of these electron acceptors in areas where biodegradation of organic compounds is occurring. The electron acceptors nitrate, ferric iron, and sulfate are subsequently converted to their reduced form, nitrite or nitrogen gas, dissolved (ferrous) iron, and hydrogen sulfide, respectively. Methanogens use carbon dioxide as an electron acceptor, reducing it to methane,

which results in elevated concentrations of methane in areas where biodegradation is occurring.

Geochemical indicator parameters were measured in June and October 2013 at MW-1, MW-2, MW-3, and MW-4. These data are included in Table 5 and discussed below.

4.7.1 Nitrate

Concentrations of nitrate measured at the site in June and October 2013 were depleted (< 0.44 milligrams per liter [mg/L]) at monitoring wells where COCs were detected, compared to concentrations of nitrate between 24 and 26 mg/L at MW-1, where COCs have not been detected. The data indicate that biodegradation by nitrate reducing bacteria is occurring.

4.7.2 Iron

When ferric iron is used as an electron acceptor by iron-reducing bacteria, it is reduced to the more soluble ferrous iron species, as indicated by increased concentrations of dissolved iron. Dissolved iron concentrations measured in June and October 2013 were below detection (< 50 µg/L) at monitoring well MW-1, where COCs have not been detected. However, at monitoring wells MW-2, MW-3, and MW-4, where COCs are present at concentrations above detection, dissolved iron concentrations were typically elevated (between 120 and 710 µg/L). The dissolved iron concentrations suggest that biodegradation of organic material is occurring via iron reduction in areas where elevated concentrations of COCs are present.

4.7.3 Sulfate

Sulfate concentrations measured in June and October 2013 ranged from 22 to 23 mg/L at monitoring well MW-1, where COCs have not been detected. Sulfate concentrations ranged from below detection (< 1.0 mg/L) to 20 mg/L at MW-2, MW-3, and MW-4, where concentrations of COCs are elevated. In general, sulfate concentrations are depleted at locations where COCs are present, indicating that biodegradation of organic material via sulfate reduction may be active in these areas.

4.7.4 Methane

Methane concentrations measured in June 2013 were below detection (< 0.0010 mg/L) at all wells except MW-3 (0.075 mg/L). In October 2013, methane concentrations were greater than the MRL in MW-1, MW-2, and MW-3 and ranged from 0.015 mg/L at MW-1 to 0.071 mg/L at MW-3. The low methane concentrations indicate that methanogenesis is not a dominant biodegradation mechanism at the site.

5. Summary and Conclusions with Recommendations

The November 2013 investigation provided additional site lithology data, as well as soil and groundwater analytical data. The site lithology data are consistent with previous observations. The site is underlain by silt and clay to depths of approximately 38 feet bgs. A layer of sand was encountered at depths ranging from approximately 38 to 42 feet bgs. The sand layer varies in thickness from 2 to 6 feet. Below the sand layer, silt and clay are encountered to a total explored depth of 68 feet bgs.

The analytical data for soil samples collected in November 2013 indicate that all detected COC concentrations are below the ESL.

The analytical data for grab groundwater samples collected in November 2013 indicate that all detected COC concentrations are below the ESL for groundwater as a potential drinking water resource, except TPH-g. Sample HP-2, collected from 32 to 35 feet bgs, had a TPH-g concentration of 230 µg/L; this concentration is less than the ESL for groundwater that is not a potential drinking water resource.

Groundwater data collected from monitoring wells in October 2013 indicate similar results. At monitoring well MW-3, the TPH-g concentration exceeds the ESL for groundwater that is not a potential drinking water resource and the MTBE concentration does not exceed the MCL for groundwater (13 µg/L). However MTBE concentration slightly exceeds the ESL for groundwater that is a potential drinking water resource.

Due to the COC concentrations in groundwater exceeding the ESL, a linear regression analysis was performed. The results were analyzed in conjunction with geochemical indicator parameter groundwater data. Where COC concentrations were greater than the CUGs during the past 4 years and data met the criteria for linear regressions analysis, statistically significant decreasing trends in COC concentration were observed, suggesting that natural attenuation is effective at reducing concentrations of

COCs to below the CUGs. Geochemical indicator parameter data suggest that reducing conditions are present at the site and that biodegradation of organic compounds via nitrate, iron, and sulfate reduction is occurring. To date, natural attenuation has been effective in reducing concentrations of TPH-g, BTEX, and MTBE at MW-1, MW-2, and MW-4 to less than their respective CUGs. In monitoring wells where concentrations greater than the CUG remain, it is likely that natural attenuation will continue to reduce COC concentrations to be consistently less than the CUG.

Based on the soil, groundwater, and linear regression analyses completed, ARCADIS recommends submission of a no Further Action Request based on historical and current data.

6. References

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ARCADIS

Tables

Table 1 - Well Construction Details
Union Oil Company of California
Service Station Number 7124
10151 International Boulevard, Oakland, California

Well Identification	Installation Date	TOC Elevation (ft aMSL)	Total Depth of Boring (ft bgs)	Total Depth of Well (ft bgs)	Casing Diameter (in)	Screen Interval (ft bgs)
MW-1	02/28/2002	37.73	25	25	4	10.0 - 25.0
MW-2	03/01/2002	38.27	25	25	4	10.0 - 25.0
MW-3	02/28/2002	38.03	25	25	4	10.0 - 25.0
MW-4	03/01/2002	38.77	25	25	4	10.0 - 25.0

Standard Abbreviations

ft	Feet
ft bgs	Feet below ground surface
in	Inches
ft aMSL	Feet above Mean Sea Level

Table 2 - Soil Analytical Results
Union Oil Company of California
Service Station Number 7124
10151 International Boulevard, Oakland, California

Well Identification	Date Sampled	Sample Depth (ft bgs)	TPH-g	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	TAME	DIPE	ETBE	EDB	1,2-DCE	PAHs	Ethanol
Environmental Screening Levels[2]			1,000	1.2	9.3	4.7	11	8.4	110	--	--	--	0.51	--	--	--
MW-1-6.5	02/28/2002	6.5	<5.0	<0.050	<0.050	<0.050	<0.050	<0.025	<0.50	<0.025	<0.025	<0.025	<0.025	--	--	<5.0
MW-1-16.5	02/28/2002	16.5	<5.0	<0.050	<0.050	<0.050	<0.050	<0.025	<0.50	<0.025	<0.025	<0.025	<0.025	--	--	<5.0
MW-1-26.5	02/28/2002	26.5	<5.0	<0.050	<0.050	<0.050	<0.050	<0.025	<0.50	<0.025	<0.025	<0.025	<0.025	--	--	<5.0
MW-2-6.5	03/01/2002	6.5	<5.0	<0.050	<0.050	<0.050	<0.050	<0.025	<0.50	<0.025	<0.025	<0.025	<0.025	--	--	<5.0
MW-2-16.5	03/01/2002	16.5	<5.0	<0.050	<0.050	<0.050	<0.050	0.085	<0.50	<0.025	<0.025	<0.025	<0.025	--	--	<5.0
MW-2-26.5	03/01/2002	26.5	16	<0.050	<0.050	<0.050	<0.050	0.16	<0.50	<0.025	<0.025	<0.025	<0.025	--	--	<5.0
MW-3-6	02/28/2002	6	<5.0	<0.050	<0.050	<0.050	<0.050	<0.025	<0.50	<0.025	<0.025	<0.025	<0.025	--	--	<5.0
MW-3-16	02/28/2002	16	42	<0.20	<0.20	0.36	0.26	1.2	<2.0	<0.10	<0.10	<0.10	<0.10	--	--	<20
MW-3-26.5	02/28/2002	26.5	<5.0	<0.050	<0.050	<0.050	<0.050	0.23	<0.50	<0.025	<0.025	<0.025	<0.025	--	--	<5.0
MW-4-6.5	03/01/2002	6.5	5.6	<0.050	<0.050	<0.050	<0.050	<0.025	<0.50	<0.025	<0.025	<0.025	<0.025	--	--	<5.0
MW-4-11.5	03/01/2002	11.5	<5.0	<0.050	<0.050	<0.050	<0.050	<0.025	<0.50	<0.025	<0.025	<0.025	<0.025	--	--	<5.0
MW-4-26.5	03/01/2002	26.5	<5.0	<0.050	<0.050	<0.050	<0.050	0.028	<0.50	<0.025	<0.025	<0.025	<0.025	--	--	<5.0
SB-1-5	09/05/2008	5	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-1-10	09/05/2008	10	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-1-15	09/05/2008	15	<0.20	<0.0050	<0.0050	<0.0050	<0.010	0.062	0.15	--	--	--	--	--	--	--
SB-1-20	09/05/2008	20	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-1-25	09/05/2008	25	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-1-30	09/05/2008	30	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-1-35	09/05/2008	35	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-1-40	09/05/2008	40	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-2-5	09/03/2008	5	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-2-10	09/03/2008	10	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-2-15	09/03/2008	15	0.30	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-2-20	09/03/2008	20	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-2-21.5	09/03/2008	21.5	7.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-2-25	09/03/2008	25	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-2-30	09/03/2008	30	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--

Table 2 - Soil Analytical Results
Union Oil Company of California
Service Station Number 7124
10151 International Boulevard, Oakland, California

Well Identification	Date Sampled	Sample Depth (ft bgs)	TPH-g	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	TAME	DIPE	ETBE	EDB	1,2-DCE	PAHs	Ethanol
Environmental Screening Levels[2]			1,000	1.2	9.3	4.7	11	8.4	110	--	--	--	0.51	--	--	--
SB-3-5	09/04/2008	5	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-3-10	09/04/2008	10	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-3-15	09/04/2008	15	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-3-20	09/04/2008	20	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-3-25	09/04/2008	25	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-4-5	09/03/2008	5	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-4-10	09/03/2008	10	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-4-15	09/03/2008	15	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-4-19	09/03/2008	19	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-4-28	09/03/2008	28	4.6	<0.025	<0.025	<0.025	<0.050	<0.025	<0.25	--	--	--	--	--	--	--
SB-4-29.5	09/03/2008	29.5	1.1	<0.0050	<0.0050	<0.0050	<0.010	0.011	<0.050	--	--	--	--	--	--	--
SB-5-5	09/03/2008	5	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-5-10	09/03/2008	10	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-5-15	09/03/2008	15	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-5-20	09/03/2008	20	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-5-25	09/03/2008	25	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-5-30	09/03/2008	30	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-6-5	09/05/2008	5	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-6-10	09/05/2008	10	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-6-15	09/05/2008	15	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-6-20	09/05/2008	20	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-6-25	09/05/2008	25	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-6-30	09/05/2008	30	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-6-32	09/05/2008	32	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--

Table 2 - Soil Analytical Results
Union Oil Company of California
Service Station Number 7124
10151 International Boulevard, Oakland, California

Well Identification	Date Sampled	Sample Depth (ft bgs)	TPH-g	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	TAME	DIPE	ETBE	EDB	1,2-DCE	PAHs	Ethanol
Environmental Screening Levels[2]			1,000	1.2	9.3	4.7	11	8.4	110	--	--	--	0.51	--	--	--
SB-7-5	09/04/2008	5	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-7-10	09/04/2008	10	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-7-15	09/04/2008	15	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-7-20	09/04/2008	20	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-7-25	09/04/2008	25	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
SB-7-30	09/04/2008	30	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	--	--	--	--
CPT-1-5	11/18/2013	5	<1.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	ND	<1.0
CPT-1-8	11/18/2013	8	<0.78	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	0.093	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	ND	<1.0
CPT-2-5	11/15/2013	5	<0.78	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	0.17	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	ND	<1.0
CPT-2-8	11/15/2013	8	<0.80	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	0.12	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	ND	<1.0
SB-8/CPT-2-15.5	11/18/2013	15.5	<0.74	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	ND	<1.0
SB-8/CPT-2-19.5	11/18/2013	19.5	<0.81	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	0.29	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	ND	<1.0
SB-8/CPT-2-22.5	11/18/2013	22.5	<0.74	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	ND	<1.0
SB-8/CPT-2-26.5	11/18/2013	26.5	7.6	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	ND	<1.0
SB-8/CPT-2-31.5	11/18/2013	31.5	<0.76	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	ND	<1.0
SB-8/CPT-2-36	11/18/2013	36	<0.71	<0.0050	<0.0050	<0.0050	<0.010	0.0060	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	ND	<1.0
SB-8/CPT-2-40	11/18/2013	40	<0.71	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	ND	<1.0
CPT-3-5	11/15/2013	5	<0.78	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	0.12	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	ND	<1.0
CPT-3-8	11/15/2013	8	<0.96	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	ND	<1.0
CPT-4-5	11/14/2013	5	<0.79	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	0.21	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	ND	<1.0
CPT-4-8	11/14/2013	8	<0.76	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	0.10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	ND	<1.0
CPT-5-5	11/18/2013	5	<0.90	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	ND	<1.0
CPT-5-8	11/18/2013	8	<0.78	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	ND	<1.0

Table 2 - Soil Analytical Results
Union Oil Company of California
Service Station Number 7124
10151 International Boulevard, Oakland, California

Well Identification	Date Sampled	Sample Depth (ft bgs)	TPH-g	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	TAME	DIPE	ETBE	EDB	1,2-DCE	PAHs	Ethanol
Environmental Screening Levels[2]			1,000	1.2	9.3	4.7	11	8.4	110	--	--	--	0.51	--	--	--

Notes

1) Analytical results reported in milligrams per kilogram (mg/kg), unless otherwise stated.
2) San Francisco Regional Water Quality Control Board (SFRWQCB) Environmental Screening Levels (ESLs) for deep soil samples (>3 meters below ground surface [bgs]), commercial/industrial land use, where groundwater is not a current or potential drinking water resource (Table D-2; SFRWQCB 2013).
3) All samples analyzed by EPA Method 8260B, except for TPH-g, which is analyzed by EPA Method 8015B.

Standard Abbreviations

< Not detected at or above the laboratory detection limit
-- Not analyzed, measured, or collected
ft bgs Feet below ground surface
Bold Indicates detected concentration exceeded the Environmental Screening Level

Analytes

TPH-g Total petroleum hydrocarbons - gasoline range organics
MTBE Methyl tertiary-butyl ether
TBA Tertiary-butyl alcohol
DIPE Di-isopropyl ether
ETBE Ethyl tert-butyl ether
TAME Tert-amyl methyl ether
PAHs Polycyclic aromatic hydrocarbons
EDB 1,2-Dibromoethane
1,2-DCE 1,2-Dichloroethane

Table 3 - Groundwater Analytical Results
Union Oil Company of California
Service Station Number 7124
10151 International Boulevard, Oakland, California

Well Identification	Date Sampled	Sample Depth (ft bgs)	TOC Elevation (ft MLS)	DTW (ft bTOC)	LPH Thickness (ft)	GW Elevation (ft MSL)	Change in Elevation (ft)	TPH-g	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	TAME	DIPE	ETBE	EDB	1,2-DCE	Ethanol	Comments
ESLs (groundwater is not a potential resource)[1]				--	--	--	--	500	27	130	43	100	1,800	18,000	--	--	--	--	--	--	--
ESLs (groundwater is a potential resource)[2]				--	--	--	--	100	1	40	30	20	5	12	--	--	--	--	--	--	--
MCL[3]				--	--	--	--	--	5	1,000	700	10,000	13	--	--	--	--	--	--	--	--
MW-1	04/08/2002	--	37.37	14.27	0.00	23.10	--	--	<0.50	<0.50	<0.50	<0.50	<2.0	--	--	--	--	--	--	--	
MW-1	07/28/2002	--	37.37	15.88	0.00	21.49	-1.61	<50	<0.50	<0.50	<0.50	<1.0	<2.0	<100	<2.0	<2.0	<2.0	<2.0	--	--	
MW-1	11/03/2002	--	37.37	16.75	0.00	20.62	-0.87	<50	<0.50	<0.50	<0.50	<1.0	<2.0	<100	<2.0	<2.0	<2.0	<2.0	--	--	
MW-1	01/24/2003	--	37.37	13.94	0.00	23.43	2.81	<50	<0.50	<0.50	<0.50	<1.0	<2.0	<100	<2.0	<2.0	<2.0	<2.0	--	--	
MW-1	04/02/2003	--	37.37	14.99	0.00	22.38	-1.05	460	<0.50	<0.50	<0.50	<1.0	<2.0	<100	<2.0	<2.0	<2.0	<2.0	--	--	
MW-1	07/01/2003	--	37.37	15.48	0.00	21.89	-0.49	<50	<0.50	<0.50	<0.50	<1.0	<2.0	<100	<2.0	<2.0	<2.0	<2.0	--	--	
MW-1	10/02/2003	--	37.37	16.68	0.00	20.69	-1.20	<50	<0.50	<0.50	<0.50	<1.0	<2.0	<100	<2.0	<2.0	<2.0	<2.0	--	<500	
MW-1	01/09/2004	--	37.37	13.79	0.00	23.58	2.89	<50	<0.50	<0.50	<0.50	<1	<2	<100	<2	<2	<2	<2	--	<500	
MW-1	04/26/2004	--	37.37	15.21	0.00	22.16	-1.42	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<0.50	<1.0	<0.50	<0.50	--	<50	
MW-1	07/22/2004	--	37.37	16.43	0.00	20.94	-1.22	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<0.50	<1.0	<0.50	<0.50	--	<50	
MW-1	10/29/2004	--	37.37	16.14	0.00	21.23	0.29	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<0.50	<1.0	<0.50	<0.50	--	<50	
MW-1	01/12/2005	--	37.37	12.83	0.00	24.54	3.31	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<0.50	<1.0	<0.50	<0.50	--	<50	
MW-1	06/20/2005	--	37.37	14.38	0.00	22.99	-1.55	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<1,000	
MW-1	09/23/2005	--	37.37	15.92	0.00	21.45	-1.54	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<1,000	
MW-1	12/13/2005	--	37.37	16.09	0.00	21.28	-0.17	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-1	03/24/2006	--	37.37	11.85	0.00	25.52	4.24	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-1	05/30/2006	--	37.37	13.30	0.00	24.07	-1.45	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-1	08/22/2006	--	37.37	15.11	0.00	22.26	-1.81	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-1	10/31/2006	--	37.37	16.11	0.00	21.26	-1.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-1	01/12/2007	--	37.37	15.55	0.00	21.82	0.56	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-1	04/04/2007	--	37.37	15.31	0.00	22.06	0.24	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-1	07/05/2007	--	37.37	16.21	0.00	21.16	-0.90	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-1	10/01/2007	--	37.37	17.13	0.00	20.24	-0.92	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-1	01/11/2008	--	37.37	14.48	0.00	22.89	2.65	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-1	04/04/2008	--	37.37	16.17	0.00	21.20	-1.69	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-1	07/02/2008	--	37.37	16.70	0.00	20.67	-0.53	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-1	10/02/2008	--	37.37	17.50	0.00	19.87	-0.80	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-1	01/14/2009	--	37.37	17.30	0.00	20.07	0.20	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-1	04/16/2009	--	37.37	15.60	0.00	21.77	1.70	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-1	07/16/2009	--	37.37	16.90	0.00	20.47	-1.30	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-1	01/06/2010	--	37.37	16.35	0.00	21.02	0.55	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-1	11/02/2011	--	37.37	16.38	0.00	20.99	-0.03	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-1	04/06/2012	--	37.37	14.20	0.00	23.17	2.18	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-1	06/13/2013	--	37.37	16.81	0.00	20.56	-2.61	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-1	10/07/2013	--	37.37	17.62	0.00	19.75	-3.42	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	

Table 3 - Groundwater Analytical Results
Union Oil Company of California
Service Station Number 7124
10151 International Boulevard, Oakland, California

Well Identification	Date Sampled	Sample Depth (ft bgs)	TOC Elevation (ft MLS)	DTW (ft bTOC)	LPH Thickness (ft)	GW Elevation (ft MSL)	Change in Elevation (ft)	TPH-g	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	TAME	DIPE	ETBE	EDB	1,2-DCE	Ethanol	Comments
ESLs (groundwater is not a potential resource)[1]				--	--	--	--	500	27	130	43	100	1,800	18,000	--	--	--	--	--	--	--
ESLs (groundwater is a potential resource)[2]				--	--	--	--	100	1	40	30	20	5	12	--	--	--	--	--	--	--
MCL[3]				--	--	--	--	--	5	1,000	700	10,000	13	--	--	--	--	--	--	--	--
MW-2	04/08/2002	--	37.87	15.86	0.00	22.01	--	--	<2.5	<2.5	6.4	<2.5	**490**	<2,000	<40	<40	<40	<40	--	--	
MW-2	07/28/2002	--	37.87	17.28	0.00	20.59	-1.42	3,200	<2.5	<2.5	<2.5	<5.0	**170**	<500	<10	<10	<10	<10	--	--	
MW-2	11/03/2002	--	37.87	18.03	0.00	19.84	-0.75	3,800	<5.0	<5.0	<5.0	<10	**72**	<1,000	<20	<20	<20	<20	--	--	
MW-2	01/24/2003	--	37.87	15.59	0.00	22.28	2.44	410	<2.5	<2.5	<2.5	<5.0	**490**	<500	<10	<10	<10	<10	--	--	
MW-2	04/02/2003	--	37.87	16.50	0.00	21.37	-0.91	1,000	<5.0	<5.0	<5.0	<10	**180**	<1,000	<20	<20	<20	<20	--	--	
MW-2	07/01/2003	--	37.87	16.94	0.00	20.93	-0.44	1,900	<2.5	<2.5	<2.5	<5.0	**120**	<500	<10	<10	<10	<10	--	--	
MW-2	10/02/2003	--	37.87	17.93	0.00	19.94	-0.99	6,900	<0.50	<0.50	<0.50	<1.0	**32**	<100	<2.0	<2.0	<2.0	<2.0	--	<500	
MW-2	01/09/2004	--	37.87	15.42	0.00	22.45	2.51	1,000	<2.5	<2.5	<2.5	<5.0	**300**	<500	<10	<10	<10	<10	--	<2,500	
MW-2	04/26/2004	--	37.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-2	07/22/2004	--	37.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-2	10/29/2004	--	37.87	--	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-2	01/12/2005	--	37.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-2	06/20/2005	--	37.87	15.94	0.00	21.93	--	120	<0.50	<0.50	<0.50	<1.0	**46**	25	<0.50	<0.50	<0.50	<0.50	--	<1,000	
MW-2	09/23/2005	--	37.87	17.29	0.00	20.58	-1.35	120	<0.50	<0.50	<0.50	<1.0	10	<10	<0.50	<0.50	<0.50	<0.50	--	<1,000	
MW-2	12/13/2005	--	37.87	17.41	0.00	20.46	-0.12	<50	<0.50	<0.50	<0.50	<1.0	11	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-2	03/24/2006	--	37.87	13.77	0.00	24.10	3.64	190	<0.50	<0.50	<0.50	<1.0	**15**	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-2	05/30/2006	--	37.87	15.16	0.00	22.71	-1.39	120	<0.50	<0.50	<0.50	<1.0	6.6	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-2	08/22/2006	--	37.87	16.49	0.00	21.38	-1.33	81	<0.50	<0.50	<0.50	<0.50	3	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-2	10/31/2006	--	37.87	17.15	0.00	20.72	-0.66	93	<0.50	<0.50	<0.50	<0.50	2	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-2	01/12/2007	--	37.87	17.07	0.00	20.80	0.08	230	<0.50	<0.50	<0.50	<0.50	4.3	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-2	04/04/2007	--	37.87	17.84	0.00	20.03	-0.77	110	<0.50	<0.50	<0.50	<0.50	2.5	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-2	07/05/2007	--	37.87	17.51	0.00	20.36	0.33	150	<0.50	<0.50	<0.50	<0.50	2.6	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-2	10/01/2007	--	37.87	18.25	0.00	19.62	-0.74	160	<0.50	<0.50	<0.50	<0.50	2	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-2	01/11/2008	--	37.87	16.80	0.00	21.07	1.45	130	<0.50	<0.50	<0.50	<1.0	7.7	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-2	05/22/2008	--	37.87	17.46	0.00	20.41	-0.66	140	<0.50	<0.50	<0.50	<1.0	4.2	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-2	07/02/2008	--	37.87	17.94	0.00	19.93	-0.48	75	<0.50	<0.50	<0.50	<1.0	2.4	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-2	10/02/2008	--	37.87	18.65	0.00	19.22	-0.71	130	<0.50	<0.50	<0.50	<1.0	2.1	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-2	01/14/2009	--	37.87	18.40	0.00	19.47	0.25	66	<0.50	<0.50	<0.50	<1.0	2.5	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-2	04/16/2009	--	37.87	16.94	0.00	20.93	1.46	93	<0.50	<0.50	<0.50	<1.0	3.2	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-2	07/16/2009	--	37.87	18.15	0.00	19.72	-1.21	92	<0.50	<0.50	<0.50	<1.0	1.6	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-2	01/06/2010	--	37.87	17.68	0.00	20.19	0.47	150	<0.50	<0.50	<0.50	<1.0	2	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-2	11/02/2011	--	37.87	17.15	0.00	20.72	0.53	96	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-2	04/06/2012	--	37.87	15.63	0.00	22.24	1.52	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-2	06/13/2013	--	37.87	18.03	0.00	19.84	-2.40	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-2	10/07/2013	--	37.87	18.74	0.00	19.13	-3.11	99	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	

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Union Oil Company of California
Service Station Number 7124
10151 International Boulevard, Oakland, California

Well Identification	Date Sampled	Sample Depth (ft bgs)	TOC Elevation (ft MLS)	DTW (ft bTOC)	LPH Thickness (ft)	GW Elevation (ft MSL)	Change in Elevation (ft)	TPH-g	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	TAME	DIPE	ETBE	EDB	1,2-DCE	Ethanol	Comments
ESLs (groundwater is not a potential resource)[1]				--	--	--	--	500	27	130	43	100	1,800	18,000	--	--	--	--	--	--	--
ESLs (groundwater is a potential resource)[2]				--	--	--	--	100	1	40	30	20	5	12	--	--	--	--	--	--	--
MCL[3]				--	--	--	--	--	5	1,000	700	10,000	13	--	--	--	--	--	--	--	--
MW-3	04/08/2002	--	38.36	16.59	0.00	21.77	--	--	<5.0	<5.0	28	<5.0	**980**	--	--	--	--	--	--	--	
MW-3	07/28/2002	--	38.36	17.93	0.00	20.43	-1.34	4,500	<2.5	<2.5	<2.5	<5.0	**170**	--	--	--	--	--	--	--	
MW-3	11/03/2002	--	38.36	18.66	0.00	19.70	-0.73	25,000	<0.50	<0.50	<0.50	<1.0	5.7	--	--	--	--	--	--	--	
MW-3	01/24/2003	--	38.36	16.27	0.00	22.09	2.39	6,000	<10	<10	<10	<20	**1,000**	--	--	--	--	--	--	--	
MW-3	04/02/2003	--	38.36	17.19	0.00	21.17	-0.92	130,000	<100	<100	<100	<200	<400	--	--	--	--	--	--	--	
MW-3	07/01/2003	--	38.36	17.61	0.00	20.75	-0.42	9,400	<2.5	<2.5	<2.5	<5.0	**170**	--	--	--	--	--	--	--	
MW-3	10/02/2003	--	38.36	18.58	0.00	19.78	-0.97	73,000	<10	<10	<10	<20	**70**	<10,000	<200	<200	<200	<200	--	<50,000	
MW-3	01/09/2004	--	38.36	16.15	0.00	22.21	2.43	8,700	<10	<10	<10	<20	**530**	<5,000	<100	<100	<100	<100	--	<25,000	
MW-3	04/26/2004	--	38.36	17.20	0.00	21.16	-1.05	6,700	<10	<10	<10	<20	**240**	<250	<25	<50	<25	<25	--	<2,500	
MW-3	07/22/2004	--	38.36	18.34	0.00	20.02	-1.14	13,000	<10	<10	<10	<20	**48**	<250	<25	<50	<25	<25	--	<2,500	
MW-3	10/29/2004	--	38.36	18.13	0.00	20.23	0.21	4,600	<2.5	<2.5	<2.5	<5.0	**76**	<50	<5.0	<10	<5.0	<5.0	--	<500	
MW-3	01/12/2005	--	38.36	15.22	0.00	23.14	2.91	6,100	<0.50	<0.50	<0.50	<1.0	**620**	1,300	<25	<50	<25	<25	--	<2,500	
MW-3	06/20/2005	--	38.36	16.63	0.00	21.73	-1.41	1,900	<0.50	<0.50	<0.50	<1.0	**110**	39	0.31J	<0.50	<0.50	<0.50	--	<1,000	
MW-3	09/23/2005	--	38.36	17.93	0.00	20.43	-1.30	2,400	<0.50	<0.50	<0.50	<1.0	**34**	<10	<0.50	<0.50	<0.50	<0.50	--	<1,000	
MW-3	12/13/2005	--	38.36	18.04	0.00	20.32	-0.11	2,100	<0.50	<0.50	<0.50	<1.0	**36**	<50	<2.5	<2.5	<2.5	<2.5	--	<1,200	
MW-3	03/24/2006	--	38.36	14.48	0.00	23.88	3.56	2,200	<12	<12	<12	<25	**200**	<100	<5.0	<5.0	<5.0	<5.0	--	<2,500	
MW-3	05/30/2006	--	38.36	15.79	0.00	22.57	-1.31	1,500	<2.5	<2.5	<2.5	<5.0	**130**	<250	<12	<12	<12	<12	--	<6,200	
MW-3	08/22/2006	--	38.36	17.26	0.00	21.10	-1.47	1,900	<0.50	<0.50	<0.50	<0.50	**33**	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-3	10/31/2006	--	38.36	18.08	0.00	20.28	-0.82	2,200	<0.50	<0.50	<0.50	<0.50	10	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-3	01/12/2007	--	38.36	17.57	0.00	20.79	0.51	2,600	<0.50	<0.50	<0.50	<0.50	**28**	43	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-3	04/04/2007	--	38.36	17.40	0.00	20.96	0.17	1,700	<0.50	<0.50	<0.50	<0.50	**41**	130	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-3	07/05/2007	--	38.36	18.02	0.00	20.34	-0.62	2,400	<0.50	<0.50	<0.50	<0.50	7	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-3	10/01/2007	--	38.36	18.89	0.00	19.47	-0.87	1,700	<0.50	<0.50	<0.50	<0.50	3	<20	<1.0	<1.0	<1.0	<1.0	--	<500	
MW-3	01/11/2008	--	38.36	16.56	0.00	21.80	2.33	2,200	<0.50	<0.50	<0.50	<1.0	**21**	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-3	04/04/2008	--	38.36	18.10	0.00	20.26	-1.54	1,600	<0.50	<0.50	<0.50	<1.0	5.6	<20	<1.0	<1.0	<1.0	<1.0	--	<500	
MW-3	07/02/2008	--	38.36	18.55	0.00	19.81	-0.45	1,200	<0.50	<0.50	<0.50	<1.0	3.3	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-3	10/02/2008	--	38.36	19.25	0.00	19.11	-0.70	2,100	<0.50	<0.50	<0.50	<1.0	2.4	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-3	01/14/2009	--	38.36	19.10	0.00	19.26	0.15	2,000	<0.50	<0.50	<0.50	<1.0	2.4	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-3	04/16/2009	--	38.36	17.61	0.00	20.75	1.49	1,800	<0.50	<0.50	<0.50	<1.0	**16**	<50	<2.5	<2.5	<2.5	<2.5	--	<1,200	
MW-3	07/16/2009	--	38.36	18.70	0.00	19.66	-1.09	1,900	<0.50	<0.50	<0.50	<1.0	3.2	<100	<5.0	<5.0	<5.0	<5.0	--	<2,500	
MW-3	01/06/2010	--	38.36	18.28	0.00	20.08	0.42	2,200	<0.50	<0.50	<0.50	<1.0	2.4	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-3	11/02/2011	--	37.72	17.55	0.00	20.17	0.10	880	<0.50	<0.50	<0.50	<1.0	**35**	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-3	04/06/2012	--	37.72	16.40	0.00	21.32	1.15	1,000	<0.50	<0.50	<0.50	<1.0	**210**	85	<0.50	<0.50	<0.50	<0.50	--	<250	A01
MW-3	06/13/2013	--	37.72	17.45	0.00	20.27	-1.05	<50	<0.50	<0.50	<0.50	<1.0	6.5	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-3	10/07/2013	--	37.72	18.62	0.00	19.10	-2.22	880	<0.50	<0.50	<0.50	<1.0	12	<10	<0.50	<0.50	<0.50	<0.50	--	<250	

Table 3 - Groundwater Analytical Results
Union Oil Company of California
Service Station Number 7124
10151 International Boulevard, Oakland, California

Well Identification	Date Sampled	Sample Depth (ft bgs)	TOC Elevation (ft MLS)	DTW (ft bTOC)	LPH Thickness (ft)	GW Elevation (ft MSL)	Change in Elevation (ft)	TPH-g	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	TAME	DIPE	ETBE	EDB	1,2-DCE	Ethanol	Comments
ESLs (groundwater is not a potential resource)[1]				--	--	--	--	500	27	130	43	100	1,800	18,000	--	--	--	--	--	--	--
ESLs (groundwater is a potential resource)[2]				--	--	--	--	100	1	40	30	20	5	12	--	--	--	--	--	--	--
MCL[3]				--	--	--	--	--	5	1,000	700	10,000	13	--	--	--	--	--	--	--	--
MW-4	04/08/2002	--	38.36	16.59	0.00	21.77	--	--	<5.0	<5.0	28	<5.0	**980**	<5,000	<100	<100	<100	<100	--	--	
MW-4	07/28/2002	--	38.36	17.93	0.00	20.43	-1.34	18,000	<2.5	<2.5	<2.5	<5.0	**170**	<500	<10	<10	<10	<10	--	--	
MW-4	11/03/2002	--	38.36	18.66	0.00	19.70	-0.73	220	<0.50	<0.50	<0.50	<1.0	5.7	<100	<2.0	<2.0	<2.0	<2.0	--	--	
MW-4	01/24/2003	--	38.36	16.27	0.00	22.09	2.39	<1,000	<10	<10	<10	<20	**1,000**	<2,000	<40	<40	<40	<40	--	--	
MW-4	04/02/2003	--	38.36	17.19	0.00	21.17	-0.92	130,000	<100	<100	<100	<200	<400	<20,000	<400	<400	<400	<400	--	--	
MW-4	07/01/2003	--	38.36	17.61	0.00	20.75	-0.42	15,000	<2.5	<2.5	<2.5	<5.0	**170**	<500	<10	<10	<10	<10	--	--	
MW-4	10/02/2003	--	38.36	18.58	0.00	19.78	-0.97	7,100	<10	<10	<10	<20	**70**	<2,000	<40	<40	<40	<40	--	<1,0000	
MW-4	01/09/2004	--	38.36	16.15	0.00	22.21	2.43	18,000	<10	<10	<10	<20	**530**	<2,000	<40	<40	<40	<40	--	<10,000	
MW-4	04/26/2004	--	38.36	17.20	0.00	21.16	-1.05	6,500	<10	<10	<10	<20	**240**	430	<10	<20	<10	<10	--	<1,000	
MW-4	07/22/2004	--	38.36	18.34	0.00	20.02	-1.14	18,000	<10	<10	<10	<20	**48**	<100	<10	<20	<10	<10	--	<1,000	
MW-4	10/29/2004	--	38.36	18.13	0.00	20.23	0.21	2,700	<2.5	<2.5	<2.5	<5.0	**76**	63	<2.5	<5.0	<2.5	<2.5	--	<250	
MW-4	01/12/2005	--	38.36	15.22	0.00	23.14	2.91	1,300	<0.50	<0.50	<0.50	<1.0	**620**	1,300	<2.5	<5.0	<2.5	<10	--	<250	
MW-4	06/20/2005	--	38.36	16.63	0.00	21.73	-1.41	980	<0.50	<0.50	<0.50	<1.0	**110**	580	<0.50	<0.50	<0.50	<0.50	--	<1,000	
MW-4	09/23/2005	--	38.36	17.93	0.00	20.43	-1.30	1,500	<0.50	<0.50	<0.50	<1.0	**34**	92	<0.50	<0.50	<0.50	<0.50	--	<1,000	
MW-4	12/13/2005	--	38.36	18.04	0.00	20.32	-0.11	3,900	<0.50	<0.50	<0.50	<1.0	**36**	50	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-4	03/24/2006	--	38.36	14.48	0.00	23.88	3.56	1,500	<12	<12	<12	<25	**200**	1,900	<12	<12	<12	<12	--	<6,200	
MW-4	05/30/2006	--	38.36	15.79	0.00	22.57	-1.31	1,200	<2.5	<2.5	<2.5	<5.0	**130**	<50	<2.5	<2.5	<2.5	<2.5	--	<1,200	
MW-4	08/22/2006	--	38.36	17.26	0.00	21.10	-1.47	980	<0.50	<0.50	<0.50	<0.50	**33**	150	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-4	10/31/2006	--	38.36	18.08	0.00	20.28	-0.82	1,300	<0.50	<0.50	<0.50	<0.50	10	43	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-4	01/12/2007	--	38.36	17.57	0.00	20.79	0.51	820	<0.50	<0.50	<0.50	<0.50	**28**	72	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-4	04/04/2007	--	38.36	17.40	0.00	20.96	0.17	460	<0.50	<0.50	<0.50	<0.50	**41**	260	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-4	07/05/2007	--	38.36	18.02	0.00	20.34	-0.62	920	<0.50	<0.50	<0.50	<0.50	7	18	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-4	10/01/2007	--	38.36	18.89	0.00	19.47	-0.87	560	<0.50	<0.50	<0.50	<0.50	3	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-4	01/11/2008	--	38.36	16.56	0.00	21.80	2.33	340	<0.50	<0.50	<0.50	<1.0	**21**	140	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-4	05/22/2008	--	38.36	18.10	0.00	20.26	-1.54	520	<0.50	<0.50	<0.50	<1.0	5.6	52	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-4	07/02/2008	--	38.36	18.55	0.00	19.81	-0.45	340	<0.50	<0.50	<0.50	<1.0	3.3	15	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-4	10/02/2008	--	38.36	19.25	0.00	19.11	-0.70	790	<0.50	<0.50	<0.50	<1.0	2.4	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-4	01/14/2009	--	38.36	19.10	0.00	19.26	0.15	430	<0.50	<0.50	<0.50	<1.0	2.4	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-4	04/16/2009	--	38.36	17.61	0.00	20.75	1.49	390	<0.50	<0.50	<0.50	<1.0	**16**	170	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-4	07/16/2009	--	38.36	18.70	0.00	19.66	-1.09	310	<0.50	<0.50	<0.50	<1.0	3.2	20	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-4	01/06/2010	--	38.36	18.28	0.00	20.08	0.42	380	<0.50	<0.50	<0.50	<1.0	2.4	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-4	11/02/2011	--	38.36	18.27	0.00	20.09	0.01	170	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-4	04/06/2012	--	38.36	15.68	0.00	22.68	2.59	200	<0.50	<0.50	<0.50	<1.0	1.7	58	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-4	06/13/2013	--	38.36	18.65	0.00	19.71	-2.97	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
MW-4	10/07/2013	--	38.36	19.33	0.00	19.03	-3.65	95	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	--	<250	
SB-1	09/05/2008	--	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	--	--	--	--	--	--	
SB-2	09/05/2008	--	--	--	--	--	--	3,400	<5.0	<5.0	<5.0	<1.0	<5.0	<100	--	--	--	--	--	--	
SB-3	09/05/2008	--	--	--	--	--	--	480	<0.50	<0.50	<0.50	<1.0	<0.50	<10	--	--	--	--	--	--	
SB-4	09/05/2008	--	--	--	--	--	--	45,000	<12	<12	<12	<25	**62**	<250	--	--	--	--	--	--	
SB-5	09/05/2008	--	--	--	--	--	--	67	<0.50	<0.50	<0.50	<1.0	**25**	120	--	--	--	--	--	--	
SB-6	09/05/2008	--	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	2.0	<10	--	--	--	--	--	--	
SB-7	09/05/2008	--	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	--	--	--	--	--	--	

Table 3 - Groundwater Analytical Results
Union Oil Company of California
Service Station Number 7124
10151 International Boulevard, Oakland, California

Well Identification	Date Sampled	Sample Depth (ft bgs)	TOC Elevation (ft MLS)	DTW (ft bTOC)	LPH Thickness (ft)	GW Elevation (ft MSL)	Change in Elevation (ft)	TPH-g	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	TAME	DIPE	ETBE	EDB	1,2-DCE	Ethanol	Comments
ESLs (groundwater is not a potential resource)[1]				--	--	--	--	500	27	130	43	100	1,800	18,000	--	--	--	--	--	--	--
ESLs (groundwater is a potential resource)[2]				--	--	--	--	100	1	40	30	20	5	12	--	--	--	--	--	--	--
MCL[3]				--	--	--	--	--	5	1,000	700	10,000	13	--	--	--	--	--	--	--	--
HP-1-32-36	11/18/2013	32 - 36	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
HP-1-42-46	11/18/2013	42 - 46	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
HP-2-30-34	11/15/2013	30 - 34	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
HP-2-40-44	11/15/2013	40 - 44	--	--	--	--	--	230	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
HP-3-32-35	11/15/2013	32 - 35	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
HP-3-39-44	11/15/2013	39 - 44	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
HP-4-35-59	11/14/2013	35 - 59	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
HP-4-41-45	11/14/2013	41 - 45	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
HP-5-28-32	11/18/2013	28 - 32	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	1.6	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
HP-5-39-42	11/18/2013	39 - 42	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	

Notes

1) San Francisco Regional Water Quality Control Board (SFRWQCB) Environmental Screening Levels (ESLs) where groundwater is not a current or potential drinking water resource (Table F-1a; SFRWQCB 2013)
2) San Francisco Regional Water Quality Control Board (SFRWQCB) Environmental Screening Levels (ESLs) where groundwater is a current or potential drinking water resource (Table F-1b; SFRWQCB 2013)
3) California Maximum Contaminant Level (MCL) for MTBE; SFRWQCB ESL for TPH-g
4) Beginning in second quarter 2010 through third quarter 2011, the site was inaccessible due to the installation of a chain-link fence at the site perimeter.
5) All samples analyzed by EPA Method 8260B, except for TPH-g, which is analyzed by EPA Method 8015B.
6) Analytical results provided in micrograms per liter (ug/L), unless otherwise stated.
7) Hydropunch locations taken directly adjacent to CPT locations.

Standard Abbreviations

--	Not analyzed, measured, or collected
<	Not detected at or above the method reporting limit
TOC	Top of casing
ft bgs	Feet below ground surface
ft MSL	Feet above mean sea level
DTW	Depth to water
ft bTOC	Feet below top of casing
LPH	Liquid phase hydrocarbons
GW	Groundwater
A01	PQL's and MDL's are raised due to sample dilution.
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
Bold	Indicates the detected concentration exceeded the ESL for groundwater as a potential water resource

Analytes

TPH-g	Total petroleum hydrocarbons - gasoline range organics
MTBE	Methyl tertiary-butyl ether
TBA	Tertiary-butyl alcohol
DIPE	Di-isopropyl ether
ETBE	Ethyl tert-butyl ether
TAME	Tert-amyl methyl ether
EDB	1,2-Dibromoethane
1,2-DCE	1,2-Dichloroethane

Table 4 - Summary of Statistical Analysis of Groundwater Analytical Data
Union Oil Company of California
Service Station Number 7124
10151 International Boulevard, Oakland, California

				Data Range						Linear Regression Analysis					
Well	**Constituent**	**Well**	**Screening Level[1] (µg/L)**	**Minimum Concentration (µg/L)**	**Maximum Concentration (µg/L)**	**Concentration Measured Most Recently (µg/L)**	**% of Data Above Laboratory Reporting Limit**	**Start Date**	**End Date**	**Coefficient of Determination, R-squared**	**p-value of Correlation (Significance of Slope)**	**Attenuation Half-life (days)**	**Trend Direction**	**Significance of Trend[2]**	**Projected Year to Screening Level**
MW-3	TPH-G	**MW-3**	500	*50*	130,000	880	97	7/28/2002	10/7/2013	0.61	<0.01	718	Decreasing	Significant	2012[3]
MW-3	MTBE	**MW-3**	13	7	10,000	12	100	4/8/2002	10/7/2013	0.58	<0.01	583	Decreasing	Significant	BCUG 6/2013

Notes

1) California Maximum Contaminant Level (MCL) for MTBE; San Francisco Bay Regional Water Quality Control Board Environmental Screening Level (ESL) for TPH-G
2) Statistically significant trend defined as having p-value ≤ 0.05
3) Concentrations are fluctuating around the CUG (less than CUG in June 2013 and greater than CUG in October 2013)

Standard Abbreviations

ug/L	Micrograms per liter
BCUG	Below Clean-up Goal since the date indicated (shown as month/year)
MTBE	Methyl tert-butyl ether
TPH-g	Total petroleum hydrocarbons - gasoline range organics
Italics	ND taken at reporting limit/reported value

Table 5 - Summary of Natural Biodegradation Data
Union Oil Company of California
Service Station Number 7124
10151 International Boulevard, Oakland, California

Well Identification	Date Sampled	Methane	Total Alkalinity as CaCO3	NO3	NO2	Sulfate	Total Sulfide	NVOC	Iron (II) Species (ug/L)	Dissolved Iron (ug/L)	Total Manganese (ug/L)	Comments
MW-1	06/13/2013	<0.0010	140	24	<0.17	23	<0.50	1.1	<100	<50	31,000	A10
MW-1	10/07/2013	0.015	150	26	<0.17	22	<0.10	3.4	<100	<50	13,000	
MW-2	06/13/2013	<0.0010	180	<0.44	<0.17	20	<0.10	1.0	250	120	9,700	
MW-2	10/07/2013	0.0049	200	<0.44	<0.17	9.6	<0.10	3.2	2700	260	5,600	
MW-3	06/13/2013	0.075	260	<0.44	<0.17	<1.0	<0.10	1.4	3,200	160	5,700	
MW-3	10/07/2013	0.071	260	<0.44	<0.17	<1.0	<0.10	3.1	9,000	710	9,600	A01
MW-4	06/13/2013	<0.0010	210	<0.44	<0.17	15	<0.50	4.7	5,200	<50	7,900	A01, A10
MW-4	10/07/2013	<0.0010	190	<0.44	<0.17	18	<0.10	8.2	13,000	220	5,000	A01

Notes:

1) Analytical results given in milligrams per liter (mg/l), unless otherwise stated.

Abbreviations:

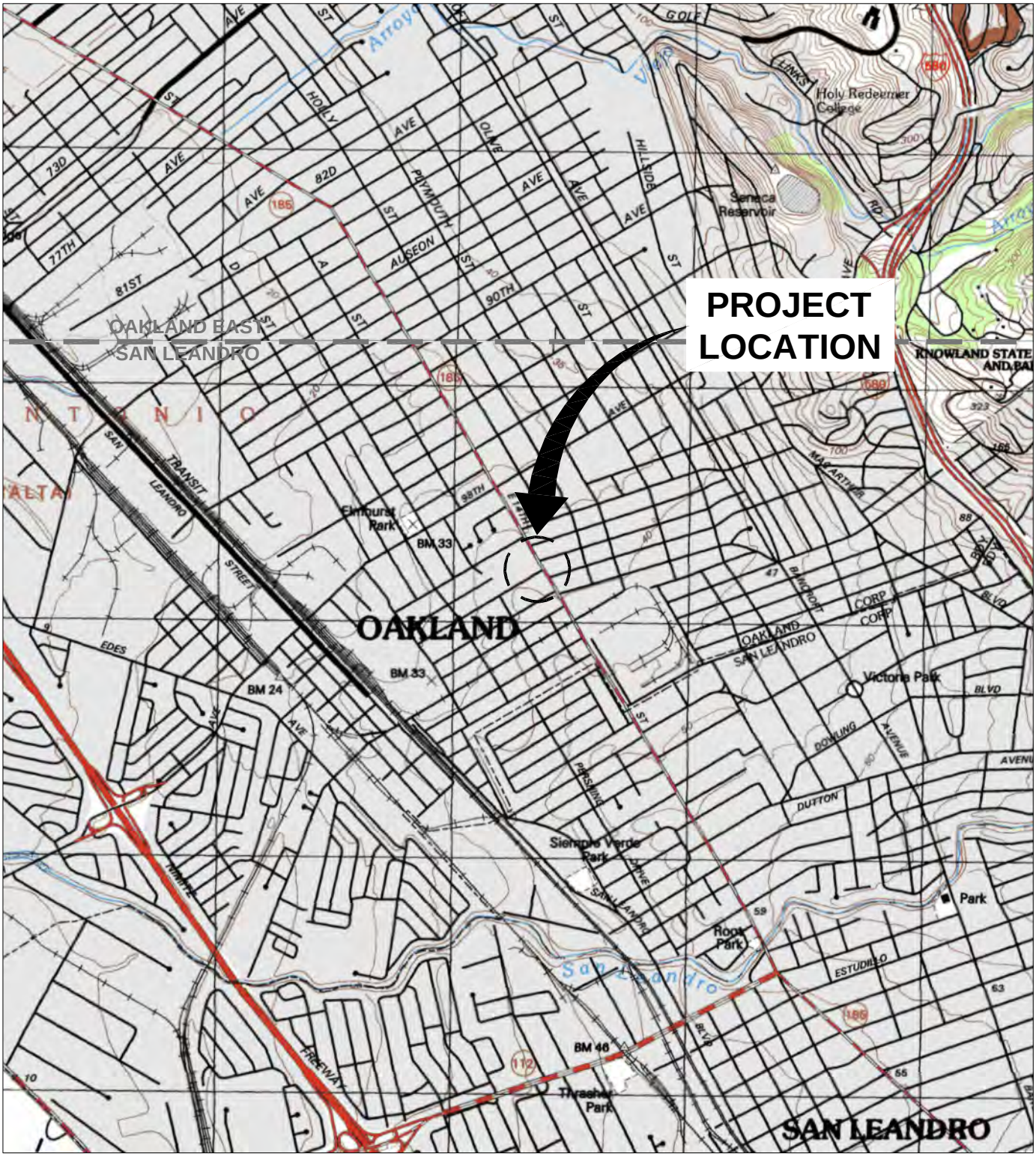
--	Not analyzed, measured, or collected
<	Not detected at or above the laboratory detection limit
ug/l	Micrograms per Liter
CaCO3	Calcium Carbonate
NO3	Nitrate
NO2	Nitrite
NVOC	Non-Volatile Organic Carbon
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
A01	PQL's and MDL's are raised due to sample dilution.
A10	PQL's and MDL's were raised due to matrix interference.

Analytes

Methane	RSK-175M
Total Alkalinity	EPA Method 310.1
Nitrate	EPA Method 300.0
Nitrite	EPA Method 353.2
Sulfate	EPA Method 300.0
Total Sulfide	Method SM-4500SD
NVOC	EPA Method 415.1
Iron (II) Species	Method SM-3500-FeD
Dissolved Iron	EPA Method 6010B
Total Manganese	EPA Method 6010B

ARCADIS

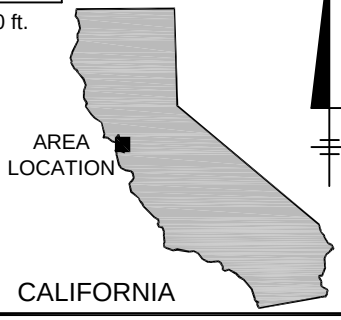
Figures



REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., SAN LEANDRO, CALIFORNIA, 1993, AND OAKLAND EAST, CALIFORNIA, 1997.

0 2000' 4000'

Approximate Scale: 1 in. = 2000 ft.



UNION OIL
STATION NO. 7124
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

SITE LOCATION MAP

ARCADIS

FIGURE 1

LEGEND

MW-1 GROUNDWATER MONITORING WELL

SB-1 SOIL BORING LOCATION

CPT-1 CPT LOCATION

NOTES:

1. BASE MAP PROVIDED BY TRC, DATED JANUARY 2010, AT A SCALE OF 1"=20'. ADDITIONAL SITE INFORMATION PROVIDED BY STANTEC, DATED SEPTEMBER 23, 2008, AT A SCALE OF 1"=40'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.

0 30' 60'

GRAPHIC SCALE

UNION OIL
STATION NO. 7124
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

SITE PLAN

ARCADIS

FIGURE
2

LEGEND

MW-1	GROUNDWATER MONITORING WELL
SB-1	SOIL BORING LOCATION
CPT-1	CPT LOCATION
(19.10)	GROUNDWATER ELEVATION IN FEET RELATIVE TO MEAN SEA LEVEL (FT MSL)
19.50	GROUNDWATER ELEVATION CONTOUR (FT MSL; DASHED WHERE INFERRED)
0.007 FT/FT	APPROXIMATE GROUNDWATER FLOW DIRECTION AND GRADIENT (FOOT PER FOOT)

NOTES:

1. BASE MAP PROVIDED BY TRC, DATED JANUARY 2010, AT A SCALE OF 1"=20'. ADDITIONAL SITE INFORMATION PROVIDED BY STANTEC, DATED SEPTEMBER 23, 2008, AT A SCALE OF 1"=40'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.
3. ALL MONITORING WELLS WERE SAMPLED AND GAUGED ON OCTOBER 7, 2013.

0 30' 60'
GRAPHIC SCALE

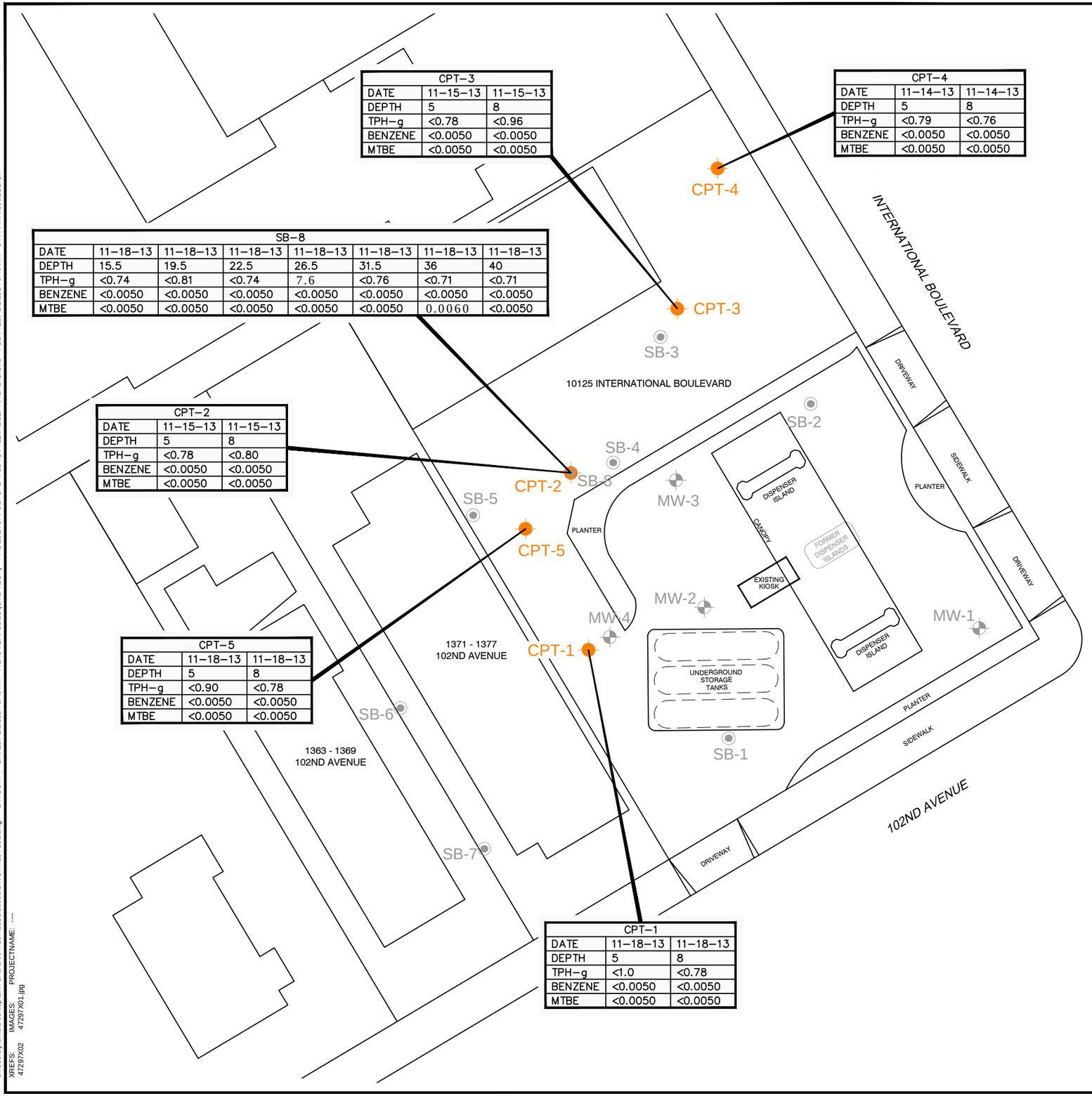
UNION OIL
STATION NO. 7124
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

GROUNDWATER ELEVATION CONTOUR MAP

ARCADIS

FIGURE
3

CITY: PETALUMA, CA DIV/GROUP: ENV DB: J. HARRIS LAYOUT: 3 SAVED: 1/2/2014 9:52 AM ACADVER: 18.1S (LMS TECH) PAGESETUP: SETUP1 PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 1/2/2014 9:57 AM BY: HARRIS, JESSICA
C:\Users\jharris\Desktop\ENVCAD\B0047297\2013\00005\DWG\47297W01.dwg
XREFS: 47297X02 IMAGES: 47297X01.jpg PROJECTNAME: ----



LEGEND

MW-1 GROUNDWATER MONITORING WELL

SB-1 SOIL BORING LOCATION

CPT-1 CPT LOCATION

CPT-3	
DATE	11-15-13
DEPTH	5
TPH-g	<0.78
BENZENE	<0.0050
MTBE	<0.0050

SAMPLE ID
SAMPLE DATE
SAMPLE DEPTH (FT BGS)
SOIL CONCENTRATION (mg/kg)

CPT CONE PENETROMETER TEST

TPH-g TOTAL PETROLEUM HYDROCARBONS-GASOLINE

MTBE METHYL TERT-BUTYL ETHER

FT BGS FEET BELOW GROUND SURFACE

mg/kg MILLIGRAMS PER KILOGRAM

DETECTIONS ARE SHOWN IN **BOLD**

NOTES:

1. BASE MAP PROVIDED BY TRC, DATED JANUARY 2010, AT A SCALE OF 1"=20'. ADDITIONAL SITE INFORMATION PROVIDED BY STANTEC, DATED SEPTEMBER 23, 2008, AT A SCALE OF 1"=40'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.

0 30' 60'

GRAPHIC SCALE

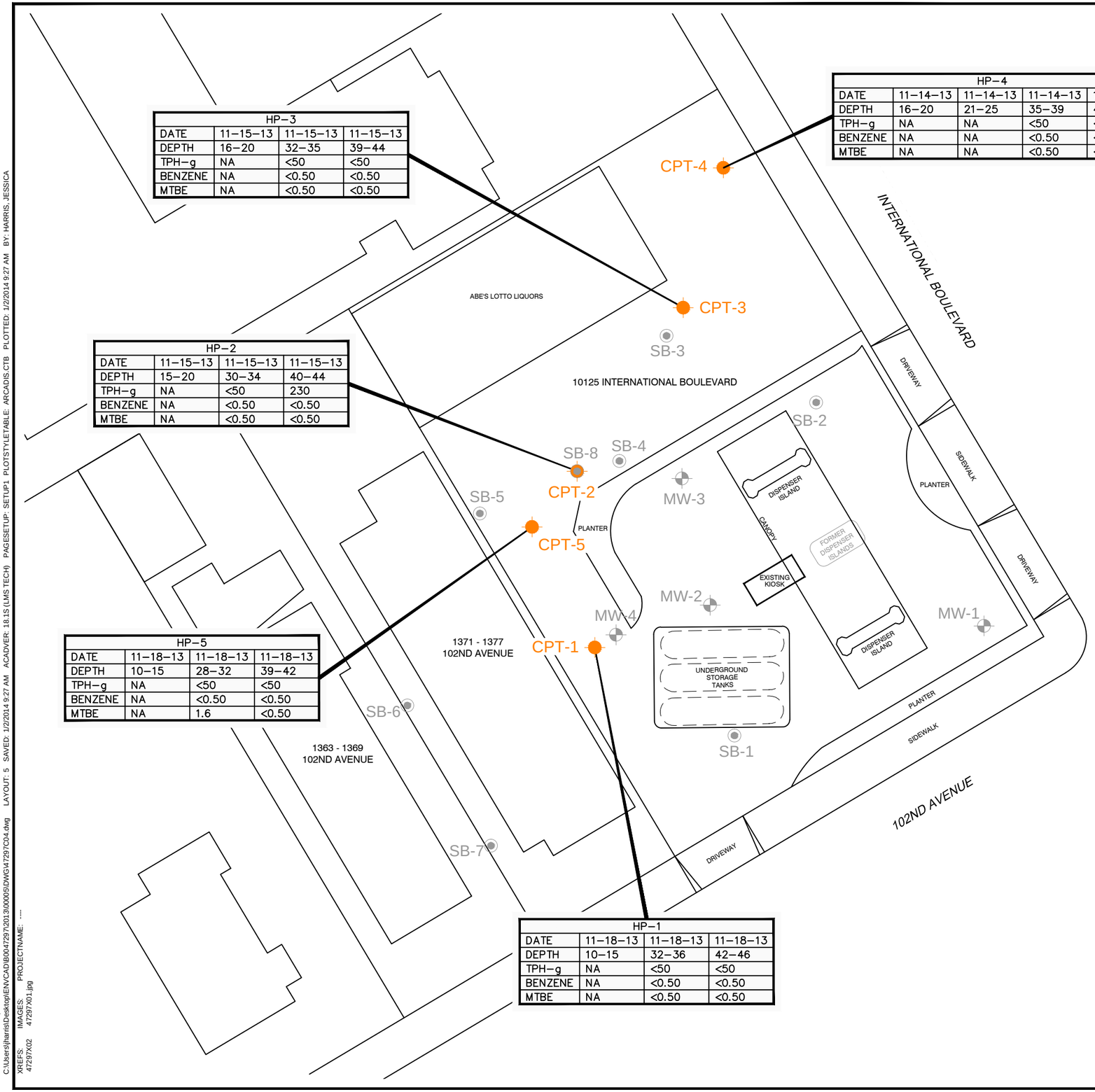
UNION OIL
STATION NO. 7124
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

SOIL ANALYTICAL RESULTS

ARCADIS

FIGURE 4

CITY: PETALUMA, CA DIV/GROUP: ENV DB: J. HARRIS
C:\Users\jharris\Desktop\ENVCAD\B0047297\2013\000005\DWG\47297C05.dwg LAYOUT: 4 SAVED: 1/2/2014 9:40 AM ACADVER: 18.1S (LMS TECH) PAGESETUP: SETUP1 PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 1/2/2014 9:40 AM BY: HARRIS, JESSICA
XREFS: IMAGES: PROJECTNAME: ---
47297X02 47297X01.jpg



LEGEND

- MW-1 GROUNDWATER MONITORING WELL
- SB-1 SOIL BORING LOCATION
- CPT-1 CPT LOCATION

HP-3	
DATE	11-15-13
DEPTH	32-35
TPH-g	<50
BENZENE	<0.50
MTBE	<0.50

- HYDROPUNCH™ SAMPLE ID
- SAMPLE DATE
- SAMPLE DEPTH (FT BGS)
- GROUNDWATER CONCENTRATION (µg/L)

CPT	CONE PENETROMETER TEST
TPH-g	TOTAL PETROLEUM HYDROCARBONS-GASOLINE
MTBE	METHYL TERT-BUTYL ETHER
FT BGS	FEET BELOW GROUND SURFACE
µg/L	MICROGRAMS PER LITER
NA	NOT AVAILABLE

NOTES:

1. BASE MAP PROVIDED BY TRC, DATED JANUARY 2010, AT A SCALE OF 1"=20'. ADDITIONAL SITE INFORMATION PROVIDED BY STANTEC, DATED SEPTEMBER 23, 2008, AT A SCALE OF 1"=40'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.

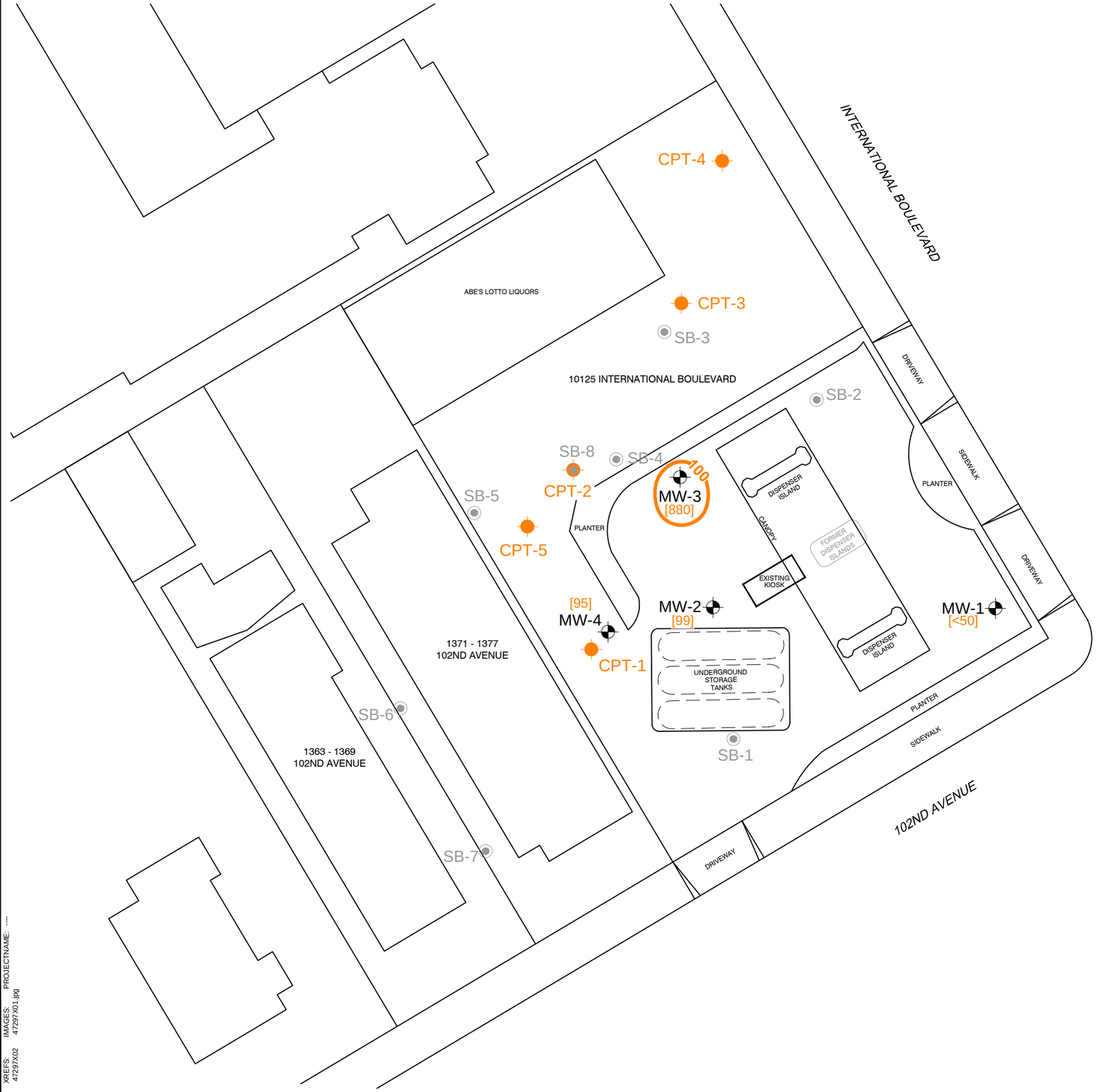
0 30' 60'
GRAPHIC SCALE

UNION OIL
STATION NO. 7124
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

GROUNDWATER ANALYTICAL RESULTS

ARCADIS

FIGURE 5



LEGEND

MW-1	GROUNDWATER MONITORING WELL
SB-1	SOIL BORING LOCATION
CPT-1	CPT LOCATION
[TPH-g]	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE (C6-C12) CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
100	TPH-g ISOCONCENTRATION CONTOUR (µg/L; DASHED WHERE INFERRED)
<	DENOTES LESS THAN LABORATORY REPORTING LIMIT

NOTES:

1. BASE MAP PROVIDED BY TRC, DATED JANUARY 2010, AT A SCALE OF 1"=20'. ADDITIONAL SITE INFORMATION PROVIDED BY STANTEC, DATED SEPTEMBER 23, 2008, AT A SCALE OF 1"=40'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.
3. ALL MONITORING WELLS WERE SAMPLED AND GAUGED ON OCTOBER 7, 2013.

0 30' 60'

GRAPHIC SCALE

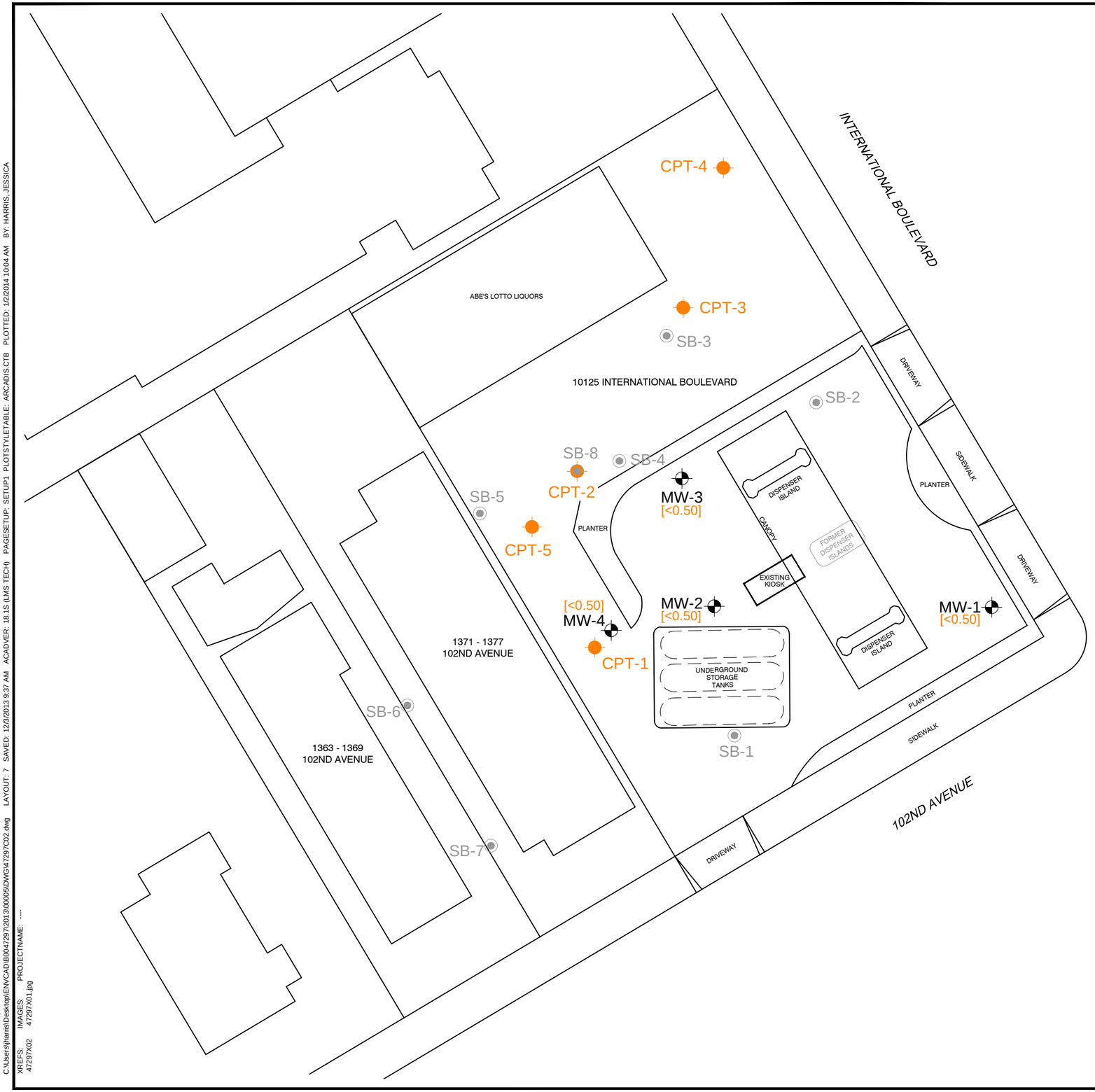
UNION OIL
STATION NO. 7124
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

TPH-g CONCENTRATION MAP

ARCADIS

FIGURE 6

CITY: PETALUMA, CA DIV/GROUP: ENV DB: J. HARRIS
C:\Users\jharris\Desktop\ENVCAD\B0047297\2013000005\DWG\47297C01.dwg LAYOUT: 6 SAVED: 12/10/2013 12:44 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: SETUP1 PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 1/2/2014 9:59 AM BY: HARRIS, JESSICA
XREFS: IMAGES: PROJECTNAME: ---
47297X02 47297X01.jpg



LEGEND

MW-1	GROUNDWATER MONITORING WELL
SB-1	SOIL BORING LOCATION
CPT-1	CPT LOCATION
[BENZ]	BENZENE CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
<	DENOTES LESS THAN LABORATORY REPORTING LIMIT

NOTES:

1. BASE MAP PROVIDED BY TRC, DATED JANUARY 2010, AT A SCALE OF 1"=20'. ADDITIONAL SITE INFORMATION PROVIDED BY STANTEC, DATED SEPTEMBER 23, 2008, AT A SCALE OF 1"=40'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.
3. ALL MONITORING WELLS WERE SAMPLED AND GAUGED ON OCTOBER 7, 2013.

0 30' 60'

GRAPHIC SCALE

UNION OIL
STATION NO. 7124
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

BENZENE CONCENTRATION MAP

ARCADIS

FIGURE 7

CITY: PETALUMA, CA DIV/GROUP: ENV DB: J. HARRIS
C:\Users\jharris\Desktop\ENVCADIB\004729\2013\30000\DWG\47297C02.dwg LAYOUT: 7 SAVED: 12/3/2013 9:37 AM ACADVER: 18.1S (LMS TECH) PAGESETUP: SETUP1 PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 1/2/2014 10:04 AM BY: HARRIS, JESSICA
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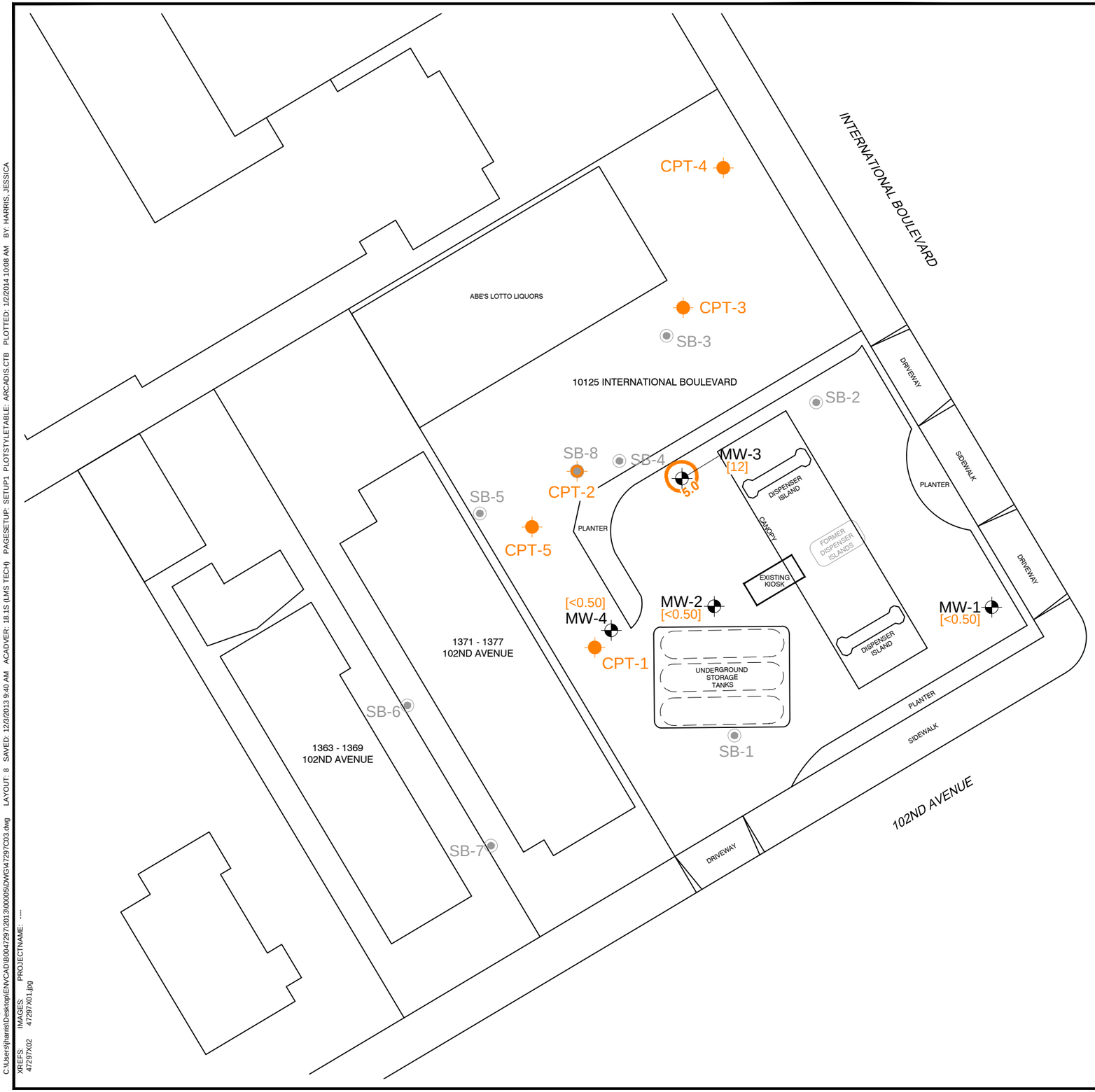
47297X02 47297X01.jpg



LEGEND

MW-1	GROUNDWATER MONITORING WELL
SB-1	SOIL BORING LOCATION
CPT-1	CPT LOCATION
[MTBE]	METHYL TERTIARY BUTYL ETHER CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
5.0	MTBE ISOCONCENTRATION CONTOUR (µg/L; DASHED WHERE INFERRED)
<	DENOTES LESS THAN LABORATORY REPORTING LIMIT

NOTES:

1. BASE MAP PROVIDED BY TRC, DATED JANUARY 2010, AT A SCALE OF 1"=20'. ADDITIONAL SITE INFORMATION PROVIDED BY STANTEC, DATED SEPTEMBER 23, 2008, AT A SCALE OF 1"=40'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.
3. ALL MONITORING WELLS WERE SAMPLED AND GAUGED ON OCTOBER 7, 2013.

0 30' 60'

GRAPHIC SCALE

UNION OIL
STATION NO. 7124
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

MTBE CONCENTRATION MAP

ARCADIS

FIGURE
8

CITY: PETALUMA, CA DIV/GROUP: ENV DB: J. HARRIS
C:\Users\jharris\Desktop\ENVCADIB\004729\2013\30000\DWG\47297C03.dwg LAYOUT: 8 SAVED: 12/3/2013 9:40 AM ACADVER: 18.1S (LMS TECH) PAGESETUP: SETUP1 PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 1/2/2014 10:08 AM BY: HARRIS, JESSICA
XREFS: IMAGES: PROJECTNAME: ---
47297X02 47297X01.jpg

ARCADIS

Appendix A

Site History

The Site is a former Royal-branded service station that is currently a fenced-off, non-operational service station located at 10151 International Boulevard in Oakland, California. Four groundwater monitoring wells (MW-1 through MW-4) have been sampled semi-annually since their installation in 2002. Access issues, including the construction of a chain link fence surrounding the site, have prohibited sampling during part of 2011. Existing site features include two dispenser islands under a common canopy, a station kiosk, and three 10,000-gallon gasoline underground storage tanks (USTs). Based on available information, the site has been a gasoline service station since at least 1997.

In 1997, a soil gas survey was conducted in order to determine baseline concentrations of petroleum hydrocarbons in soil vapor at the site. Five soil gas probes were installed in the vicinity of the USTs, product islands, and product piping. Two of the samples were collected from the UST area at depths ranging from 3 to 15 feet below ground surface (bgs). The remaining three samples were collected near the product dispenser islands at depths of approximately 3 feet bgs. Grab soil vapor samples were collected. Soil vapor samples were analyzed from total petroleum hydrocarbons in the gasoline range (TPH-g), benzene, toluene, ethylbenzene, and total xylenes (BTEX, collectively), and methyl tertiary butyl ether (MTBE). Laboratory analytical results were not available in the referenced material reviewed (Pacific Environmental Group 1997).

In March 2000, the product lines and dispensers were removed and replaced. Eight soil samples were collected from beneath the product dispensers and three soil samples were collected from beneath the product lines. Soil samples were analyzed for TPH-g, BTEX, and MTBE. TPH-g and benzene were detected in 6 of the 11 samples collected, and MTBE was detected in 7 of the 11 samples collected. The maximum concentrations of TPH-g, benzene, and MTBE were 6,200, 7.4, and 120 milligrams per kilogram (mg/kg), respectively, all collected beneath the product dispensers. Approximately 60 cubic yards of soil was excavated from areas that exhibited high concentrations of petroleum hydrocarbons. Three confirmation samples were collected from the base of the excavation area and analyzed for TPH-g, benzene, and MTBE. TPH-g was detected in two of the samples collected at a maximum concentration of 108 mg/kg. Benzene was detected in one of the samples collected at a concentration of 0.162 mg/kg. MTBE was detected in all of the soil samples collected at a maximum concentration of 43.8 mg/kg. Other stockpiled soil generated during these site activities was analyzed for TPH-g and BTEX. This soil did not reveal significant concentrations of petroleum hydrocarbons. Approximate 133 cubic yards of non-hazardous waste soil was ultimately removed from the site (Secor International Incorporated [SECOR] 2000a).

In February 2002, groundwater monitoring wells MW-1 through MW-4 were installed at the site. The wells were advanced to 25 feet bgs, with a screened interval from 10 to 25 feet bgs. Soil samples were collected during the well installation activities and analyzed for TPH-g, BTEX, MTBE, and other fuel oxygenates. Groundwater samples were also collected and analyzed for TPH-g, BTEX, and MTBE. TPH-g and MTBE were detected in the soil samples collected from monitoring wells MW-2, MW-3, and MW-4. The maximum concentrations of TPH-g and MTBE were 42 and 1.2 mg/kg, respectively, both collected in MW-3 at a depth of 16 feet bgs. The maximum concentration of TPH-g (13,000 micrograms per liter [µg/L]) was detected in the groundwater sample collected from MW-4. The maximum concentrations of benzene (65 µg/L), ethylbenzene (400 µg/L), and MTBE (8,300 µg/L) were detected in the groundwater sample collected from MW-3 (SECOR 2002b).

In September 2008, seven soil borings (SB-1 through SB-7) were advanced (two on-site and five off-site). The soil borings were advanced to depths ranging from 30 to 40 feet bgs and a grab groundwater sample was collected from each boring. Soil and groundwater samples were analyzed for TPH-g, BTEX, MTBE and other fuel oxygenates. MTBE (0.062 mg/kg) and tert-butyl alcohol (TBA; 0.15 mg/kg) were the only analytes detected above environmental screening levels in the soil sample collected from SB-1 at 15 feet bgs. The following summary of groundwater data indicate concentrations of constituents detected above environmental screening levels. TPH-g was detected in the groundwater samples collected from SB-2 through SB-4 at concentrations ranging from 480 to 45,000 µg/L. MTBE was detected in the groundwater samples collected from SB-4 and SB-5 at concentrations of 62 µg/L and 25 µg/L, respectively. TBA was detected in the groundwater sample collected from SB-5 at a concentration of 120 µg/L (Stantec Consulting Corporation 2008).

References:

Pacific Environmental Group, Inc. 1997. Soil Gas Survey Results, UNOCAL Service Station 7124, 10151 E 14th St, Oakland, California. October 29.

Secor International Incorporated (SECOR) 2000a. Removal and Replacement of Product Lines and Dispensers, Tosco (Unocal) Service Station #77124, 10151 East 4th Street, Oakland, California. April 14.

SECOR 2002b. Groundwater Monitoring Well Installation, Tosco Service Station No. 7124, 10151 East 14th Street, Oakland, California. May 14.

Stantec Consulting Corporation 2008. Additional Assessment Report, Former 76 Service Station No. 7124, 10151 International Blvd., Oakland, California. October 15.

ARCADIS

Appendix B

Boring Logs

November 14, 2013

Arcadis
Attn: Kathy Brandt

Subject: CPT Site Investigation
Chevron Facility #351638, 10151 International Blvd.
Oakland, California
GREGG Project Number: 13-186MA

Dear Ms. Brandt:

The following report presents the results of GREGG Drilling & Testing's Cone Penetration Test investigation for the above referenced site. The following testing services were performed:

1	Cone Penetration Tests	(CPTU)	☒
2	Pore Pressure Dissipation Tests	(PPD)	☒
3	Seismic Cone Penetration Tests	(SCPTU)	☐
4	UVOST Laser Induced Fluorescence	(UVOST)	☐
5	Groundwater Sampling	(GWS)	☐
6	Soil Sampling	(SS)	☐
7	Vapor Sampling	(VS)	☐
8	Pressuremeter Testing	(PMT)	☐
9	Vane Shear Testing	(VST)	☐
10	Dilatometer Testing	(DMT)	☐

A list of reference papers providing additional background on the specific tests conducted is provided in the bibliography following the text of the report. If you would like a copy of any of these publications or should you have any questions or comments regarding the contents of this report, please do not hesitate to contact our office at (925) 313-5800.

Sincerely,
GREGG Drilling & Testing, Inc.

Mary Walden
Operations Manager

Cone Penetration Test Sounding Summary

-Table 1-

CPT Sounding Identification	Date	Termination Depth (feet)	Depth of Groundwater Samples (feet)	Depth of Soil Samples (feet)	Depth of Pore Pressure Dissipation Tests (feet)
CPT-01	11/13/13	66	-	-	-
CPT-02	11/13/13	44	-	-	44.6
CPT-03	11/12/13	41	-	-	41.5
CPT-04	11/12/13	43	-	-	38.7
CPT-05	11/13/13	44	-	-	44.6

Bibliography

Lunne, T., Robertson, P.K. and Powell, J.J.M., "Cone Penetration Testing in Geotechnical Practice" E & FN Spon. ISBN 0 419 23750, 1997

Roberston, P.K., "Soil Classification using the Cone Penetration Test", Canadian Geotechnical Journal, Vol. 27, 1990 pp. 151-158.

Mayne, P.W., "NHI (2002) Manual on Subsurface Investigations: Geotechnical Site Characterization", available through www.ce.gatech.edu/~geosys/Faculty/Mayne/papers/index.html, Section 5.3, pp. 107-112.

Robertson, P.K., R.G. Campanella, D. Gillespie and A. Rice, "Seismic CPT to Measure In-Situ Shear Wave Velocity", Journal of Geotechnical Engineering ASCE, Vol. 112, No. 8, 1986 pp. 791-803.

Robertson, P.K., Sully, J., Woeller, D.J., Lunne, T., Powell, J.J.M., and Gillespie, D.J., "Guidelines for Estimating Consolidation Parameters in Soils from Piezocone Tests", Canadian Geotechnical Journal, Vol. 29, No. 4, August 1992, pp. 539-550.

Robertson, P.K., T. Lunne and J.J.M. Powell, "Geo-Environmental Application of Penetration Testing", Geotechnical Site Characterization, Robertson & Mayne (editors), 1998 Balkema, Rotterdam, ISBN 90 5410 939 4 pp 35-47.

Campanella, R.G. and I. Weemees, "Development and Use of An Electrical Resistivity Cone for Groundwater Contamination Studies", Canadian Geotechnical Journal, Vol. 27 No. 5, 1990 pp. 557-567.

DeGroot, D.J. and A.J. Lutenegger, "Reliability of Soil Gas Sampling and Characterization Techniques", International Site Characterization Conference - Atlanta, 1998.

Woeller, D.J., P.K. Robertson, T.J. Boyd and Dave Thomas, "Detection of Polyaromatic Hydrocarbon Contaminants Using the UVIF-CPT", 53rd Canadian Geotechnical Conference Montreal, QC October pp. 733-739, 2000.

Zemo, D.A., T.A. Delfino, J.D. Gallinatti, V.A. Baker and L.R. Hilpert, "Field Comparison of Analytical Results from Discrete-Depth Groundwater Samplers" BAT EnviroProbe and QED HydroPunch, Sixth national Outdoor Action Conference, Las Vegas, Nevada Proceedings, 1992, pp 299-312.

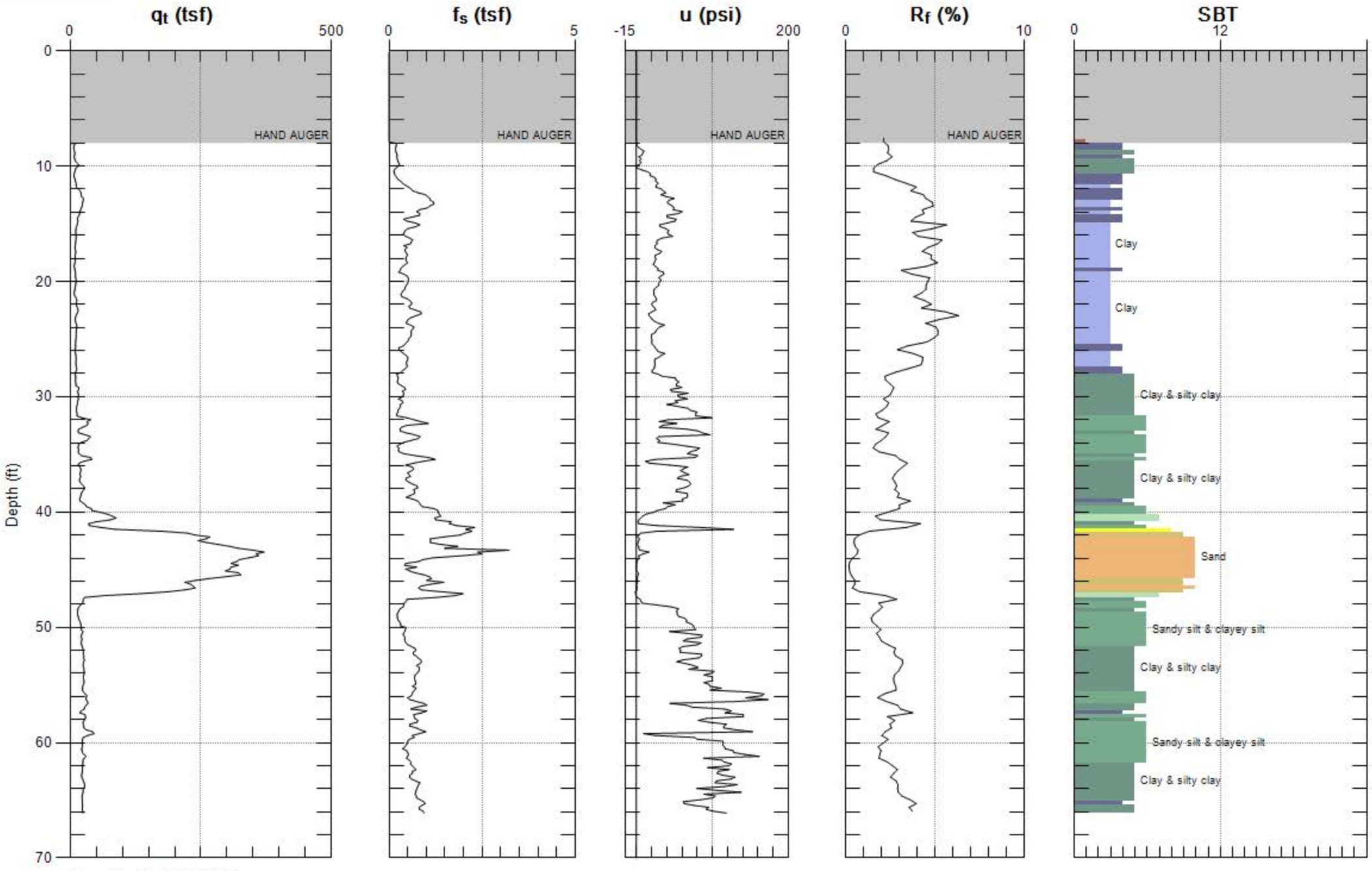
Copies of ASTM Standards are available through www.astm.org

GREGG

ARCADIS

Site: CHEVRON #351638
Sounding: CPT-01

Engineer: K.BRANDT
Date: 11/14/2013 02:56



Max. Depth: 66.109 (ft)
Avg. Interval: 0.328 (ft)

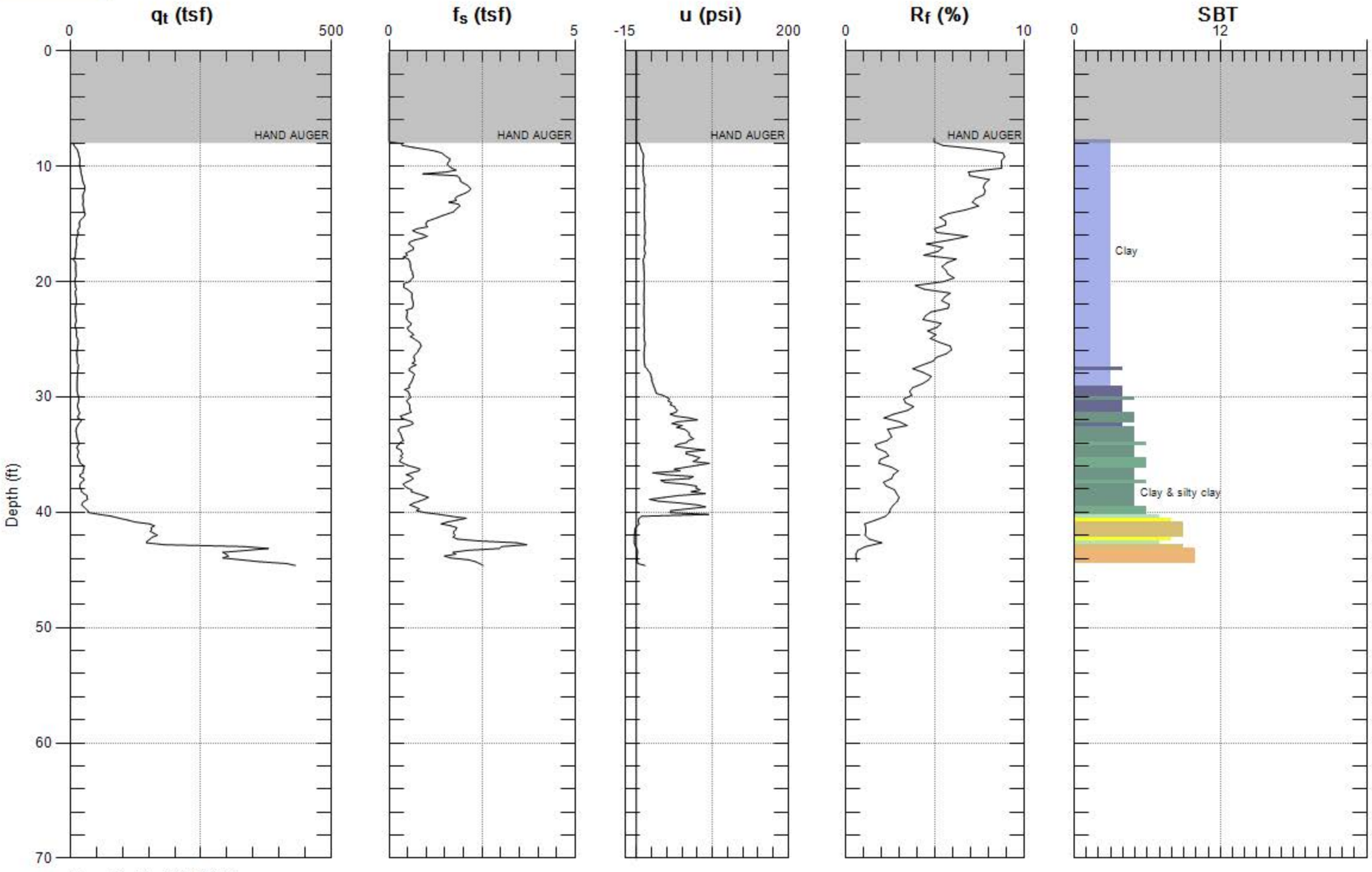
SBT: Soil Behavior Type (Robertson 1990)

GREGG

ARCADIS

Site: CHEVRON #351638
Sounding: CPT-02

Engineer: K.BRANDT
Date: 11/13/2013 09:11



Max. Depth: 44.619 (ft)
Avg. Interval: 0.328 (ft)

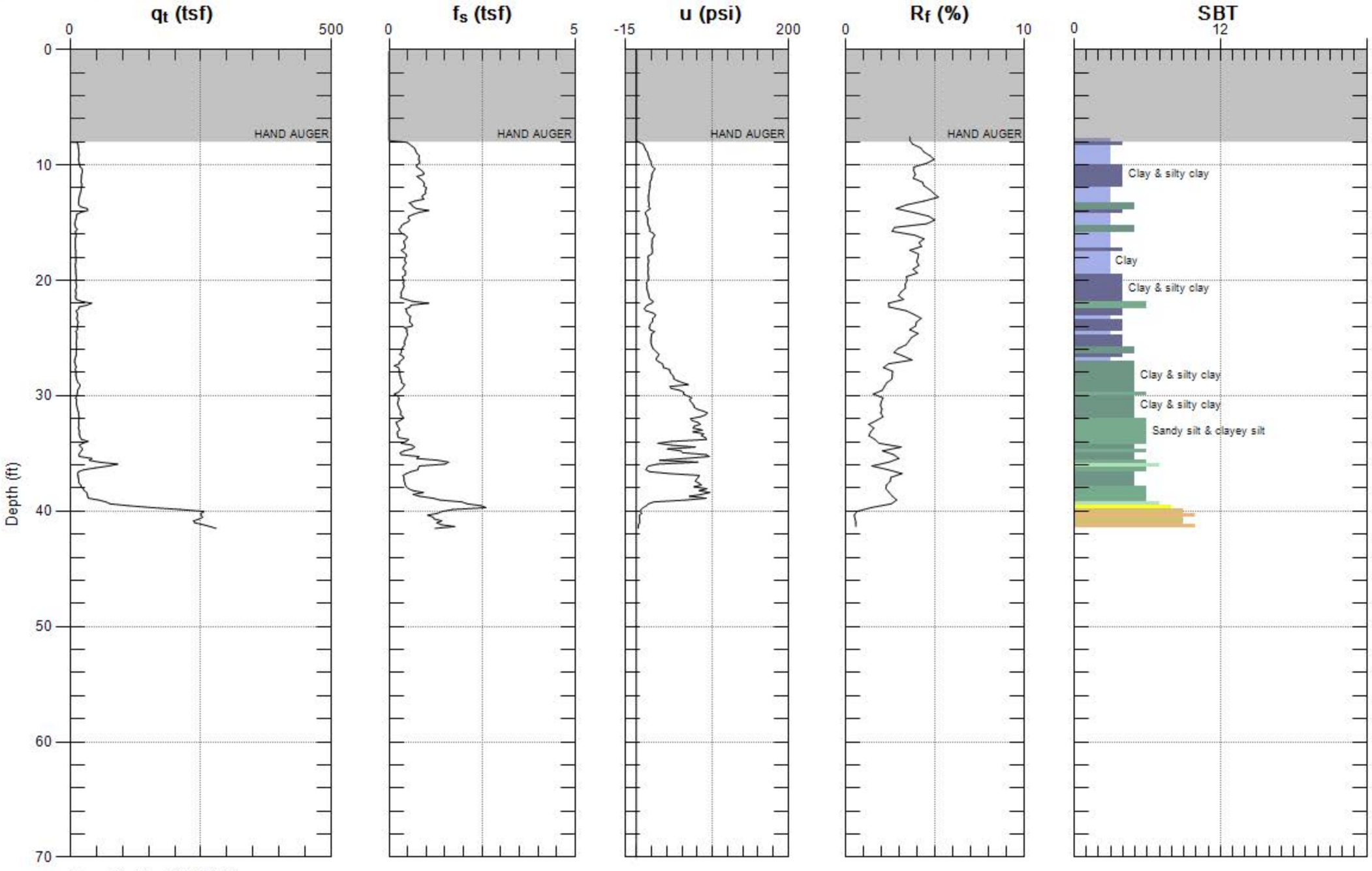
SBT: Soil Behavior Type (Robertson 1990)

GREGG

ARCADIS

Site: CHEVRON #351638
Sounding: CPT-03

Engineer: K.BRANDT
Date: 11/12/2013 02:03



Max. Depth: 41.503 (ft)
Avg. Interval: 0.328 (ft)

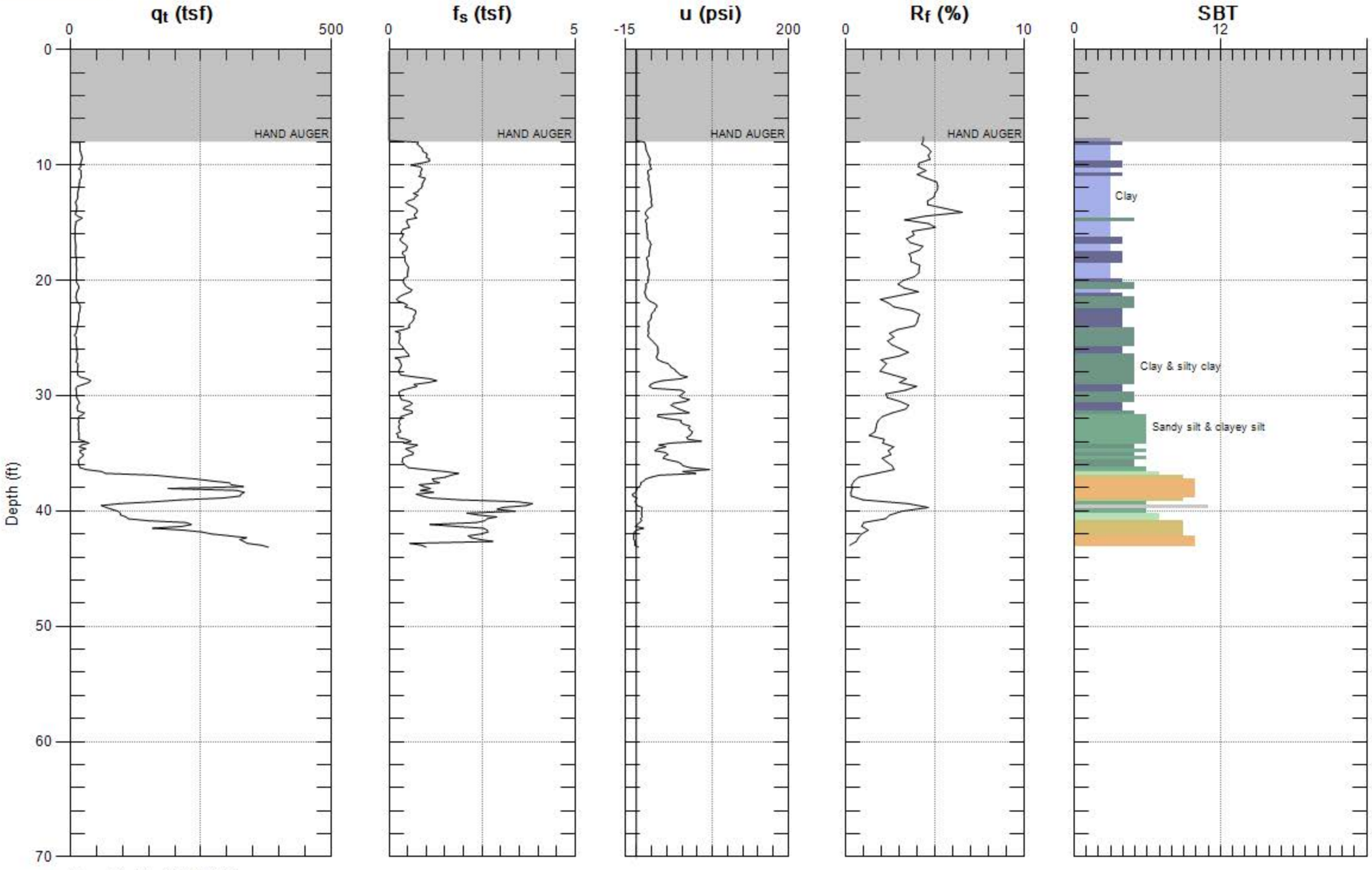
SBT: Soil Behavior Type (Robertson 1990)

GREGG

ARCADIS

Site: CHEVRON #351638
Sounding: CPT-04

Engineer: K.BRANDT
Date: 11/12/2013 11:32



Max. Depth: 43.143 (ft)
Avg. Interval: 0.328 (ft)

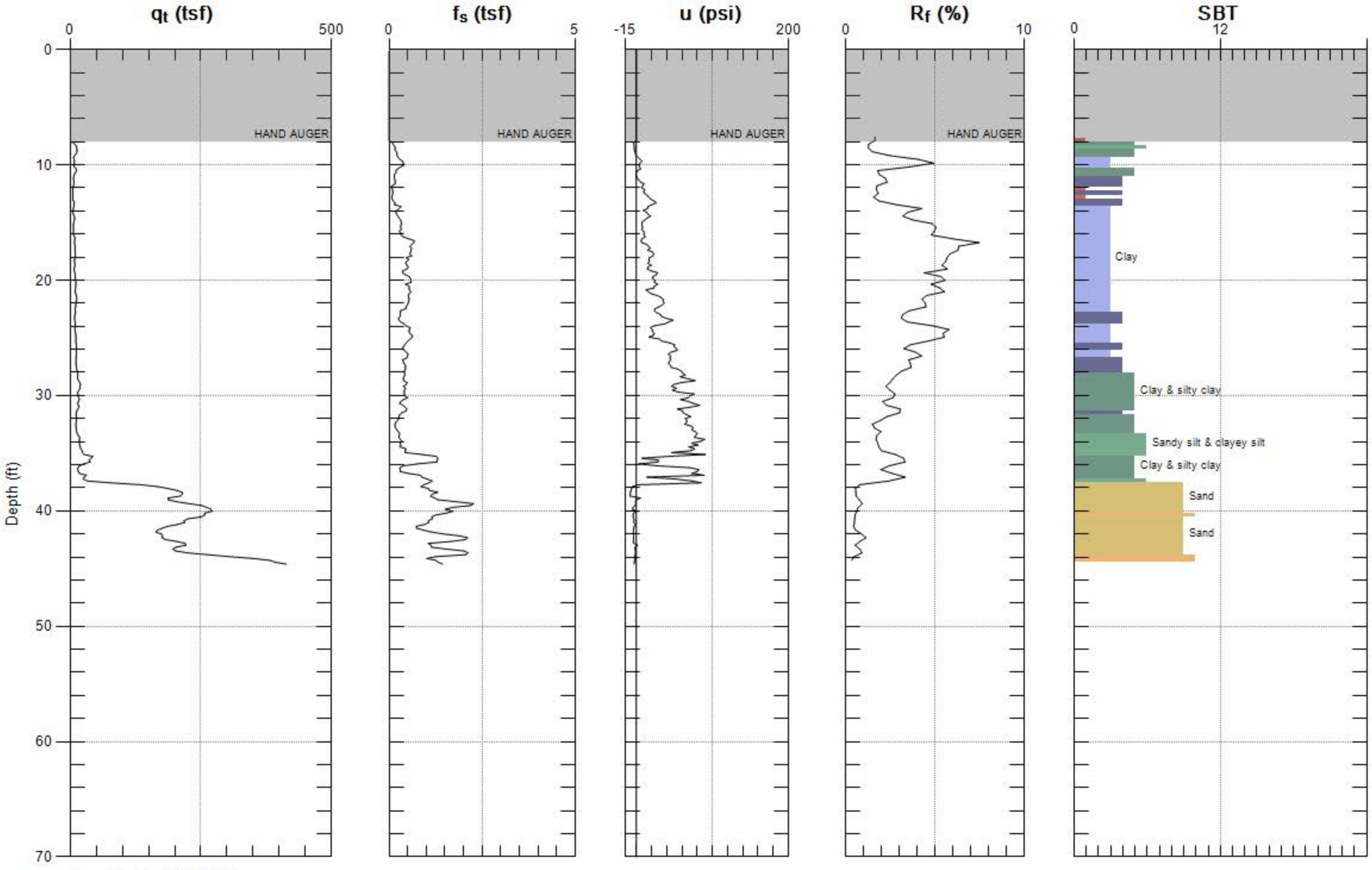
SBT: Soil Behavior Type (Robertson 1990)

GREGG

ARCADIS

Site: CHEVRON #351638
Sounding: CPT-05

Engineer: K.BRANDT
Date: 11/14/2013 12:03



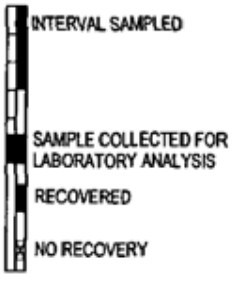
Max. Depth: 44.619 (ft)
Avg. Interval: 0.328 (ft)

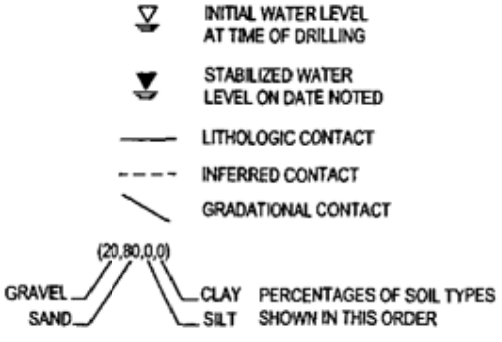
SBT: Soil Behavior Type (Robertson 1990)

SOIL CLASSIFICATION CHART

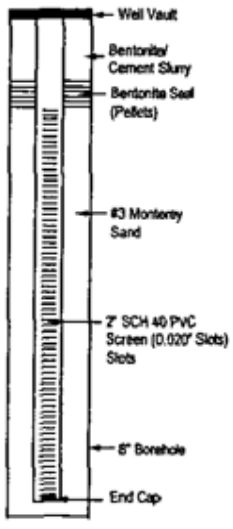
MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE-GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	SAND AND SANDY SOILS	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE-GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

SAMPLE





WELL CONSTRUCTION



NOTE: SOIL CONDITIONS INDICATED BY BORING LOGS APPLY AT THE LOCATION OF THE PARTICULAR BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THE BORING LOCATION WITH THE PASSAGE OF TIME. DATA PRESENTED IN THE LOGS REPRESENTS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. SOIL CONDITIONS INDICATED BETWEEN SAMPLE INTERVALS ARE INFERRED.

UNIFIED SOIL CLASSIFICATION, BORING LOG, AND WELL CONSTRUCTION SYMBOLS

SECOR
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Logged By:	Date Drilled:	Drilling Contractor	Project Name:	Method/Equipment:	Well Number:
LF	2/28/02	Woodward Drilling	Tosco #7124	CA Split Spoon 580B OVM	MW-1

See "Soil Classification Chart" for USCS Soil Classifications	Boring Diam.(in.):	Surface Elev.(ft.):	Groundwater Depth (ft.):	Total Depth (ft.):	Drive wt.(lbs.):	Drop Dist.(in.):
	10	37.73	▽ 17 First Water ▼ 15 Stabilized Water	26.5	140	30

Well Construction	Depth, (ft.)	Sample Recovery	Blows/12"	Lithologic Description	PID (ppm)
Casing Elev.: 37.37					
Christy Box				Asphalt	
Grout				Fill - YELLOWISH BROWN (10 YR 5/4) SANDY GRAVEL (GP) trace silt, fine grained sand, damp, loose (70, 25, 5, 0)	
				YELLOWISH BROWN (10 YR 5/4) SANDY SILT (ML) trace clay, fine grained sand, loose, damp (0, 20, 75, 5)	
4" Sch. 40 PVC Blank				Hand augered to 5 feet below ground surface	
	5		6	Grades BROWN (7.5 YR 4/2) increasing sand content (0, 30, 65, 5)	0.4
Bentonite Seal					
	10		17	BROWN (10 YR 4/3) SILTY CLAY (CL) trace fine grained sand, stiff, moist, dark brown mottling (0, 5, 30, 65)	7
#3 Monterey Sand	15 ▼		15	Grades BLACK (5 Y 2.5/2) increasing clay content, orange veins (0, 5, 20, 75)	1
4" Sch. 40 0.020" Slotted PVC Screen	20		16	Grades OLIVE BROWN (2.5 Y 4/4) increasing fine grained sand and silt content, wet (0, 20, 30, 50)	0
End Cap	25		20	Grades DARK BROWN (2.5 Y 4/4) increasing clay content (0, 0, 20, 80)	1
#3 Monterey Sand				Bottom of boring @ 26.5 feet below ground surface	

The substrata descriptions above are generalized representations based upon visual/manual classification of cuttings and/or samples obtained during drilling. Predominant material types are shown; soil may contain different materials and the change from one predominant material type to another could be different than indicated. Descriptions on this log apply only at the specific location at the time of drilling and may not be representative of subsurface conditions at other locations or times.

REGISTERED GEOLOGIST
DOUGLAS T YOUNG
5859
STATE OF CALIFORNIA

Project No. 6TO.03996.00 Date 3/12/02

MW'S.GPJ
LOG OF BOREHOLE

Log of Well: **MW-1**

Approved by

Figure (sheet 1 of 1)

SECOR
International Incorporated

Logged By:	Date Drilled:	Drilling Contractor	Project Name:	Method/Equipment:	Well Number:
LF	3/1/02	Woodward Drilling	Tosco #7124	CA Split Spoon 580B OVM	MW-2

See "Soil Classification Chart" for USCS Soil Classifications	Boring Diam.(in.):	Surface Elev.(ft.):	Groundwater Depth (ft.):	Total Depth (ft.):	Drive wt.(lbs.):	Drop Dist.(in.):
	10	38.27	▽ 18.5 First Water ▼ 18.5 Stabilized Water	26.5	140	30

Well Construction	Depth, (ft.)	Sample Recovery	Blows/12"	Lithologic Description	PID (ppm)
Casing Elev.: 37.87					
Christy Box Grout 4" Sch. 40 PVC Blank Bentonite Seal #3 Monterey Sand 4" Sch. 40 0.020" Slotted PVC Screen End Cap #3 Monterey Sand	5 10 15 20 25		18 30 13 10 28	Asphalt Fill - YELLOWISH BROWN (10 YR 5/4) SANDY GRAVEL (GP) trace silt, fine grained sand, loose, damp (70, 25, 5, 0) LIGHT OLIVE BROWN (2.5 Y 5/4) SANDY SILT (ML) trace clay, fine grained sand, loose, damp (0, 20, 75, 5) Grades VERY DARK GRAYISH BROWN (2.5 Y 3/2) Hand augered to 5 feet below ground surface Grades LIGHT OLIVE BROWN (2.5 Y 5/6) increasing fine grained sand content (0, 30, 65, 5) OLIVE BROWN (2.5 Y 2/2) SILT CLAY (CL) trace fine subangular gravel, very stiff, damp (5, 0, 15, 80) Grades DARK OLIVE GRAY (5 Y 3/2) increasing clay content, orange mottling, petroleum odor (0, 0, 10, 90) Grades with increasing silt, wet (0, 0, 20, 80) Grades with increasing clay (0, 0, 10, 90) Bottom of boring @ 26.5 feet below ground surface	0 1.6 0.1 0 6.9

The substrata descriptions above are generalized representations and based upon visual/manual classification of cuttings and/or samples obtained during drilling. Predominant material types shown on the log may contain different materials and the change from one predominant material type to another could be different than indicated. Descriptions on this log apply only at the specific location at the time of drilling and may not be representative of subsurface conditions at other locations or times.

REGISTERED GEOLOGIST
DOUGLAS T YOUNG
5859
STATE OF CALIFORNIA

Project No. 6TO.03996.00 Date 3/12/02

Log of Well: **MW-2**

MW'S.GPJ
LOG OF BOREHOLE

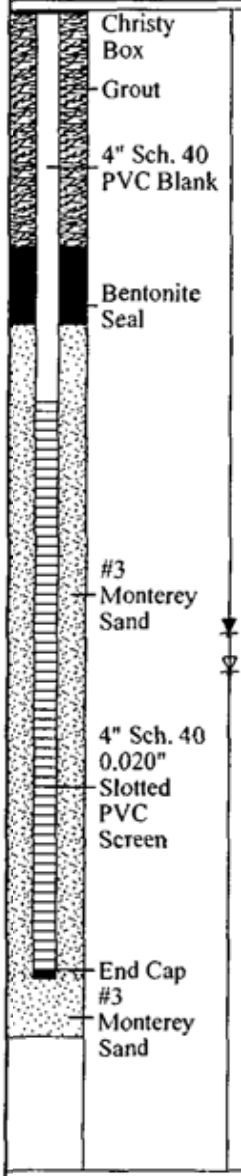
Approved by

Figure (sheet 1 of 1)

SECOR
International Incorporated

Logged By:	Date Drilled:	Drilling Contractor	Project Name:	Method/Equipment:	Well Number:
LF	2/28/02	Woodward Drilling	Tosco #7124	CA Split Spoon 580B OVM	MW-3

See "Soil Classification Chart" for USCS Soil Classifications	Boring Diam.(in.):	Surface Elev.(ft.):	Groundwater Depth (ft.):	Total Depth (ft.):	Drive wt.(lbs.):	Drop Dist.(in.):
	10	38.03	▽ 17 First Water ▼ 16 Stabilized Water	26.5	140	30



Depth, (ft.)	Sample Recovery	Blows/12"	Lithologic Description	PID (ppm)
			Asphalt DARK BROWN (10 YR 3/3) SANDY SILT (ML) trace clay, fine grained sand, loose, damp (0, 20, 75, 5) Hand augered to 5 feet below ground surface	
5		12	Grades DARK GRAYISH BROWN (10 YR 4/2) increasing clay content, decreasing sand content, increasing stiffness (0, 5, 80, 10)	28
10		23	VERY DARK BROWN (10 YR 2/2) SILTY CLAY (CL) trace fine to coarse grained sand, very stiff, damp (0, 5, 20, 70)	10.5
15		38	Grades BLACK (2.5 Y 2.5/1) increasing clay content, petroleum odor (0, 0, 10, 90)	2.5
20		14	Grades DARK GRAY (5 Y 4/1) increasing silt content, wet, petroleum odor (0, 0, 40, 60)	208
25		22	Grades OLIVE GRAY (5Y 5/2) increasing clay content (0, 0, 15, 85)	470
			Bottom of boring @ 26.5 feet below ground surface	

The substrata descriptions above are generalized representations and based upon visual/manual classification of cuttings and/or samples obtained during drilling. Predominant material types shown may contain different materials and the change from one predominant material type to another could be different than indicated. Descriptions on this log apply only at the specific location at the time of drilling and may not be representative of subsurface conditions at other locations or times.

REGISTERED GEOLOGIST
DOUGLAS T YOUNG
5859
STATE OF CALIFORNIA

Project No. 6TO.03996.00 Date 3/12/02

MW'S.GPJ
LOG OF BOREHOLE

Log of Well: MW-3

Approved by

Figure (sheet 1 of 1)

SECOR
International Incorporated

Logged By:	Date Drilled:	Drilling Contractor	Project Name:	Method/Equipment:	Well Number:
LF	3/1/02	Woodward Drilling	Tosco #7124	CA Split Spoon 580B OVM	MW-4

See "Soil Classification Chart" for USCS Soil Classifications	Boring Diam.(in.):	Surface Elev.(ft.):	Groundwater Depth (ft.):	Total Depth (ft.):	Drive wt.(lbs.):	Drop Dist.(in.):
	10	38.77	▽ 21 First Water ▼ 18 Stabilized Water	26.5	140	30

Well Construction	Depth, (ft.)	Sample Recovery	Blows/12"	Lithologic Description	PID (ppm)
Casing Elev.: 38.36					
Christy Box				Asphalt	
Grout				Bricks	
4" Sch. 40 PVC Blank				VERY DARK GRAYISH BROWN (10 YR 3/2) CLAYEY SILT (ML) with fine grained sand (0, 15, 65, 20)	
	5		22	Grades LIGHT OLIVE BROWN (2.5 Y 5/4) SANDY SILT (ML), trace clay, fine grained sand, loose, damp (0, 20, 75, 5) Hand augered to 5 feet below ground surface	0
Bentonite Seal					
	10		41	Grades GRAYISH BROWN (2.5 Y 5/2) CLAYEY SILT (ML) trace fine grained sand, very stiff, damp, orange veins, petroleum odor (0, 5, 55, 40)	2.5
#3 Monterey Sand	15		30	OLIVE GRAY (5 Y 4/2) SILTY CLAY (CL) stiff, moist, orange mottling, petroleum odor (0, 0, 30, 70)	20
4" Sch. 40 0.020" Slotted PVC Screen	20		12	Grades VERY DARK GRAY (5 Y 3/1) increasing clay content, wet, petroleum odor (0, 0, 25, 75)	17
End Cap	25		8	Grades with increasing silt, lenses of silt (0, 0, 30, 70)	35
#3 Monterey Sand				Bottom of boring @ 26.5 feet below ground surface	

The substrata descriptions above are generalized representations and based upon visual/manual classification of cuttings and/or samples obtained during drilling. Predominant material types shown on the log may contain different materials and the change from one predominant material type to another could be different than indicated. Descriptions on this log apply only at the specific location at the time of drilling and may not be representative of subsurface conditions at other locations or times.

REGISTERED GEOLOGIST
DOUGLAS T YOUNG
5859
STATE OF CALIFORNIA

Project No. 6TO.03996.00 Date 3/12/02

MW'S.GPJ
LOG OF BOREHOLE

Log of Well: **MW-4**

Approved by

Figure (sheet 1 of 1)

PROJECT: **ConocoPhilips Circle K Store No. 7124**
LOCATION: **10151 International Boulevard,Oakland,CA**
PROJECT NUMBER: **77CP.01634.44**

WELL / PROBEHOLE / BOREHOLE NO: **SB-1** PAGE 1 OF 1

Stantec

DRILLING: STARTED **9/5/08** COMPLETED: **9/5/08**
INSTALLATION: STARTED **9/5/08** COMPLETED: **9/5/08**
DRILLING COMPANY: **Test America Drilling**
DRILLING EQUIPMENT: **Geoprobe**
DRILLING METHOD: **Direct Push**
SAMPLING EQUIPMENT: **Macro Core**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **21.5** **9/5/08** BOREHOLE DEPTH (ft): **40.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **2.75**
LOGGED BY: **B. Deboer** CHECKED BY: **B. Chevlen**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)
			Asphalt with baserock						
		SM	**SILTY SAND** ; SM; 10YR4/2 dark grayish brown; fine-grained; medium dense; moist; poorly graded; (0,55,40,5)						
5		ML	**SILT WITH CLAY** ; ML; 10YR4/2 dark grayish brown; medium plasticity; medium stiff; moist; (0,0,80,20)		0804 SB-1,5'			0.0	5
		CL	**CLAY WITH SILT** ; CL; 10YR3/1 very dark gray; low plasticity; stiff; moist; (0,0,20,80)						
			Very hard						
10					0810 SB-2,10'			0.0	10
15		SM	**SILTY SAND** ; SM; 10YR3/2 very dark grayish brown; medium plasticity; stiff; (0,60,40,0)		0820 SB-3,15'			0.0	15
		ML	**SILT WITH SAND** ; ML; 10YR3/2 dark grayish brown; medium plasticity; stiff; moist; (0,20,80,0)						
		CH	**FAT CLAY** ; CH; 2.5YR4/1 very dark gray; high plasticity; very hard; some brown mottling; (0,0,0,100)						
20					0825 SB-4,20'			0.0	20
		ML	**SANDY SILT** ; ML; 2.5YR5/3 light olive brown; medium plasticity; saturated; hydrocarbon staining; some green staining, but minimal; (0,30,70,0)						
		CH	**FAT CLAY** ; CH; GLEY15/1 AND 10YR4/3 greenish gray and brown; high plasticity; hard; saturated; (0,0,0,100)						
25					0830 SB-4,25'			0.0	25
		ML	**SILT SOME CLAY** ; ML; 10YR5/3 brown; medium plasticity; stiff; saturated						
30		ML	**SILT WITH CLAY** ; ML; 10YR5/3 brown; medium plasticity; stiff; moist; hydrocarbon staining; black mottling; (0,0,80,20)		0840 SB-4,30'			0.0	30
		ML	**SILT SOME SAND** ; ML; 10YR5/3 brown; high plasticity; soft; moist; (0,20,80,0)						
		ML	**SILT LITTLE CLAY** ; ML; GLEY1 4/5GY dark greenish gray; high plasticity; stiff; moist; (0,0,90,10)						
35		CH	**FAT CLAY** ; CH; GLEY1 4/5GY dark greenish gray; medium plasticity; hard; moist; (0,10,80,10); color grades to 10YR4/3 brown		0855 SB-4,35'			0.0	35
		ML	**SILT LITTLE SAND LITTLE CLAY** ; ML; GLEY1 4/5GY dark greenish gray; medium plasticity; moist; firm to hard; (0,10,80,10); color grades to 10YR4/3 brown						
		SP	**SAND LITTLE SILT** ; SP; 10YR4/3 brown; medium-grained; loose; wet; (0,90,10,0)		0900 SB-4,40'			0.0	
40			Hole terminated at 40 feet.						40

GEO FORM 304 CONOCOPHILLIPS.GPJ SECOR INTL.GDT 9/23/08

PROJECT: **ConocoPhilips Circle K Store No. 7124**
LOCATION: **10151 International Boulevard,Oakland,CA**
PROJECT NUMBER: **77CP.01634.44**

WELL / PROBEHOLE / BOREHOLE NO: **SB-2** PAGE 1 OF 1

DRILLING: STARTED **9/3/08** COMPLETED: **9/3/08**
INSTALLATION: STARTED **9/3/08** COMPLETED: **9/3/08**
DRILLING COMPANY: **Test America Drilling**
DRILLING EQUIPMENT: **Geoprobe**
DRILLING METHOD: **Direct Push**
SAMPLING EQUIPMENT: **Macro Core**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **17.8** **9/3/08** BOREHOLE DEPTH (ft): **30.5**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **2.75**
LOGGED BY: **C. Melancon** CHECKED BY: **B. Chevlen**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)
		SM	Asphalt with baserock **SILTY SAND** ; SM; 10YR-5/3 brown; fine-grained; medium dense; moist; poorly graded; (0,60,40,0)						
		ML	**SILT WITH CLAY** ; ML; 10YR-4/2 dark grayish brown; medium plasticity; medium stiff; moist; (0,0,80,20)						
5		CL	**SILTY CLAY** ; CL; 10YR-3/1 very dark gray; medium plasticity; very stiff; moist; (0,0,20,80)		0915 SB-2,5'			0.0	5
10					0930 SB-2,10'			0.0	10
		SM	**SILTY SAND** ; SM; 10YR3/2 very dark grayish brown; medium dense; moist; (0,60,40,0) Slight odor						
15					0940 SB-2,15'			0.0	15
		CH	**FAT CLAY** ; CH; 2YR4/1 very dark gray; high plasticity; very stiff; moist; (0,0,0,100) 7.5YR3/2 dark brown						
20		ML	**SANDY SILT WITH CLAY** ; ML; 2.5YR5/3 light olive brown; medium plasticity; medium stiff; moist; (0,0,80,20)		1005 SB-2,20'			2.0	20
		CH	**FAT CLAY** ; CH; 7.5YR3/1 very dark gray; high plasticity; very stiff; moist; strong odor (0,0,0,100) 2.5YR5/1 gray		1010 SB-2,21.5'			30.0	
25		ML	**SILT WITH CLAY** ; ML; 2.5YR5/2 grayish brown; medium plasticity; stiff; moist; medium dilatency; medium toughness; (0,0,75,25) 10YR4/3 dark yellowish brown; trace staining		1010 SB-2,25'			0.0	25
30					1050 SB-2,30'			0.0	30
			Grab groundwater sample contained product sheen Hole terminated at 30.5 feet.						
35									35
40									40

GEO FORM 304 CONOCOPHILLIPS.GPJ SECOR INTL.GDT 9/23/08

PROJECT: **ConocoPhilips Circle K Store No. 7124**
LOCATION: **10151 International Boulevard,Oakland,CA**
PROJECT NUMBER: **77CP.01634.44**

WELL / PROBEHOLE / BOREHOLE NO: **SB-3** PAGE 1 OF 1

Stantec

DRILLING: STARTED **9/4/08** COMPLETED: **9/4/08**
INSTALLATION: STARTED **9/4/08** COMPLETED: **9/4/08**
DRILLING COMPANY: **Test America Drilling**
DRILLING EQUIPMENT: **Geoprobe**
DRILLING METHOD: **Direct Push**
SAMPLING EQUIPMENT: **Macro Core**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **18.7** **9/4/08**
BOREHOLE DEPTH (ft): **30.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---**
BOREHOLE DIAMETER (in): **2.75**
LOGGED BY: **C. Melancon**
CHECKED BY: **B. Chevlen**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)
		SM	Asphalt with baserock **SILTY SAND WITH CLAY** ; SM						
5					0820 SB-3,5'			0.0	5
		CL	**CLAY SOME SILT** ; CL; 10YR3/2 very dark grayish brown; medium plasticity; very stiff; moist; (0,0,15,85)						
10					0830 SB-3,10'			0.0	10
			10YR4/3 brown						
		ML	**SILT WITH CLAY** ; ML; 10YR5/4 yellowish brown; medium plasticity; stiff; moist; (0,0,80,20)						
15		ML	**SILT SOME CLAY LITTLE FINE SAND** ; ML; medium plasticity; stiff; moist; sand lens; (0,10,70,20)		0900 SB-3,15'			0.0	15
		CH	**FAT CLAY LITTLE SILT** ; CH; 2.5YR5/4 reddish brown; high plasticity; stiff; moist; (0,0,10,90)						
20					0920 SB-3,20'			0.0	20
			10YR3/4 dark yellowish brown						
		SM CH	**SILTY SAND** ; SM; 10YR5/4 yellowish brown; fine-grained; saturated; (0,60,035,5) **FAT CLAY LITTLE SILT** ; CH; 10YR5/4 yellowish brown; (0,0,10,90)						
25					0940 SB-3,25'			24	25
		SM CH	**SILTY SAND** ; SM; 10YR5/4 yellowish brown; fine-grained; saturated; (0,60,35,5) **FAT CLAY SOME SILT** ; CH; 10YR5/4 yellowish brown; moist; (0,0,10,90)						
30			Product sheen observed in grab groundwater sample Hole terminated at 30 feet.						30
35									35
40									40

GEO FORM 304 CONOCOPHILLIPS.GPJ SECOR INTL.GDT 9/23/08

PROJECT: **ConocoPhilips Circle K Store No. 7124**
LOCATION: **10151 International Boulevard,Oakland,CA**
PROJECT NUMBER: **77CP.01634.44**

WELL / PROBEHOLE / BOREHOLE NO: **SB-4** PAGE 1 OF 1

Stantec

DRILLING: STARTED **9/3/08** COMPLETED: **9/3/08**
INSTALLATION: STARTED **9/3/08** COMPLETED: **9/3/08**
DRILLING COMPANY: **Test America Drilling**
DRILLING EQUIPMENT: **Geoprobe**
DRILLING METHOD: **Direct Push**
SAMPLING EQUIPMENT: **Macro Core**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **19.3** **9/3/08** BOREHOLE DEPTH (ft): **30.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **2.75**
LOGGED BY: **C. Melancon** CHECKED BY: **B. Chevlen**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)
			Asphalt with baserock						
		SM	**SILTY SAND LITTLE ORGANICS** ; SM; 10YR5/3 brown; moist; little micropores; (0,60,40,0)						
5					1510 SB-4,5'			0.0	5
		CL	**CLAY LITTLE FINE SAND LITTLE SILT** ; CL; 7.5YR3/1 very dark gray; high plasticity; very stiff; moist; (0,10,10,80)						
10					1520 SB-4,10'			0.0	10
		ML	**SANDY SILT WITH CLAY** ; ML; 2.5YR5/3 light olive brown; medium plasticity; medium stiff; moist; (0,30,50,20)						
15					1530 SB-4,15'			0.0	15
		CH	**FAT CLAY TRACE SILT** ; CH; 10YR4/1 dark gray; high plasticity; stiff; moist; (0,0,5,95)						
20					1600 SB-4,20'			0.0	20
		SM	**SILTY SAND TRACE CLAY** ; SM; 5YR4/1 very dark gray; fine-grained; moist; poorly graded; (0,60,35,5)		PID reading			10	
		CH	**FAT CLAY TRACE SILT** ; CH; 10YR4/1 dark gray; high plasticity; stiff; moist; strong odor; (0,0,5,95)						
25					1630 SB-4,28'			24	25
		SM	**SILTY SAND TRACE CLAY** ; SM; 5YR4/1 very dark gray; fine-grained; moist; strong odor; poorly graded; product sheen observed; poor recovery; (0,60,35,5)		PID reading			571	
		CH	**FAT CLAY TRACE SILT** ; CH; 10YR4/1 dark gray; high plasticity; stiff; moist; moderate odor; (0,0,5,95)						
30			Slight odor Hole terminated at 30 feet.		1635 SB5,29.5'			10	30
35									35
40									40

GEO FORM 304 CONOCOPHILLIPS.GPJ SECOR INTL.GDT 9/23/08

PROJECT: **ConocoPhilips Circle K Store No. 7124**
LOCATION: **10151 International Boulevard,Oakland,CA**
PROJECT NUMBER: **77CP.01634.44**

WELL / PROBEHOLE / BOREHOLE NO: **SB-5** PAGE 1 OF 1

Stantec

DRILLING: STARTED **9/3/08** COMPLETED: **9/3/08**
INSTALLATION: STARTED **9/3/08** COMPLETED: **9/3/08**
DRILLING COMPANY: **Test America Drilling**
DRILLING EQUIPMENT: **Geoprobe**
DRILLING METHOD: **Direct Push**
SAMPLING EQUIPMENT: **Macro Core**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **19.7** **4/10/08** BOREHOLE DEPTH (ft): **30.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **2.75**
LOGGED BY: **C. Melancon** CHECKED BY: **B. Chevlen**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)
			Asphalt with baserock						
		SM	**SILTY SAND LITTLE FINE GRAVEL** ; SM; 7.5YR3/4 dark brown; medium dense; moist; (10,60,30,0)						
5		SM	**SILTY SAND** ; SM; 7.5YR3/4 dark brown; medium stiff; moist; poorly graded; (0,60,40,0)		1240 SB-5,5'			0.0	5
			Wet (perched)						
10		ML	**SILT LITTLE FINE SAND WITH CLAY** ; ML; 2.5YR5/2 olive gray; high plasticity; very stiff; moist; (0,10,70,20)		1250 SB-5,10'			0.0	10
15					1300 SB-5,15'			0.0	15
		CH	**FAT CLAY** ; CH; 2.5YR4/2 dark grayish brown; high plasticity; stiff; moist; (0,0,0,100)						
20					1325 SB-5,20'			0.0	20
25		SM	**SAND WITH SILT TRACE CLAY** ; SM; 5YR4/2 olive gray; fine-grained; loose; wet; (0,75,20,20)		1340 SB-5,25'			0.0	25
		CH	**FAT CLAY** ; CH; 2.5YR4/2 grayish brown; high plasticity; stiff; moist; (0,0,0,100)						
30			Hole terminated at 30 feet.		1400 SB-5,30'			0.0	30
35									35
40									40

GEO FORM 304 CONOCOPHILLIPS.GPJ SECOR INTL.GDT 9/23/08

PROJECT: **ConocoPhilips Circle K Store No. 7124**
LOCATION: **10151 International Boulevard,Oakland,CA**
PROJECT NUMBER: **77CP.01634.44**

WELL / PROBEHOLE / BOREHOLE NO: **SB-6** PAGE 1 OF 1

Stantec

DRILLING: STARTED **9/5/08** COMPLETED: **9/5/08**
INSTALLATION: STARTED **9/5/08** COMPLETED: **9/5/08**
DRILLING COMPANY: **Test America Drilling**
DRILLING EQUIPMENT: **Geoprobe**
DRILLING METHOD: **Direct Push**
SAMPLING EQUIPMENT: **Macro Core**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **33.70** **9/5/08** BOREHOLE DEPTH (ft): **30.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **2.75**
LOGGED BY: **B. Deboer** CHECKED BY: **B. Chevlen**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)
			Concrete						
		ML	**SILT WITH SAND** ; ML; 10YR3/3 dark brown; fine-grained; stiff; moist; poorly graded; (0,25,75,0)						
5		CH	**FAT CLAY LITTLE SILT** ; CH; 10YR3/1 very dark gray; medium plasticity; hard; moist; (0,0,10,90)		1045 SB-6,5'			0.0	5
10					1050 SB-6,10'			0.0	10
15		ML	**CLAYEY SILT** ; ML; 10YR5/4 yellowish brown; medium plasticity; stiff; moist; (0,0,60,40)		1055 SB-6,15'			0.0	15
		CH	**FAT CLAY LITTLE SILT** ; CH; 10YR3/1 very dark gray; medium plasticity; hard; moist; (0,0,10,90)						
20		ML	**CLAYEY SILT** ; ML; 10YR5/4 yellowish brown; medium plasticity; stiff; moist; (0,0,60,40) Saturated Minor black mottling		1105 SB-6,20'			0.0	20
25		CH	**FAT CLAY LITTLE SILT** ; CH; 2.5YR4/3 olive brown; medium plasticity; hard; moist; minor black mottling; (0,0,10,90)		1113 SB-6,25'			0.0	25
		ML	**SILT WITH CLAY** ; ML; 2.5YR4/3 olive brown; stiff; moist; high to medium plasticity; (0,0,80,20)						
30		ML	**SILT** ; ML; 2.5YR4/3 olive brown; high plasticity; soft; moist; (0,0,100,0)		1120 SB-6,30'			0.0	30
					1211 SB-6,32'			0.0	
		ML	**SANDY SILT** ; ML; 2.5YR4/3 olive brown; low plasticity; very soft; wet						▽
35			Hole terminated at 34 feet.						35
40									40

GEO FORM 304 CONOCOPHILLIPS.GPJ SECOR INTL.GDT 9/23/08

PROJECT: **ConocoPhilips Circle K Store No. 7124**
LOCATION: **10151 International Boulevard,Oakland,CA**
PROJECT NUMBER: **77CP.01634.44**

WELL / PROBEHOLE / BOREHOLE NO: **SB-7** PAGE 1 OF 1

Stantec

DRILLING: STARTED **9/4/08** COMPLETED: **9/4/08**
INSTALLATION: STARTED **9/4/08** COMPLETED: **9/4/08**
DRILLING COMPANY: **Test America Drilling**
DRILLING EQUIPMENT: **Geoprobe**
DRILLING METHOD: **Direct Push**
SAMPLING EQUIPMENT: **Macro Core**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **21.0** **9/4/08** BOREHOLE DEPTH (ft): **34.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **2.75**
LOGGED BY: **C. Melancon** CHECKED BY: **B. Chevlen**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)
			Concrete						
		SM	**SILTY SAND** ; SM; 10YR5/3 brown; fine-grained; medium dense; moist; (0,60,40,0)						
5					1320 SB-7,5'			0.0	5
		CH	**FAT CLAY LITTLE SILT** ; CH; 5YR3/1 very dark gray; high plasticity; very stiff; moist; (0,0,10,90)						
10					1325 SB-7,10'			0.0	10
15		ML	**CLAYEY SILT** ; ML; 10YR5/3 brown; medium plasticity; stiff; moist; (0,0,60,40)		1330 SB-7,15'			0.0	15
		CH	**FAT CLAY LITTLE SILT** ; CH; 10YR5/3 brown; high plasticity; very stiff; moist; (0,0,10,90) clayey silt lenses from 16.5 to 16.75 and 18 to 18.5 feet bgs						
20					1340 SB-7,20'			0.0	20
		ML	**SILT WITH CLAY** ; ML; 10YR5/3 brown; medium plasticity; stiff; saturated; (0,0,60,40)						
25		CH	**FAT CLAY LITTLE SILT** ; CH; 10YR5/4 yellowish brown; moist; (0,0,10,90)		1350 SB-7,25'			0.0	25
		ML	**CLAYEY SILT** ; ML; 10YR5/3 brown; medium plasticity; stiff; moist; (0,0,60,40)						
		SM	**SILTY SAND LITTLE CLAY** ; SM; 2.5YR5/3 light olive brown; medium plasticity; stiff; moist; (0,60,30,10)						
		ML	**CLAYEY SILT** ; ML; 10YR5/3 brown; medium plasticity; stiff; moist; (0,0,60,40)						
30					1400 SB-7,30'			0.0	30
			Hole terminated at 34 feet.						
35									35
40									40

GEO FORM 304 CONOCOPHILLIPS.GPJ SECOR INTL.GDT 9/23/08

ARCADIS

Appendix C

Well Permits

Alameda County Public Works Agency - Water Resources Well Permit

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 11/06/2013 By jamesy

Permit Numbers: W2013-0901 to W2013-0902
Permits Valid from 11/12/2013 to 11/22/2013

Application Id: 1383064736395 **City of Project Site:** Oakland
Site Location: 10151 International Boulevard, Oakland, CA
Project Start Date: 11/12/2013 **Completion Date:** 11/22/2013
Assigned Inspector: Contact Steve Miller at (510) 670-5517 or stevem@acpwa.org

Applicant: Arcadis - Katie Wynne **Phone:** 916-865-3172
101 Creekside Ridge Ct #200, Roseville, CA 95678
Property Owner: Inrahim Abbushi **Phone:** --
10125 International Blvd, Oakland, CA 94603
Client: Tim Bishop Chevron **Phone:** 925-790-6463
6101 Bollinger Canyon Road, San Ramon, CA 94583

Total Due: $530.00
Receipt Number: WR2013-0416 **Total Amount Paid:** $530.00
Payer Name : Arcadis Paid By: CHECK **PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Investigation-Environmental/Monitorinig Study - 5 Boreholes
Driller: Gregg - Lic #: 485165 - Method: other **Work Total: $265.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2013-0901	11/06/2013	02/10/2014	5	2.00 in.	40.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Applicant shall contact Steve Miller for an inspection time at (510) 670-5517 or email to stevem@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

5. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

6. NOTE:

Alameda County Public Works Agency - Water Resources Well Permit

Under California laws, the owner/operator are responsible for reporting the contamination to the governmental regulatory agencies under Section 25295(a). The owner/operator is liable for civil penalties under Section 25299(a)(4) and criminal penalties under Section 25299(d) for failure to report a leak. The owner/operator is liable for civil penalties under Section 25299(b)(4) for knowing failure to ensure compliance with the law by the operator. These penalty provisions do not apply to a potential buyer.

7. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

8. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

Borehole(s) for Investigation-Geotechnical Study/CPT's - 10 Boreholes
Driller: Gregg - Lic #: 485165 - Method: other **Work Total: $265.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2013-0902	11/06/2013	02/10/2014	10	2.00 in.	40.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

5. Applicant shall contact Steve Miller for an inspection time at (510) 670-5517 or email to stevem@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

6. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters

generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

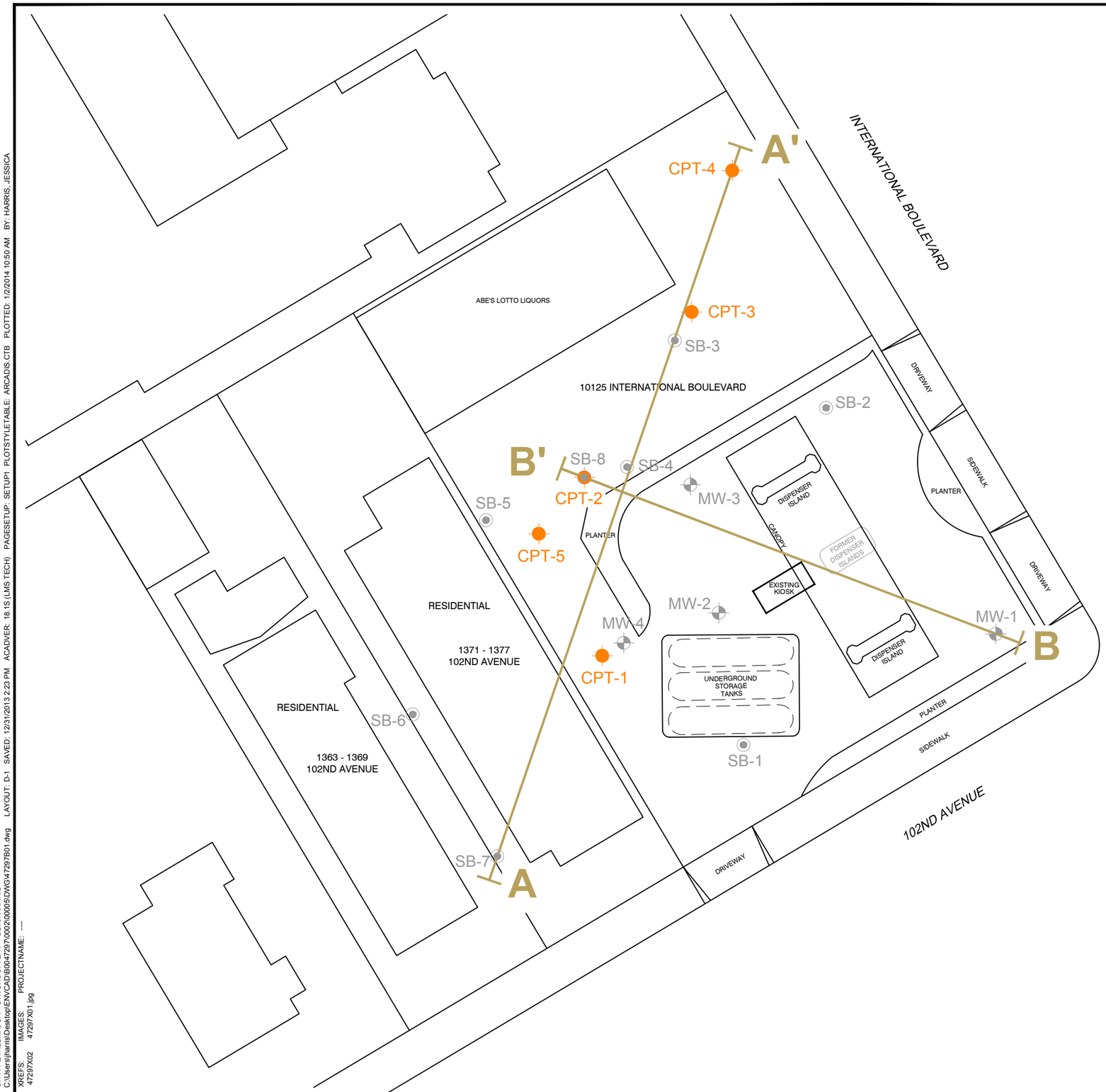
7. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

8. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

ARCADIS

Appendix D

Geologic Cross Sections



LEGEND

- MW-1 GROUNDWATER MONITORING WELL
- SB-1 SOIL BORING LOCATION
- CPT-1 CPT LOCATION
- CROSS SECTION LOCATION

NOTES:

1. BASE MAP PROVIDED BY TRC, DATED JANUARY 2010, AT A SCALE OF 1"=20'. ADDITIONAL SITE INFORMATION PROVIDED BY STANTEC, DATED SEPTEMBER 23, 2008, AT A SCALE OF 1"=40'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.

0 30' 60'

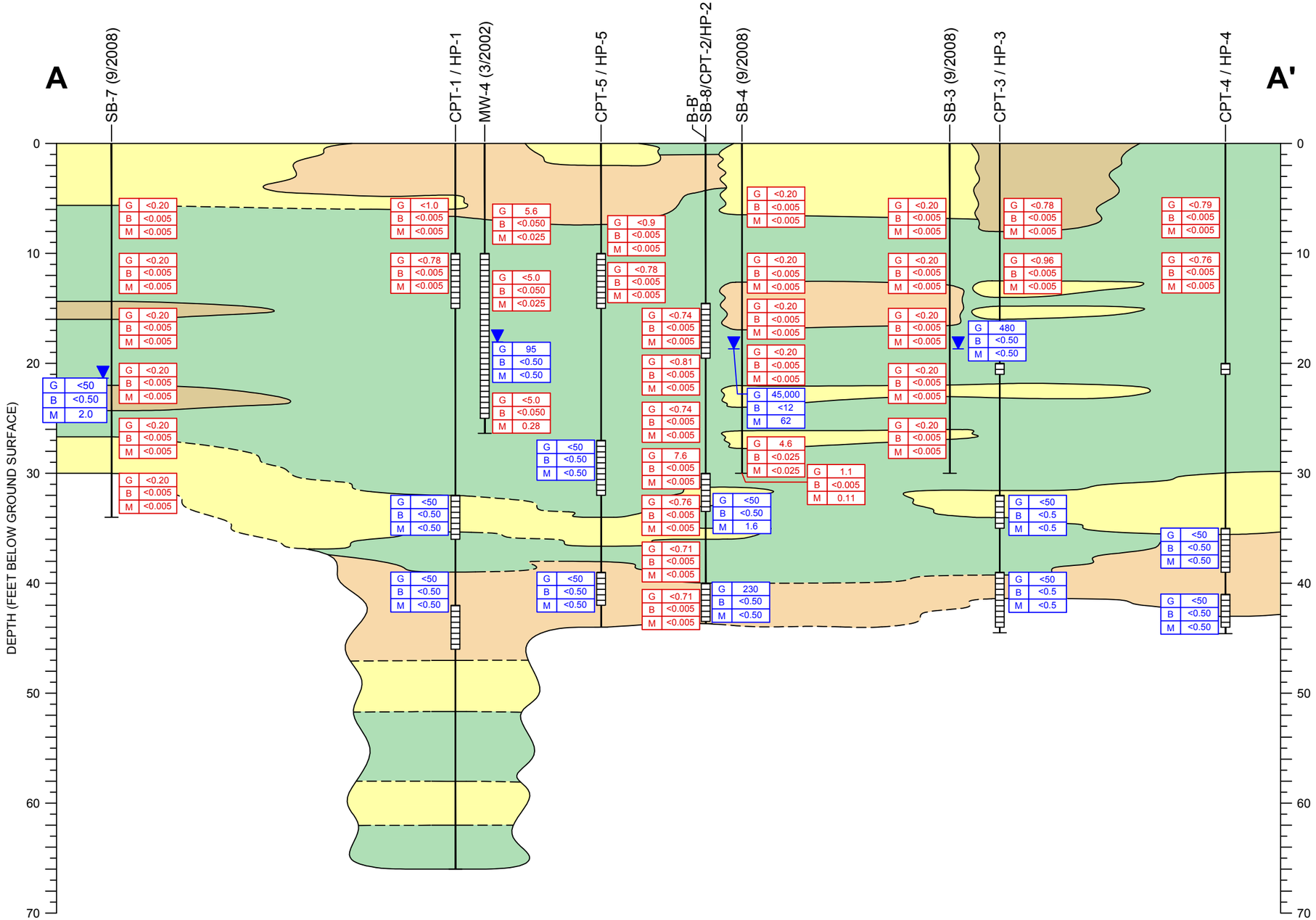
GRAPHIC SCALE

UNION OIL
STATION NO. 7124
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

SITE PLAN SHOWING CROSS SECTION LOCATIONS

ARCADIS

FIGURE
D-1

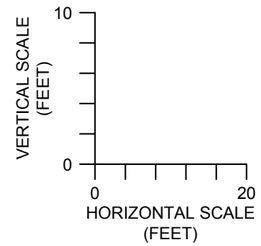


LEGEND:

- WELL/BORING ID (DATE INSTALLED)
- GROUND SURFACE
- LITHOLOGIC CONTACT (DASHED WHERE INFERRED)
- DEPTH TO WATER
- HYDROPUNCH ATTEMPT/WELL SCREEN
- WELL/BORING BOTTOM
- CLAY AND SILTY CLAY (CL/CH)
- SILT (ML)
- SANDY SILT AND CLAYEY SILT (SM/ML)
- SAND (SP/SW)
- G TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
- B BENZENE
- M METHYL TERTIARY BUTYL ETHER
- < LESS THAN REPORTING LIMIT

SOIL CONCENTRATIONS ARE IN MILLIGRAMS PER KILOGRAM (mg/kg); TOP OF BOX AT ASSOCIATED DEPTH OF SAMPLE TAKEN

GROUNDWATER CONCENTRATIONS ARE IN MICROGRAMS PER LITER (µg/L); TOP OF BOX AT ASSOCIATED DEPTH OF SAMPLE TAKEN



UNION OIL
STATION NO. 7124
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

GEOLOGIC CROSS SECTION A-A'

ARCADIS

FIGURE
D-2

CITY: PETALUMA, CA DIV/GROUP: ENV DB: J. HARRIS
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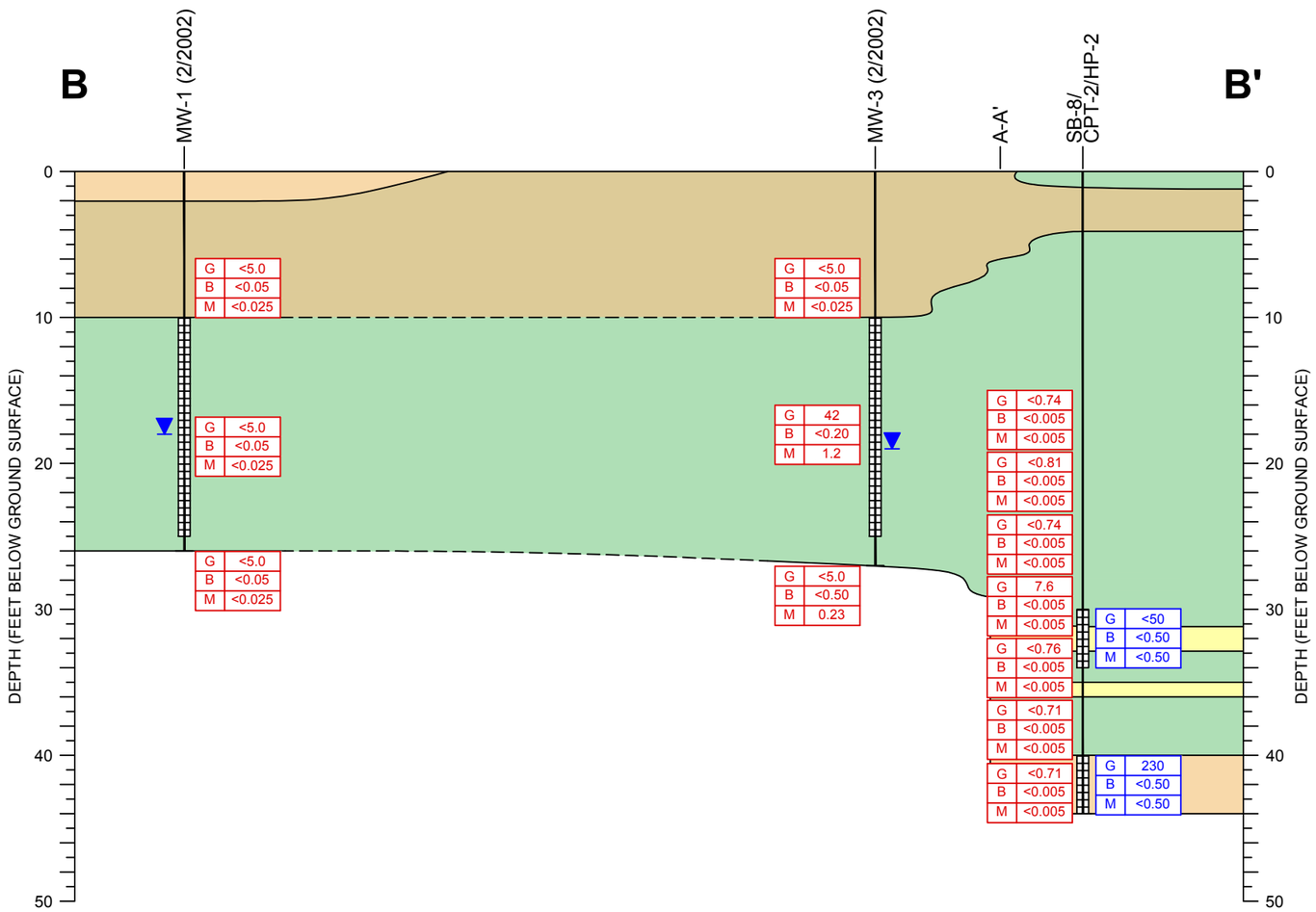
47297X02 47297X01.jpg



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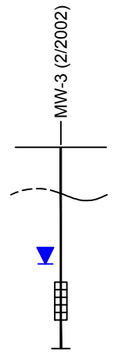


WELL/BORING ID (DATE INSTALLED)

GROUND SURFACE

LITHOLOGIC CONTACT (DASHED WHERE INFERRED)

DEPTH TO WATER

HYDROPUNCH ATTEMPT/WELL SCREEN

WELL/BORING BOTTOM

CLAY AND SILTY CLAY (CL/CH)

SILT (ML)

SANDY SILT AND CLAYEY SILT (SM/ML)

SAND (SP/SW)

G TOTAL PETROLEUM HYDROCARBONS AS GASOLINE

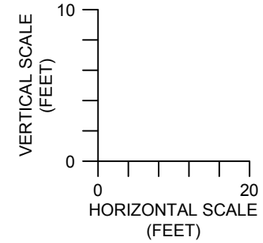
B BENZENE

M METHYL TERTIARY BUTYL ETHER

< LESS THAN REPORTING LIMIT

SOIL CONCENTRATIONS ARE IN MILLIGRAMS PER KILOGRAM (mg/kg); TOP OF BOX AT ASSOCIATED DEPTH OF SAMPLE TAKEN

GROUNDWATER CONCENTRATIONS ARE IN MICROGRAMS PER LITER (µg/L); TOP OF BOX AT ASSOCIATED DEPTH OF SAMPLE TAKEN



UNION OIL
STATION NO. 7124
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

GEOLOGIC CROSS SECTION B-B'

ARCADIS

FIGURE
D-3

CITY: PETALUMA, CA DIV/GROUP: ENV DB: J. HARRIS
C:\Users\jharris\Desktop\ENV\CAD\B0047297\0002\00005\DWG\47297V02.dwg LAYOUT: D-3 SAVED: 1/2/2014 8:35 AM ACADVER: 18.1S (LMS TECH) PAGESETUP: SETUP1 PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 1/2/2014 10:51 AM BY: HARRIS, JESSICA
XREFS: IMAGES: PROJECTNAME: ---
47297X02 47297X01.jpg

ARCADIS

Appendix E

Laboratory Analytical Report (2013)

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 12/03/2013

Kathy Brandt

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Project:	7124
BC Work Order:	1325158
Invoice ID:	B161089

Enclosed are the results of analyses for samples received by the laboratory on 11/16/2013. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Molly Meyers

Contact Person: Molly Meyers
Client Service Rep

Authorized Signature

Table of Contents

Table of Contents

Chain of Custody and Cooler Receipt Form for 1325158 Page 1 of 4

13-25158

CHAIN OF CUSTODY FORM

Union Oil Company of California ▪ 6101 Bollinger Canyon Road ▪ San Ramon, CA 94583

COC 1 of 2

Union Oil Site ID: 351638	Union Oil Consultant: ARCADIS
Site Global ID:	Consultant Contact: KATHY BRANDT
Site Address: ~~10151~~ ~~[illegible]~~ BLVD 10151 INTERNATIONAL BLVD, OAKLAND	Consultant Phone No.: 510.596.9675
Union Oil PM: TIM BISHOP	Sampling Company: ~~TRC~~ ARCADIS
Union Oil PM Phone No.: 925.790.6463	Sampled By (PRINT): JESSE BROCKMAN
Charge Code: NWRTB-0 211 _____ -0- LAB NWENV-0351638-0-0711	Sampler Signature: [signature]

This is a LEGAL document. ALL fields must be filled out CORRECTLY and COMPLETELY.

BC Laboratories, Inc.
Project Manager: Molly Meyers
4100 Atlas Court, Bakersfield, CA 93308
Phone No. 661-327-4911

Turnaround Time (TAT): Standard ☑ 24 Hours ☐ 48 Hours ☐ 72 Hours ☐

Special Instructions

ANALYSES REQUIRED

	Field Point Name	Matrix	DTW	Date (yymmdd)	Sample Time	# of Containers	TPH - Diesel by EPA 8015	TPH - G by GC/MS 8015 B	BTEX/MTBE/OXYS by EPA 8260B	Ethanol by EPA 8260B	EPA 8260B Full List with OXYS	NAPTHA & PAH BY EPA 8270C						Notes / Comments
1	CPT-4-5	W	~~1015~~	13.11.14	10:15	5		X	X	X		X						
2	CPT-4-8	W	~~1055~~	13.11.14	10:55	5		X	X	X								HOLD 8oz JAR
3	HP-4-35-39	S-A	18.40	13.11.14	13:30	4		X	X	X								
4	HP-4-41-45	S-A	18.40	13.11.14	14:20	4		X	X	X								
5	CPT-3-5	W	~~0950~~	13.11.15	9:50	6		X	X	X		X						HOLD SECOND 8oz JAR
6	CPT-3-8	W	~~0950~~	13.11.15	10:07	5		X	X	X								HOLD 8 oz JAR
7	HP-3-32-35	S-A	34.00	13.11.15	11:15	4		X	X	X								
8	HP-3-39-44	S-A	28.35	13.11.15	11:45	4		X	X	X								
9	CPT-2-5	W	~~1350~~	13.11.15	13:50	6		X	X	X		X						HOLD SECOND 8oz JAR
10	CPT-2-8	W	~~1410~~	13.11.15	14:10	5		X	X	X								HOLD 8 oz JAR
11	HP-2-30-34	S-A	33.58	13.11.15	14:50	4		X	X	X								
12	HP-2-40-44	S-A	19.51	13.11.15	15:10	4		X	X	X								

Relinquished By	Company	Date / Time	Relinquished By	Company	Date / Time	Relinquished By	Company	Date / Time
JESSE BROCKMAN	ARCADIS	11/15/13 15:30	Tu Nguyen	ARCADIS	11-15-13 16:40			

Received By	Company	Date / Time	Received By	Company	Date / Time	Received By	Company	Date / Time
Tu Nguyen	ARCADIS	11/15/13 15:31	To FedEx			HPR	11/16/13	1205

13-25158

CHAIN OF CUSTODY FORM

Union Oil Company of California ■ 6101 Bollinger Canyon Road ■ San Ramon, CA 94583

COC 2 of 2

Union Oil Site ID: 351638	Union Oil Consultant: ARCADIS
Site Global ID:	Consultant Contact: Kathy Brandt
Site Address: 10151 International Blvd, Oakland	Consultant Phone No.: 510-596-4675
	Sampling Company: TRC ARCADIS
Union Oil PM: Tim Bishop	Sampled By (PRINT): JESSE Brockman
Union Oil PM Phone No.: 925-790-6463	Sampler Signature:
Charge Code: ~~NWRTB-0 7 1 1 0-LAB~~ NWENV-0751638-0-0714	BC Laboratories, Inc. Project Manager: Molly Meyers 4100 Atlas Court, Bakersfield, CA 93308 Phone No. 661-327-4911
This is a LEGAL document. ALL fields must be filled out CORRECTLY and COMPLETELY.	

Turnaround Time (TAT): Standard ☑ 24 Hours ☐ 48 Hours ☐ 72 Hours ☐

Special Instructions

SAMPLE ID						ANALYSES REQUIRED											
Field Point Name	Matrix	DTW	Date (yymmdd)	Sample Time	# of Containers	TPH - Diesel by EPA 8015	TPH - G by GC/MS	BTEX/MTBE/OXYS by EPA 8260B	Ethanol by EPA 8260B	EPA 8260B Full List with OXYS							Notes / Comments
13 TRIP BLANK	W-S-A		~~13.11.15~~ 11.15.13	15:37	2		X	X	X								
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																

11/16/13

CHK BY [signature] DISTRIBUTION HARDCOPY ☐ SUB-OUT ☐

Relinquished By	Company	Date / Time:
JESSE BROCKMAN	ARCADIS	11/15/13 15:35
TU NGUYEN	ARCADIS	11-15-13 16:40

Received By	Company	Date / Time:
TU NGUYEN	ARCADIS	11-15-13 15:31
TU	FedEx	
HPR		11/16/13 1205

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 15 07/01/13 Page 1 Of 2

Submission #: 13-25158

SHIPPING INFORMATION
Federal Express ☒ UPS ☐ Hand Delivery
BC Lab Field Service ☐ Other ☐ (Specify)

SHIPPING CONTAINER
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)

FREE LIQUID
YES ☐ NO ☐

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ Intact? Yes ☐ No ☐ | None ☒ Comments: AWI 11/18/13

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☒ (corrected)

COC Received ☒ YES ☐ NO

Emissivity: 0.97 Container: Voa Thermometer ID: 207 Date/Time 11/16/13 1205

Temperature: (A) 3.4 °C / (C) 3.3 °C Analyst Init HPR

SAMPLE CONTAINERS	1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	( )	( )	A (4)	A (4)	( )	( )	A (4)	A (4)	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR	B	B			BC	B			BC	B
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT	A	A			A	A			A	A
Summa Canister										

Comments: ~~Times on sample containers for soil, but not on COC.~~ AWI 11/18/13

Sample Numbering Completed By: AWI Date/Time: 11/18/13 @ 0825

A = Actual / C = Corrected [S:\MyDOCS\WordPerfect\LAB DOCS\FORMS\SAMREC15]

Chain of Custody and Cooler Receipt Form for 1325158 Page 4 of 4

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 15 07/01/13 Page 2 Of 2

Submission #: 13-25158

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Federal Express [X] UPS ☐ Hand Delivery	Ice Chest [X] None ☐ Box ☐	YES ☐ NO ☐
BC Lab Field Service ☐ Other ☐ (Specify)_____	Other ☐ (Specify)_____	

Refrigerant: Ice [X] Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None [X] Comments: MM 11/18/13

All samples received? Yes [X] No ☐ All samples containers intact? Yes [X] No ☐ Description(s) match COC? Yes [X] No ☐

[X] COC Received YES ☐ NO

Emissivity: 0.97 Container: Voa Thermometer ID: 207 Date/Time 11/16/13 1205

Temperature: (A) 3.4 °C / (C) 3.3 °C Analyst Init HPR

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
P1A PHENOLICS										
40ml VOA VIAL TRAVEL BLANK			A(1)							
40ml VOA VIAL	A 14	A 14	( )	( )	( )	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments: ~~TIMES on Sample containers for Soil, but not on COC.~~ MM 11/18/13

Sample Numbering Completed By: MM Date/Time: 11/18/13 @ 0825 11/18/13

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information		
1325158-01	**COC Number:**	---	**Receive Date:** 11/16/2013 12:05
	Project Number:	7124	**Sampling Date:** 11/14/2013 10:15
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	CPT-4-5-S-131114	**Lab Matrix:** Solids
	Sampled By:	AREC	**Sample Type:** Soil
			Delivery Work Order:
			Global ID:
			Location ID (FieldPoint): CPT-4
			Matrix: SO
			Sample QC Type (SACode): CS
			Cooler ID:
1325158-02	**COC Number:**	---	**Receive Date:** 11/16/2013 12:05
	Project Number:	7124	**Sampling Date:** 11/14/2013 10:55
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	CPT-4-8-S-131114	**Lab Matrix:** Solids
	Sampled By:	AREC	**Sample Type:** Soil
			Delivery Work Order:
			Global ID:
			Location ID (FieldPoint): CPT-4
			Matrix: SO
			Sample QC Type (SACode): CS
			Cooler ID:
1325158-03	**COC Number:**	---	**Receive Date:** 11/16/2013 12:05
	Project Number:	7124	**Sampling Date:** 11/14/2013 13:30
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	HP-4-35-39-W-131114	**Lab Matrix:** Water
	Sampled By:	AREC	**Sample Type:** Water
			Delivery Work Order:
			Global ID:
			Location ID (FieldPoint): HP-4
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information		
1325158-04	**COC Number:**	---	**Receive Date:** 11/16/2013 12:05
	Project Number:	7124	**Sampling Date:** 11/14/2013 14:20
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	HP-4-41-45-W-131114	**Lab Matrix:** Water
	Sampled By:	AREC	**Sample Type:** Water
			Delivery Work Order:
			Global ID:
			Location ID (FieldPoint): HP-4
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:
1325158-05	**COC Number:**	---	**Receive Date:** 11/16/2013 12:05
	Project Number:	7124	**Sampling Date:** 11/15/2013 09:50
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	CPT-3-5-S-131115	**Lab Matrix:** Solids
	Sampled By:	AREC	**Sample Type:** Soil
			Delivery Work Order:
			Global ID:
			Location ID (FieldPoint): CPT-3
			Matrix: SO
			Sample QC Type (SACode): CS
			Cooler ID:
1325158-06	**COC Number:**	---	**Receive Date:** 11/16/2013 12:05
	Project Number:	7124	**Sampling Date:** 11/15/2013 10:07
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	CPT-3-8-S-131115	**Lab Matrix:** Solids
	Sampled By:	AREC	**Sample Type:** Soil
			Delivery Work Order:
			Global ID:
			Location ID (FieldPoint): CPT-3
			Matrix: SO
			Sample QC Type (SACode): CS
			Cooler ID:

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1325158-07	**COC Number:**	---	**Receive Date:**	11/16/2013 12:05
	Project Number:	7124	**Sampling Date:**	11/15/2013 11:15
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	HP-3-32-35-W-131115	**Lab Matrix:**	Water
	Sampled By:	AREC	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID:	
			Location ID (FieldPoint):	HP-3
			Matrix:	W
			Sample QC Type (SACode):	CS
			Cooler ID:	
1325158-08	**COC Number:**	---	**Receive Date:**	11/16/2013 12:05
	Project Number:	7124	**Sampling Date:**	11/15/2013 11:45
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	HP-3-39-44-W-131115	**Lab Matrix:**	Water
	Sampled By:	AREC	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID:	
			Location ID (FieldPoint):	HP-3
			Matrix:	W
			Sample QC Type (SACode):	CS
			Cooler ID:	
1325158-09	**COC Number:**	---	**Receive Date:**	11/16/2013 12:05
	Project Number:	7124	**Sampling Date:**	11/15/2013 13:50
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	CPT-2-5-S-131115	**Lab Matrix:**	Solids
	Sampled By:	AREC	**Sample Type:**	Soil
			Delivery Work Order:	
			Global ID:	
			Location ID (FieldPoint):	CPT-2
			Matrix:	SO
			Sample QC Type (SACode):	CS
			Cooler ID:	

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1325158-10	**COC Number:**	---	**Receive Date:**	11/16/2013 12:05
	Project Number:	7124	**Sampling Date:**	11/15/2013 14:10
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	CPT-2-8-S-131115	**Lab Matrix:**	Solids
	Sampled By:	AREC	**Sample Type:**	Soil
			Delivery Work Order:	
			Global ID:	
			Location ID (FieldPoint):	CPT-2
			Matrix:	SO
			Sample QC Type (SACode):	CS
			Cooler ID:	
1325158-11	**COC Number:**	---	**Receive Date:**	11/16/2013 12:05
	Project Number:	7124	**Sampling Date:**	11/15/2013 14:50
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	HP-2-30-34-W-131115	**Lab Matrix:**	Water
	Sampled By:	AREC	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID:	
			Location ID (FieldPoint):	HP-2
			Matrix:	W
			Sample QC Type (SACode):	CS
			Cooler ID:	
1325158-12	**COC Number:**	---	**Receive Date:**	11/16/2013 12:05
	Project Number:	7124	**Sampling Date:**	11/15/2013 15:10
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	HP-2-40-44-W-131115	**Lab Matrix:**	Water
	Sampled By:	AREC	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID:	
			Location ID (FieldPoint):	HP-2
			Matrix:	W
			Sample QC Type (SACode):	CS
			Cooler ID:	

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1325158-13	**COC Number:**	---	**Receive Date:**	11/16/2013 12:05
	Project Number:	7124	**Sampling Date:**	11/15/2013 15:33
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	Trip Blank-W-131115	**Lab Matrix:**	Water
	Sampled By:	AREC	**Sample Type:**	Trip Blank

Delivery Work Order:
Global ID:
Location ID (FieldPoint): Trip Blank
Matrix: W
Sample QC Type (SACode): CS
Cooler ID:

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260/5035)

BCL Sample ID: 1325158-01 | **Client Sample Name:** 7124, CPT-4-5-S-131114, 11/14/2013 10:15:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
t-Butyl alcohol	**0.21**	**mg/kg**	**0.050**	**EPA-8260B**	ND		1
Diisopropyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethanol	ND	mg/kg	1.0	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	101	%	70 - 121 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	101	%	81 - 117 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	93.4	%	74 - 121 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/18/13	11/18/13 10:50	ADC	MS-V2	1	BWK1462

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325158-01 | **Client Sample Name:** 7124, CPT-4-5-S-131114, 11/14/2013 10:15:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Acenaphthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Acenaphthylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Aldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Aniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzidine	ND	mg/kg	3.0	EPA-8270C	ND		1
Benzo[a]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[b]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[k]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[a]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[g,h,i]perylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzoic acid	ND	mg/kg	0.50	EPA-8270C	ND		1
Benzyl alcohol	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzyl butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
alpha-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
beta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
delta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
gamma-BHC (Lindane)	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethoxy)methane	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethyl) ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroisopropyl)ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Bromophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Chloronaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chlorophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
Chrysene	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDD	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDE	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDT	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzo[a,h]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzofuran	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325158-01 | **Client Sample Name:** 7124, CPT-4-5-S-131114, 11/14/2013 10:15:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
1,3-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,4-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
3,3-Dichlorobenzidine	ND	mg/kg	0.20	EPA-8270C	ND		1
Dieldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Diethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Dimethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
2,6-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-octyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Diphenylhydrazine	ND	mg/kg	0.10	EPA-8270C	ND		1
Endosulfan I	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan II	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan sulfate	ND	mg/kg	0.10	EPA-8270C	ND		1
Endrin	ND	mg/kg	0.20	EPA-8270C	ND		1
Endrin aldehyde	ND	mg/kg	0.50	EPA-8270C	ND		1
Fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Fluorene	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor epoxide	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobutadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorocyclopentadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachloroethane	ND	mg/kg	0.10	EPA-8270C	ND		1
Indeno[1,2,3-cd]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Isophorone	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Methylnaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
Naphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Naphthylamine	ND	mg/kg	3.0	EPA-8270C	ND		1
2-Nitroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
3-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Nitrobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325158-01 | **Client Sample Name:** 7124, CPT-4-5-S-131114, 11/14/2013 10:15:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
N-Nitrosodimethylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodi-N-propylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodiphenylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
Phenanthrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2,4-Trichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloro-3-methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Chlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dichlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dimethylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4,6-Dinitro-2-methylphenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2,4-Dinitrophenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2-Methylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
3- & 4-Methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Nitrophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Nitrophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Pentachlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Phenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4,5-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2,4,6-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Fluorophenol (Surrogate)	73.5	%	28 - 144 (LCL - UCL)	EPA-8270C			1
Phenol-d5 (Surrogate)	72.1	%	36 - 136 (LCL - UCL)	EPA-8270C			1
Nitrobenzene-d5 (Surrogate)	50.5	%	31 - 135 (LCL - UCL)	EPA-8270C			1
2-Fluorobiphenyl (Surrogate)	27.5	%	20 - 140 (LCL - UCL)	EPA-8270C			1
2,4,6-Tribromophenol (Surrogate)	47.8	%	20 - 150 (LCL - UCL)	EPA-8270C			1
p-Terphenyl-d14 (Surrogate)	76.5	%	30 - 150 (LCL - UCL)	EPA-8270C			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270C	11/25/13	12/02/13 18:42	SKC	MS-B1	0.970	BWL0089

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Total Petroleum Hydrocarbons (EPA 8015/5035)

BCL Sample ID: 1325158-01 | **Client Sample Name:** 7124, CPT-4-5-S-131114, 11/14/2013 10:15:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	mg/kg	0.79	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	92.5	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/19/13	11/21/13 11:05	JJH	GC-V8	0.789	BWK1457

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Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260/5035)

BCL Sample ID: 1325158-02 | **Client Sample Name:** 7124, CPT-4-8-S-131114, 11/14/2013 10:55:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
t-Butyl alcohol	**0.10**	**mg/kg**	**0.050**	**EPA-8260B**	ND		1
Diisopropyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethanol	ND	mg/kg	1.0	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	105	%	70 - 121 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	101	%	81 - 117 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	91.7	%	74 - 121 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/18/13	11/18/13 11:17	ADC	MS-V2	1	BWK1462

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Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Total Petroleum Hydrocarbons (EPA 8015/5035)

BCL Sample ID: 1325158-02 | **Client Sample Name:** 7124, CPT-4-8-S-131114, 11/14/2013 10:55:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	mg/kg	0.76	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	90.0	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/19/13	11/21/13 11:36	JJH	GC-V8	0.756	BWK1457

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Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1325158-03 | **Client Sample Name:** 7124, HP-4-35-39-W-131114, 11/14/2013 1:30:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260B	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	103	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	93.8	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	103	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/26/13	11/26/13 17:50	EAR	MS-V12	1	BWK1962

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Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1325158-03 | **Client Sample Name:** 7124, HP-4-35-39-W-131114, 11/14/2013 1:30:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	94.6	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/21/13	11/26/13 17:34	jjh	GC-V9	1	BWK1675

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Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1325158-04 | **Client Sample Name:** 7124, HP-4-41-45-W-131114, 11/14/2013 2:20:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260B	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	104	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	96.7	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	94.9	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/26/13	11/26/13 18:08	EAR	MS-V12	1	BWK1962

Arcadis
2000 Powell Street 7th Floor
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Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1325158-04 | **Client Sample Name:** 7124, HP-4-41-45-W-131114, 11/14/2013 2:20:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	90.6	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/21/13	11/26/13 17:54	jjh	GC-V9	1	BWK1675

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Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260/5035)

BCL Sample ID: 1325158-05 | **Client Sample Name:** 7124, CPT-3-5-S-131115, 11/15/2013 9:50:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
t-Butyl alcohol	**0.12**	**mg/kg**	**0.050**	**EPA-8260B**	ND		1
Diisopropyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethanol	ND	mg/kg	1.0	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	96.1	%	70 - 121 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	98.9	%	81 - 117 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	79.1	%	74 - 121 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/18/13	11/18/13 11:43	ADC	MS-V2	1	BWK1462

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2000 Powell Street 7th Floor
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Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325158-05 | **Client Sample Name:** 7124, CPT-3-5-S-131115, 11/15/2013 9:50:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Acenaphthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Acenaphthylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Aldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Aniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzidine	ND	mg/kg	3.0	EPA-8270C	ND		1
Benzo[a]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[b]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[k]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[a]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[g,h,i]perylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzoic acid	ND	mg/kg	0.50	EPA-8270C	ND		1
Benzyl alcohol	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzyl butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
alpha-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
beta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
delta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
gamma-BHC (Lindane)	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethoxy)methane	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethyl) ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroisopropyl)ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Bromophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Chloronaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chlorophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
Chrysene	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDD	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDE	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDT	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzo[a,h]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzofuran	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

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Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325158-05 | **Client Sample Name:** 7124, CPT-3-5-S-131115, 11/15/2013 9:50:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
1,3-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,4-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
3,3-Dichlorobenzidine	ND	mg/kg	0.20	EPA-8270C	ND		1
Dieldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Diethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Dimethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
2,6-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-octyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Diphenylhydrazine	ND	mg/kg	0.10	EPA-8270C	ND		1
Endosulfan I	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan II	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan sulfate	ND	mg/kg	0.10	EPA-8270C	ND		1
Endrin	ND	mg/kg	0.20	EPA-8270C	ND		1
Endrin aldehyde	ND	mg/kg	0.50	EPA-8270C	ND		1
Fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Fluorene	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor epoxide	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobutadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorocyclopentadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachloroethane	ND	mg/kg	0.10	EPA-8270C	ND		1
Indeno[1,2,3-cd]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Isophorone	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Methylnaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
Naphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Naphthylamine	ND	mg/kg	3.0	EPA-8270C	ND		1
2-Nitroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
3-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Nitrobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

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Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325158-05 | **Client Sample Name:** 7124, CPT-3-5-S-131115, 11/15/2013 9:50:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
N-Nitrosodimethylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodi-N-propylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodiphenylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
Phenanthrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2,4-Trichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloro-3-methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Chlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dichlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dimethylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4,6-Dinitro-2-methylphenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2,4-Dinitrophenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2-Methylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
3- & 4-Methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Nitrophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Nitrophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Pentachlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Phenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4,5-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2,4,6-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Fluorophenol (Surrogate)	67.0	%	28 - 144 (LCL - UCL)	EPA-8270C			1
Phenol-d5 (Surrogate)	85.4	%	36 - 136 (LCL - UCL)	EPA-8270C			1
Nitrobenzene-d5 (Surrogate)	68.4	%	31 - 135 (LCL - UCL)	EPA-8270C			1
2-Fluorobiphenyl (Surrogate)	46.6	%	20 - 140 (LCL - UCL)	EPA-8270C			1
2,4,6-Tribromophenol (Surrogate)	56.3	%	20 - 150 (LCL - UCL)	EPA-8270C			1
p-Terphenyl-d14 (Surrogate)	62.6	%	30 - 150 (LCL - UCL)	EPA-8270C			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270C	11/25/13	12/02/13 19:09	SKC	MS-B1	1.014	BWL0089

Arcadis
2000 Powell Street 7th Floor
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Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Total Petroleum Hydrocarbons (EPA 8015/5035)

BCL Sample ID: 1325158-05 | **Client Sample Name:** 7124, CPT-3-5-S-131115, 11/15/2013 9:50:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	mg/kg	0.78	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	90.0	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/19/13	11/21/13 12:06	JJH	GC-V8	0.778	BWK1457

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Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260/5035)

BCL Sample ID: 1325158-06 | **Client Sample Name:** 7124, CPT-3-8-S-131115, 11/15/2013 10:07:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
t-Butyl alcohol	ND	mg/kg	0.050	EPA-8260B	ND		1
Diisopropyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethanol	ND	mg/kg	1.0	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	107	%	70 - 121 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	101	%	81 - 117 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	94.2	%	74 - 121 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/18/13	11/18/13 12:10	ADC	MS-V2	1	BWK1462

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2000 Powell Street 7th Floor
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Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Total Petroleum Hydrocarbons (EPA 8015/5035)

BCL Sample ID: 1325158-06 | **Client Sample Name:** 7124, CPT-3-8-S-131115, 11/15/2013 10:07:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	mg/kg	0.96	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	92.5	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/19/13	11/21/13 12:36	JJH	GC-V8	0.958	BWK1457

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Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1325158-07 | **Client Sample Name:** 7124, HP-3-32-35-W-131115, 11/15/2013 11:15:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260B	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	103	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	94.7	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	100	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/26/13	11/26/13 18:26	EAR	MS-V12	1	BWK1962

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Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1325158-07 | **Client Sample Name:** 7124, HP-3-32-35-W-131115, 11/15/2013 11:15:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	87.9	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/21/13	11/26/13 18:14	jjh	GC-V9	1	BWK1675

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Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1325158-08 | **Client Sample Name:** 7124, HP-3-39-44-W-131115, 11/15/2013 11:45:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260B	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	103	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	103	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/26/13	11/26/13 18:43	EAR	MS-V12	1	BWK1962

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Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1325158-08 | **Client Sample Name:** 7124, HP-3-39-44-W-131115, 11/15/2013 11:45:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	84.8	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/21/13	11/27/13 14:35	jjh	GC-V9	1	BWK1675

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Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260/5035)

BCL Sample ID: 1325158-09 | **Client Sample Name:** 7124, CPT-2-5-S-131115, 11/15/2013 1:50:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
t-Butyl alcohol	**0.17**	**mg/kg**	**0.050**	**EPA-8260B**	ND		1
Diisopropyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethanol	ND	mg/kg	1.0	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	105	%	70 - 121 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	99.6	%	81 - 117 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	89.4	%	74 - 121 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/18/13	11/18/13 12:36	ADC	MS-V2	1	BWK1462

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Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325158-09 | **Client Sample Name:** 7124, CPT-2-5-S-131115, 11/15/2013 1:50:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Acenaphthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Acenaphthylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Aldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Aniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzidine	ND	mg/kg	3.0	EPA-8270C	ND		1
Benzo[a]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[b]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[k]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[a]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[g,h,i]perylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzoic acid	ND	mg/kg	0.50	EPA-8270C	ND		1
Benzyl alcohol	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzyl butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
alpha-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
beta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
delta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
gamma-BHC (Lindane)	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethoxy)methane	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethyl) ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroisopropyl)ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Bromophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Chloronaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chlorophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
Chrysene	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDD	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDE	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDT	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzo[a,h]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzofuran	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

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Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325158-09 | **Client Sample Name:** 7124, CPT-2-5-S-131115, 11/15/2013 1:50:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
1,3-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,4-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
3,3-Dichlorobenzidine	ND	mg/kg	0.20	EPA-8270C	ND		1
Dieldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Diethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Dimethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
2,6-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-octyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Diphenylhydrazine	ND	mg/kg	0.10	EPA-8270C	ND		1
Endosulfan I	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan II	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan sulfate	ND	mg/kg	0.10	EPA-8270C	ND		1
Endrin	ND	mg/kg	0.20	EPA-8270C	ND		1
Endrin aldehyde	ND	mg/kg	0.50	EPA-8270C	ND		1
Fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Fluorene	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor epoxide	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobutadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorocyclopentadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachloroethane	ND	mg/kg	0.10	EPA-8270C	ND		1
Indeno[1,2,3-cd]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Isophorone	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Methylnaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
Naphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Naphthylamine	ND	mg/kg	3.0	EPA-8270C	ND		1
2-Nitroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
3-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Nitrobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

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Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325158-09 | **Client Sample Name:** 7124, CPT-2-5-S-131115, 11/15/2013 1:50:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
N-Nitrosodimethylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodi-N-propylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodiphenylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
Phenanthrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2,4-Trichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloro-3-methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Chlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dichlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dimethylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4,6-Dinitro-2-methylphenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2,4-Dinitrophenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2-Methylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
3- & 4-Methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Nitrophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Nitrophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Pentachlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Phenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4,5-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2,4,6-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Fluorophenol (Surrogate)	78.7	%	28 - 144 (LCL - UCL)	EPA-8270C			1
Phenol-d5 (Surrogate)	93.2	%	36 - 136 (LCL - UCL)	EPA-8270C			1
Nitrobenzene-d5 (Surrogate)	79.5	%	31 - 135 (LCL - UCL)	EPA-8270C			1
2-Fluorobiphenyl (Surrogate)	70.5	%	20 - 140 (LCL - UCL)	EPA-8270C			1
2,4,6-Tribromophenol (Surrogate)	69.4	%	20 - 150 (LCL - UCL)	EPA-8270C			1
p-Terphenyl-d14 (Surrogate)	72.5	%	30 - 150 (LCL - UCL)	EPA-8270C			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270C	11/25/13	12/02/13 19:37	SKC	MS-B1	0.976	BWL0089

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Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Total Petroleum Hydrocarbons (EPA 8015/5035)

BCL Sample ID: 1325158-09 | **Client Sample Name:** 7124, CPT-2-5-S-131115, 11/15/2013 1:50:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	mg/kg	0.78	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	85.0	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/19/13	11/21/13 13:07	JJH	GC-V8	0.784	BWK1457

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Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260/5035)

BCL Sample ID: 1325158-10 | **Client Sample Name:** 7124, CPT-2-8-S-131115, 11/15/2013 2:10:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
t-Butyl alcohol	**0.12**	**mg/kg**	**0.050**	**EPA-8260B**	ND		1
Diisopropyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethanol	ND	mg/kg	1.0	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	96.1	%	70 - 121 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	98.1	%	81 - 117 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	84.3	%	74 - 121 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/18/13	11/18/13 13:03	ADC	MS-V2	1	BWK1462

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Total Petroleum Hydrocarbons (EPA 8015/5035)

BCL Sample ID: 1325158-10 | **Client Sample Name:** 7124, CPT-2-8-S-131115, 11/15/2013 2:10:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	mg/kg	0.80	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	87.5	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/19/13	11/21/13 13:37	JJH	GC-V8	0.800	BWK1457

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Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1325158-11 | **Client Sample Name:** 7124, HP-2-30-34-W-131115, 11/15/2013 2:50:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260B	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	108	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	99.5	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	97.0	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/26/13	11/26/13 19:01	EAR	MS-V12	1	BWK1962

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Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1325158-11 | **Client Sample Name:** 7124, HP-2-30-34-W-131115, 11/15/2013 2:50:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	89.7	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/21/13	11/26/13 22:35	jjh	GC-V9	1	BWK1675

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Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1325158-12 | **Client Sample Name:** 7124, HP-2-40-44-W-131115, 11/15/2013 3:10:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260B	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	104	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	105	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/26/13	11/26/13 19:18	EAR	MS-V12	1	BWK1962

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Project: 7124
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Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1325158-12 | **Client Sample Name:** 7124, HP-2-40-44-W-131115, 11/15/2013 3:10:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	**230**	**ug/L**	**50**	**EPA-8015B**	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	107	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/21/13	11/27/13 02:39	jjh	GC-V9	1	BWK1675

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Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1325158-13 | **Client Sample Name:** 7124, Trip Blank-W-131115, 11/15/2013 3:33:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260B	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Total Purgeable Petroleum Hydrocarbons (C6-C12)	ND	ug/L	50	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrogate)	102	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	100	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/26/13	11/27/13 10:48	EAR	MS-V12	1	BWK1962

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Project: 7124
Project Number: 351638
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Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWK1962						
Benzene	BWK1962-BLK1	ND	ug/L	0.50		
1,2-Dibromoethane	BWK1962-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BWK1962-BLK1	ND	ug/L	0.50		
Ethylbenzene	BWK1962-BLK1	ND	ug/L	0.50		
Methyl t-butyl ether	BWK1962-BLK1	ND	ug/L	0.50		
Toluene	BWK1962-BLK1	ND	ug/L	0.50		
Total Xylenes	BWK1962-BLK1	ND	ug/L	1.0		
t-Amyl Methyl ether	BWK1962-BLK1	ND	ug/L	0.50		
t-Butyl alcohol	BWK1962-BLK1	ND	ug/L	10		
Diisopropyl ether	BWK1962-BLK1	ND	ug/L	0.50		
Ethanol	BWK1962-BLK1	ND	ug/L	250		
Ethyl t-butyl ether	BWK1962-BLK1	ND	ug/L	0.50		
Total Purgeable Petroleum Hydrocarbons (C6-(	BWK1962-BLK1	ND	ug/L	50		
1,2-Dichloroethane-d4 (Surrogate)	**BWK1962-BLK1**	**100**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BWK1962-BLK1**	**100**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BWK1962-BLK1**	**98.8**	%	**80 - 120 (LCL - UCL)**		

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Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BWK1962										
Benzene	BWK1962-BS1	LCS	27.010	25.000	ug/L	108		70 - 130		
Toluene	BWK1962-BS1	LCS	23.710	25.000	ug/L	94.8		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BWK1962-BS1	LCS	9.9900	10.000	ug/L	99.9		75 - 125		
Toluene-d8 (Surrogate)	BWK1962-BS1	LCS	9.6300	10.000	ug/L	96.3		80 - 120		
4-Bromofluorobenzene (Surrogate)	BWK1962-BS1	LCS	10.360	10.000	ug/L	104		80 - 120		

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Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BWK1962	Used client sample: N										
Benzene	MS	1325794-05	ND	27.570	25.000	ug/L		110		70 - 130	
	MSD	1325794-05	ND	27.850	25.000	ug/L	1.0	111	20	70 - 130	
Toluene	MS	1325794-05	ND	25.790	25.000	ug/L		103		70 - 130	
	MSD	1325794-05	ND	25.210	25.000	ug/L	2.3	101	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1325794-05	ND	9.6900	10.000	ug/L		96.9		75 - 125	
	MSD	1325794-05	ND	9.8700	10.000	ug/L	1.8	98.7		75 - 125	
Toluene-d8 (Surrogate)	MS	1325794-05	ND	9.6300	10.000	ug/L		96.3		80 - 120	
	MSD	1325794-05	ND	9.6100	10.000	ug/L	0.2	96.1		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1325794-05	ND	10.460	10.000	ug/L		105		80 - 120	
	MSD	1325794-05	ND	10.940	10.000	ug/L	4.5	109		80 - 120	

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Volatile Organic Analysis (EPA Method 8260/5035)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWK1462						
Benzene	BWK1462-BLK1	ND	mg/kg	0.0050		
1,2-Dibromoethane	BWK1462-BLK1	ND	mg/kg	0.0050		
1,2-Dichloroethane	BWK1462-BLK1	ND	mg/kg	0.0050		
Ethylbenzene	BWK1462-BLK1	ND	mg/kg	0.0050		
Methyl t-butyl ether	BWK1462-BLK1	ND	mg/kg	0.0050		
Toluene	BWK1462-BLK1	ND	mg/kg	0.0050		
Total Xylenes	BWK1462-BLK1	ND	mg/kg	0.010		
t-Amyl Methyl ether	BWK1462-BLK1	ND	mg/kg	0.0050		
t-Butyl alcohol	BWK1462-BLK1	ND	mg/kg	0.050		
Diisopropyl ether	BWK1462-BLK1	ND	mg/kg	0.0050		
Ethanol	BWK1462-BLK1	ND	mg/kg	1.0		
Ethyl t-butyl ether	BWK1462-BLK1	ND	mg/kg	0.0050		
1,2-Dichloroethane-d4 (Surrogate)	**BWK1462-BLK1**	**93.6**	%	**70 - 121 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BWK1462-BLK1**	**101**	%	**81 - 117 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BWK1462-BLK1**	**90.4**	%	**74 - 121 (LCL - UCL)**		

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Volatile Organic Analysis (EPA Method 8260/5035)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BWK1462										
Benzene	BWK1462-BS1	LCS	0.13618	0.12500	mg/kg	109		70 - 130		
Toluene	BWK1462-BS1	LCS	0.12429	0.12500	mg/kg	99.4		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BWK1462-BS1	LCS	0.045630	0.050000	mg/kg	91.3		70 - 121		
Toluene-d8 (Surrogate)	BWK1462-BS1	LCS	0.048920	0.050000	mg/kg	97.8		81 - 117		
4-Bromofluorobenzene (Surrogate)	BWK1462-BS1	LCS	0.043920	0.050000	mg/kg	87.8		74 - 121		

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Volatile Organic Analysis (EPA Method 8260/5035)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BWK1462	Used client sample: N										
Benzene	MS	1323260-77	ND	0.14236	0.12500	mg/kg		114		70 - 130	
	MSD	1323260-77	ND	0.13892	0.12500	mg/kg	2.4	111	20	70 - 130	
Toluene	MS	1323260-77	ND	0.12707	0.12500	mg/kg		102		70 - 130	
	MSD	1323260-77	ND	0.13028	0.12500	mg/kg	2.5	104	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1323260-77	ND	0.049130	0.050000	mg/kg		98.3		70 - 121	
	MSD	1323260-77	ND	0.045680	0.050000	mg/kg	7.3	91.4		70 - 121	
Toluene-d8 (Surrogate)	MS	1323260-77	ND	0.050040	0.050000	mg/kg		100		81 - 117	
	MSD	1323260-77	ND	0.049100	0.050000	mg/kg	1.9	98.2		81 - 117	
4-Bromofluorobenzene (Surrogate)	MS	1323260-77	ND	0.046300	0.050000	mg/kg		92.6		74 - 121	
	MSD	1323260-77	ND	0.043930	0.050000	mg/kg	5.3	87.9		74 - 121	

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWL0089						
Acenaphthene	BWL0089-BLK1	ND	mg/kg	0.10		
Acenaphthylene	BWL0089-BLK1	ND	mg/kg	0.10		
Aldrin	BWL0089-BLK1	ND	mg/kg	0.10		
Aniline	BWL0089-BLK1	ND	mg/kg	0.20		
Anthracene	BWL0089-BLK1	ND	mg/kg	0.10		
Benzidine	BWL0089-BLK1	ND	mg/kg	3.0		
Benzo[a]anthracene	BWL0089-BLK1	ND	mg/kg	0.10		
Benzo[b]fluoranthene	BWL0089-BLK1	ND	mg/kg	0.10		
Benzo[k]fluoranthene	BWL0089-BLK1	ND	mg/kg	0.10		
Benzo[a]pyrene	BWL0089-BLK1	ND	mg/kg	0.10		
Benzo[g,h,i]perylene	BWL0089-BLK1	ND	mg/kg	0.10		
Benzoic acid	BWL0089-BLK1	ND	mg/kg	0.50		
Benzyl alcohol	BWL0089-BLK1	ND	mg/kg	0.10		
Benzyl butyl phthalate	BWL0089-BLK1	ND	mg/kg	0.10		
alpha-BHC	BWL0089-BLK1	ND	mg/kg	0.10		
beta-BHC	BWL0089-BLK1	ND	mg/kg	0.10		
delta-BHC	BWL0089-BLK1	ND	mg/kg	0.10		
gamma-BHC (Lindane)	BWL0089-BLK1	ND	mg/kg	0.10		
bis(2-Chloroethoxy)methane	BWL0089-BLK1	ND	mg/kg	0.10		
bis(2-Chloroethyl) ether	BWL0089-BLK1	ND	mg/kg	0.10		
bis(2-Chloroisopropyl)ether	BWL0089-BLK1	ND	mg/kg	0.10		
bis(2-Ethylhexyl)phthalate	BWL0089-BLK1	ND	mg/kg	0.20		
4-Bromophenyl phenyl ether	BWL0089-BLK1	ND	mg/kg	0.10		
4-Chloroaniline	BWL0089-BLK1	ND	mg/kg	0.10		
2-Chloronaphthalene	BWL0089-BLK1	ND	mg/kg	0.10		
4-Chlorophenyl phenyl ether	BWL0089-BLK1	ND	mg/kg	0.10		
Chrysene	BWL0089-BLK1	ND	mg/kg	0.10		
4,4'-DDD	BWL0089-BLK1	ND	mg/kg	0.10		
4,4'-DDE	BWL0089-BLK1	ND	mg/kg	0.10		
4,4'-DDT	BWL0089-BLK1	ND	mg/kg	0.10		
Dibenzo[a,h]anthracene	BWL0089-BLK1	ND	mg/kg	0.10		
Dibenzofuran	BWL0089-BLK1	ND	mg/kg	0.10		
1,2-Dichlorobenzene	BWL0089-BLK1	ND	mg/kg	0.10		
1,3-Dichlorobenzene	BWL0089-BLK1	ND	mg/kg	0.10		

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWL0089						
1,4-Dichlorobenzene	BWL0089-BLK1	ND	mg/kg	0.10		
3,3-Dichlorobenzidine	BWL0089-BLK1	ND	mg/kg	0.20		
Dieldrin	BWL0089-BLK1	ND	mg/kg	0.10		
Diethyl phthalate	BWL0089-BLK1	ND	mg/kg	0.10		
Dimethyl phthalate	BWL0089-BLK1	ND	mg/kg	0.10		
Di-n-butyl phthalate	BWL0089-BLK1	ND	mg/kg	0.10		
2,4-Dinitrotoluene	BWL0089-BLK1	ND	mg/kg	0.10		
2,6-Dinitrotoluene	BWL0089-BLK1	ND	mg/kg	0.10		
Di-n-octyl phthalate	BWL0089-BLK1	ND	mg/kg	0.10		
1,2-Diphenylhydrazine	BWL0089-BLK1	ND	mg/kg	0.10		
Endosulfan I	BWL0089-BLK1	ND	mg/kg	0.20		
Endosulfan II	BWL0089-BLK1	ND	mg/kg	0.20		
Endosulfan sulfate	BWL0089-BLK1	ND	mg/kg	0.10		
Endrin	BWL0089-BLK1	ND	mg/kg	0.20		
Endrin aldehyde	BWL0089-BLK1	ND	mg/kg	0.50		
Fluoranthene	BWL0089-BLK1	ND	mg/kg	0.10		
Fluorene	BWL0089-BLK1	ND	mg/kg	0.10		
Heptachlor	BWL0089-BLK1	ND	mg/kg	0.10		
Heptachlor epoxide	BWL0089-BLK1	ND	mg/kg	0.10		
Hexachlorobenzene	BWL0089-BLK1	ND	mg/kg	0.10		
Hexachlorobutadiene	BWL0089-BLK1	ND	mg/kg	0.10		
Hexachlorocyclopentadiene	BWL0089-BLK1	ND	mg/kg	0.10		
Hexachloroethane	BWL0089-BLK1	ND	mg/kg	0.10		
Indeno[1,2,3-cd]pyrene	BWL0089-BLK1	ND	mg/kg	0.10		
Isophorone	BWL0089-BLK1	ND	mg/kg	0.10		
2-Methylnaphthalene	BWL0089-BLK1	ND	mg/kg	0.10		
Naphthalene	BWL0089-BLK1	ND	mg/kg	0.10		
2-Naphthylamine	BWL0089-BLK1	ND	mg/kg	3.0		
2-Nitroaniline	BWL0089-BLK1	ND	mg/kg	0.10		
3-Nitroaniline	BWL0089-BLK1	ND	mg/kg	0.20		
4-Nitroaniline	BWL0089-BLK1	ND	mg/kg	0.20		
Nitrobenzene	BWL0089-BLK1	ND	mg/kg	0.10		
N-Nitrosodimethylamine	BWL0089-BLK1	ND	mg/kg	0.10		
N-Nitrosodi-N-propylamine	BWL0089-BLK1	ND	mg/kg	0.10		

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWL0089						
N-Nitrosodiphenylamine	BWL0089-BLK1	ND	mg/kg	0.10		
Phenanthrene	BWL0089-BLK1	ND	mg/kg	0.10		
Pyrene	BWL0089-BLK1	ND	mg/kg	0.10		
1,2,4-Trichlorobenzene	BWL0089-BLK1	ND	mg/kg	0.10		
4-Chloro-3-methylphenol	BWL0089-BLK1	ND	mg/kg	0.20		
2-Chlorophenol	BWL0089-BLK1	ND	mg/kg	0.10		
2,4-Dichlorophenol	BWL0089-BLK1	ND	mg/kg	0.10		
2,4-Dimethylphenol	BWL0089-BLK1	ND	mg/kg	0.10		
4,6-Dinitro-2-methylphenol	BWL0089-BLK1	ND	mg/kg	0.50		
2,4-Dinitrophenol	BWL0089-BLK1	ND	mg/kg	0.50		
2-Methylphenol	BWL0089-BLK1	ND	mg/kg	0.10		
3- & 4-Methylphenol	BWL0089-BLK1	ND	mg/kg	0.20		
2-Nitrophenol	BWL0089-BLK1	ND	mg/kg	0.10		
4-Nitrophenol	BWL0089-BLK1	ND	mg/kg	0.20		
Pentachlorophenol	BWL0089-BLK1	ND	mg/kg	0.20		
Phenol	BWL0089-BLK1	ND	mg/kg	0.10		
2,4,5-Trichlorophenol	BWL0089-BLK1	ND	mg/kg	0.20		
2,4,6-Trichlorophenol	BWL0089-BLK1	ND	mg/kg	0.20		
2-Fluorophenol (Surrogate)	**BWL0089-BLK1**	**96.3**	%	**28 - 144 (LCL - UCL)**		
Phenol-d5 (Surrogate)	**BWL0089-BLK1**	**111**	%	**36 - 136 (LCL - UCL)**		
Nitrobenzene-d5 (Surrogate)	**BWL0089-BLK1**	**100**	%	**31 - 135 (LCL - UCL)**		
2-Fluorobiphenyl (Surrogate)	**BWL0089-BLK1**	**96.5**	%	**20 - 140 (LCL - UCL)**		
2,4,6-Tribromophenol (Surrogate)	**BWL0089-BLK1**	**83.2**	%	**20 - 150 (LCL - UCL)**		
p-Terphenyl-d14 (Surrogate)	**BWL0089-BLK1**	**90.6**	%	**30 - 150 (LCL - UCL)**		

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2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BWL0089										
Acenaphthene	BWL0089-BS1	LCS	1.5291	1.6835	mg/kg	90.8		50 - 140		
1,4-Dichlorobenzene	BWL0089-BS1	LCS	1.5334	1.6835	mg/kg	91.1		40 - 140		
2,4-Dinitrotoluene	BWL0089-BS1	LCS	2.1332	1.6835	mg/kg	127		40 - 140		
Hexachlorobenzene	BWL0089-BS1	LCS	1.9633	1.6835	mg/kg	117		46 - 140		
Hexachlorobutadiene	BWL0089-BS1	LCS	1.7013	1.6835	mg/kg	101		40 - 120		
Hexachloroethane	BWL0089-BS1	LCS	1.4806	1.6835	mg/kg	87.9		40 - 120		
Nitrobenzene	BWL0089-BS1	LCS	1.2658	1.6835	mg/kg	75.2		40 - 130		
N-Nitrosodi-N-propylamine	BWL0089-BS1	LCS	1.2978	1.6835	mg/kg	77.1		40 - 120		
Pyrene	BWL0089-BS1	LCS	1.9049	1.6835	mg/kg	113		40 - 150		
1,2,4-Trichlorobenzene	BWL0089-BS1	LCS	1.6578	1.6835	mg/kg	98.5		40 - 140		
4-Chloro-3-methylphenol	BWL0089-BS1	LCS	1.2789	1.6835	mg/kg	76.0		40 - 130		
2-Chlorophenol	BWL0089-BS1	LCS	0.83712	1.6835	mg/kg	49.7		40 - 130		
2-Methylphenol	BWL0089-BS1	LCS	1.0549	1.6835	mg/kg	62.7		40 - 140		
3- & 4-Methylphenol	BWL0089-BS1	LCS	2.2547	3.3670	mg/kg	67.0		40 - 120		
4-Nitrophenol	BWL0089-BS1	LCS	0.29499	1.6835	mg/kg	17.5		20 - 120		L21
Pentachlorophenol	BWL0089-BS1	LCS	0.24187	1.6835	mg/kg	14.4		20 - 130		L21
Phenol	BWL0089-BS1	LCS	0.77938	1.6835	mg/kg	46.3		40 - 120		
2,4,6-Trichlorophenol	BWL0089-BS1	LCS	0.97307	1.6835	mg/kg	57.8		44 - 130		
2-Fluorophenol (Surrogate)	BWL0089-BS1	LCS	2.2461	2.6936	mg/kg	83.4		28 - 144		
Phenol-d5 (Surrogate)	BWL0089-BS1	LCS	2.5787	2.6936	mg/kg	95.7		36 - 136		
Nitrobenzene-d5 (Surrogate)	BWL0089-BS1	LCS	2.3312	2.6936	mg/kg	86.5		31 - 135		
2-Fluorobiphenyl (Surrogate)	BWL0089-BS1	LCS	2.3880	2.6936	mg/kg	88.7		20 - 140		
2,4,6-Tribromophenol (Surrogate)	BWL0089-BS1	LCS	2.5417	2.6936	mg/kg	94.4		20 - 150		
p-Terphenyl-d14 (Surrogate)	BWL0089-BS1	LCS	1.1443	1.3468	mg/kg	85.0		30 - 150		

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2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BWL0089	Used client sample: N										
Acenaphthene	MS	1320257-79	ND	1.5692	1.6722	mg/kg		93.8		40 - 140	
	MSD	1320257-79	ND	1.6769	1.6949	mg/kg	6.6	98.9	30	40 - 140	
1,4-Dichlorobenzene	MS	1320257-79	ND	1.4298	1.6722	mg/kg		85.5		30 - 150	
	MSD	1320257-79	ND	1.6702	1.6949	mg/kg	15.5	98.5	30	30 - 150	
2,4-Dinitrotoluene	MS	**1320257-79**	**ND**	**2.2276**	**1.6722**	**mg/kg**		**133**		**30 - 140**	
	MSD	**1320257-79**	**ND**	**2.4061**	**1.6949**	**mg/kg**	**7.7**	**142**	**30**	**30 - 140**	**Q03**
Hexachlorobenzene	MS	1320257-79	ND	2.0401	1.6722	mg/kg		122		30 - 150	
	MSD	1320257-79	ND	2.0034	1.6949	mg/kg	1.8	118	30	30 - 150	
Hexachlorobutadiene	MS	1320257-79	ND	1.6623	1.6722	mg/kg		99.4		20 - 140	
	MSD	1320257-79	ND	1.9424	1.6949	mg/kg	15.5	115	30	20 - 140	
Hexachloroethane	MS	1320257-79	ND	1.4949	1.6722	mg/kg		89.4		30 - 140	
	MSD	1320257-79	ND	1.8258	1.6949	mg/kg	19.9	108	30	30 - 140	
Nitrobenzene	MS	1320257-79	ND	2.0204	1.6722	mg/kg		121		30 - 140	
	MSD	1320257-79	ND	2.3708	1.6949	mg/kg	16.0	140	30	30 - 140	
N-Nitrosodi-N-propylamine	MS	1320257-79	ND	1.1886	1.6722	mg/kg		71.1		30 - 120	
	MSD	1320257-79	ND	1.3254	1.6949	mg/kg	10.9	78.2	30	30 - 120	
Pyrene	MS	1320257-79	ND	1.9772	1.6722	mg/kg		118		40 - 150	
	MSD	1320257-79	ND	2.1095	1.6949	mg/kg	6.5	124	30	40 - 150	
1,2,4-Trichlorobenzene	MS	1320257-79	ND	1.6061	1.6722	mg/kg		96.0		30 - 150	
	MSD	1320257-79	ND	1.8875	1.6949	mg/kg	16.1	111	30	30 - 150	
4-Chloro-3-methylphenol	MS	1320257-79	ND	1.3513	1.6722	mg/kg		80.8		40 - 130	
	MSD	1320257-79	ND	1.2210	1.6949	mg/kg	10.1	72.0	30	40 - 130	
2-Chlorophenol	MS	**1320257-79**	**ND**	**0.58176**	**1.6722**	**mg/kg**		**34.8**		**40 - 130**	**Q03**
	MSD	**1320257-79**	**ND**	**0.96542**	**1.6949**	**mg/kg**	**49.6**	**57.0**	**30**	**40 - 130**	**Q02**
2-Methylphenol	MS	1320257-79	ND	1.2604	1.6722	mg/kg		75.4		30 - 140	
	MSD	1320257-79	ND	1.3512	1.6949	mg/kg	7.0	79.7	30	30 - 140	
3- & 4-Methylphenol	MS	1320257-79	ND	2.1983	3.3445	mg/kg		65.7		40 - 130	
	MSD	1320257-79	ND	2.6715	3.3898	mg/kg	19.4	78.8	30	40 - 130	
4-Nitrophenol	MS	1320257-79	ND	0.34600	1.6722	mg/kg		20.7		20 - 140	
	MSD	1320257-79	ND	0.37322	1.6949	mg/kg	7.6	22.0	30	20 - 140	
Pentachlorophenol	MS	1320257-79	ND	0.39207	1.6722	mg/kg		23.4		20 - 130	
	MSD	1320257-79	ND	0.41966	1.6949	mg/kg	6.8	24.8	30	20 - 130	
Phenol	MS	1320257-79	ND	0.78415	1.6722	mg/kg		46.9		30 - 130	
	MSD	1320257-79	ND	0.95458	1.6949	mg/kg	19.6	56.3	30	30 - 130	
2,4,6-Trichlorophenol	MS	1320257-79	ND	1.2023	1.6722	mg/kg		71.9		40 - 140	
	MSD	1320257-79	ND	1.2878	1.6949	mg/kg	6.9	76.0	30	40 - 140	

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BWL0089	Used client sample: N										
2-Fluorophenol (Surrogate)	MS	1320257-79	ND	2.2730	2.6756	mg/kg		85.0		28 - 144	
	MSD	1320257-79	ND	2.8302	2.7119	mg/kg	21.8	104		28 - 144	
Phenol-d5 (Surrogate)	MS	1320257-79	ND	2.5116	2.6756	mg/kg		93.9		36 - 136	
	MSD	1320257-79	ND	2.9308	2.7119	mg/kg	15.4	108		36 - 136	
Nitrobenzene-d5 (Surrogate)	MS	1320257-79	ND	2.1634	2.6756	mg/kg		80.9		31 - 135	
	MSD	1320257-79	ND	2.5783	2.7119	mg/kg	17.5	95.1		31 - 135	
2-Fluorobiphenyl (Surrogate)	MS	1320257-79	ND	2.3229	2.6756	mg/kg		86.8		20 - 140	
	MSD	1320257-79	ND	2.5844	2.7119	mg/kg	10.7	95.3		20 - 140	
2,4,6-Tribromophenol (Surrogate)	MS	1320257-79	ND	2.5440	2.6756	mg/kg		95.1		20 - 150	
	MSD	1320257-79	ND	2.4793	2.7119	mg/kg	2.6	91.4		20 - 150	
p-Terphenyl-d14 (Surrogate)	MS	1320257-79	ND	1.1670	1.3378	mg/kg		87.2		30 - 150	
	MSD	1320257-79	ND	1.2908	1.3559	mg/kg	10.1	95.2		30 - 150	

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2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWK1675						
Gasoline Range Organics (C6 - C12)	BWK1675-BLK1	ND	ug/L	50		
a,a,a-Trifluorotoluene (FID Surrogate)	**BWK1675-BLK1**	**79.4**	%	**70 - 130 (LCL - UCL)**		

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BWK1675										
Gasoline Range Organics (C6 - C12)	BWK1675-BS1	LCS	901.76	1000.0	ug/L	90.2		85 - 115		
a,a,a-Trifluorotoluene (FID Surrogate)	BWK1675-BS1	LCS	35.928	40.000	ug/L	89.8		70 - 130		

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BWK1675	Used client sample: N										
Gasoline Range Organics (C6 - C12)	MS	1323260-89	ND	908.94	1000.0	ug/L		90.9		70 - 130	
	MSD	1323260-89	ND	863.26	1000.0	ug/L	5.2	86.3	20	70 - 130	
a,a,a-Trifluorotoluene (FID Surrogate)	MS	1323260-89	ND	34.575	40.000	ug/L		86.4		70 - 130	
	MSD	1323260-89	ND	35.173	40.000	ug/L	1.7	87.9		70 - 130	

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Total Petroleum Hydrocarbons (EPA 8015/5035)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWK1457						
Gasoline Range Organics (C6 - C12)	BWK1457-BLK1	ND	mg/kg	1.0		
a,a,a-Trifluorotoluene (FID Surrogate)	**BWK1457-BLK1**	**82.5**	%	**70 - 130 (LCL - UCL)**		

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Total Petroleum Hydrocarbons (EPA 8015/5035)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BWK1457										
Gasoline Range Organics (C6 - C12)	BWK1457-BS1	LCS	5.6060	5.0000	mg/kg	112		85 - 115		
a,a,a-Trifluorotoluene (FID Surrogate)	BWK1457-BS1	LCS	0.037000	0.040000	mg/kg	92.5		70 - 130		

Arcadis
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Emeryville, CA 94608

Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Total Petroleum Hydrocarbons (EPA 8015/5035)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BWK1457	Used client sample: N										
Gasoline Range Organics (C6 - C12)	MS	1323260-84	ND	5.5990	5.0000	mg/kg		112		70 - 130	
	MSD	1323260-84	ND	5.6300	5.0000	mg/kg	0.6	113	20	70 - 130	
a,a,a-Trifluorotoluene (FID Surrogate)	MS	1323260-84	ND	0.037000	0.040000	mg/kg		92.5		70 - 130	
	MSD	1323260-84	ND	0.036000	0.040000	mg/kg	2.7	90.0		70 - 130	

Arcadis
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Emeryville, CA 94608

Reported: 12/03/2013 12:44
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected at or above the reporting limit
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
L21	The Laboratory Control Sample Soil (LCSS) recovery is not within laboratory established control limits.
Q02	Matrix spike precision is not within the control limits.
Q03	Matrix spike recovery(s) is(are) not within the control limits.

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 12/04/2013

Kathy Brandt

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Project:	7124
BC Work Order:	1325252
Invoice ID:	B161170

Enclosed are the results of analyses for samples received by the laboratory on 11/19/2013. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Molly Meyers

Contact Person: Molly Meyers
Client Service Rep

Authorized Signature

Table of Contents

Table of Contents

13-25252

CHAIN OF CUSTODY FORM

Union Oil Company of California ▪ 6101 Bollinger Canyon Road ▪ San Ramon, CA 94583

COC 1 of 2

Union Oil Site ID: CUX 351638	Union Oil Consultant: ARCADIS
Site Global ID:	Consultant Contact: 925.274.1100
Site Address: 10151 Industrial Blvd Oakland CA	Consultant Phone No.: Jake Henry
	Sampling Company: ~~IBE~~ ARCADIS
Union Oil PM: Tim Bishop	Sampled By (PRINT): Rob Moniz, Jake Henry, Jesse Backman
Union Oil PM Phone No.:	Sampler Signature: [signature]
Charge Code: ~~NWRTB~~-0351638-0-LAB NWENV- -0- 0702	BC Laboratories, Inc. Project Manager: Molly Meyers 4100 Atlas Court, Bakersfield, CA 93308 Phone No. 661-327-4911

This is a LEGAL document. ALL fields must be filled out CORRECTLY and COMPLETELY.

Turnaround Time (TAT): Standard ☒ 24 Hours ☐ 48 Hours ☐ 72 Hours ☐

Special Instructions

ANALYSES REQUIRED

#	Field Point Name	Matrix	DTW (ft)	Date (yymmdd)	Sample Time	# of Containers	TPH - Diesel by EPA 8015	TPH - G by GC/MS	BTEX/MTBE/OXYS by EPA 8260B	Ethanol by EPA 8260B	EPA 8260B Full List with OXYS	PAHs & Naphthalene (8270 C)	Notes / Comments
1	CPT-5-5	W(S)A	—	131118	0847	6		X	X	X		X	(1) 8oz jar on-hold
2	CPT-5-8	W(S)A	—	"	0900	5		X	X	X		X	8oz jar on-hold
3	HP-5-28-32	(W)S-A	29.7	"	0940	4		X	X	X		X	
4	HP-5-39-42	(W)S-A	19.31	"	1000	4		X	X	X		X	
5	CPT-1-5	W(S)A	—	"	1055	6		X	X	X		X	(1) 8oz jar on-hold
6	CPT-1-8	W(S)A	—	"	1115	5		X	X	X		X	8oz jar on-hold
7	HP-1-32-36	(W)S-A	34.50	"	1150	4		X	X	X		X	
8	HP-1-42-46	(W)S-A	19.70	"	1200	4		X	X	X		X	
9	SB-8-15.5	W(S)A	—	"	1635	5		X	X	X		X	8oz jar on-hold
10	SB-8-19.5	W(S)A	—	"	1445	5		X	X	X		X	" "
11	SB-8-22.5	W(S)A	—	"	1520	5		X	X	X		X	" "
12	SB-8-26.5	W(S)A	—	"	1530	5		X	X	X		X	" "

Relinquished By	Company	Date / Time:	Relinquished By	Company	Date / Time :	Relinquished By	Company	Date / Time:
[signature]	Arcadis	11.18.13 @ 1810						

Received By	Company	Date / Time:	Received By	Company	Date / Time :	Received By	Company	Date / Time:
—	FEDEX	—	[signature]		11/19/13 1005			

Chain of Custody and Cooler Receipt Form for 1325252 Page 2 of 4

13-25252

CHAIN OF CUSTODY FORM

Union Oil Company of California ■ 6101 Bollinger Canyon Road ■ San Ramon, CA 94583

COC 2 of 2

Union Oil Site ID: CVX 351638
Site Global ID:
Site Address: 10150 Industrial Blvd. Oakland CA
Union Oil PM: Tim Bishop
Union Oil PM Phone No.: NWENV-6351638-0-0702
Charge Code: NWRTB-0 ---------- -0- LAB

Union Oil Consultant: ARCADIS
Consultant Contact: 925.274.1100
Consultant Phone No.: John Heaney
Sampling Company: ~~ERC~~ ARCADIS
Sampled By (PRINT): Rob Archie + Jesse Brockmen
Sampler Signature:

BC Laboratories, Inc.
Project Manager: Molly Meyers
4100 Atlas Court, Bakersfield, CA 93308
Phone No. 661-327-4911

This is a LEGAL document. ALL fields must be filled out CORRECTLY and COMPLETELY.

	SAMPLE ID						ANALYSES REQUIRED												
	Field Point Name	Matrix	DTW	Date (yymmdd)	Sample Time	# of Containers	TPH - Diesel by EPA 8015	TPH - G by GC/MS	BTEX/MTBE/OXYS by EPA 8260B	Ethanol by EPA 8260B	EPA 8260B Full List with OXYS	PAHs + Naphthalene (8270C)						Turnaround Time (TAT): Standard X 24 Hours ☐ 48 Hours ☐ 72 Hours ☐ Special Instructions	Notes / Comments
3	SB-8-31.5	W/S/A	-	13.11.18	1555	5		X	X	X		X							8021 on-hold
4	SB-8-36	W/S/A	-	"	1600	5		X	X	X		X							" "
5	SB-8-40	W/S/A	-	"	1610	5		X	X	X		X							" "
16	Travel Blank	W/S/A	-	13.11.18	—	4													
		W-S-A																	
		W-S-A																	
		W-S-A																	
		W-S-A																	
		W-S-A																	
		W-S-A																	
		W-S-A																	
		W-S-A																	

Relinquished By: Company: Arcadis Date / Time: 11.18.13 @ 1810
Received By: Company: FEDEX — Date / Time:
Relinquished By: Company: Date / Time:
Received By: Company: Date / Time: 11/19/13 1005
Relinquished By: Company: Date / Time:
Received By: Company: Date / Time:

CHK BY [illegible]
DISTRIBUTION
WHITE
BLUE OUT

Chain of Custody and Cooler Receipt Form for 1325252 Page 3 of 4

BC LABORATORIES INC. **COOLER RECEIPT FORM** Rev. No. 15 07/01/13 Page 1 Of 2

Submission #: 13-25252

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Federal Express ☒ UPS ☐ Hand Delivery ☐	Ice Chest ☒ None ☐ Box ☐	YES ☐ NO ☐
BC Lab Field Service ☐ Other ☐ (Specify)_____	Other ☐ (Specify)_____	

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☐ No ☒

COC Received ☒ YES ☐ NO

Emissivity: 0.97 Container: VOA Thermometer ID: 207

Temperature: (A) 4.7 °C / (C) 4.6 °C

Date/Time 11/19/13

Analyst Init MM 1005

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK									A(2)	
40ml VOA VIAL	( )	( )	A(4)	A(4)	( )	( )	A(4)	A(4)	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR	BC	B			BC	B				
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT	A	A			A	A				
Summa Canister										

Comments: Travel Blank not on COC. Added in 11/19/13

Sample Numbering Completed By: MM Date/Time: 11/19/13 @ 1055

A = Actual / C = Corrected

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Chain of Custody and Cooler Receipt Form for 1325252 Page 4 of 4

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 15 07/01/13 Page 2 Of 2

Submission #: 13-25252

SHIPPING INFORMATION
Federal Express ☑ UPS ☐ Hand Delivery ☐
BC Lab Field Service ☐ Other ☐ (Specify)_____

SHIPPING CONTAINER
Ice Chest ☑ None ☐ Box ☐
Other ☐ (Specify)_____

FREE LIQUID
YES ☐ NO ☐

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☑ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☐ No ☒

COC Received ☑ YES ☐ NO

Emissivity: 0.97 Container: Glass Thermometer ID: 207 Date/Time: 11/19/13

Temperature: (A) 4.5 °C / (C) 4.5 °C Analyst Init: AWL 1005

SAMPLE CONTAINERS	SAMPLE NUMBERS (AWL 11/19/13)									
	#9	#10	#11	#12	#13	#14	#15	#16	9	10
QT GENERAL MINERAL/ GENERAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK								A(2)		
40ml VOA VIAL	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR	B	B	B	B	B	B	B			
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT	A	A	A	A	A	A	A			
Summa Canister										

Comments:
Sample Numbering Completed By: AWL Date/Time: 11/19/13@1055
A = Actual / C = Corrected

[S:\MyDOCS\WordPerfect\LAB_DOCS\FORMS\SAMREC15]

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information		
1325252-01	**COC Number:**	---	**Receive Date:** 11/19/2013 10:05
	Project Number:	7124	**Sampling Date:** 11/18/2013 08:47
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	CPT-5-5-S-131118	**Lab Matrix:** Solids
	Sampled By:	AREC	**Sample Type:** Soil
			Delivery Work Order:
			Global ID:
			Location ID (FieldPoint): CPT-5
			Matrix: SO
			Sample QC Type (SACode): CS
			Cooler ID:
1325252-02	**COC Number:**	---	**Receive Date:** 11/19/2013 10:05
	Project Number:	7124	**Sampling Date:** 11/18/2013 09:00
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	CPT-5-8-S-131118	**Lab Matrix:** Solids
	Sampled By:	AREC	**Sample Type:** Soil
			Delivery Work Order:
			Global ID:
			Location ID (FieldPoint): CPT-5
			Matrix: SO
			Sample QC Type (SACode): CS
			Cooler ID:
1325252-03	**COC Number:**	---	**Receive Date:** 11/19/2013 10:05
	Project Number:	7124	**Sampling Date:** 11/18/2013 09:40
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	HP-5-28-32-W-131118	**Lab Matrix:** Water
	Sampled By:	AREC	**Sample Type:** Water
			Delivery Work Order:
			Global ID:
			Location ID (FieldPoint): HP-5
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1325252-04	**COC Number:**	---	**Receive Date:**	11/19/2013 10:05
	Project Number:	7124	**Sampling Date:**	11/18/2013 10:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	HP-5-39-42-W-131118	**Lab Matrix:**	Water
	Sampled By:	AREC	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID:	
			Location ID (FieldPoint):	HP-5
			Matrix:	W
			Sample QC Type (SACode):	CS
			Cooler ID:	
1325252-05	**COC Number:**	---	**Receive Date:**	11/19/2013 10:05
	Project Number:	7124	**Sampling Date:**	11/18/2013 10:55
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	CPT-1-5-S-131118	**Lab Matrix:**	Solids
	Sampled By:	AREC	**Sample Type:**	Soil
			Delivery Work Order:	
			Global ID:	
			Location ID (FieldPoint):	CPT-1
			Matrix:	SO
			Sample QC Type (SACode):	CS
			Cooler ID:	
1325252-06	**COC Number:**	---	**Receive Date:**	11/19/2013 10:05
	Project Number:	7124	**Sampling Date:**	11/18/2013 11:15
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	CPT-1-8-S-131118	**Lab Matrix:**	Solids
	Sampled By:	AREC	**Sample Type:**	Soil
			Delivery Work Order:	
			Global ID:	
			Location ID (FieldPoint):	CPT-1
			Matrix:	SO
			Sample QC Type (SACode):	CS
			Cooler ID:	

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information		
1325252-07	**COC Number:**	---	**Receive Date:** 11/19/2013 10:05
	Project Number:	7124	**Sampling Date:** 11/18/2013 11:50
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	HP-1-32-36-W-131118	**Lab Matrix:** Water
	Sampled By:	AREC	**Sample Type:** Water
			Delivery Work Order:
			Global ID:
			Location ID (FieldPoint): HP-1
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:
1325252-08	**COC Number:**	---	**Receive Date:** 11/19/2013 10:05
	Project Number:	7124	**Sampling Date:** 11/18/2013 12:00
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	HP-1-42-46-W-131118	**Lab Matrix:** Water
	Sampled By:	AREC	**Sample Type:** Water
			Delivery Work Order:
			Global ID:
			Location ID (FieldPoint): HP-1
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:
1325252-09	**COC Number:**	---	**Receive Date:** 11/19/2013 10:05
	Project Number:	7124	**Sampling Date:** 11/18/2013 16:35
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	SB-8-15.5-S-131118	**Lab Matrix:** Solids
	Sampled By:	AREC	**Sample Type:** Soil
			Delivery Work Order:
			Global ID:
			Location ID (FieldPoint): SB-8
			Matrix: SO
			Sample QC Type (SACode): CS
			Cooler ID:

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information		
1325252-10	**COC Number:**	---	**Receive Date:** 11/19/2013 10:05
	Project Number:	7124	**Sampling Date:** 11/18/2013 14:45
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	SB-8-19.5-S-131118	**Lab Matrix:** Solids
	Sampled By:	AREC	**Sample Type:** Soil
			Delivery Work Order:
			Global ID:
			Location ID (FieldPoint): SB-8
			Matrix: SO
			Sample QC Type (SACode): CS
			Cooler ID:
1325252-11	**COC Number:**	---	**Receive Date:** 11/19/2013 10:05
	Project Number:	7124	**Sampling Date:** 11/18/2013 15:20
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	SB-8-22.5-S-131118	**Lab Matrix:** Solids
	Sampled By:	AREC	**Sample Type:** Soil
			Delivery Work Order:
			Global ID:
			Location ID (FieldPoint): SB-8
			Matrix: SO
			Sample QC Type (SACode): CS
			Cooler ID:
1325252-12	**COC Number:**	---	**Receive Date:** 11/19/2013 10:05
	Project Number:	7124	**Sampling Date:** 11/18/2013 15:30
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	SB-8-26.5-S-131118	**Lab Matrix:** Solids
	Sampled By:	AREC	**Sample Type:** Soil
			Delivery Work Order:
			Global ID:
			Location ID (FieldPoint): SB-8
			Matrix: SO
			Sample QC Type (SACode): CS
			Cooler ID:

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1325252-13	**COC Number:**	---	**Receive Date:**	11/19/2013 10:05
	Project Number:	7124	**Sampling Date:**	11/18/2013 15:55
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	SB-8-31.5-S-131118	**Lab Matrix:**	Solids
	Sampled By:	AREC	**Sample Type:**	Soil
			Delivery Work Order:	
			Global ID:	
			Location ID (FieldPoint):	SB-8
			Matrix:	SO
			Sample QC Type (SACode):	CS
			Cooler ID:	
1325252-14	**COC Number:**	---	**Receive Date:**	11/19/2013 10:05
	Project Number:	7124	**Sampling Date:**	11/18/2013 16:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	SB-8-36-S-131118	**Lab Matrix:**	Solids
	Sampled By:	AREC	**Sample Type:**	Soil
			Delivery Work Order:	
			Global ID:	
			Location ID (FieldPoint):	SB-8
			Matrix:	SO
			Sample QC Type (SACode):	CS
			Cooler ID:	
1325252-15	**COC Number:**	---	**Receive Date:**	11/19/2013 10:05
	Project Number:	7124	**Sampling Date:**	11/18/2013 16:10
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	SB-8-40-S-131118	**Lab Matrix:**	Solids
	Sampled By:	AREC	**Sample Type:**	Soil
			Delivery Work Order:	
			Global ID:	
			Location ID (FieldPoint):	SB-8
			Matrix:	SO
			Sample QC Type (SACode):	CS
			Cooler ID:	

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2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information

1325252-16

COC Number: ---
Project Number: 7124
Sampling Location: ---
Sampling Point: Travel Blank-W-131118
Sampled By: AREC

Receive Date: 11/19/2013 10:05
Sampling Date: 11/18/2013 00:00
Sample Depth: ---
Lab Matrix: Water
Sample Type: Trip Blank
Delivery Work Order:
Global ID:
Location ID (FieldPoint): Travel Blank
Matrix: W
Sample QC Type (SACode): CS
Cooler ID:

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260/5035)

BCL Sample ID: 1325252-01 | **Client Sample Name:** 7124, CPT-5-5-S-131118, 11/18/2013 8:47:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
t-Butyl alcohol	ND	mg/kg	0.050	EPA-8260B	ND		1
Diisopropyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethanol	ND	mg/kg	1.0	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	99.3	%	70 - 121 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	102	%	81 - 117 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	90.6	%	74 - 121 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/19/13	11/22/13 13:55	ADC	MS-V2	1	BWK1462

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-01 | **Client Sample Name:** 7124, CPT-5-5-S-131118, 11/18/2013 8:47:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Acenaphthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Acenaphthylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Aldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Aniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzidine	ND	mg/kg	3.0	EPA-8270C	ND		1
Benzo[a]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[b]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[k]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[a]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[g,h,i]perylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzoic acid	ND	mg/kg	0.50	EPA-8270C	ND		1
Benzyl alcohol	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzyl butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
alpha-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
beta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
delta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
gamma-BHC (Lindane)	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethoxy)methane	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethyl) ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroisopropyl)ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Bromophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Chloronaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chlorophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
Chrysene	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDD	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDE	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDT	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzo[a,h]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzofuran	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-01 | **Client Sample Name:** 7124, CPT-5-5-S-131118, 11/18/2013 8:47:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
1,3-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,4-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
3,3-Dichlorobenzidine	ND	mg/kg	0.20	EPA-8270C	ND		1
Dieldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Diethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Dimethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
2,6-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-octyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Diphenylhydrazine	ND	mg/kg	0.10	EPA-8270C	ND		1
Endosulfan I	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan II	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan sulfate	ND	mg/kg	0.10	EPA-8270C	ND		1
Endrin	ND	mg/kg	0.20	EPA-8270C	ND		1
Endrin aldehyde	ND	mg/kg	0.50	EPA-8270C	ND		1
Fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Fluorene	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor epoxide	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobutadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorocyclopentadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachloroethane	ND	mg/kg	0.10	EPA-8270C	ND		1
Indeno[1,2,3-cd]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Isophorone	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Methylnaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
Naphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Naphthylamine	ND	mg/kg	3.0	EPA-8270C	ND		1
2-Nitroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
3-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Nitrobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-01 | **Client Sample Name:** 7124, CPT-5-5-S-131118, 11/18/2013 8:47:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
N-Nitrosodimethylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodi-N-propylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodiphenylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
Phenanthrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2,4-Trichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloro-3-methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Chlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dichlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dimethylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4,6-Dinitro-2-methylphenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2,4-Dinitrophenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2-Methylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
3- & 4-Methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Nitrophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Nitrophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Pentachlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Phenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4,5-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2,4,6-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Fluorophenol (Surrogate)	96.2	%	28 - 144 (LCL - UCL)	EPA-8270C			1
Phenol-d5 (Surrogate)	106	%	36 - 136 (LCL - UCL)	EPA-8270C			1
Nitrobenzene-d5 (Surrogate)	87.9	%	31 - 135 (LCL - UCL)	EPA-8270C			1
2-Fluorobiphenyl (Surrogate)	78.2	%	20 - 140 (LCL - UCL)	EPA-8270C			1
2,4,6-Tribromophenol (Surrogate)	80.7	%	20 - 150 (LCL - UCL)	EPA-8270C			1
p-Terphenyl-d14 (Surrogate)	78.5	%	30 - 150 (LCL - UCL)	EPA-8270C			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270C	11/25/13	12/02/13 20:04	SKC	MS-B1	1.007	BWL0089

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Total Petroleum Hydrocarbons (EPA 8015/5035)

BCL Sample ID: 1325252-01 | **Client Sample Name:** 7124, CPT-5-5-S-131118, 11/18/2013 8:47:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	mg/kg	0.90	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	92.5	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/19/13	11/21/13 14:08	JJH	GC-V8	0.898	BWK1457

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260/5035)

BCL Sample ID: 1325252-02 | **Client Sample Name:** 7124, CPT-5-8-S-131118, 11/18/2013 9:00:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
t-Butyl alcohol	ND	mg/kg	0.050	EPA-8260B	ND		1
Diisopropyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethanol	ND	mg/kg	1.0	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	99.2	%	70 - 121 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	97.7	%	81 - 117 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	82.0	%	74 - 121 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/19/13	11/19/13 13:47	ADC	MS-V2	1	BWK1462

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-02 | **Client Sample Name:** 7124, CPT-5-8-S-131118, 11/18/2013 9:00:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Acenaphthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Acenaphthylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Aldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Aniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzidine	ND	mg/kg	3.0	EPA-8270C	ND		1
Benzo[a]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[b]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[k]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[a]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[g,h,i]perylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzoic acid	ND	mg/kg	0.50	EPA-8270C	ND		1
Benzyl alcohol	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzyl butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
alpha-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
beta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
delta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
gamma-BHC (Lindane)	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethoxy)methane	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethyl) ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroisopropyl)ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Bromophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Chloronaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chlorophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
Chrysene	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDD	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDE	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDT	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzo[a,h]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzofuran	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-02 | **Client Sample Name:** 7124, CPT-5-8-S-131118, 11/18/2013 9:00:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
1,3-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,4-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
3,3-Dichlorobenzidine	ND	mg/kg	0.20	EPA-8270C	ND		1
Dieldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Diethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Dimethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
2,6-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-octyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Diphenylhydrazine	ND	mg/kg	0.10	EPA-8270C	ND		1
Endosulfan I	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan II	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan sulfate	ND	mg/kg	0.10	EPA-8270C	ND		1
Endrin	ND	mg/kg	0.20	EPA-8270C	ND		1
Endrin aldehyde	ND	mg/kg	0.50	EPA-8270C	ND		1
Fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Fluorene	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor epoxide	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobutadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorocyclopentadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachloroethane	ND	mg/kg	0.10	EPA-8270C	ND		1
Indeno[1,2,3-cd]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Isophorone	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Methylnaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
Naphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Naphthylamine	ND	mg/kg	3.0	EPA-8270C	ND		1
2-Nitroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
3-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Nitrobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-02 | **Client Sample Name:** 7124, CPT-5-8-S-131118, 11/18/2013 9:00:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
N-Nitrosodimethylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodi-N-propylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodiphenylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
Phenanthrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2,4-Trichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloro-3-methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Chlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dichlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dimethylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4,6-Dinitro-2-methylphenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2,4-Dinitrophenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2-Methylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
3- & 4-Methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Nitrophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Nitrophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Pentachlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Phenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4,5-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2,4,6-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Fluorophenol (Surrogate)	84.7	%	28 - 144 (LCL - UCL)	EPA-8270C			1
Phenol-d5 (Surrogate)	100	%	36 - 136 (LCL - UCL)	EPA-8270C			1
Nitrobenzene-d5 (Surrogate)	82.3	%	31 - 135 (LCL - UCL)	EPA-8270C			1
2-Fluorobiphenyl (Surrogate)	65.5	%	20 - 140 (LCL - UCL)	EPA-8270C			1
2,4,6-Tribromophenol (Surrogate)	72.1	%	20 - 150 (LCL - UCL)	EPA-8270C			1
p-Terphenyl-d14 (Surrogate)	88.4	%	30 - 150 (LCL - UCL)	EPA-8270C			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270C	11/25/13	12/02/13 20:32	SKC	MS-B1	1.014	BWL0089

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Total Petroleum Hydrocarbons (EPA 8015/5035)

BCL Sample ID: 1325252-02 | **Client Sample Name:** 7124, CPT-5-8-S-131118, 11/18/2013 9:00:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	mg/kg	0.78	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	92.5	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/19/13	11/21/13 14:38	JJH	GC-V8	0.780	BWK1457

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1325252-03 | **Client Sample Name:** 7124, HP-5-28-32-W-131118, 11/18/2013 9:40:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260B	ND		1
Methyl t-butyl ether	**1.6**	**ug/L**	**0.50**	**EPA-8260B**	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	100	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	96.0	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	95.8	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/22/13	11/25/13 16:51	EAR	MS-V12	1	BWK1806

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1325252-03 | **Client Sample Name:** 7124, HP-5-28-32-W-131118, 11/18/2013 9:40:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	81.7	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/25/13	11/27/13 20:58	jjh	GC-V9	1	BWL0013

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1325252-04 | **Client Sample Name:** 7124, HP-5-39-42-W-131118, 11/18/2013 10:00:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260B	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	99.0	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	97.8	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	95.2	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/22/13	11/25/13 17:09	EAR	MS-V12	1	BWK1806

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1325252-04 | **Client Sample Name:** 7124, HP-5-39-42-W-131118, 11/18/2013 10:00:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	83.8	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/25/13	11/27/13 21:18	jjh	GC-V9	1	BWL0013

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260/5035)

BCL Sample ID: 1325252-05 | **Client Sample Name:** 7124, CPT-1-5-S-131118, 11/18/2013 10:55:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
t-Butyl alcohol	ND	mg/kg	0.050	EPA-8260B	ND		1
Diisopropyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethanol	ND	mg/kg	1.0	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	87.2	%	70 - 121 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	92.8	%	81 - 117 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	74.2	%	74 - 121 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/19/13	11/19/13 14:14	ADC	MS-V2	1	BWK1462

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-05 | **Client Sample Name:** 7124, CPT-1-5-S-131118, 11/18/2013 10:55:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Acenaphthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Acenaphthylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Aldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Aniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzidine	ND	mg/kg	3.0	EPA-8270C	ND		1
Benzo[a]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[b]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[k]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[a]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[g,h,i]perylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzoic acid	ND	mg/kg	0.50	EPA-8270C	ND		1
Benzyl alcohol	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzyl butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
alpha-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
beta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
delta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
gamma-BHC (Lindane)	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethoxy)methane	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethyl) ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroisopropyl)ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Bromophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Chloronaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chlorophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
Chrysene	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDD	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDE	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDT	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzo[a,h]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzofuran	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-05 | **Client Sample Name:** 7124, CPT-1-5-S-131118, 11/18/2013 10:55:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
1,3-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,4-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
3,3-Dichlorobenzidine	ND	mg/kg	0.20	EPA-8270C	ND		1
Dieldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Diethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Dimethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
2,6-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-octyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Diphenylhydrazine	ND	mg/kg	0.10	EPA-8270C	ND		1
Endosulfan I	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan II	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan sulfate	ND	mg/kg	0.10	EPA-8270C	ND		1
Endrin	ND	mg/kg	0.20	EPA-8270C	ND		1
Endrin aldehyde	ND	mg/kg	0.50	EPA-8270C	ND		1
Fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Fluorene	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor epoxide	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobutadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorocyclopentadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachloroethane	ND	mg/kg	0.10	EPA-8270C	ND		1
Indeno[1,2,3-cd]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Isophorone	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Methylnaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
Naphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Naphthylamine	ND	mg/kg	3.0	EPA-8270C	ND		1
2-Nitroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
3-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Nitrobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-05 | **Client Sample Name:** 7124, CPT-1-5-S-131118, 11/18/2013 10:55:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
N-Nitrosodimethylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodi-N-propylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodiphenylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
Phenanthrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2,4-Trichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloro-3-methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Chlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dichlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dimethylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4,6-Dinitro-2-methylphenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2,4-Dinitrophenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2-Methylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
3- & 4-Methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Nitrophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Nitrophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Pentachlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Phenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4,5-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2,4,6-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Fluorophenol (Surrogate)	91.7	%	28 - 144 (LCL - UCL)	EPA-8270C			1
Phenol-d5 (Surrogate)	105	%	36 - 136 (LCL - UCL)	EPA-8270C			1
Nitrobenzene-d5 (Surrogate)	84.4	%	31 - 135 (LCL - UCL)	EPA-8270C			1
2-Fluorobiphenyl (Surrogate)	76.7	%	20 - 140 (LCL - UCL)	EPA-8270C			1
2,4,6-Tribromophenol (Surrogate)	70.3	%	20 - 150 (LCL - UCL)	EPA-8270C			1
p-Terphenyl-d14 (Surrogate)	87.2	%	30 - 150 (LCL - UCL)	EPA-8270C			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270C	11/25/13	12/02/13 20:59	SKC	MS-B1	1.003	BWL0089

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Total Petroleum Hydrocarbons (EPA 8015/5035)

BCL Sample ID: 1325252-05 | **Client Sample Name:** 7124, CPT-1-5-S-131118, 11/18/2013 10:55:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	mg/kg	1.0	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	77.5	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/19/13	11/21/13 15:08	JJH	GC-V8	1.010	BWK1457

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260/5035)

BCL Sample ID: 1325252-06 | **Client Sample Name:** 7124, CPT-1-8-S-131118, 11/18/2013 11:15:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
t-Butyl alcohol	**0.093**	**mg/kg**	**0.050**	**EPA-8260B**	ND		1
Diisopropyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethanol	ND	mg/kg	1.0	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	105	%	70 - 121 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	99.0	%	81 - 117 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	88.5	%	74 - 121 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/19/13	11/19/13 14:40	ADC	MS-V2	1	BWK1462

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2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-06 | **Client Sample Name:** 7124, CPT-1-8-S-131118, 11/18/2013 11:15:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Acenaphthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Acenaphthylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Aldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Aniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzidine	ND	mg/kg	3.0	EPA-8270C	ND		1
Benzo[a]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[b]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[k]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[a]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[g,h,i]perylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzoic acid	ND	mg/kg	0.50	EPA-8270C	ND		1
Benzyl alcohol	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzyl butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
alpha-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
beta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
delta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
gamma-BHC (Lindane)	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethoxy)methane	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethyl) ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroisopropyl)ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Bromophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Chloronaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chlorophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
Chrysene	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDD	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDE	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDT	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzo[a,h]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzofuran	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-06 | **Client Sample Name:** 7124, CPT-1-8-S-131118, 11/18/2013 11:15:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
1,3-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,4-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
3,3-Dichlorobenzidine	ND	mg/kg	0.20	EPA-8270C	ND		1
Dieldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Diethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Dimethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
2,6-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-octyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Diphenylhydrazine	ND	mg/kg	0.10	EPA-8270C	ND		1
Endosulfan I	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan II	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan sulfate	ND	mg/kg	0.10	EPA-8270C	ND		1
Endrin	ND	mg/kg	0.20	EPA-8270C	ND		1
Endrin aldehyde	ND	mg/kg	0.50	EPA-8270C	ND		1
Fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Fluorene	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor epoxide	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobutadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorocyclopentadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachloroethane	ND	mg/kg	0.10	EPA-8270C	ND		1
Indeno[1,2,3-cd]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Isophorone	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Methylnaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
Naphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Naphthylamine	ND	mg/kg	3.0	EPA-8270C	ND		1
2-Nitroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
3-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Nitrobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-06 | **Client Sample Name:** 7124, CPT-1-8-S-131118, 11/18/2013 11:15:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
N-Nitrosodimethylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodi-N-propylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodiphenylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
Phenanthrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2,4-Trichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloro-3-methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Chlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dichlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dimethylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4,6-Dinitro-2-methylphenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2,4-Dinitrophenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2-Methylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
3- & 4-Methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Nitrophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Nitrophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Pentachlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Phenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4,5-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2,4,6-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Fluorophenol (Surrogate)	90.7	%	28 - 144 (LCL - UCL)	EPA-8270C			1
Phenol-d5 (Surrogate)	107	%	36 - 136 (LCL - UCL)	EPA-8270C			1
Nitrobenzene-d5 (Surrogate)	91.4	%	31 - 135 (LCL - UCL)	EPA-8270C			1
2-Fluorobiphenyl (Surrogate)	64.7	%	20 - 140 (LCL - UCL)	EPA-8270C			1
2,4,6-Tribromophenol (Surrogate)	73.7	%	20 - 150 (LCL - UCL)	EPA-8270C			1
p-Terphenyl-d14 (Surrogate)	82.2	%	30 - 150 (LCL - UCL)	EPA-8270C			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270C	11/25/13	12/02/13 21:26	SKC	MS-B1	0.997	BWL0089

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Total Petroleum Hydrocarbons (EPA 8015/5035)

BCL Sample ID: 1325252-06 | **Client Sample Name:** 7124, CPT-1-8-S-131118, 11/18/2013 11:15:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	mg/kg	0.78	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	77.5	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/19/13	11/21/13 15:38	JJH	GC-V8	0.776	BWK1457

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1325252-07 | **Client Sample Name:** 7124, HP-1-32-36-W-131118, 11/18/2013 11:50:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260B	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	100	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	96.3	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	96.7	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/22/13	11/25/13 17:26	EAR	MS-V12	1	BWK1806

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1325252-07 | **Client Sample Name:** 7124, HP-1-32-36-W-131118, 11/18/2013 11:50:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	84.9	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/25/13	11/27/13 21:38	jjh	GC-V9	1	BWL0013

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1325252-08 | **Client Sample Name:** 7124, HP-1-42-46-W-131118, 11/18/2013 12:00:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260B	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	96.6	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	95.9	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	98.9	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/22/13	11/25/13 17:44	EAR	MS-V12	1	BWK1806

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1325252-08 | **Client Sample Name:** 7124, HP-1-42-46-W-131118, 11/18/2013 12:00:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	85.8	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/25/13	11/27/13 21:58	jjh	GC-V9	1	BWL0013

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260/5035)

BCL Sample ID: 1325252-09 | **Client Sample Name:** 7124, SB-8-15.5-S-131118, 11/18/2013 4:35:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
t-Butyl alcohol	ND	mg/kg	0.050	EPA-8260B	ND		1
Diisopropyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethanol	ND	mg/kg	1.0	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	105	%	70 - 121 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	101	%	81 - 117 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	92.8	%	74 - 121 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/19/13	11/19/13 15:06	ADC	MS-V2	1	BWK1462

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-09 | **Client Sample Name:** 7124, SB-8-15.5-S-131118, 11/18/2013 4:35:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Acenaphthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Acenaphthylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Aldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Aniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzidine	ND	mg/kg	3.0	EPA-8270C	ND		1
Benzo[a]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[b]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[k]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[a]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[g,h,i]perylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzoic acid	ND	mg/kg	0.50	EPA-8270C	ND		1
Benzyl alcohol	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzyl butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
alpha-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
beta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
delta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
gamma-BHC (Lindane)	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethoxy)methane	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethyl) ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroisopropyl)ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Bromophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Chloronaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chlorophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
Chrysene	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDD	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDE	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDT	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzo[a,h]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzofuran	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-09 | **Client Sample Name:** 7124, SB-8-15.5-S-131118, 11/18/2013 4:35:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
1,3-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,4-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
3,3-Dichlorobenzidine	ND	mg/kg	0.20	EPA-8270C	ND		1
Dieldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Diethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Dimethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
2,6-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-octyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Diphenylhydrazine	ND	mg/kg	0.10	EPA-8270C	ND		1
Endosulfan I	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan II	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan sulfate	ND	mg/kg	0.10	EPA-8270C	ND		1
Endrin	ND	mg/kg	0.20	EPA-8270C	ND		1
Endrin aldehyde	ND	mg/kg	0.50	EPA-8270C	ND		1
Fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Fluorene	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor epoxide	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobutadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorocyclopentadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachloroethane	ND	mg/kg	0.10	EPA-8270C	ND		1
Indeno[1,2,3-cd]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Isophorone	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Methylnaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
Naphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Naphthylamine	ND	mg/kg	3.0	EPA-8270C	ND		1
2-Nitroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
3-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Nitrobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-09 | **Client Sample Name:** 7124, SB-8-15.5-S-131118, 11/18/2013 4:35:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
N-Nitrosodimethylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodi-N-propylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodiphenylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
Phenanthrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2,4-Trichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloro-3-methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Chlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dichlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dimethylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4,6-Dinitro-2-methylphenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2,4-Dinitrophenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2-Methylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
3- & 4-Methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Nitrophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Nitrophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Pentachlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Phenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4,5-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2,4,6-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Fluorophenol (Surrogate)	48.3	%	28 - 144 (LCL - UCL)	EPA-8270C			1
Phenol-d5 (Surrogate)	63.8	%	36 - 136 (LCL - UCL)	EPA-8270C			1
Nitrobenzene-d5 (Surrogate)	43.9	%	31 - 135 (LCL - UCL)	EPA-8270C			1
2-Fluorobiphenyl (Surrogate)	31.2	%	20 - 140 (LCL - UCL)	EPA-8270C			1
2,4,6-Tribromophenol (Surrogate)	53.2	%	20 - 150 (LCL - UCL)	EPA-8270C			1
p-Terphenyl-d14 (Surrogate)	74.6	%	30 - 150 (LCL - UCL)	EPA-8270C			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270C	11/25/13	12/02/13 21:53	SKC	MS-B1	0.987	BWL0089

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Total Petroleum Hydrocarbons (EPA 8015/5035)

BCL Sample ID: 1325252-09 | **Client Sample Name:** 7124, SB-8-15.5-S-131118, 11/18/2013 4:35:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	mg/kg	0.74	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	95.0	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/19/13	11/21/13 18:41	JJH	GC-V8	0.743	BWK1457

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260/5035)

BCL Sample ID: 1325252-10 | **Client Sample Name:** 7124, SB-8-19.5-S-131118, 11/18/2013 2:45:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
t-Butyl alcohol	**0.29**	**mg/kg**	**0.050**	**EPA-8260B**	ND		1
Diisopropyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethanol	ND	mg/kg	1.0	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	106	%	70 - 121 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	98.2	%	81 - 117 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	93.9	%	74 - 121 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/19/13	11/19/13 15:32	ADC	MS-V2	1	BWK1462

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-10 | **Client Sample Name:** 7124, SB-8-19.5-S-131118, 11/18/2013 2:45:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Acenaphthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Acenaphthylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Aldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Aniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzidine	ND	mg/kg	3.0	EPA-8270C	ND		1
Benzo[a]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[b]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[k]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[a]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[g,h,i]perylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzoic acid	ND	mg/kg	0.50	EPA-8270C	ND		1
Benzyl alcohol	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzyl butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
alpha-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
beta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
delta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
gamma-BHC (Lindane)	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethoxy)methane	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethyl) ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroisopropyl)ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Bromophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Chloronaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chlorophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
Chrysene	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDD	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDE	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDT	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzo[a,h]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzofuran	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-10 | **Client Sample Name:** 7124, SB-8-19.5-S-131118, 11/18/2013 2:45:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
1,3-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,4-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
3,3-Dichlorobenzidine	ND	mg/kg	0.20	EPA-8270C	ND		1
Dieldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Diethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Dimethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
2,6-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-octyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Diphenylhydrazine	ND	mg/kg	0.10	EPA-8270C	ND		1
Endosulfan I	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan II	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan sulfate	ND	mg/kg	0.10	EPA-8270C	ND		1
Endrin	ND	mg/kg	0.20	EPA-8270C	ND		1
Endrin aldehyde	ND	mg/kg	0.50	EPA-8270C	ND		1
Fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Fluorene	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor epoxide	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobutadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorocyclopentadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachloroethane	ND	mg/kg	0.10	EPA-8270C	ND		1
Indeno[1,2,3-cd]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Isophorone	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Methylnaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
Naphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Naphthylamine	ND	mg/kg	3.0	EPA-8270C	ND		1
2-Nitroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
3-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Nitrobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-10 | **Client Sample Name:** 7124, SB-8-19.5-S-131118, 11/18/2013 2:45:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
N-Nitrosodimethylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodi-N-propylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodiphenylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
Phenanthrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2,4-Trichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloro-3-methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Chlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dichlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dimethylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4,6-Dinitro-2-methylphenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2,4-Dinitrophenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2-Methylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
3- & 4-Methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Nitrophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Nitrophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Pentachlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Phenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4,5-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2,4,6-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Fluorophenol (Surrogate)	48.2	%	28 - 144 (LCL - UCL)	EPA-8270C			1
Phenol-d5 (Surrogate)	59.6	%	36 - 136 (LCL - UCL)	EPA-8270C			1
Nitrobenzene-d5 (Surrogate)	40.1	%	31 - 135 (LCL - UCL)	EPA-8270C			1
2-Fluorobiphenyl (Surrogate)	34.1	%	20 - 140 (LCL - UCL)	EPA-8270C			1
2,4,6-Tribromophenol (Surrogate)	57.6	%	20 - 150 (LCL - UCL)	EPA-8270C			1
p-Terphenyl-d14 (Surrogate)	89.6	%	30 - 150 (LCL - UCL)	EPA-8270C			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270C	11/25/13	12/02/13 22:20	SKC	MS-B1	0.970	BWL0089

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Total Petroleum Hydrocarbons (EPA 8015/5035)

BCL Sample ID: 1325252-10 | **Client Sample Name:** 7124, SB-8-19.5-S-131118, 11/18/2013 2:45:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	mg/kg	0.81	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	95.0	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/19/13	11/21/13 19:11	JJH	GC-V8	0.814	BWK1457

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260/5035)

BCL Sample ID: 1325252-11 | **Client Sample Name:** 7124, SB-8-22.5-S-131118, 11/18/2013 3:20:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
t-Butyl alcohol	ND	mg/kg	0.050	EPA-8260B	ND		1
Diisopropyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethanol	ND	mg/kg	1.0	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	103	%	70 - 121 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	100	%	81 - 117 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	96.5	%	74 - 121 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/19/13	11/19/13 15:59	ADC	MS-V2	1	BWK1462

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-11 | **Client Sample Name:** 7124, SB-8-22.5-S-131118, 11/18/2013 3:20:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Acenaphthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Acenaphthylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Aldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Aniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzidine	ND	mg/kg	3.0	EPA-8270C	ND		1
Benzo[a]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[b]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[k]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[a]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[g,h,i]perylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzoic acid	ND	mg/kg	0.50	EPA-8270C	ND		1
Benzyl alcohol	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzyl butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
alpha-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
beta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
delta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
gamma-BHC (Lindane)	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethoxy)methane	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethyl) ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroisopropyl)ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Bromophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Chloronaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chlorophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
Chrysene	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDD	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDE	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDT	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzo[a,h]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzofuran	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-11 | **Client Sample Name:** 7124, SB-8-22.5-S-131118, 11/18/2013 3:20:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
1,3-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,4-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
3,3-Dichlorobenzidine	ND	mg/kg	0.20	EPA-8270C	ND		1
Dieldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Diethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Dimethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
2,6-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-octyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Diphenylhydrazine	ND	mg/kg	0.10	EPA-8270C	ND		1
Endosulfan I	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan II	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan sulfate	ND	mg/kg	0.10	EPA-8270C	ND		1
Endrin	ND	mg/kg	0.20	EPA-8270C	ND		1
Endrin aldehyde	ND	mg/kg	0.50	EPA-8270C	ND		1
Fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Fluorene	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor epoxide	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobutadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorocyclopentadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachloroethane	ND	mg/kg	0.10	EPA-8270C	ND		1
Indeno[1,2,3-cd]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Isophorone	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Methylnaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
Naphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Naphthylamine	ND	mg/kg	3.0	EPA-8270C	ND		1
2-Nitroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
3-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Nitrobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-11 | **Client Sample Name:** 7124, SB-8-22.5-S-131118, 11/18/2013 3:20:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
N-Nitrosodimethylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodi-N-propylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodiphenylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
Phenanthrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2,4-Trichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloro-3-methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Chlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dichlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dimethylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4,6-Dinitro-2-methylphenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2,4-Dinitrophenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2-Methylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
3- & 4-Methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Nitrophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Nitrophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Pentachlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Phenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4,5-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2,4,6-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Fluorophenol (Surrogate)	57.8	%	28 - 144 (LCL - UCL)	EPA-8270C			1
Phenol-d5 (Surrogate)	70.9	%	36 - 136 (LCL - UCL)	EPA-8270C			1
Nitrobenzene-d5 (Surrogate)	48.9	%	31 - 135 (LCL - UCL)	EPA-8270C			1
2-Fluorobiphenyl (Surrogate)	29.1	%	20 - 140 (LCL - UCL)	EPA-8270C			1
2,4,6-Tribromophenol (Surrogate)	62.9	%	20 - 150 (LCL - UCL)	EPA-8270C			1
p-Terphenyl-d14 (Surrogate)	90.8	%	30 - 150 (LCL - UCL)	EPA-8270C			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270C	11/25/13	12/02/13 22:47	SKC	MS-B1	0.997	BWL0089

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Total Petroleum Hydrocarbons (EPA 8015/5035)

BCL Sample ID: 1325252-11 | **Client Sample Name:** 7124, SB-8-22.5-S-131118, 11/18/2013 3:20:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	mg/kg	0.74	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	92.5	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/19/13	11/21/13 19:41	JJH	GC-V8	0.738	BWK1457

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260/5035)

BCL Sample ID: 1325252-12 | **Client Sample Name:** 7124, SB-8-26.5-S-131118, 11/18/2013 3:30:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
t-Butyl alcohol	ND	mg/kg	0.050	EPA-8260B	ND		1
Diisopropyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethanol	ND	mg/kg	1.0	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	102	%	70 - 121 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	102	%	81 - 117 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	92.4	%	74 - 121 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/19/13	11/19/13 16:25	ADC	MS-V2	1	BWK1462

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-12 | **Client Sample Name:** 7124, SB-8-26.5-S-131118, 11/18/2013 3:30:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Acenaphthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Acenaphthylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Aldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Aniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzidine	ND	mg/kg	3.0	EPA-8270C	ND		1
Benzo[a]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[b]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[k]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[a]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[g,h,i]perylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzoic acid	ND	mg/kg	0.50	EPA-8270C	ND		1
Benzyl alcohol	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzyl butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
alpha-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
beta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
delta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
gamma-BHC (Lindane)	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethoxy)methane	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethyl) ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroisopropyl)ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Bromophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Chloronaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chlorophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
Chrysene	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDD	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDE	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDT	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzo[a,h]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzofuran	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-12 | **Client Sample Name:** 7124, SB-8-26.5-S-131118, 11/18/2013 3:30:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
1,3-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,4-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
3,3-Dichlorobenzidine	ND	mg/kg	0.20	EPA-8270C	ND		1
Dieldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Diethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Dimethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
2,6-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-octyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Diphenylhydrazine	ND	mg/kg	0.10	EPA-8270C	ND		1
Endosulfan I	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan II	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan sulfate	ND	mg/kg	0.10	EPA-8270C	ND		1
Endrin	ND	mg/kg	0.20	EPA-8270C	ND		1
Endrin aldehyde	ND	mg/kg	0.50	EPA-8270C	ND		1
Fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Fluorene	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor epoxide	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobutadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorocyclopentadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachloroethane	ND	mg/kg	0.10	EPA-8270C	ND		1
Indeno[1,2,3-cd]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Isophorone	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Methylnaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
Naphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Naphthylamine	ND	mg/kg	3.0	EPA-8270C	ND		1
2-Nitroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
3-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Nitrobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-12 | **Client Sample Name:** 7124, SB-8-26.5-S-131118, 11/18/2013 3:30:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
N-Nitrosodimethylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodi-N-propylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodiphenylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
Phenanthrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2,4-Trichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloro-3-methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Chlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dichlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dimethylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4,6-Dinitro-2-methylphenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2,4-Dinitrophenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2-Methylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
3- & 4-Methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Nitrophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Nitrophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Pentachlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Phenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4,5-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2,4,6-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Fluorophenol (Surrogate)	55.5	%	28 - 144 (LCL - UCL)	EPA-8270C			1
Phenol-d5 (Surrogate)	68.1	%	36 - 136 (LCL - UCL)	EPA-8270C			1
Nitrobenzene-d5 (Surrogate)	50.4	%	31 - 135 (LCL - UCL)	EPA-8270C			1
2-Fluorobiphenyl (Surrogate)	32.7	%	20 - 140 (LCL - UCL)	EPA-8270C			1
2,4,6-Tribromophenol (Surrogate)	56.7	%	20 - 150 (LCL - UCL)	EPA-8270C			1
p-Terphenyl-d14 (Surrogate)	89.6	%	30 - 150 (LCL - UCL)	EPA-8270C			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270C	11/25/13	12/02/13 23:14	SKC	MS-B1	0.990	BWL0089

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Total Petroleum Hydrocarbons (EPA 8015/5035)

BCL Sample ID: 1325252-12 | **Client Sample Name:** 7124, SB-8-26.5-S-131118, 11/18/2013 3:30:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	**7.6**	**mg/kg**	**0.79**	**EPA-8015B**	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	102	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/19/13	11/21/13 20:12	JJH	GC-V8	0.792	BWK1457

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260/5035)

BCL Sample ID: 1325252-13 | **Client Sample Name:** 7124, SB-8-31.5-S-131118, 11/18/2013 3:55:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
t-Butyl alcohol	ND	mg/kg	0.050	EPA-8260B	ND		1
Diisopropyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethanol	ND	mg/kg	1.0	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	107	%	70 - 121 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	99.6	%	81 - 117 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	91.3	%	74 - 121 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/19/13	11/19/13 16:51	ADC	MS-V2	1	BWK1462

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2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-13 | **Client Sample Name:** 7124, SB-8-31.5-S-131118, 11/18/2013 3:55:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Acenaphthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Acenaphthylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Aldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Aniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzidine	ND	mg/kg	3.0	EPA-8270C	ND		1
Benzo[a]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[b]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[k]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[a]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[g,h,i]perylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzoic acid	ND	mg/kg	0.50	EPA-8270C	ND		1
Benzyl alcohol	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzyl butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
alpha-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
beta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
delta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
gamma-BHC (Lindane)	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethoxy)methane	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethyl) ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroisopropyl)ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Bromophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Chloronaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chlorophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
Chrysene	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDD	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDE	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDT	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzo[a,h]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzofuran	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-13 | **Client Sample Name:** 7124, SB-8-31.5-S-131118, 11/18/2013 3:55:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
1,3-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,4-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
3,3-Dichlorobenzidine	ND	mg/kg	0.20	EPA-8270C	ND		1
Dieldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Diethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Dimethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
2,6-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-octyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Diphenylhydrazine	ND	mg/kg	0.10	EPA-8270C	ND		1
Endosulfan I	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan II	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan sulfate	ND	mg/kg	0.10	EPA-8270C	ND		1
Endrin	ND	mg/kg	0.20	EPA-8270C	ND		1
Endrin aldehyde	ND	mg/kg	0.50	EPA-8270C	ND		1
Fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Fluorene	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor epoxide	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobutadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorocyclopentadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachloroethane	ND	mg/kg	0.10	EPA-8270C	ND		1
Indeno[1,2,3-cd]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Isophorone	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Methylnaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
Naphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Naphthylamine	ND	mg/kg	3.0	EPA-8270C	ND		1
2-Nitroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
3-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Nitrobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-13 | **Client Sample Name:** 7124, SB-8-31.5-S-131118, 11/18/2013 3:55:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
N-Nitrosodimethylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodi-N-propylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodiphenylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
Phenanthrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2,4-Trichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloro-3-methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Chlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dichlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dimethylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4,6-Dinitro-2-methylphenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2,4-Dinitrophenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2-Methylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
3- & 4-Methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Nitrophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Nitrophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Pentachlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Phenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4,5-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2,4,6-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Fluorophenol (Surrogate)	62.1	%	28 - 144 (LCL - UCL)	EPA-8270C			1
Phenol-d5 (Surrogate)	74.5	%	36 - 136 (LCL - UCL)	EPA-8270C			1
Nitrobenzene-d5 (Surrogate)	50.0	%	31 - 135 (LCL - UCL)	EPA-8270C			1
2-Fluorobiphenyl (Surrogate)	39.2	%	20 - 140 (LCL - UCL)	EPA-8270C			1
2,4,6-Tribromophenol (Surrogate)	66.4	%	20 - 150 (LCL - UCL)	EPA-8270C			1
p-Terphenyl-d14 (Surrogate)	99.5	%	30 - 150 (LCL - UCL)	EPA-8270C			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270C	11/25/13	12/02/13 23:40	SKC	MS-B1	1	BWL0089

Arcadis
2000 Powell Street 7th Floor
Emeryville, CA 94608

Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Total Petroleum Hydrocarbons (EPA 8015/5035)

BCL Sample ID: 1325252-13 | **Client Sample Name:** 7124, SB-8-31.5-S-131118, 11/18/2013 3:55:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	mg/kg	0.76	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	95.0	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/21/13	11/21/13 20:42	JJH	GC-V8	0.756	BWK1694

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260/5035)

BCL Sample ID: 1325252-14 | **Client Sample Name:** 7124, SB-8-36-S-131118, 11/18/2013 4:00:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Methyl t-butyl ether	**0.0060**	**mg/kg**	**0.0050**	**EPA-8260B**	ND		1
Toluene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
t-Butyl alcohol	ND	mg/kg	0.050	EPA-8260B	ND		1
Diisopropyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethanol	ND	mg/kg	1.0	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	101	%	70 - 121 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	91.3	%	81 - 117 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	79.1	%	74 - 121 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/19/13	11/19/13 17:17	ADC	MS-V2	1	BWK1462

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2000 Powell Street 7th Floor
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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-14 | **Client Sample Name:** 7124, SB-8-36-S-131118, 11/18/2013 4:00:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Acenaphthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Acenaphthylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Aldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Aniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzidine	ND	mg/kg	3.0	EPA-8270C	ND		1
Benzo[a]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[b]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[k]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[a]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[g,h,i]perylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzoic acid	ND	mg/kg	0.50	EPA-8270C	ND		1
Benzyl alcohol	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzyl butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
alpha-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
beta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
delta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
gamma-BHC (Lindane)	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethoxy)methane	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethyl) ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroisopropyl)ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Bromophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Chloronaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chlorophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
Chrysene	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDD	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDE	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDT	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzo[a,h]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzofuran	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

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Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-14 | **Client Sample Name:** 7124, SB-8-36-S-131118, 11/18/2013 4:00:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
1,3-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,4-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
3,3-Dichlorobenzidine	ND	mg/kg	0.20	EPA-8270C	ND		1
Dieldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Diethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Dimethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
2,6-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-octyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Diphenylhydrazine	ND	mg/kg	0.10	EPA-8270C	ND		1
Endosulfan I	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan II	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan sulfate	ND	mg/kg	0.10	EPA-8270C	ND		1
Endrin	ND	mg/kg	0.20	EPA-8270C	ND		1
Endrin aldehyde	ND	mg/kg	0.50	EPA-8270C	ND		1
Fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Fluorene	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor epoxide	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobutadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorocyclopentadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachloroethane	ND	mg/kg	0.10	EPA-8270C	ND		1
Indeno[1,2,3-cd]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Isophorone	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Methylnaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
Naphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Naphthylamine	ND	mg/kg	3.0	EPA-8270C	ND		1
2-Nitroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
3-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Nitrobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-14 | **Client Sample Name:** 7124, SB-8-36-S-131118, 11/18/2013 4:00:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
N-Nitrosodimethylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodi-N-propylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodiphenylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
Phenanthrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2,4-Trichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloro-3-methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Chlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dichlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dimethylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4,6-Dinitro-2-methylphenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2,4-Dinitrophenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2-Methylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
3- & 4-Methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Nitrophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Nitrophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Pentachlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Phenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4,5-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2,4,6-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Fluorophenol (Surrogate)	73.6	%	28 - 144 (LCL - UCL)	EPA-8270C			1
Phenol-d5 (Surrogate)	83.5	%	36 - 136 (LCL - UCL)	EPA-8270C			1
Nitrobenzene-d5 (Surrogate)	59.0	%	31 - 135 (LCL - UCL)	EPA-8270C			1
2-Fluorobiphenyl (Surrogate)	45.8	%	20 - 140 (LCL - UCL)	EPA-8270C			1
2,4,6-Tribromophenol (Surrogate)	74.3	%	20 - 150 (LCL - UCL)	EPA-8270C			1
p-Terphenyl-d14 (Surrogate)	89.0	%	30 - 150 (LCL - UCL)	EPA-8270C			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270C	11/25/13	12/03/13 00:07	SKC	MS-B1	0.973	BWL0089

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Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Total Petroleum Hydrocarbons (EPA 8015/5035)

BCL Sample ID: 1325252-14 | **Client Sample Name:** 7124, SB-8-36-S-131118, 11/18/2013 4:00:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	mg/kg	0.71	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	95.0	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/21/13	11/21/13 21:13	JJH	GC-V8	0.714	BWK1694

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260/5035)

BCL Sample ID: 1325252-15 | **Client Sample Name:** 7124, SB-8-40-S-131118, 11/18/2013 4:10:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dibromoethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
t-Butyl alcohol	ND	mg/kg	0.050	EPA-8260B	ND		1
Diisopropyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
Ethanol	ND	mg/kg	1.0	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	mg/kg	0.0050	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	101	%	70 - 121 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	101	%	81 - 117 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	89.7	%	74 - 121 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/19/13	11/19/13 17:44	ADC	MS-V2	1	BWK1462

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-15 | **Client Sample Name:** 7124, SB-8-40-S-131118, 11/18/2013 4:10:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Acenaphthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Acenaphthylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Aldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Aniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzidine	ND	mg/kg	3.0	EPA-8270C	ND		1
Benzo[a]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[b]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[k]fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[a]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzo[g,h,i]perylene	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzoic acid	ND	mg/kg	0.50	EPA-8270C	ND		1
Benzyl alcohol	ND	mg/kg	0.10	EPA-8270C	ND		1
Benzyl butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
alpha-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
beta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
delta-BHC	ND	mg/kg	0.10	EPA-8270C	ND		1
gamma-BHC (Lindane)	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethoxy)methane	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroethyl) ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Chloroisopropyl)ether	ND	mg/kg	0.10	EPA-8270C	ND		1
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Bromophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Chloronaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chlorophenyl phenyl ether	ND	mg/kg	0.10	EPA-8270C	ND		1
Chrysene	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDD	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDE	ND	mg/kg	0.10	EPA-8270C	ND		1
4,4'-DDT	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzo[a,h]anthracene	ND	mg/kg	0.10	EPA-8270C	ND		1
Dibenzofuran	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

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Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-15 | **Client Sample Name:** 7124, SB-8-40-S-131118, 11/18/2013 4:10:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
1,3-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,4-Dichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
3,3-Dichlorobenzidine	ND	mg/kg	0.20	EPA-8270C	ND		1
Dieldrin	ND	mg/kg	0.10	EPA-8270C	ND		1
Diethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Dimethyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-butyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
2,6-Dinitrotoluene	ND	mg/kg	0.10	EPA-8270C	ND		1
Di-n-octyl phthalate	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2-Diphenylhydrazine	ND	mg/kg	0.10	EPA-8270C	ND		1
Endosulfan I	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan II	ND	mg/kg	0.20	EPA-8270C	ND		1
Endosulfan sulfate	ND	mg/kg	0.10	EPA-8270C	ND		1
Endrin	ND	mg/kg	0.20	EPA-8270C	ND		1
Endrin aldehyde	ND	mg/kg	0.50	EPA-8270C	ND		1
Fluoranthene	ND	mg/kg	0.10	EPA-8270C	ND		1
Fluorene	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor	ND	mg/kg	0.10	EPA-8270C	ND		1
Heptachlor epoxide	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorobutadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachlorocyclopentadiene	ND	mg/kg	0.10	EPA-8270C	ND		1
Hexachloroethane	ND	mg/kg	0.10	EPA-8270C	ND		1
Indeno[1,2,3-cd]pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Isophorone	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Methylnaphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
Naphthalene	ND	mg/kg	0.10	EPA-8270C	ND		1
2-Naphthylamine	ND	mg/kg	3.0	EPA-8270C	ND		1
2-Nitroaniline	ND	mg/kg	0.10	EPA-8270C	ND		1
3-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
4-Nitroaniline	ND	mg/kg	0.20	EPA-8270C	ND		1
Nitrobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1

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Reported: 12/04/2013 9:20
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1325252-15 | **Client Sample Name:** 7124, SB-8-40-S-131118, 11/18/2013 4:10:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
N-Nitrosodimethylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodi-N-propylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
N-Nitrosodiphenylamine	ND	mg/kg	0.10	EPA-8270C	ND		1
Phenanthrene	ND	mg/kg	0.10	EPA-8270C	ND		1
Pyrene	ND	mg/kg	0.10	EPA-8270C	ND		1
1,2,4-Trichlorobenzene	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Chloro-3-methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Chlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dichlorophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4-Dimethylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4,6-Dinitro-2-methylphenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2,4-Dinitrophenol	ND	mg/kg	0.50	EPA-8270C	ND		1
2-Methylphenol	ND	mg/kg	0.10	EPA-8270C	ND		1
3- & 4-Methylphenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Nitrophenol	ND	mg/kg	0.10	EPA-8270C	ND		1
4-Nitrophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Pentachlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
Phenol	ND	mg/kg	0.10	EPA-8270C	ND		1
2,4,5-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2,4,6-Trichlorophenol	ND	mg/kg	0.20	EPA-8270C	ND		1
2-Fluorophenol (Surrogate)	79.0	%	28 - 144 (LCL - UCL)	EPA-8270C			1
Phenol-d5 (Surrogate)	87.6	%	36 - 136 (LCL - UCL)	EPA-8270C			1
Nitrobenzene-d5 (Surrogate)	63.8	%	31 - 135 (LCL - UCL)	EPA-8270C			1
2-Fluorobiphenyl (Surrogate)	51.6	%	20 - 140 (LCL - UCL)	EPA-8270C			1
2,4,6-Tribromophenol (Surrogate)	79.0	%	20 - 150 (LCL - UCL)	EPA-8270C			1
p-Terphenyl-d14 (Surrogate)	98.1	%	30 - 150 (LCL - UCL)	EPA-8270C			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270C	11/25/13	12/03/13 00:34	SKC	MS-B1	0.987	BWL0089

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Total Petroleum Hydrocarbons (EPA 8015/5035)

BCL Sample ID: 1325252-15 | **Client Sample Name:** 7124, SB-8-40-S-131118, 11/18/2013 4:10:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	mg/kg	0.71	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	95.0	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/21/13	11/21/13 21:43	JJH	GC-V8	0.713	BWK1694

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Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1325252-16 | **Client Sample Name:** 7124, Travel Blank-W-131118, 11/18/2013 12:00:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260B	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	109	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	98.4	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	94.0	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	11/22/13	11/25/13 20:39	EAR	MS-V12	1	BWK1806

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Project Manager: Kathy Brandt

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1325252-16 | **Client Sample Name:** 7124, Travel Blank-W-131118, 11/18/2013 12:00:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	74.1	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	11/25/13	11/28/13 02:22	jjh	GC-V9	1	BWL0013

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Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWK1806						
Benzene	BWK1806-BLK1	ND	ug/L	0.50		
1,2-Dibromoethane	BWK1806-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BWK1806-BLK1	ND	ug/L	0.50		
Ethylbenzene	BWK1806-BLK1	ND	ug/L	0.50		
Methyl t-butyl ether	BWK1806-BLK1	ND	ug/L	0.50		
Toluene	BWK1806-BLK1	ND	ug/L	0.50		
Total Xylenes	BWK1806-BLK1	ND	ug/L	1.0		
t-Amyl Methyl ether	BWK1806-BLK1	ND	ug/L	0.50		
t-Butyl alcohol	BWK1806-BLK1	ND	ug/L	10		
Diisopropyl ether	BWK1806-BLK1	ND	ug/L	0.50		
Ethanol	BWK1806-BLK1	ND	ug/L	250		
Ethyl t-butyl ether	BWK1806-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane-d4 (Surrogate)	**BWK1806-BLK1**	**103**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BWK1806-BLK1**	**100**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BWK1806-BLK1**	**96.2**	%	**80 - 120 (LCL - UCL)**		

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Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BWK1806										
Benzene	BWK1806-BS1	LCS	26.380	25.000	ug/L	106		70 - 130		
Toluene	BWK1806-BS1	LCS	24.860	25.000	ug/L	99.4		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BWK1806-BS1	LCS	10.050	10.000	ug/L	100		75 - 125		
Toluene-d8 (Surrogate)	BWK1806-BS1	LCS	10.010	10.000	ug/L	100		80 - 120		
4-Bromofluorobenzene (Surrogate)	BWK1806-BS1	LCS	10.100	10.000	ug/L	101		80 - 120		

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Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BWK1806	Used client sample: N										
Benzene	MS	1323260-99	ND	26.370	25.000	ug/L		105		70 - 130	
	MSD	1323260-99	ND	27.300	25.000	ug/L	3.5	109	20	70 - 130	
Toluene	MS	1323260-99	ND	25.520	25.000	ug/L		102		70 - 130	
	MSD	1323260-99	ND	25.630	25.000	ug/L	0.4	103	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1323260-99	ND	9.3700	10.000	ug/L		93.7		75 - 125	
	MSD	1323260-99	ND	10.040	10.000	ug/L	6.9	100		75 - 125	
Toluene-d8 (Surrogate)	MS	1323260-99	ND	10.060	10.000	ug/L		101		80 - 120	
	MSD	1323260-99	ND	9.8800	10.000	ug/L	1.8	98.8		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1323260-99	ND	10.000	10.000	ug/L		100		80 - 120	
	MSD	1323260-99	ND	10.560	10.000	ug/L	5.4	106		80 - 120	

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Volatile Organic Analysis (EPA Method 8260/5035)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWK1462						
Benzene	BWK1462-BLK1	ND	mg/kg	0.0050		
1,2-Dibromoethane	BWK1462-BLK1	ND	mg/kg	0.0050		
1,2-Dichloroethane	BWK1462-BLK1	ND	mg/kg	0.0050		
Ethylbenzene	BWK1462-BLK1	ND	mg/kg	0.0050		
Methyl t-butyl ether	BWK1462-BLK1	ND	mg/kg	0.0050		
Toluene	BWK1462-BLK1	ND	mg/kg	0.0050		
Total Xylenes	BWK1462-BLK1	ND	mg/kg	0.010		
t-Amyl Methyl ether	BWK1462-BLK1	ND	mg/kg	0.0050		
t-Butyl alcohol	BWK1462-BLK1	ND	mg/kg	0.050		
Diisopropyl ether	BWK1462-BLK1	ND	mg/kg	0.0050		
Ethanol	BWK1462-BLK1	ND	mg/kg	1.0		
Ethyl t-butyl ether	BWK1462-BLK1	ND	mg/kg	0.0050		
1,2-Dichloroethane-d4 (Surrogate)	**BWK1462-BLK1**	**93.6**	%	**70 - 121 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BWK1462-BLK1**	**101**	%	**81 - 117 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BWK1462-BLK1**	**90.4**	%	**74 - 121 (LCL - UCL)**		

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Volatile Organic Analysis (EPA Method 8260/5035)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BWK1462										
Benzene	BWK1462-BS1	LCS	0.13618	0.12500	mg/kg	109		70 - 130		
Toluene	BWK1462-BS1	LCS	0.12429	0.12500	mg/kg	99.4		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BWK1462-BS1	LCS	0.045630	0.050000	mg/kg	91.3		70 - 121		
Toluene-d8 (Surrogate)	BWK1462-BS1	LCS	0.048920	0.050000	mg/kg	97.8		81 - 117		
4-Bromofluorobenzene (Surrogate)	BWK1462-BS1	LCS	0.043920	0.050000	mg/kg	87.8		74 - 121		

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Volatile Organic Analysis (EPA Method 8260/5035)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BWK1462	Used client sample: N										
Benzene	MS	1323260-77	ND	0.14236	0.12500	mg/kg		114		70 - 130	
	MSD	1323260-77	ND	0.13892	0.12500	mg/kg	2.4	111	20	70 - 130	
Toluene	MS	1323260-77	ND	0.12707	0.12500	mg/kg		102		70 - 130	
	MSD	1323260-77	ND	0.13028	0.12500	mg/kg	2.5	104	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1323260-77	ND	0.049130	0.050000	mg/kg		98.3		70 - 121	
	MSD	1323260-77	ND	0.045680	0.050000	mg/kg	7.3	91.4		70 - 121	
Toluene-d8 (Surrogate)	MS	1323260-77	ND	0.050040	0.050000	mg/kg		100		81 - 117	
	MSD	1323260-77	ND	0.049100	0.050000	mg/kg	1.9	98.2		81 - 117	
4-Bromofluorobenzene (Surrogate)	MS	1323260-77	ND	0.046300	0.050000	mg/kg		92.6		74 - 121	
	MSD	1323260-77	ND	0.043930	0.050000	mg/kg	5.3	87.9		74 - 121	

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWL0089						
Acenaphthene	BWL0089-BLK1	ND	mg/kg	0.10		
Acenaphthylene	BWL0089-BLK1	ND	mg/kg	0.10		
Aldrin	BWL0089-BLK1	ND	mg/kg	0.10		
Aniline	BWL0089-BLK1	ND	mg/kg	0.20		
Anthracene	BWL0089-BLK1	ND	mg/kg	0.10		
Benzidine	BWL0089-BLK1	ND	mg/kg	3.0		
Benzo[a]anthracene	BWL0089-BLK1	ND	mg/kg	0.10		
Benzo[b]fluoranthene	BWL0089-BLK1	ND	mg/kg	0.10		
Benzo[k]fluoranthene	BWL0089-BLK1	ND	mg/kg	0.10		
Benzo[a]pyrene	BWL0089-BLK1	ND	mg/kg	0.10		
Benzo[g,h,i]perylene	BWL0089-BLK1	ND	mg/kg	0.10		
Benzoic acid	BWL0089-BLK1	ND	mg/kg	0.50		
Benzyl alcohol	BWL0089-BLK1	ND	mg/kg	0.10		
Benzyl butyl phthalate	BWL0089-BLK1	ND	mg/kg	0.10		
alpha-BHC	BWL0089-BLK1	ND	mg/kg	0.10		
beta-BHC	BWL0089-BLK1	ND	mg/kg	0.10		
delta-BHC	BWL0089-BLK1	ND	mg/kg	0.10		
gamma-BHC (Lindane)	BWL0089-BLK1	ND	mg/kg	0.10		
bis(2-Chloroethoxy)methane	BWL0089-BLK1	ND	mg/kg	0.10		
bis(2-Chloroethyl) ether	BWL0089-BLK1	ND	mg/kg	0.10		
bis(2-Chloroisopropyl)ether	BWL0089-BLK1	ND	mg/kg	0.10		
bis(2-Ethylhexyl)phthalate	BWL0089-BLK1	ND	mg/kg	0.20		
4-Bromophenyl phenyl ether	BWL0089-BLK1	ND	mg/kg	0.10		
4-Chloroaniline	BWL0089-BLK1	ND	mg/kg	0.10		
2-Chloronaphthalene	BWL0089-BLK1	ND	mg/kg	0.10		
4-Chlorophenyl phenyl ether	BWL0089-BLK1	ND	mg/kg	0.10		
Chrysene	BWL0089-BLK1	ND	mg/kg	0.10		
4,4'-DDD	BWL0089-BLK1	ND	mg/kg	0.10		
4,4'-DDE	BWL0089-BLK1	ND	mg/kg	0.10		
4,4'-DDT	BWL0089-BLK1	ND	mg/kg	0.10		
Dibenzo[a,h]anthracene	BWL0089-BLK1	ND	mg/kg	0.10		
Dibenzofuran	BWL0089-BLK1	ND	mg/kg	0.10		
1,2-Dichlorobenzene	BWL0089-BLK1	ND	mg/kg	0.10		
1,3-Dichlorobenzene	BWL0089-BLK1	ND	mg/kg	0.10		

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWL0089						
1,4-Dichlorobenzene	BWL0089-BLK1	ND	mg/kg	0.10		
3,3-Dichlorobenzidine	BWL0089-BLK1	ND	mg/kg	0.20		
Dieldrin	BWL0089-BLK1	ND	mg/kg	0.10		
Diethyl phthalate	BWL0089-BLK1	ND	mg/kg	0.10		
Dimethyl phthalate	BWL0089-BLK1	ND	mg/kg	0.10		
Di-n-butyl phthalate	BWL0089-BLK1	ND	mg/kg	0.10		
2,4-Dinitrotoluene	BWL0089-BLK1	ND	mg/kg	0.10		
2,6-Dinitrotoluene	BWL0089-BLK1	ND	mg/kg	0.10		
Di-n-octyl phthalate	BWL0089-BLK1	ND	mg/kg	0.10		
1,2-Diphenylhydrazine	BWL0089-BLK1	ND	mg/kg	0.10		
Endosulfan I	BWL0089-BLK1	ND	mg/kg	0.20		
Endosulfan II	BWL0089-BLK1	ND	mg/kg	0.20		
Endosulfan sulfate	BWL0089-BLK1	ND	mg/kg	0.10		
Endrin	BWL0089-BLK1	ND	mg/kg	0.20		
Endrin aldehyde	BWL0089-BLK1	ND	mg/kg	0.50		
Fluoranthene	BWL0089-BLK1	ND	mg/kg	0.10		
Fluorene	BWL0089-BLK1	ND	mg/kg	0.10		
Heptachlor	BWL0089-BLK1	ND	mg/kg	0.10		
Heptachlor epoxide	BWL0089-BLK1	ND	mg/kg	0.10		
Hexachlorobenzene	BWL0089-BLK1	ND	mg/kg	0.10		
Hexachlorobutadiene	BWL0089-BLK1	ND	mg/kg	0.10		
Hexachlorocyclopentadiene	BWL0089-BLK1	ND	mg/kg	0.10		
Hexachloroethane	BWL0089-BLK1	ND	mg/kg	0.10		
Indeno[1,2,3-cd]pyrene	BWL0089-BLK1	ND	mg/kg	0.10		
Isophorone	BWL0089-BLK1	ND	mg/kg	0.10		
2-Methylnaphthalene	BWL0089-BLK1	ND	mg/kg	0.10		
Naphthalene	BWL0089-BLK1	ND	mg/kg	0.10		
2-Naphthylamine	BWL0089-BLK1	ND	mg/kg	3.0		
2-Nitroaniline	BWL0089-BLK1	ND	mg/kg	0.10		
3-Nitroaniline	BWL0089-BLK1	ND	mg/kg	0.20		
4-Nitroaniline	BWL0089-BLK1	ND	mg/kg	0.20		
Nitrobenzene	BWL0089-BLK1	ND	mg/kg	0.10		
N-Nitrosodimethylamine	BWL0089-BLK1	ND	mg/kg	0.10		
N-Nitrosodi-N-propylamine	BWL0089-BLK1	ND	mg/kg	0.10		

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Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWL0089						
N-Nitrosodiphenylamine	BWL0089-BLK1	ND	mg/kg	0.10		
Phenanthrene	BWL0089-BLK1	ND	mg/kg	0.10		
Pyrene	BWL0089-BLK1	ND	mg/kg	0.10		
1,2,4-Trichlorobenzene	BWL0089-BLK1	ND	mg/kg	0.10		
4-Chloro-3-methylphenol	BWL0089-BLK1	ND	mg/kg	0.20		
2-Chlorophenol	BWL0089-BLK1	ND	mg/kg	0.10		
2,4-Dichlorophenol	BWL0089-BLK1	ND	mg/kg	0.10		
2,4-Dimethylphenol	BWL0089-BLK1	ND	mg/kg	0.10		
4,6-Dinitro-2-methylphenol	BWL0089-BLK1	ND	mg/kg	0.50		
2,4-Dinitrophenol	BWL0089-BLK1	ND	mg/kg	0.50		
2-Methylphenol	BWL0089-BLK1	ND	mg/kg	0.10		
3- & 4-Methylphenol	BWL0089-BLK1	ND	mg/kg	0.20		
2-Nitrophenol	BWL0089-BLK1	ND	mg/kg	0.10		
4-Nitrophenol	BWL0089-BLK1	ND	mg/kg	0.20		
Pentachlorophenol	BWL0089-BLK1	ND	mg/kg	0.20		
Phenol	BWL0089-BLK1	ND	mg/kg	0.10		
2,4,5-Trichlorophenol	BWL0089-BLK1	ND	mg/kg	0.20		
2,4,6-Trichlorophenol	BWL0089-BLK1	ND	mg/kg	0.20		
2-Fluorophenol (Surrogate)	**BWL0089-BLK1**	**96.3**	%	**28 - 144 (LCL - UCL)**		
Phenol-d5 (Surrogate)	**BWL0089-BLK1**	**111**	%	**36 - 136 (LCL - UCL)**		
Nitrobenzene-d5 (Surrogate)	**BWL0089-BLK1**	**100**	%	**31 - 135 (LCL - UCL)**		
2-Fluorobiphenyl (Surrogate)	**BWL0089-BLK1**	**96.5**	%	**20 - 140 (LCL - UCL)**		
2,4,6-Tribromophenol (Surrogate)	**BWL0089-BLK1**	**83.2**	%	**20 - 150 (LCL - UCL)**		
p-Terphenyl-d14 (Surrogate)	**BWL0089-BLK1**	**90.6**	%	**30 - 150 (LCL - UCL)**		

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Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BWL0089										
Acenaphthene	BWL0089-BS1	LCS	1.5291	1.6835	mg/kg	90.8		50 - 140		
1,4-Dichlorobenzene	BWL0089-BS1	LCS	1.5334	1.6835	mg/kg	91.1		40 - 140		
2,4-Dinitrotoluene	BWL0089-BS1	LCS	2.1332	1.6835	mg/kg	127		40 - 140		
Hexachlorobenzene	BWL0089-BS1	LCS	1.9633	1.6835	mg/kg	117		46 - 140		
Hexachlorobutadiene	BWL0089-BS1	LCS	1.7013	1.6835	mg/kg	101		40 - 120		
Hexachloroethane	BWL0089-BS1	LCS	1.4806	1.6835	mg/kg	87.9		40 - 120		
Nitrobenzene	BWL0089-BS1	LCS	1.2658	1.6835	mg/kg	75.2		40 - 130		
N-Nitrosodi-N-propylamine	BWL0089-BS1	LCS	1.2978	1.6835	mg/kg	77.1		40 - 120		
Pyrene	BWL0089-BS1	LCS	1.9049	1.6835	mg/kg	113		40 - 150		
1,2,4-Trichlorobenzene	BWL0089-BS1	LCS	1.6578	1.6835	mg/kg	98.5		40 - 140		
4-Chloro-3-methylphenol	BWL0089-BS1	LCS	1.2789	1.6835	mg/kg	76.0		40 - 130		
2-Chlorophenol	BWL0089-BS1	LCS	0.83712	1.6835	mg/kg	49.7		40 - 130		
2-Methylphenol	BWL0089-BS1	LCS	1.0549	1.6835	mg/kg	62.7		40 - 140		
3- & 4-Methylphenol	BWL0089-BS1	LCS	2.2547	3.3670	mg/kg	67.0		40 - 120		
4-Nitrophenol	BWL0089-BS1	LCS	0.29499	1.6835	mg/kg	17.5		20 - 120		L21
Pentachlorophenol	BWL0089-BS1	LCS	0.24187	1.6835	mg/kg	14.4		20 - 130		L21
Phenol	BWL0089-BS1	LCS	0.77938	1.6835	mg/kg	46.3		40 - 120		
2,4,6-Trichlorophenol	BWL0089-BS1	LCS	0.97307	1.6835	mg/kg	57.8		44 - 130		
2-Fluorophenol (Surrogate)	BWL0089-BS1	LCS	2.2461	2.6936	mg/kg	83.4		28 - 144		
Phenol-d5 (Surrogate)	BWL0089-BS1	LCS	2.5787	2.6936	mg/kg	95.7		36 - 136		
Nitrobenzene-d5 (Surrogate)	BWL0089-BS1	LCS	2.3312	2.6936	mg/kg	86.5		31 - 135		
2-Fluorobiphenyl (Surrogate)	BWL0089-BS1	LCS	2.3880	2.6936	mg/kg	88.7		20 - 140		
2,4,6-Tribromophenol (Surrogate)	BWL0089-BS1	LCS	2.5417	2.6936	mg/kg	94.4		20 - 150		
p-Terphenyl-d14 (Surrogate)	BWL0089-BS1	LCS	1.1443	1.3468	mg/kg	85.0		30 - 150		

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Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BWL0089	Used client sample: N										
Acenaphthene	MS	1320257-79	ND	1.5692	1.6722	mg/kg		93.8		40 - 140	
	MSD	1320257-79	ND	1.6769	1.6949	mg/kg	6.6	98.9	30	40 - 140	
1,4-Dichlorobenzene	MS	1320257-79	ND	1.4298	1.6722	mg/kg		85.5		30 - 150	
	MSD	1320257-79	ND	1.6702	1.6949	mg/kg	15.5	98.5	30	30 - 150	
2,4-Dinitrotoluene	MS	**1320257-79**	**ND**	**2.2276**	**1.6722**	**mg/kg**		**133**		**30 - 140**	
	MSD	**1320257-79**	**ND**	**2.4061**	**1.6949**	**mg/kg**	**7.7**	**142**	**30**	**30 - 140**	**Q03**
Hexachlorobenzene	MS	1320257-79	ND	2.0401	1.6722	mg/kg		122		30 - 150	
	MSD	1320257-79	ND	2.0034	1.6949	mg/kg	1.8	118	30	30 - 150	
Hexachlorobutadiene	MS	1320257-79	ND	1.6623	1.6722	mg/kg		99.4		20 - 140	
	MSD	1320257-79	ND	1.9424	1.6949	mg/kg	15.5	115	30	20 - 140	
Hexachloroethane	MS	1320257-79	ND	1.4949	1.6722	mg/kg		89.4		30 - 140	
	MSD	1320257-79	ND	1.8258	1.6949	mg/kg	19.9	108	30	30 - 140	
Nitrobenzene	MS	1320257-79	ND	2.0204	1.6722	mg/kg		121		30 - 140	
	MSD	1320257-79	ND	2.3708	1.6949	mg/kg	16.0	140	30	30 - 140	
N-Nitrosodi-N-propylamine	MS	1320257-79	ND	1.1886	1.6722	mg/kg		71.1		30 - 120	
	MSD	1320257-79	ND	1.3254	1.6949	mg/kg	10.9	78.2	30	30 - 120	
Pyrene	MS	1320257-79	ND	1.9772	1.6722	mg/kg		118		40 - 150	
	MSD	1320257-79	ND	2.1095	1.6949	mg/kg	6.5	124	30	40 - 150	
1,2,4-Trichlorobenzene	MS	1320257-79	ND	1.6061	1.6722	mg/kg		96.0		30 - 150	
	MSD	1320257-79	ND	1.8875	1.6949	mg/kg	16.1	111	30	30 - 150	
4-Chloro-3-methylphenol	MS	1320257-79	ND	1.3513	1.6722	mg/kg		80.8		40 - 130	
	MSD	1320257-79	ND	1.2210	1.6949	mg/kg	10.1	72.0	30	40 - 130	
2-Chlorophenol	MS	**1320257-79**	**ND**	**0.58176**	**1.6722**	**mg/kg**		**34.8**		**40 - 130**	**Q03**
	MSD	**1320257-79**	**ND**	**0.96542**	**1.6949**	**mg/kg**	**49.6**	**57.0**	**30**	**40 - 130**	**Q02**
2-Methylphenol	MS	1320257-79	ND	1.2604	1.6722	mg/kg		75.4		30 - 140	
	MSD	1320257-79	ND	1.3512	1.6949	mg/kg	7.0	79.7	30	30 - 140	
3- & 4-Methylphenol	MS	1320257-79	ND	2.1983	3.3445	mg/kg		65.7		40 - 130	
	MSD	1320257-79	ND	2.6715	3.3898	mg/kg	19.4	78.8	30	40 - 130	
4-Nitrophenol	MS	1320257-79	ND	0.34600	1.6722	mg/kg		20.7		20 - 140	
	MSD	1320257-79	ND	0.37322	1.6949	mg/kg	7.6	22.0	30	20 - 140	
Pentachlorophenol	MS	1320257-79	ND	0.39207	1.6722	mg/kg		23.4		20 - 130	
	MSD	1320257-79	ND	0.41966	1.6949	mg/kg	6.8	24.8	30	20 - 130	
Phenol	MS	1320257-79	ND	0.78415	1.6722	mg/kg		46.9		30 - 130	
	MSD	1320257-79	ND	0.95458	1.6949	mg/kg	19.6	56.3	30	30 - 130	
2,4,6-Trichlorophenol	MS	1320257-79	ND	1.2023	1.6722	mg/kg		71.9		40 - 140	
	MSD	1320257-79	ND	1.2878	1.6949	mg/kg	6.9	76.0	30	40 - 140	

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BWL0089	Used client sample: N										
2-Fluorophenol (Surrogate)	MS	1320257-79	ND	2.2730	2.6756	mg/kg		85.0		28 - 144	
	MSD	1320257-79	ND	2.8302	2.7119	mg/kg	21.8	104		28 - 144	
Phenol-d5 (Surrogate)	MS	1320257-79	ND	2.5116	2.6756	mg/kg		93.9		36 - 136	
	MSD	1320257-79	ND	2.9308	2.7119	mg/kg	15.4	108		36 - 136	
Nitrobenzene-d5 (Surrogate)	MS	1320257-79	ND	2.1634	2.6756	mg/kg		80.9		31 - 135	
	MSD	1320257-79	ND	2.5783	2.7119	mg/kg	17.5	95.1		31 - 135	
2-Fluorobiphenyl (Surrogate)	MS	1320257-79	ND	2.3229	2.6756	mg/kg		86.8		20 - 140	
	MSD	1320257-79	ND	2.5844	2.7119	mg/kg	10.7	95.3		20 - 140	
2,4,6-Tribromophenol (Surrogate)	MS	1320257-79	ND	2.5440	2.6756	mg/kg		95.1		20 - 150	
	MSD	1320257-79	ND	2.4793	2.7119	mg/kg	2.6	91.4		20 - 150	
p-Terphenyl-d14 (Surrogate)	MS	1320257-79	ND	1.1670	1.3378	mg/kg		87.2		30 - 150	
	MSD	1320257-79	ND	1.2908	1.3559	mg/kg	10.1	95.2		30 - 150	

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Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWL0013						
Gasoline Range Organics (C6 - C12)	BWL0013-BLK1	ND	ug/L	50		
a,a,a-Trifluorotoluene (FID Surrogate)	**BWL0013-BLK1**	**82.3**	%	**70 - 130 (LCL - UCL)**		

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Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BWL0013										
Gasoline Range Organics (C6 - C12)	BWL0013-BS1	LCS	941.31	1000.0	ug/L	94.1		85 - 115		
a,a,a-Trifluorotoluene (FID Surrogate)	BWL0013-BS1	LCS	36.126	40.000	ug/L	90.3		70 - 130		

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Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BWL0013	Used client sample: N										
Gasoline Range Organics (C6 - C12)	MS	1325870-01	ND	1047.9	1000.0	ug/L		105		70 - 130	
	MSD	1325870-01	ND	949.87	1000.0	ug/L	9.8	95.0	20	70 - 130	
a,a,a-Trifluorotoluene (FID Surrogate)	MS	1325870-01	ND	35.571	40.000	ug/L		88.9		70 - 130	
	MSD	1325870-01	ND	34.936	40.000	ug/L	1.8	87.3		70 - 130	

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Total Petroleum Hydrocarbons (EPA 8015/5035)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWK1457						
Gasoline Range Organics (C6 - C12)	BWK1457-BLK1	ND	mg/kg	1.0		
a,a,a-Trifluorotoluene (FID Surrogate)	**BWK1457-BLK1**	**82.5**	%	**70 - 130 (LCL - UCL)**		
QC Batch ID: BWK1694						
Gasoline Range Organics (C6 - C12)	BWK1694-BLK1	ND	mg/kg	1.0		
a,a,a-Trifluorotoluene (FID Surrogate)	**BWK1694-BLK1**	**95.0**	%	**70 - 130 (LCL - UCL)**		

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Total Petroleum Hydrocarbons (EPA 8015/5035)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BWK1457										
Gasoline Range Organics (C6 - C12)	BWK1457-BS1	LCS	5.6060	5.0000	mg/kg	112		85 - 115		
a,a,a-Trifluorotoluene (FID Surrogate)	BWK1457-BS1	LCS	0.037000	0.040000	mg/kg	92.5		70 - 130		
QC Batch ID: BWK1694										
Gasoline Range Organics (C6 - C12)	BWK1694-BS1	LCS	4.9800	5.0000	mg/kg	99.6		85 - 115		
a,a,a-Trifluorotoluene (FID Surrogate)	BWK1694-BS1	LCS	0.037000	0.040000	mg/kg	92.5		70 - 130		

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Total Petroleum Hydrocarbons (EPA 8015/5035)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BWK1457	Used client sample: N										
Gasoline Range Organics (C6 - C12)	MS	1323260-84	ND	5.5990	5.0000	mg/kg		112		70 - 130	
	MSD	1323260-84	ND	5.6300	5.0000	mg/kg	0.6	113	20	70 - 130	
a,a,a-Trifluorotoluene (FID Surrogate)	MS	1323260-84	ND	0.037000	0.040000	mg/kg		92.5		70 - 130	
	MSD	1323260-84	ND	0.036000	0.040000	mg/kg	2.7	90.0		70 - 130	
QC Batch ID: BWK1694	Used client sample: N										
Gasoline Range Organics (C6 - C12)	MS	1323260-92	ND	5.0700	5.0000	mg/kg		101		70 - 130	
	MSD	1323260-92	ND	5.0790	5.0000	mg/kg	0.2	102	20	70 - 130	
a,a,a-Trifluorotoluene (FID Surrogate)	MS	1323260-92	ND	0.037000	0.040000	mg/kg		92.5		70 - 130	
	MSD	1323260-92	ND	0.037000	0.040000	mg/kg	0	92.5		70 - 130	

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Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected at or above the reporting limit
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
L21	The Laboratory Control Sample Soil (LCSS) recovery is not within laboratory established control limits.
Q02	Matrix spike precision is not within the control limits.
Q03	Matrix spike recovery(s) is(are) not within the control limits.

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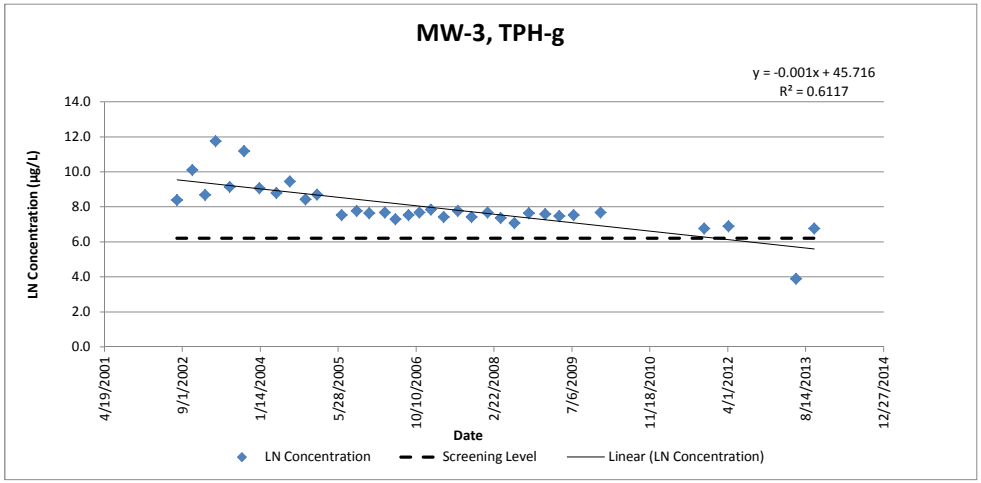
Appendix F

Linear Regression Analysis Outputs

Sample Information
Sample Location **MW-3**
Constituent TPH-g

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
7/28/2002	4500	8.41
11/3/2002	25000	10.13
1/24/2003	6000	8.70
4/2/2003	130000	11.78
7/1/2003	9400	9.15
10/2/2003	73000	11.20
1/9/2004	8700	9.07
4/26/2004	6700	8.81
7/22/2004	13000	9.47
10/29/2004	4600	8.43
1/12/2005	6100	8.72
6/20/2005	1900	7.55
9/23/2005	2400	7.78
12/13/2005	2100	7.65
3/24/2006	2200	7.70
5/30/2006	1500	7.31
8/22/2006	1900	7.55
10/31/2006	2200	7.70
1/12/2007	2600	7.86
4/4/2007	1700	7.44
7/5/2007	2400	7.78
10/1/2007	1700	7.44
1/11/2008	2200	7.70
4/4/2008	1600	7.38
7/2/2008	1200	7.09
10/2/2008	2100	7.65
1/14/2009	2000	7.60
4/16/2009	1800	7.50
7/16/2009	1900	7.55
1/6/2010	2200	7.70
11/2/2011	880	6.78
4/6/2012	1,000	6.91
6/13/2013	50	3.91
10/7/2013	880	6.78



Notes:
ND taken at reporting limit/reported value

Data quality	
Total # of data points used in regression	34
# of nondetects	1
% of data as detects	97

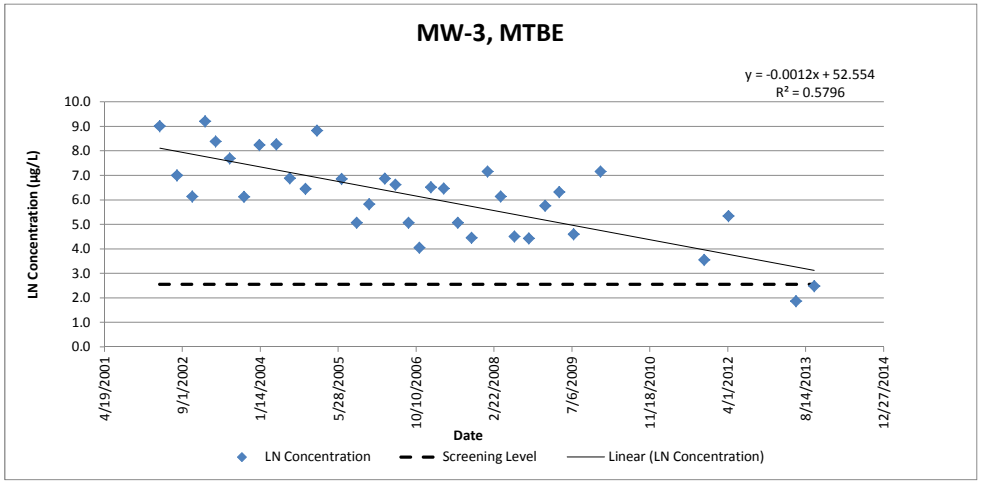
Results		
Coefficient of Determination (R^2) =	0.6117	
p-Value =	4.69E-08	
Attenuation Rate in Groundwater (K) =	0.0010	$days^{-1}$
Attenuation Rate in Groundwater at 90% confidence (K) =	0.0008	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	7.18E+02	days

Date Screening Level Reached	
Screening Level	500
LN Screening Level	6.2
Intercept	45.716
Slope	-0.0010
Date to Screening Level	1/21/2012

Abbreviations and Notes
ug/l = micrograms per liter
LN = Natural Logarithm

Sample Information
Sample Location **MW-3**
Constituent MTBE

Data		
Sample Date	Concentration	LN Concentration
	(ug/L)	
4/8/2002	8300	9.02
7/28/2002	1100	7.00
11/3/2002	470	6.15
1/24/2003	10000	9.21
4/2/2003	4400	8.39
7/1/2003	2200	7.70
10/2/2003	460	6.13
1/9/2004	3800	8.24
4/26/2004	3900	8.27
7/22/2004	980	6.89
10/29/2004	640	6.46
1/12/2005	6900	8.84
6/20/2005	960	6.87
9/23/2005	160	5.08
12/13/2005	340	5.83
3/24/2006	970	6.88
5/30/2006	760	6.63
8/22/2006	160	5.08
10/31/2006	58	4.06
1/12/2007	680	6.52
4/4/2007	650	6.48
7/5/2007	160	5.08
10/1/2007	87	4.47
1/11/2008	1300	7.17
4/4/2008	470	6.15
7/2/2008	91	4.51
10/2/2008	84	4.43
1/14/2009	320	5.77
4/16/2009	560	6.33
7/16/2009	100	4.61
1/6/2010	1300	7.17
11/2/2011	35	3.56
4/6/2012	210	5.35
6/13/2013	6.5	1.87
10/7/2013	12	2.48



Notes:
ND taken at reporting limit/reported value

Data quality	
Total # of data points used in regression	35
# of nondetects	0
% of data as detects	100

Results		
Coefficient of Determination (R^2) =	0.5796	
p-Value =	1.10E-07	
Attenuation Rate in Groundwater (K) =	0.0012	$days^{-1}$
Attenuation Rate in Groundwater at 90% confidence (K) =	0.0010	$days^{-1}$
Chemical Half Life in Groundwater ($t_{1/2}$) =	5.83E+02	days

Date Screening Level Reached	
Screening Level	13
LN Screening Level	2.6
Intercept	52.554
Slope	-0.0012
Date to Screening Level	1/21/2015

Abbreviations and Notes
ug/l = micrograms per liter
LN = Natural Logarithm