CONESTOGA-ROVERS & ASSOCIATES

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TRANSMITTAL

DATE: August 29, 2014

REFERENCE NO.: 062086

PROJECT NAME: Chevron 359766

TO: Ms. Karel Detterman
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

ACEH RO#0003098

RECEIVED
By Alameda County Environmental Health at 11:21 am, Sep 02, 2014

Please find enclosed:
- ☐ Draft
- ☐ Originals
- ☐ Prints
- ☒ Final
- ☐ Other

Sent via:
- ☐ Mail
- ☐ Overnight Courier
- ☐ Same Day Courier
- ☒ Other Alameda County FTP Upload and GeoTracker

QUANTITY	DESCRIPTION
1	Subsurface Investigation Report and Conceptual Site Model

- ☐ As Requested
- ☐ For Your Use
- ☒ For Review and Comment
- ☐
- ☐

COMMENTS:
Please contact Nathan Lee at (925)849-1003 or nlee@craworld.com with any questions or comments regarding the contents of this report.

Copy to: Alexis Fischer (Chevron)
Pedro and Maria Pulildo, Property Owner

Completed by: Nathan Lee [Please Print]

Signed: Nathan Lee

Filing: **Correspondence File**

Alexis Fischer
Project Manager
Marketing Business Unit

Chevron Environmental Management Company
6101 Bollinger Canyon Road
San Ramon, CA 94583
Tel (925) 790-6441
afischer@chevron.com

Alameda County Health Care Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Former Texaco Service Station No.359766
2700 23rd Avenue
Oakland, CA

I have reviewed the attached *Subsurface Investigation Report and Conceptual Site Model.*

I agree with the conclusions and recommendations presented in the referenced report. The information in this report is accurate to the best of my knowledge and all local Agency/Regional Board guidelines have been followed. This report was prepared by Conestoga-Rovers & Associates, upon whose assistance and advice I have relied.

This letter is submitted pursuant to the requirements of California Water Code Section 13267(b)(1) and the regulating implementation entitled Appendix A pertaining thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Sincerely,

On Behalf Of:

Alexis Fischer
Project Manager

Attachment: Subsurface Investigation Report and Conceptual Site Model

SUBSURFACE INVESTIGATION REPORT AND CONCEPTUAL SITE MODEL

FORMER TEXACO SERVICE STATION 359766
2700 23rd AVENUE
OAKLAND, CALIFORNIA
ACEH CASE RO# 0003098

Prepared for:

Ms. Karel Detterman
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Prepared by:
Conestoga-Rovers & Associates

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AUGUST 29, 2014
REF. NO. 062086 (3)

SUBSURFACE INVESTIGATION REPORT AND CONCEPTUAL SITE MODEL

FORMER TEXACO SERVICE STATION 359766
2700 23rd AVENUE
OAKLAND, CALIFORNIA
ACEH CASE RO# 0003098

Nathan S. Lee, PG 8684

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AUGUST 29, 2014
REF. NO. 062086 (3)

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Section 1.0 Introduction

Conestoga-Rovers & Associates (CRA) prepared this *Subsurface Investigation Report and Conceptual Model* for the site referenced above (Figure 1) on behalf of Chevron Environmental Management Company (EMC). CRA performed the site investigation as outlined in CRA's January 11, 2013 *Work Plan for Subsurface Investigation*, September 30, 2013 *Site Conceptual Model and Data Gap Analysis*, and May 30, 2014 *Site Conceptual Model and Gap Analysis Addendum* (Work Plan), and as approved by the Alameda County Environmental Health (ACEH) in an email correspondence dated June 24, 2014 (Appendix A). The purpose of this report is to summarize the subserface investigation, prepare a Conceptual Site Model (CSM), identify any additional data gaps, and propose a scope of work to address the identified data gaps. Presented below are the site background, site geology, method descriptions, investigation results, CSM, and CRA's conclusions and recommendations.

Section 2.0 Site Background

2.1 Site Description

The site is a former Texaco service station located at the northeast corner of 23rd Avenue and East 27th Street in a mixed commercial and residential area of Oakland, California (Figure 1). According to previously completed Phase I investigation, the site operated as a gasoline service station from 1928 to 1964. The former dispenser island was located at the southwestern corner onsite and the former station's "kiosk" was located at the northeastern corner. The former underground storage tanks (USTs) locations are unknown. In 1964, a demolition permit was issued for the service station. In 1968, the current building was constructed, which is now operated as a liquor store (Figure 2).[1] [2]

2.2 Previous Environmental Work

To date, 5 soil borings have been advanced, four temporary soil vapor probes, and four groundwater monitoring wells have been installed.[3] In 2010, two onsite test pits were excavated. A summary of previous environmental investigation and remediation are presented in Appendix B.

2.3 Site Geology

Sediments underlying the site consist primarily of fill material near the surface to approximately 2.5 feet below grade (fbg) and clay with some lenses containing silts and sands to approximately 22 fbg, which is

1 Schutze & Associates, Inc., Historical Research Project: 2700 23rd Avenue Property Ownership and Contamination Responsibility Update, July 21, 2011.

2 Schutze & Associates, Inc., Summary of Previous Investigations, Installation and Sampling of Four Monitoring Wells, and Excavation of Test Pits, Soil Testing, and Limited Soil Removal, March 16, 2011.

3 Schutze & Associates, Inc., Phase II Subsurface Investigation, August 24, 2010 and Doulos Environmental, Inc, Hydrolic Investigation, March 8, 2012.

the maximum explored depth. Boring logs for the current investigation are included in Appendix C and geologic cross-sections are presented on Figures 3 and 4.

2.4 Site Hydrogeology

The site is relatively flat, lying at an approximate elevation of 165 feet above mean sea level with a gradual slope toward the south and is located in the Santa Clara Valley Groundwater Basin, East Bay Plain Subbasin.[4] Groundwater in the East Bay Plain basin is designated as a potential drinking water source; however, groundwater in the basin is not currently used as municipal drinking water supply, due to readily available imported surface water.[5] Groundwater has been measured at depths ranging from approximately 5 to 7 fbg with a flow direction to the southwest at a gradient of 0.125.[2] The nearest surface water body is the Central Reservoir, located approximately 1,000 feet to the northeast (upgradient).

Section 3.0 Subsurface Investigation

The investigation objectives were to assess hydrocarbon extent onsite, delineate the downgradient extent of dissolved petroleum hydrocarbons, assess any vapor intrusion risk, conduct a utility survey, a preferential pathway study, and well survey. To meet this objectives, CRA observed the advancement of soil borings B-5 through B-8 (Figure 2) in accordance with the Work Plan. Proposed monitoring well located downgradient of the site was not installed during this investigation due to City of Oakland permitting issues and will be installed at a later date, as approved by ACEH in a letter (Appendix A). Field activities are summarized below.

3.1 Site-Specific Health and Safety Plan

CRA performed all work under the guidelines set forth in a comprehensive site-specific health and safety plan. The plan was reviewed and signed by all site workers and visitors and kept onsite at all times.

3.2 Permits

CRA obtained Alameda County Public Works Agency (ACPWA) drilling permits W2014-0627 and W2014-0628 to advance borings B-5 through B-8 and install soil vapor probes VP-1 and VP-2. All permits are included in Appendix D.

4 Department of Water Resources, California's Groundwater Bulletin 118 – Santa Clara Valley Groundwater Basin, East Bay Plain Subbasing, February 27, 2004.

5 California Regional Water Quality Control Board San Francisco Bay Region, East Bay Plain Groundwater Basin Beneficial Use Evaluation Report, Alameda and Contra Costa Counties, CA, June 1999.

3.3 Drilling Company

Vapor Tech Services (VTS) of Hayward, California (C57 license #916085) performed the soil boring advancement and soil vapor probe installation.

3.4 Drilling Dates

Drilling took place on July 8 and 9, 2014 for the soil borings and soil vapor probes.

3.5 CRA Personnel

CRA personnel Alyssa Beerling and Oliver Yan managed the drilling under the supervision of California Professional Geologist Nathan Lee, PG 8486.

3.6 Utility Clearance

Prior to drilling, CRA contacted Underground Service Alert to mark existing underground utilities near the proposed well locations. CRA contracted Norcal Geophysical Consultants, Inc. (Norcal) of Cotati, California to verify underground utility locations near the proposed locations. Norcal utilized a metal detector, tracer cable, electronic line location equipment, and ground penetrating radar (GPR) to determine utilities in the area. Each boring location was hand cleared using a hand auger to 8 fbg to ensure no underground utilities existed beneath each location.

3.7 Soil Borings

VTS advanced borings B-5 through B-8 to approximately 20 fbg using direct-push tecnology equipped with a 3-inch diameter direct push sampler. After each boring was completed VTS tremied the borings with Portland Type I/II cement. Boring logs are included in Appendix C. Soil boring locations are shown on Figure 2. CRA's *Standard Field Procedures for Soil Borings* are presented in Appendix E.

3.8 Soil Vapor Probe Installation

Vapor probes VP-1 and VP-2 were installed in accordance with the Department of Toxic Substances Control (DTSC) *Advisory – Active Soil Gas Investigation* guidance document, dated April 2012. The probes were advanced using a hand auger to appoximatly 5 fbg. A permeable, stainless-steel probe tip connected to ¼-inch outside diameter Teflon tubing via a push-to-connect fitting was placed approximately 6 inches from the borings base. From the borings base to appoximatly 4 fbg a #2/12 filter sand was placed. A 12 inch layer of dry granular bentonite was placed above the sand filter pack. Pre-hydrated granular bentonite was then poured to fill the borehole. The tube was capped and placed within a traffic rated well box, finished flush to grade. Vapor probe construction and boring logs are included in Appendix C.

3.9 Soil Logging and Sampling

Soil samples were collected from borings B-5 through B-8 at approximately 5 foot intervals to approximately 20 fbg. Undisturbed soil samples at 5 fbg were collected using a slide-hammer, lined with 6-inch stainless steel tubes. Undisturbed soil samples from 10, 15, and 20 fbg were collected using hydraulic push technology to drive samplers line with polyethylene tubes unto undisturbed sediments. Soil was logged according to the ASTM D2488-06 Unified Soil Classification System and screened using a photo-ionization detector (PID). Samples collected for analyses were capped with Teflon® tape and plastic end caps. All samples were properly sealed, labeled, preserved on ice, logged on Chain-of-Custody (COC) forms, and released to Eurofins Lancaster Laboratories (Lancaster) of Lancaster, Pennsylvania for analysis.

3.10 Soil Vapor Probe Sampling

On July 14, 2014, CRA collected vapor samples using 100 percent laboratory certified 1-liter Summa™ canisters. Prior to collecting a sample, a closed circuit sampling train was created by attaching the sample Summa™ canister in series with the purge Summa™ canister via a steam-cleaned, stainless-steel manifold. A "shut-in" test was performed prior to connecting the sampling equipment to the vapor probe tubing. This test was performed by sealing all openings to ambient air, opening the purge Summa™ canister to establish a vacuum inside the sampling train and waiting to ensure the vacuum remained stable over time. The shut-in test reduces the potential for ambient air to dilute the soil vapor samples. Once the sampling train passed the "shut in" test, it was connected to the probe tubing. Using the same flow rate as is used during sampling, approximately three purge volumes were purged from the sampling tubing using the purge pump before sampling began. While sampling, the Summa™ canister's vacuum was used to draw the soil vapor through the flow controller until a negative pressure of approximately 5 inches of mercury was observed on the vacuum gauge. In accordance with the DTSC *Advisory – Active Soil Gas Investigation* guidance document, dated April 2012, leak testing was performed during sampling using laboratory grade helium. The vapor probe vault, probe tubing, and entire sampling train was enclosed in a rigid shroud. A helium meter kept inside the shroud indicated a helium concentration inside the shroud was maintained above 30 percent helium. After sampling, the Summa™ canisters were packaged and sent under chain-of-custody to Eurofins Air Toxics for analysis. CRA's *Standard Field Procedures for Soil Vapor Probe Installation and Sampling* is included in Appendix E.

3.11 Chemical Analyses

Soil samples were analyzed for the following:

- Total petroleum hydrocarbons as motor oil (TPHmo) and TPH as diesel (TPHd) by Environmental Protection Agency (EPA) Method 8015 B modified with silica gel cleanup
- TPH as gasoline (TPHg) by EPA Method 8015 B modified

- Benzene, toluene, ethylbenzene and xylenes (BTEX), 1,2-dibromoethane (EDB), and 1,2-dichloroethane (EDC) by EPA Method 8260B
- 16 priority pollutant Polycyclic Aromatic Hydrocarbons (PAHs) by EPA Method 8270C SIM: naphthalene, acenaphthene, acenaphthylene, anthracene, phenanthrene, fluorine, chrysene, fluoranthene, pyrene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(k)fluoranthene, benzo(a)anthracene, indeno(1,2,3-c,d)pyrene, dibenz(a,h)anthracene, and benzo(g,h,i)perylene
- Metals: cadmium, chromium, nickel, lead, and zinc by EPA Method 6010B

Soil vapor samples were analyzed for:

- TPHg, BTEX, methyl-tertiary butyl ether (MTBE), and naphthalene by EPA Method TO-15
- Oxygen (O_2), carbon dioxide (CO_2), nitrogen (N_2), methane (CH_4), and helium by ASTM D-1946 (GC/TCD)
- Air phase hydrocarbon (APH) fractions (Sp) aromatics C8-C12 modified TO-15 GC/MS Full Scan
- APH fractions (Sp) aliphatics C5-C12 modified TO-15 GC/MS Full Scan

The soil and soil vapor laboratory analytical reports are included in Appendix F.

3.11 Waste Disposal

Soil cuttings and rinsate water were stored onsite in sealed and labeled Department of Transportation (DOT) approved 55-gallon drums and sampled for laboratory analysis. After receipt and approval of waste profile analysis, the drums will be removed from the site and transported to a Chevron approved California licensed disposal facility.

3.12 Well Completion Reports

Department of Water Resources (DWR) Well Completion Reports are confidential documents and are not included in this report. On July 15, 2014, CRA submitted the forms for VP-1 and VP-2 to DWR and ACPW under a separate cover.

Section 4.0 Conceptual Site Model

Presented below is the updated CSM incorporating the most recent investigation data.

4.1 Petroleum Hydrocarbon Source Areas

Based on Schutze and Associates' (SA) file review, the site operated as a gasoline service station from 1928 through 1964. The former dispenser island was located at the southwest corner onsite and the former station's kiosk was located at the northeastern corner of the property. Location of the former

USTs are unknown, also the total release volume is unknown. As part of this subsurface investigation Norcal conducted a geophysical survey, and no anomaloies that could be interrupted to be USTs were identified. Based on assessments conducted to date, it appears that the source area is located in the southwest corner, in the vicinity of monitoring well MW-4.

4.2 Light Non-Aqueous Phase Liquid (LNAPL)

No Light non-aqueous phase liquid (LNAPL) has been observed in any monitoring wells.

4.3 Distribution of Constituents of Concern

Based on historical investigations conducted, the primary COCs are TPHmo, TPHd, TPHg, and benzene. Secondary COCs include toluene, ethylbenzene, and xylenes. Hydrocarbon concentrations in soil are shown on Figures 4 through 5 and presented in Tables 1 and 2.

4.4 Petroleum Hydrocarbon Distribution in Soil

Hydrocarbons detected in soil during the recent investigation indicate low petroleum hydrocarbon concentrations, with the highest concentration of 130 mg/kg TPHg detected in B-6 at 10 fbg and B-7 at 5 fbg. No benzene, ethlybenzene, naphthalene, and PAH concentrations exceeded the direct contact limits outlined in the LTCP Table 1.[7] The highest detected benzene, ethylbenzene, and naphthalene concentrations were 0.086 mg/kg, 0.24 mg/kg, and 0.16 mg/kg, respectively, all detected in B-7 at 5 fbg. All cadmium, chromium, lead, nickel, and zinc concentrations were below the environmental screening levels (ESLs) as outlined in the Regional Water Quality Control Board – San Francisco Bay Region's Table A-1.[6]

Of the 56 samples analyzed to date, no soil samples exceeded the Low-Threat Closure Policy[7] (LTCP) criteria for direct contact and outdoor air exposure for benzene, ethylbenzene, or napthathalene; however one sample exceeds the residential direct contact criteria for PAHs (B-7 at 5 fbg: 0.26 mg/kg benzo(a)pyrene). TPHmo, TPHd, and TPHg concentrations that exceeded the 100 mg/kg were detected in soil samples collected from borings B-6, B-7, DHB-1, MW-3, MW-4, B-1, and SV-2 at depths between 0 to 14 fbg. Petroleum hydrocarbon concentrations are adequately delineated vertically below 15 fbg. Petroleum hydrocarbon concentrations are adequately delinated, except offsite toward the south and southwest. Cumulative soil analytical results are presented in Tables 1 and 2. The laboratory analytical report for soil is included in Appendix F.

6 Table A-1 – Shallow Soil Screening Levels (≤ 3m bgs) Residential Land Use (Groundwater is a current or potential drinking water resource) from *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* prepared by the California Regional Water Quality Control Board – San Francisco Bay Region, Interim Final November 2007, revised May 2008.

7 California State Water Resources Control Board, Low-Threat Underground Storage Tank Case Closure Policy, August 2012

4.5 Petroleum Hydrocarbon Distribution in Groundwater

During the July 2010 site investigation performed by SA, elevated hydrocarbon concentrations were detected in grab-groundwater samples were collected from borings B-1 and B-2. In October 2010, SA installed monitoring wells MW-1 through MW-4 to delineate any potential dissolved hydrocarbon plume onsite. Since installation, only two groundwater monitoring and sampling events have been performed for the site on November 2010 and February 2012. No petroleum hydrocarbon constituents were detected in wells MW-1 and MW-2, except 1 µg/L MTBE. Moderate to low concentrations of TPHg, ethylbenzene, and xylenes were detected in MW-3. Well MW-4 contained elevated hydrocarbon concentrations and the highest concentrations were 27,000 µg/L TPHg and 2,800 µg/L benzene. Petroleum hydrocarbons in groundwater are primarily located along the southern boundary and are adequately delinated, except to the southwest (downgradient). Hydrocarbon distribution in groundwater will be assesed after the proposed offsite groundwater monitoring well is installed. Cumulative monitoring and sampling data are presented in Table 3.

4.6 Petroleum Hydrocarbon Distribution in Soil Vapor

Complete soil vapor results are included as Table 4. The laboratory analytical reports are included in Appendix F. Soil gas analytical results are summarized in Table 4.1 below.

Table 4.1 Soil Vapor Hydrocarbon Analytical Results

		TPHg	*Benzene*	*Toluene*	*Ethyl-benzene*	*m,p-Xylene*	*o-Xylene*	*MTBE*	*Naphthalene*
LTCP Soil Gas Criteria – Commercial[1]		***NE***	***280***	***NE***	***3,600***	***NE***	***NE***	***NE***	***310***
Sample ID	***Depth***	***All results reported in micrograms per cubic meter (µg/m^3)***							
VP-1	4.5	2,100	9.0	34	11	35	13	<5.0	<29
VP-1 DUP	4.5	2,200	7.6	140	11	37	16	<4.8	<28
VP-2	4.5	740,000	79	<58	<67	89	<67	<56	<320

Notes:
1. *Low-Threat Underground Storage Tank Case Closure Policy – Soil Gas Criteria No Bioattenuation Zone*, California State Water Resources Control Board, August 2012.

Elevated TPHg concentrations were detected in VP-2 at 740,000 µg/m3. Benzene ethylbenzene, and naphthalene concentrations were below the LTCP criteria and/or not detected. No helium was detected in any vapor probe samples. The absence of helium indicates that no ambient air entered the canisters during the sampling process and the samples are considered represented.

Aromatic (carcinogenic) and aliphatic (non-carcinogenic) hydrocarbons APH Fraction analytical data for VP-1 and VP-2 is presented in Table 5, and summarized in Table 4.2 below.

Table 4.2 Soil Vapor APH Fractionation Analytical Results						
	C5-C6 Aliphatic Hydrocarbons	***>C6-C8 Aliphatic Hydrocarbons***	***>C8- C10 Aliphatic Hydrocarbons***	***>C10-C12 Aliphatic Hydrocarbons***	***>C8-C10 Aromatic Hydrocarbons***	***>C10-C12 Aromatic Hydrocarbons***
Sample ID	***All results reported in µg/m³***					
VP-1	<90	420	<160	290	<140	<150
VP-1 DUP	<86	550	<150	680	<130	<140
VP-2	3,000	180,000	190,000	81,000	<1,500	<1,700

4.7 Sensitive Receptors and Preferential Pathway Study

Potential sensitive receptors include human beings, fauna, and flora that could come into contact with site-related hydrocarbons. Human receptors are generally the top priority, especially children, elderly, and the ill. When assessing sensitive receptors, schools, hospitals, parks, and residential communities within the vicinity, impacts to public resources such as groundwater and exposure routes to receptors are considered. This includes identifying water production wells, including municipal, domestic, agricultural, and industrial wells, and surface water bodies, including streams, ponds, and lakes.

The sensitive receptor survey details and preferential pathway study are presented below.

4.7.1 Sensitive Receptor Survey Methodology

CRA reviewed well records from the DWR, ACPWA, and Geotracker's Groundwater Ambient Monitoring and Assessment (GAMA) database to identify any water supply wells a within a half-mile radius. CRA used directories and the internet to assist in locating nearby facilities, such as schools, daycare businesses, nursing homes, hospitals, etc.

4.7.2 Survey Findings

The site is occupied by the Ed's Liquors building and is surrounded by commercial and residential properties. The nearest residences are located immediately north and east of the site. The results of the survey are presented below, on Figure 5, and in Table 6.

4.7.2.1 Municipal and Water Supply Wells

Groundwater in the region is designated as an existing or potential drinking water resource.[8] No municipal wells were identified within a half-mile radius. The site is provided water by the EBMUD which relies solely on imported water to supply the region with drinking water.[7]

[8] http://www.ebmud.com/our-water/water-supply

4.7.2.2 Private Wells

ACPWA and DWR identified only cathodic protection, monitoring, irrigation, and destroyed wells within the survey radius (Figure 5). The one irrigation well was identified approximately 700 feet northeast (upgradient), (Figure 5 and Table 6). Based on the extent of hydrocarbons, and the distance and orientation of the wells, there appears to be no wells at risk.

4.7.2.3 Other Potential Sensitive Receptors

One school, three daycare centers, one nursing home, and one hospital are located within ½-mile radius of the site, their locations are shown on Figure 5.

Central Reservoir, an earthen dam managed by EBMUD is located approximately 1,000 feet northeast (upgradient). Sausal Creek is located approximately 1,550 feet east (crossgradient). Central Reservoir and Sausal Creek are shown on Figures 1 and 5.

4.7.3 Preferential Pathway Study

CRA conducted a preferential pathway survey to evaluate potential conduits for the migration of dissolved hydrocarbons. CRA contracted Norcal and contacted individual utility companies to assess the location, size and depth of all subsurface utilities in the vicinity. Norcal's July 15, 2014 *Geophysical Investigation* report is included in Appendix G. Underground utility data from utility companies identified by USA were collected to identify any impact to nearby sensitive receptors through migration of hydrocarbons along preferential utility pathways. Utility location data is presented on Figure 2. Major utilities include storm drain, sanitary sewer, water, and communication lines. Natural gas and electrical utilities were identified by Norcal during the utility survey. Most major electrical utilities are aboveground within the vicinity.

4.7.3.1 Sewer and Storm Drain Utilities

Information regarding the sewer and storm drain utilities was obtained from the City of Oakland. According to maps provided by the City, the sewer line is 10 inches in diameter and located at depths between 6 to 9 fbg; sewer line material is not known. The storm drain line is 18 inches in diameter, located at depths of 7.5 to 8 fbg and is constructed with concrete. The City had limited information about the date of installation and backfill material. According to the City representative, older sewer lines were surrounded by native material, not backfill (Personal communication, July 2014).

4.7.3.2 Water Utilities

CRA contacted EBMUD for water utility information. Water mains are located beneath 23rd Avenue and East 27th Street according to drawings provided by EBMUD (Figure 2). According to EBMUD representative, Debra Kwan, the water utility diameter is 12 inches and was installed in 1893 (Personal

communication, 2014). No other information regarding construction material and utility depth was provided.

4.7.3.3 Gas and Electric Utilities

Natural gas and electric utilities were identified by Norcal and by Pacific Gas & Electric (PG&E) onsite (Figure 2). PG&E Mapping Services provided electrical and gas maps showing these utilities in the vicinity of the site. CRA contacted PG&E Mapping Services representative, Mr. Jerry Cabral regarding the depths of the gas lines; no response has been received. However; based on previous preferential pathways CRA conducted in Oakland, typical burial depth of these utilities in the region is between 1.5 and 4 fbg according to PG&E locators. CRA will verify the information, once CRA receives a response.

4.7.3.4 Communication Utilities

Communication utilities were identified by Norcal and CRA contacted AT&T and Comcast for communication utility information. The majority of communication lines are installed aboveground. Only one underground communication line (AT&T) was identified in the sidewalk on East 27th Street, south of the site and beneath 23rd Avenue, west of the site (Figure 2). These utilities are typically installed around 3 fbg according to AT&T representative (Personal communication July 2014).

4.7.3.4 Results of the Preferential Pathway Study

The average depth to groundwater at the site is approximately 6.5 fbg. Water, natural gas, electric, and communication utilities are likely installed shallower than 6.5 fbg and are not likely preferential pathways for dissolved hydrocarbon migration. Storm drain and sanitary sewer lines are likely located between the surface and 9 fbg. Though the sewer and storm drain lines may come in contact with groundwater, it is uncertain whether these lines act as preferential pathways for hydrocarbon migration this will be further evaluated after additional information on the area hydrology is obtained after the offsite monitoring well is installed.

4.8 Risk Evaluation

The site is a former service station and is currently a liquor store. Additional assessment is needed to delineate the extent of petroleum hydrocarbons in soil and groundwater on and offsite. Considering that onsite and offsite delineation is not complete, it is not possible to provide a complete risk evaluation. An addendum will be submitted to ACEH, once groundwater delineation has been completed.

Section 5.0 Conclusions and Recommendations

Based on CRA's evaluation of current and historic site data, the following conclusions can be made:

- The vertical extent of petroleum hydrocarbons in soil is adequately delinated.
- The horizontal extent of petroleum hydrocarbons in soil is adequately delinated , except offsite to the south and southwest of MW-4.
- Only 1 of 56 soil samples have an residential direct exposure/outdoor air criteria exceedance benzo(a)pyrene. However, the site is commercial business.
- Petroleum hydrocarbons in groundwater are primarily located along the southern boundary of the site and are adequately delinated, except to the southwest (downgradient). Hydrocarbon distribution in groundwater will be assesed after the proposed offsite groundwater monitoring well is installed.
- Elevated TPHg soil gas concentration was detected in VP-2; however all benzene, ethylbenzene, and naphthalene concentrations were below the TLCP criteria or not detected.
- Sewer and storm drain lines may come in contact with groundwater, however it is uncertain whether these lines act as preferential pathways for hydrocarbon migration. This potential preferential pathway will be further evaluated after the offsite monitoring well is installed.
- A complete risk evaluation will be completed once additional offsite soil and groundwater data are collected.

5.1 Data Gaps

Based on this investigation, CRA determined that the following data gaps require additional evaluation and/or investigation.

- Hydrocarbon concentrations in soil and groundwater are not delineated downgradient of well MW-4.
- No current groundwater data is available for exisiting wells MW-1 through MW-4 to evaluate concentration trends.
- Downgradient groundwater concentrations and depth need to be assessed to evaluate potential preferential pathways for dissolved petroleum hydrocarbons.
- Additional data is needed to complete a full risk evaluation.

To collect data to fill these data gaps, CRA will complete the monitoring well installation as outlined in CRA's January 11, 2013 *Work Plan for Subsurface Investigation*, CRA's September 30, 2013 *Site Conceptual Model and Data Gap Analysis Table*, and CRA's May 30, 2014 *Site Conceptual Model and Gap Analysis Addendum*. Furthermore, CRA will have the existing wells monitored and sampled along with the newly installed well.

Upon completion of field activities and review of the analytical results, CRA will prepare an investigation report that, at a minimum, will contain:

- Description of the drilling and sampling
- Soil boring logs
- Tabulated groundwater analytical results
- Analytical reports and chain-of-custody forms
- Waste disposal details
- An evaluation of the extent of dissolved hydrocarbon in the subsurface
- Conclusions and recommendations

5.2 Closing

CRA will proceed with the proposed scope of work once CRA obtains all required drilling and encroachment permits and schedule the subcontractors at their earliest availability. CRA will submit the an addendum approximately eight to ten weeks after receipt of final analytical data.

Figures

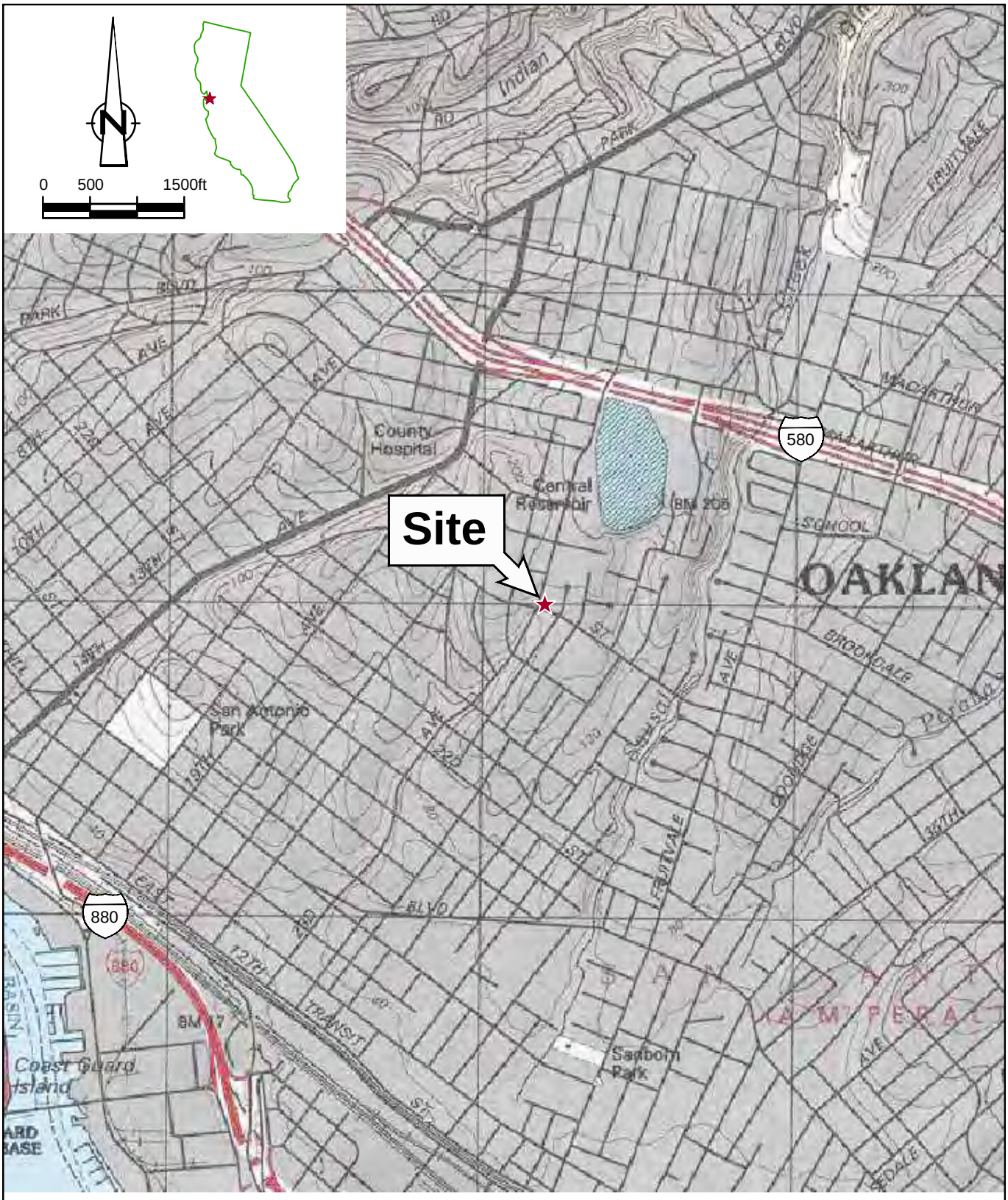
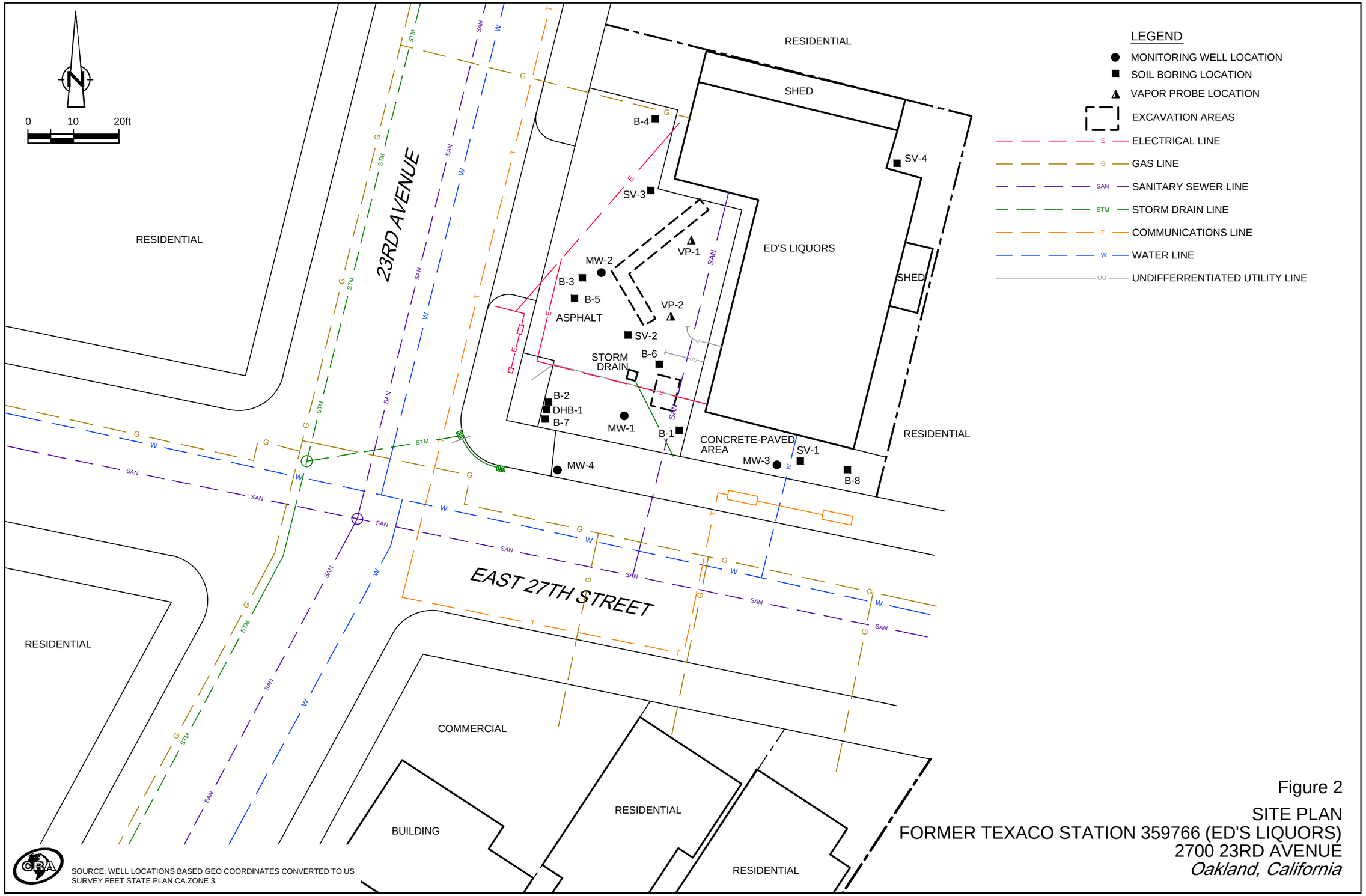


Figure 1

VICINITY MAP
FORMER TEXACO STATION 359766 (ED's LIQUORS)
2700 23rd AVENUE
Oakland, California

062086-2014(003)GN-EM001 JUL 28/2014

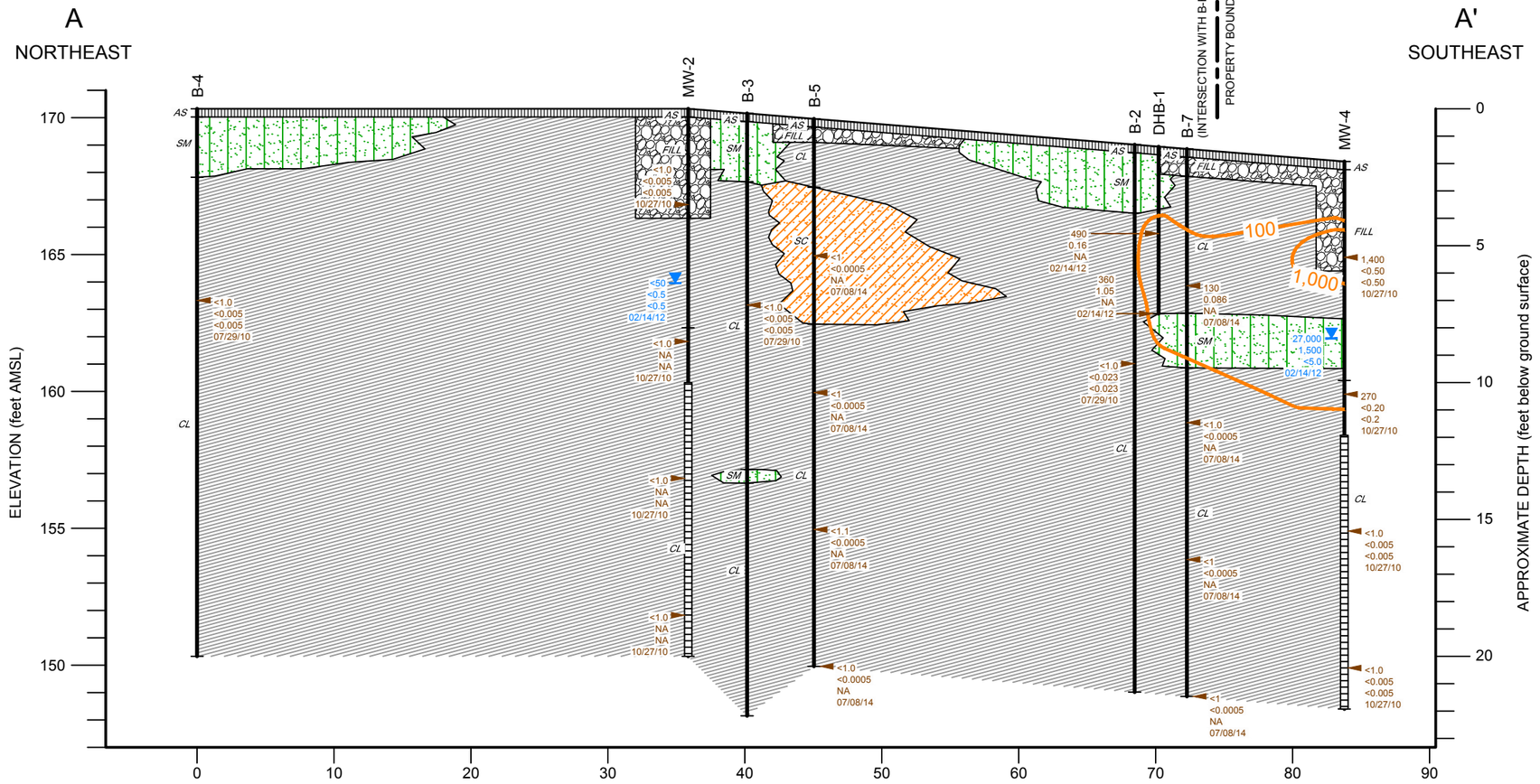


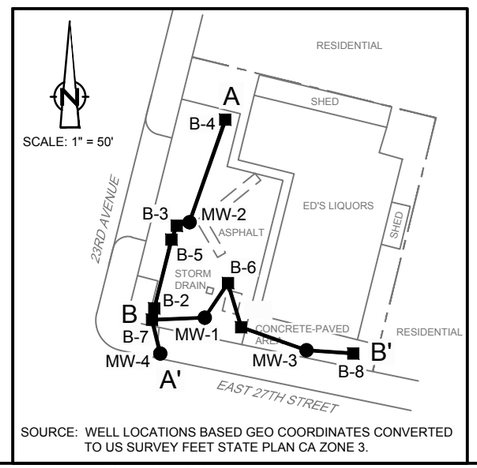
SOURCE: WELL LOCATIONS BASED GEO COORDINATES CONVERTED TO US SURVEY FEET STATE PLAN CA ZONE 3.

Figure 2

SITE PLAN
FORMER TEXACO STATION 359766 (ED'S LIQUORS)
2700 23RD AVENUE
Oakland, California

062086-2014(003)GN-SO001 AUG 27/2014





SOURCE: WELL LOCATIONS BASED GEO COORDINATES CONVERTED TO US SURVEY FEET STATE PLAN CA ZONE 3.

LEGEND

- WELL DESIGNATION
- GROUND SURFACE
- OBSERVATION WELL INSTALLATION
- STRATIGRAPHIC BOUNDARY
- CL — TYPICAL SOIL CLASSIFICATION
- SCREENED INTERVAL
- BOTTOM OF BORING
- APPROXIMATE SOIL SAMPLE LOCATION
  TPHg / BENZENE / MTBE / DATE
  HYDROCARBON CONCENTRATIONS IN SOIL (mg/kg)
- APPROXIMATE GROUNDWATER SAMPLE LOCATION
  TPHg / BENZENE / MTBE / DATE
  HYDROCARBON CONCENTRATIONS IN GROUNDWATER (µg/L)

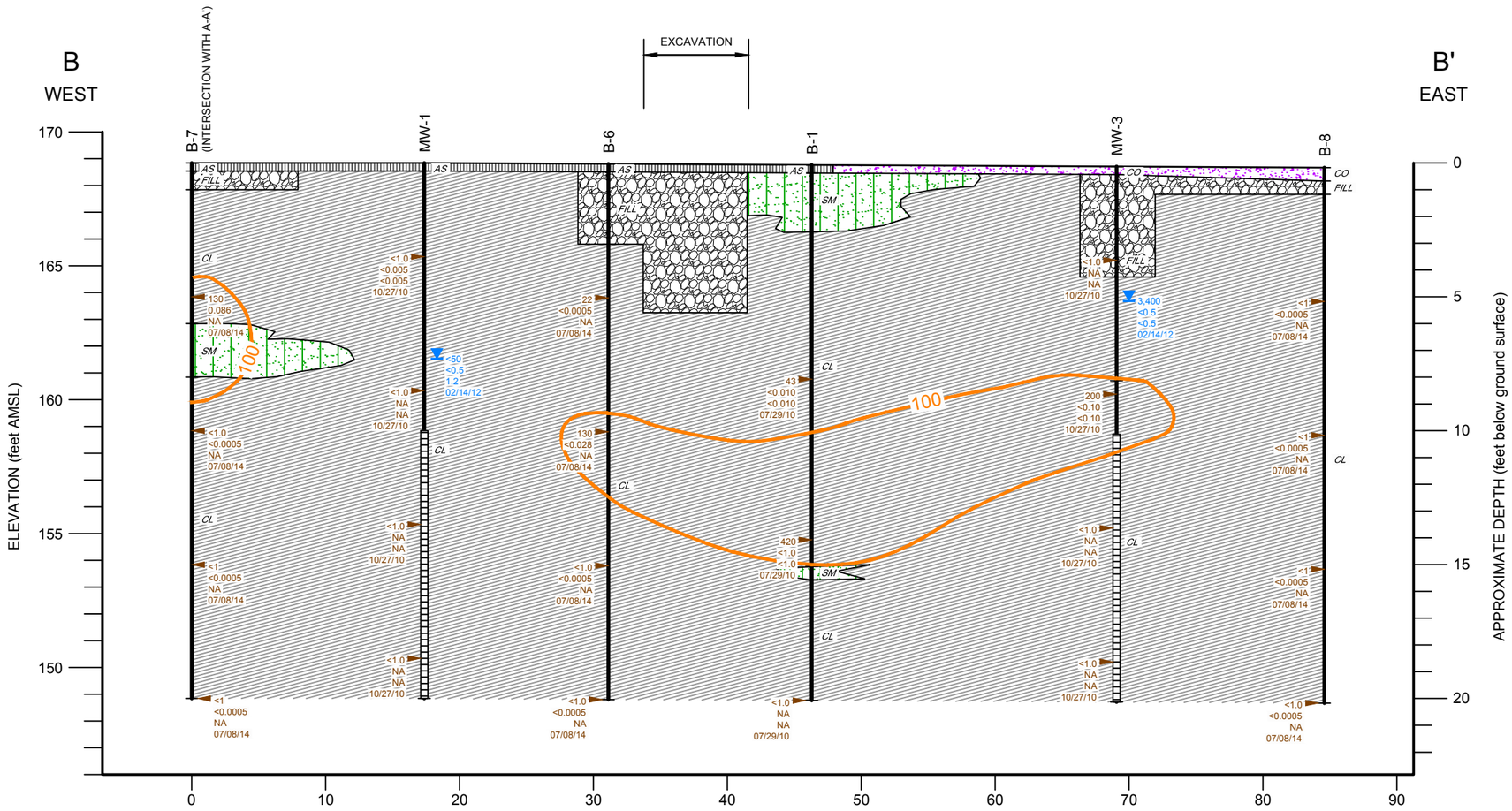
- *AS* - ASPHALT
- *FILL*
- *CL* - INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
- *SC* - CLAYEY SANDS, SAND-CLAY MIXTURES
- *SM* - SILTY SANDS, SAND-SILT MIXTURES
- NA — NOT ANALYZED

- 100 — TPHg ISOCONCENTRATION CONTOUR LINE IN MILLIGRAMS PER KILOGRAM (mg/kg)

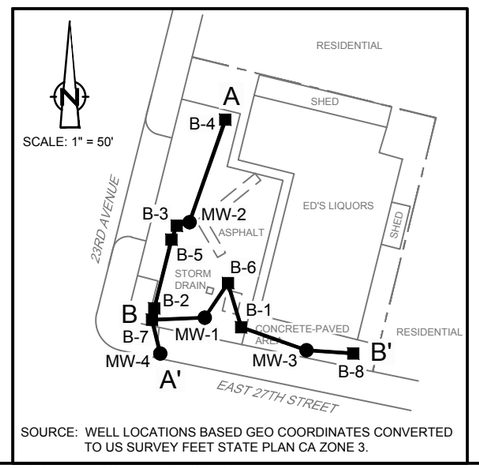
Figure 3

GEOLOGIC CROSS SECTION A-A'
FORMER TEXACO STATION 359766 (ED'S LIQUORS)
2700 23RD AVENUE
Oakland, California

62086-2014(003)GN-WA001 AUG 27/2014



SCALE: HORZ. 1" = 10'
VERT. 1" = 5'



SOURCE: WELL LOCATIONS BASED GEO COORDINATES CONVERTED TO US SURVEY FEET STATE PLAN CA ZONE 3.

LEGEND

- MW-2 — WELL DESIGNATION
- GROUND SURFACE
- OBSERVATION WELL INSTALLATION
- STRATIGRAPHIC BOUNDARY
- CL — TYPICAL SOIL CLASSIFICATION
- SCREENED INTERVAL
- BOTTOM OF BORING
- APPROXIMATE SOIL SAMPLE LOCATION
- TPHg / BENZENE / MTBE / DATE — HYDROCARBON CONCENTRATIONS IN SOIL (mg/kg)
- APPROXIMATE GROUNDWATER SAMPLE LOCATION
- TPHg / BENZENE / MTBE / DATE — HYDROCARBON CONCENTRATIONS IN GROUNDWATER (µg/L)

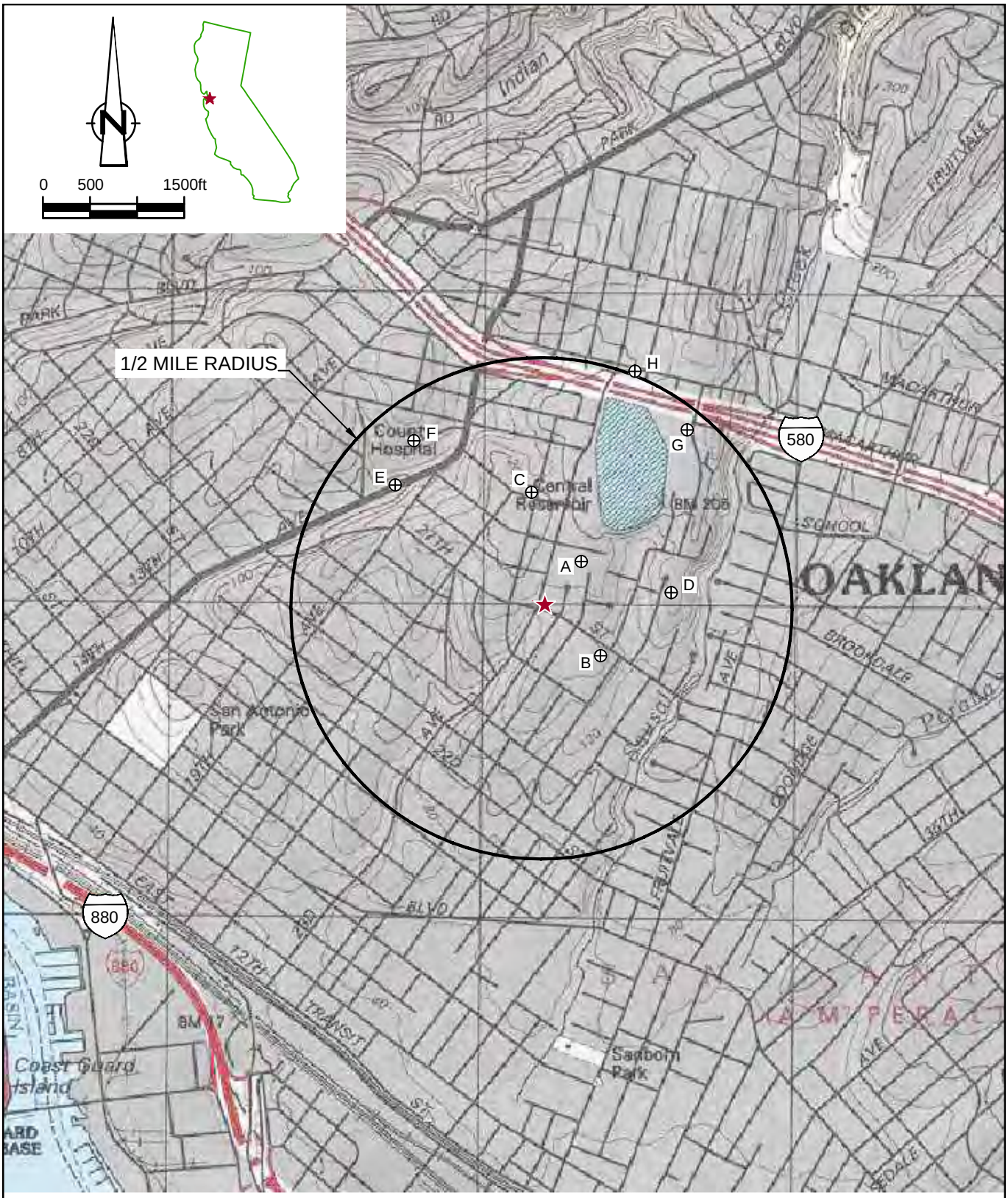
- *AS* - ASPHALT
- *CO* - CONCRETE
- *FILL*
- *CL* - INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
- *SM* - SILTY SANDS, SAND-SILT MIXTURES
- NA — NOT ANALYZED

100 — TPHg ISOCONCENTRATION CONTOUR LINE IN MILLIGRAMS PER KILOGRAM (mg/kg)

Figure 4

GEOLOGIC CROSS SECTION B-B'
FORMER TEXACO STATION 359766 (ED'S LIQUORS)
2700 23RD AVENUE
Oakland, California

62086-2014(003)GN-WA001 JUL 31/2014



LEGEND

★ SITE LOCATION

⊕ SENSITIVE RECEPTOR LOCATION

Figure 5

SENSITIVE RECEPTOR SURVEY DATA
FORMER TEXACO STATION 359766 (ED's LIQUORS)
2700 23rd AVENUE
Oakland, California

062086-2014(003)GN-SO002 JUL 31/2014

Tables

TABLE 1

CUMULATIVE SOIL ANALYTICAL DATA
FORMER TEXACO SERVICE STATION 359766 (ED'S LIQUORS)
2700 23RD AVENUE
OAKLAND, CALIFORNIA

Location	*Date*	*Depth feet*	*TPHmo*	*TPHd*	*TPHg*	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylenes*	*MTBE*	*Naphthalene*	*TBA*	*DIPE*	*ETBE*	*TAME*	*1,2-DCA*	*EDB*	*Other VOCs*	*Cadmium*	*Chromium*	*Lead*	*Nickel*	*Zinc*
			Concentrations in milligrams per kilogram (mg/kg)																				
Low-Threat Underground Storage Tank Case Closure Policy - Table 1[a] - Residential (0 to 5 fbg)			NE	NE	NE	1.9	NE	21	NE	NE	9.7	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Low-Threat Underground Storage Tank Case Closure Policy - Table 1[a] - Residential - Volatization to Outdoor Air (5 to 10 fbg)			NE	NE	NE	2.8	NE	32	NE	NE	9.7	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Low-Threat Underground Storage Tank Case Closure Policy - Table 1[a] - Utility Worker (0 to 10 fbg)			NE	NE	NE	14	NE	314	NE	NE	219	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Wells and Soil Borings																							
VP-1	07/09/14	5	<10[b]	<4.0[b]	<0.9	<0.0006	<0.001	<0.001	<0.001	--	0.00074	--	--	--	--	<0.001	<0.001	--	0.118	33.4	8.77	39.4	28.6
VP-2	07/09/14	5	85[b]	42[b]	<1	<0.0005	<0.001	<0.001	<0.001	--	0.014	--	--	--	--	<0.001	<0.001	--	0.107	41.1	5.47	38.9	25.8
B-5	07/08/14	5	<10[b]	<4.0[b]	<1	<0.0005	<0.001	<0.001	<0.001	--	<0.00067	--	--	--	--	<0.001	<0.001	--	0.432	64.5	4.28	47.7	41.7
B-5	07/08/14	10	<9.9[b]	<3.9[b]	<1	<0.0005	<0.001	<0.001	<0.001	--	<0.00067	--	--	--	--	<0.001	<0.001	--	0.493	48.4	8.02	82.2	57.8
B-5	07/08/14	15	<10[b]	<4.0[b]	<1.1	<0.0005	<0.001	<0.001	<0.001	--	<0.00066	--	--	--	--	<0.001	<0.001	--	0.570	45.0	7.48	79.8	53.2
B-5	07/08/14	20	<10[b]	<4.0[b]	<1.0	<0.0005	<0.001	<0.001	<0.001	--	<0.00066	--	--	--	--	<0.001	<0.001	--	0.229	48.5	10.6	56.7	44.5
B-6	07/08/14	5	<9.9[b]	<4.0[b]	22	<0.0005	<0.001	<0.001	<0.001	--	0.013	--	--	--	--	<0.001	<0.001	--	0.0913	31.9	9.78	36.7	22.0
B-6	07/08/14	10	<10[b]	33[b]	130	<0.028[c]	<0.055[c]	<0.055[c]	<0.055[c]	--	0.029	--	--	--	--	<0.055[c]	<0.055[c]	--	0.0455	60.7	9.00	57.1	51.2
B-6	07/08/14	15	<9.9[b]	<3.9[b]	<1.0	<0.0005	<0.001	<0.001	<0.001	--	0.0012	--	--	--	--	<0.001	<0.001	--	0.372	59.6	10.6	65.2	59.7
B-6	07/08/14	20	<10[b]	<4.0[b]	<1.0	<0.0005	<0.001	<0.001	<0.001	--	<0.00066	--	--	--	--	<0.001	<0.001	--	0.319	44.7	10.4	50.6	47.2
B-7	07/08/14	5	<10[b]	10[b]	130	0.086[c]	<0.055[c]	0.24[c]	0.84[c]	--	0.16	--	--	--	--	<0.055[c]	<0.055[c]	--	0.201	90.0	16.9	40.1	58.5
B-7	07/08/14	10	<10[b]	<4.0[b]	<1.0	<0.0005	<0.001	<0.001	<0.001	--	0.0013	--	--	--	--	<0.001	<0.001	--	0.298	50.6	10.3	64.7	54.0
B-7	07/08/14	15	<9.8[b]	<3.9[b]	<1	<0.0005	<0.001	<0.001	<0.001	--	0.0011	--	--	--	--	<0.001	<0.001	--	0.292	69.9	12.2	57.5	60.5
B-7	07/08/14	20	<9.9[b]	<3.9[b]	<1	<0.0005	<0.001	<0.001	<0.001	--	<0.00067	--	--	--	--	<0.001	<0.001	--	0.323	52.0	12.3	69.2	61.5
B-8	07/08/14	5	<10[b]	<4.0[b]	<1	<0.0005	<0.001	<0.001	<0.001	--	0.0014	--	--	--	--	<0.001	<0.001	--	0.146	30.0	12.7	28.5	24.3
B-8	07/08/14	10	<10[b]	<4.0[b]	<1	<0.0005	<0.001	<0.001	<0.001	--	0.0015	--	--	--	--	<0.001	<0.001	--	0.103	29.3	8.38	33.3	23.3
B-8	07/08/14	15	<10[b]	<4.0[b]	<1	<0.0005	<0.001	<0.001	<0.001	--	<0.00066	--	--	--	--	<0.001	<0.001	--	<0.0317	34.9	5.85	21.3	18.4
B-8	07/08/14	20	<9.9[b]	<4.0[b]	<1.0	<0.0005	<0.001	<0.001	<0.001	--	<0.00066	--	--	--	--	<0.001	<0.001	--	0.0450	34.7	8.02	29.8	20.1
DHB-1	02/14/12	3.25	--	140	490	0.16	0.18	1.7	4.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DHB-1	02/14/12	6.25	--	360	360	1.05	0.21	1.9	5.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	10/27/10	3.5	<5.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	ND	<1.5	34	15	50	28
MW-1	10/27/10	8.5	<5.0	<1.0	<1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.5	63	7.2	110	66
MW-1	10/27/10	13.5	<5.0	<1.0	<1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.5	48	7.7	81	54
MW-1	10/27/10	18.5	<5.0	<1.0	<1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.5	57	5.7	65	56
MW-2	10/27/10	3.5	5.5	5.1	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	ND	<1.5	80	6.1	60	62
MW-2	10/27/10	8.5	<5.0	<1.0	<1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.5	43	6.7	66	43
MW-2	10/27/10	13.5	<5.0	<1.0	<1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.5	45	<5.0	64	47
MW-2	10/27/10	18.5	<5.0	1.2	<1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.5	60	7.2	64	64
MW-3	10/27/10	3.5	<5.0	<1.0	<1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.5	34	<5.0	35	31
MW-3	10/27/10	8.5	<5.0	27	200	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<1.0	<0.10	<0.10	<0.10	<0.080	<0.080	0.14[d] 0.17[e] 0.62[f]	<1.5	40	9.8	31	26
MW-3	10/27/10	13.5	<5.0	<1.0	<1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.5	36	<5.0	23	83
MW-3	10/27/10	18.5	<5.0	<1.0	<1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.5	55	11	93	67

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CUMULATIVE SOIL ANALYTICAL DATA
FORMER TEXACO SERVICE STATION 359766 (ED'S LIQUORS)
2700 23RD AVENUE
OAKLAND, CALIFORNIA

Location	*Date*	*Depth feet*	*TPHmo*	*TPHd*	*TPHg*	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylenes*	*MTBE*	*Naphthalene*	*TBA*	*DIPE*	*ETBE*	*TAME*	*1,2-DCA*	*EDB*	*Other VOCs*	*Cadmium*	*Chromium*	*Lead*	*Nickel*	*Zinc*
			Concentrations in milligrams per kilogram (mg/kg)																				
Low-Threat Underground Storage Tank Case Closure Policy - Table 1[a] - Residential (0 to 5 fbg)			NE	NE	NE	1.9	NE	21	NE	NE	9.7	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Low-Threat Underground Storage Tank Case Closure Policy - Table 1[a] - Residential - Volatization to Outdoor Air (5 to 10 fbg)			NE	NE	NE	2.8	NE	32	NE	NE	9.7	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Low-Threat Underground Storage Tank Case Closure Policy - Table 1[a] - Utility Worker (0 to 10 fbg)			NE	NE	NE	14	NE	314	NE	NE	219	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
MW-4	10/27/10	3.5	16	220	1,400	<0.50	<0.50	1.1	0.96	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.40	<0.40	1.8[d] 0.81[g] 0.60[h] 1.2[e] 2.8[f]	2.0	55	18	46	1,200
MW-4	10/27/10	8.5	<5.0	18	270	<0.20	<0.20	0.61	1.4	<0.2	0.27	<2.0	<0.20	<0.20	<0.20	<0.16	<0.16	1.3[i] 0.25[f] 0.23[j]	<1.5	69	6.6	110	68
MW-4	10/27/10	13.5	<5.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	ND	<1.5	47	6.6	55	53
MW-4	10/27/10	18.5	<5.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	0.0051	<0.004	ND	<1.5	71	6.4	61	59
B-1	07/29/10	8	<5.0	33	43	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.10	<0.010	<0.010	<0.010	<0.0080	<0.0080	0.028[d] 0.021[h] 0.021[f]	--	--	--	--	--
B-1	07/29/10	14	5.1	710	420	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<0.80	<0.80	2.5[h] 2.8[e] 4.2[f]	--	--	--	--	--
B-1	07/29/10	20	<5.0	<1.0	<1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-2	07/29/10	8	<5.0	<1.0	<1.0	<0.023	<0.023	0.043	<0.023	<0.023	--	--	--	--	--	--	--	--	--	--	--	--	--
B-3	07/29/10	7	<5.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--
B-4	07/29/10	7	<5.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--
SV-2	07/29/10	5	1,500	370	420	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<2.0	<0.20	<0.20	<0.20	<0.16	<0.16	4.9[d] 0.27[g] 0.25[i] 0.86[h] 0.35[e] 1.8[f]	--	--	--	--	--
Test Pit Excavation																							
A	11/29/10	5.5	<5.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	ND	<1.5	34	8.3	28	26
A-W	12/01/10	4	<5.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	ND	<1.5	40	10	38	30
A-S	12/01/10	4	<5.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	ND	<1.5	49	11	39	32
A-E	12/01/10	4	<5.0	1.2	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	ND	<1.5	50	36	58	50
Test Pit Excavation																							
B	11/29/10	5	<5.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	0.085[k]	<1.5	45	160	33	35
B-W	11/29/10	3.5	<5.0	1.9	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	0.066[k]	<1.5	38	7.7	43	38
B-E	11/29/10	3.5	53	3.6	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	0.080[k]	<1.5	49.93	28	53	83
B-N	11/29/10	3.5	<5.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	0.068[k]	<1.5	48	6.7	59	50
P-A	11/30/10	2.5	<5.0	6.4	4.5	<0.005	<0.005	<0.005	<0.005	<0.005	0.068	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	0.0.091[k] 0.061[d] 0.016[h] 0.0056[e] 0.035[f]	<1.5	45	16	42	45
P-B	11/30/10	1	<5.0	3.1	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	0.083[k]	<1.5	35	64	49	1,800
P-C	11/30/10	2	<5.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	ND	<1.5	37	<5.0	35	26
P-D	11/30/10	2	<5.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	ND	<1.5	40	<5.0	42	27
P-E	11/30/10	2.5	22	2.2	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	ND	<1.5	36	8.0	41	530

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CUMULATIVE SOIL ANALYTICAL DATA
FORMER TEXACO SERVICE STATION 359766 (ED'S LIQUORS)
2700 23RD AVENUE
OAKLAND, CALIFORNIA

Location	*Date*	*Depth*	*TPHmo*	*TPHd*	*TPHg*	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylenes*	*MTBE*	*Naphthalene*	*TBA*	*DIPE*	*ETBE*	*TAME*	*1,2-DCA*	*EDB*	*Other VOCs*	*Cadmium*	*Chromium*	*Lead*	*Nickel*	*Zinc*
		feet	*Concentrations in milligrams per kilogram (mg/kg)*																				
Low-Threat Underground Storage Tank Case Closure Policy - Table 1 [a] - Residential (0 to 5 fbg)			NE	NE	NE	1.9	NE	21	NE	NE	9.7	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Low-Threat Underground Storage Tank Case Closure Policy - Table 1 [a] - Residential - Volatization to Outdoor Air (5 to 10 fbg)			NE	NE	NE	2.8	NE	32	NE	NE	9.7	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Low-Threat Underground Storage Tank Case Closure Policy - Table 1 [a] - Utility Worker (0 to 10 fbg)			NE	NE	NE	14	NE	314	NE	NE	219	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE

Abbreviations and Notes:

Bold = Concentration exceeds screening levels
NE = Not established
-- = Not analyzed
<x.xx or ND = Not detected above stated laboratory method detection limit x
fbg = Feet below grade
Total petroleum hydrocarbons as motor oil (TPHmo) by EPA Method 8015B
Total petroleum hydrocarbons as diesel (TPHd) analyzed by EPA Method 8015B
Total petroleum hydrocarbons as gasoline (TPHg) analyzed by EPA Method 8015B
Benzene, toluene, ethylbenzene and xylenes (BTEX) analyzed by EPA Method 8260B
Methyl tertiary butyl ether (MTBE), di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), 1,2 dichloroethane (1,2-DCA), 1,2-dibromoethane (EDB), tertiary butyl alcohol (TBA), naphthalene by EPA Method 8260B
Volatile Organic Compounds (VOCs) by EPA Method 8260B
Cadmium, chromium, lead, nickel, zinc by EPA Method 6010B
a = Table 1 - Concentration of Petroleum Constituents in Soil That Will Have No Significant Risk of Adversely Affecting Human Health,
Low-Threat Underground Storage Tank Case Closure Policy, California State Water Resource Control Board, August 17, 2012
b = The reverse surrogate, capric acid, is present at <1%
c = Reporting limits were raised due to interference from the sample matrix
d = n-butyl benzene
e = isopropylbenzene
f = n-propyl benzene
g = 4-isopropyl toluene
h = sec-butyl benzene
i = 1,2,4-trimethylbenzene
j = 1,3,5-trimethylbenzene
k = acetone

TABLE 2

POLYNUCLEAR AROMATIC HYDROCARBONS
SOIL ANALYTICAL DATA
FORMER TEXACO SERVICE STATION 359766 (ED'S LIQUORS)
2700 23RD AVENUE
OAKLAND, CALIFORNIA

Location	*Date*	*Depth (feet)*	*Acenaphthene*	*Acenaphthylene*	*Anthracene*	*Benzo(a)anthracene*	*Benzo(a)pyrene*	*Benzo(b)fluoranthene*	*Benzo(g,h,i)perylene*	*Benzo(k)fluoranthene*	*Chrysene*	*Dibenzo(a,h)anthracene*	*Fluoranthene*	*Fluorene*	*Indeno(1,2,3-cd)pyrene*	*1-Methylnaphthalene*	*2-Methylnaphthalene*	*Naphthalene*	*Phenanthrene*	*Pyrene*
			Concentrations in milligrams per kilogram (mg/kg)																	
Low-Threat Underground Storage Tank Case Closure Policy - Table 1 [a] - Residential (0 to 5 fbg)			NE	NE	NE	NE	0.063	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	9.7	NE	NE
Low-Threat Underground Storage Tank Case Closure Policy - Table 1 [a] - Residential - Volatization to Outdoor Air (5 to 10 fbg)			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	9.7	NE	NE
Low-Threat Underground Storage Tank Case Closure Policy - Table 1 [a] - Utility Worker (0 to 10 fbg)			NE	NE	NE	NE	4.5	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	219	NE	NE
VP-1	07/09/14	5	<0.00066	<0.00033	0.00046	0.0017	0.0018	0.0038	0.0011	0.0018	0.0032	<0.00066	0.0036	<0.00066	0.00077	--	--	0.00074	0.0016	0.0039
VP-2	07/09/14	5	<0.00066	<0.00033	<0.00033	0.00087	0.00089	0.0022	0.00082	0.00072	0.0015	<0.00066	0.0016	<0.00066	0.00075	--	--	0.014	0.00083	0.0016
B-5	07/08/14	5	<0.00067	<0.00033	<0.00033	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00033	<0.00067	<0.00067	<0.00067	<0.00067	--	--	<0.00067	<0.00067	<0.00067
B-5	07/08/14	10	<0.00067	<0.00033	<0.00033	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00033	<0.00067	<0.00067	<0.00067	<0.00067	--	--	<0.00067	<0.00067	<0.00067
B-5	07/08/14	15	<0.00066	<0.00033	<0.00033	<0.00066	<0.00066	<0.00066	<0.00066	<0.00066	<0.00033	<0.00066	<0.00066	<0.00066	<0.00066	--	--	<0.00066	<0.00066	<0.00066
B-5	07/08/14	20	<0.00066	<0.00033	<0.00033	<0.00066	<0.00066	<0.00066	<0.00066	<0.00066	<0.00033	<0.00066	<0.00066	<0.00066	<0.00066	--	--	<0.00066	<0.00066	<0.00066
B-6	07/08/14	5	0.0027	0.0014	0.0048	0.0065	0.0050	0.014	0.0018	0.0070	0.016	0.00078	0.029	0.011	0.0020	--	--	0.013	0.027	0.021
B-6	07/08/14	10	<0.00066	<0.00033	<0.00033	<0.00066	<0.00066	<0.00066	<0.00066	<0.00066	<0.00033	<0.00066	<0.00066	0.00093	<0.00066	--	--	0.029	<0.00066	<0.00066
B-6	07/08/14	15	<0.00066	<0.00033	<0.00033	<0.00066	<0.00066	<0.00066	<0.00066	<0.00066	<0.00033	<0.00066	<0.00066	<0.00066	<0.00066	--	--	0.0012	<0.00066	<0.00066
B-6	07/08/14	20	<0.00066	<0.00033	<0.00033	<0.00066	<0.00066	<0.00066	<0.00066	<0.00066	<0.00033	<0.00066	<0.00066	<0.00066	<0.00066	--	--	<0.00066	<0.00066	<0.00066
B-7	07/08/14	5	0.00083	0.0013	0.025	0.23	0.26	0.55	0.11	0.25	0.37	0.038	0.39	0.0040	0.12	--	--	0.16	0.057	0.34
B-7	07/08/14	10	<0.00067	<0.00033	<0.00033	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00033	<0.00067	<0.00067	<0.00067	<0.00067	--	--	0.0013	<0.00067	<0.00067
B-7	07/08/14	15	<0.00066	<0.00033	<0.00033	<0.00066	<0.00066	<0.00066	<0.00066	<0.00066	<0.00033	<0.00066	<0.00066	<0.00066	<0.00066	--	--	0.0011	<0.00066	<0.00066
B-7	07/08/14	20	<0.00067	<0.00033	<0.00033	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00033	<0.00067	<0.00067	<0.00067	<0.00067	--	--	<0.00067	<0.00067	<0.00067
B-8	07/08/14	5	<0.00066	<0.00033	<0.00033	0.0016	0.0017	0.0026	0.00070	0.00096	0.0019	<0.00066	0.0026	<0.00066	<0.00066	--	--	0.0014	0.0019	0.0036
B-8	07/08/14	10	<0.00066	<0.00033	<0.00033	<0.00066	<0.00066	0.0013	<0.00066	<0.00066	0.0016	<0.00066	0.0027	0.00078	<0.00066	--	--	0.0015	0.0024	0.0014
B-8	07/08/14	15	<0.00066	<0.00033	<0.00033	<0.00066	<0.00066	<0.00066	<0.00066	<0.00066	<0.00033	<0.00066	<0.00066	<0.00066	<0.00066	--	--	<0.00066	<0.00066	<0.00066
B-8	07/08/14	20	<0.00066	<0.00033	<0.00033	<0.00066	<0.00066	<0.00066	<0.00066	<0.00066	<0.00033	<0.00066	<0.00066	<0.00066	<0.00066	--	--	<0.00066	<0.00066	<0.00066
MW-4	10/27/10	3.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0057	0.0056	<0.005	0.30	0.75	<0.005	0.0063	0.0059

TABLE 2

POLYNUCLEAR AROMATIC HYDROCARBONS
SOIL ANALYTICAL DATA
FORMER TEXACO SERVICE STATION 359766 (ED'S LIQUORS)
2700 23RD AVENUE
OAKLAND, CALIFORNIA

Location	*Date*	*Depth (feet)*	*Acenaphthene*	*Acenaphthylene*	*Anthracene*	*Benzo(a)anthracene*	*Benzo(a)pyrene*	*Benzo(b)fluoranthene*	*Benzo(g,h,i)perylene*	*Benzo(k)fluoranthene*	*Chrysene*	*Dibenzo(a,h)anthracene*	*Fluoranthene*	*Fluorene*	*Indeno(1,2,3-cd)pyrene*	*1-Methylnaphthalene*	*2-Methylnaphthalene*	*Naphthalene*	*Phenanthrene*	*Pyrene*
			Concentrations in milligrams per kilogram (mg/kg)																	
Low-Threat Underground Storage Tank Case Closure Policy - Table 1 [a] - Residential (0 to 5 fbg)			NE	NE	NE	NE	0.063	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	9.7	NE	NE
Low-Threat Underground Storage Tank Case Closure Policy - Table 1 [a] - Residential - Volatization to Outdoor Air (5 to 10 fbg)			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	9.7	NE	NE
Low-Threat Underground Storage Tank Case Closure Policy - Table 1 [a] - Utility Worker (0 to 10 fbg)			NE	NE	NE	NE	4.5	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	219	NE	NE

Abbreviations and Notes:

Bold = Concentration exceeds ESL

NE = Not established

<x.xx or ND = Not detected above stated laboratory method detection limit x

fbg = Feet below grade

Polynuclear Aromatic Hydrocarbons analyzed by EPA Method SW8270C SIM

a = Table 1 - Concentration of Petroleum Constituents in Soil That Will Have No Significant Risk of Adversely Affecting Human Health, Low-Threat Underground Storage Tank Case Closure Policy, California State Water Resource Control Board, August 17, 2012

TABLE 3

CUMULATIVE GROUNDWATER ANALYTICAL DATA
FORMER TEXACO SERVICE STATION 359766 (ED'S LIQUORS)
2700 23RD AVENUE
OAKLAND, CALIFORNIA

Sample ID	*Date*	*TOC*	*DTW*	*GWE*	*TPHmo*	*TPHd*	*TPHg*	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylene*	*MTBE*	*Naphthalene*	*TBA*	*DIPE*	*ETBE*	*TAME*	*1,2-DCA*	*EDB*	*VOCs*
					Reported in micrograms per liter (µg/L)															
MW-1	11/18/10	168.84	7.93	160.91	<250	<50	<50	<0.5	<0.5	<0.5	<0.5	1.3	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	ND
MW-1	2/14/12	168.84	7.31	161.53	--	<50	<50	<0.50	<0.50	<0.50	<0.50	1.2	--	--	--	--	--	--	--	--
MW-2	11/18/10	170.33	7.52	162.81	<250	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	ND
MW-2	2/14/12	170.33	6.37	163.96	--	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--	--	--
MW-3	11/18/10	168.67	5.14	161.15	<250	2,100	3,700	<0.5	<0.5	<0.5	0.84	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	3.0[g] 0.68[d] 2.0[e] 2.2[h] 6.6[f]
MW-3	2/14/12	168.67	4.98	163.69	--	<1,500	3,400	<0.50	<0.50	1.2	<0.50	<0.50	--	--	--	--	--	--	--	--
MW-4	11/18/10	168.40	--	--	<250	2,800	26,000	2,800	1,500	550	3,100	<0.5	210	<200	<50	<50	<50	<50	<50	790[i] 210[j]
MW-4	2/14/12	168.40	6.45	161.95	--	<3,000	27,000	1,500	660	520	1,500	<5.0	--	--	--	--	--	--	--	--
B-1	7/29/10	--	--	--	21,000	36,000	61,000	<5.0	<5.0	<5.0	<5.0	<5.0	200	<20	<5.0	<5.0	<5.0	<5.0	<5.0	12[b] 11[b] 30[d] 80[e] 110[f]
B-2	7/29/10	--	--	--	60,000	4,000	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	ND

Abbreviations and Notes:

-- = Not analyzed
<x = Not detected above the method detection limit x.
Total purgeable petroleum hydrocarbons (TPPH) by EPA Method 8260B
Total petroleum hydrocarbons as motor oil (TPHmo), TPH as diesel (TPHd), and TPH as gasoline (TPHg) by modified EPA Method 8015B
Benzene, Toluene, Ethylbenzene, Xylenes by EPA Method 8260B
Methyl tertiary butyl ether (MTBE), di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), 1,2 dichloroethane (1,2-DCA), 1,2-dibromoethane (EDB), tertiary butyl alcohol (TBA), naphthalene by EPA Method 8260B
Volatile organic copmounds (VOCs) by EPA Method 8260B
a =
b = n-butyl benzene
c = 4-isopropyl toluene
d = Sec-butyl benzene
e = Isopropylbenzene
f = n-propyl benzene
g = 2-butanone
h = 4-methyl-2-pentanone
i = 1,2,4-trimethylbenzene
j = 1,3,5-trimethylbenzene

TABLE 4

CUMULATIVE SOIL GAS ANALYTICAL DATA
FORMER TEXACO STATION 359766 (ED'S LIQUORS)
2700 23RD AVENUE
OAKLAND, CALIFORNIA

Sample ID	Date	Sample Depth (fbg)	TPHg ($\mu g/m^3$)	Benzene ($\mu g/m^3$)	Toluene ($\mu g/m^3$)	Ethyl-benzene ($\mu g/m^3$)	m,p-Xylene ($\mu g/m^3$)	o-Xylene ($\mu g/m^3$)	MTBE ($\mu g/m^3$)	Naphthalene ($\mu g/m^3$)	Oxygen (% Vol)	N_2 (% Vol)	CO_2 (% Vol)	Methane (% Vol)	He (% Vol)
ESL Table E-3 Ambient and Indoor Air Screening Levels, Lowest Commercial/Industrial [a]			***1,200***	***0.42***	***1,300***	***0.97***	***440***	***440***	***47***	***0.36***	***NE***	***NE***	***NE***	***NE***	***NE***
LTCP Soil Gas Criteria - Commercial [b]			***NE***	***280***	***NE***	***3,600***	***NE***	***NE***	***NE***	***310***	***NE***	***NE***	***NE***	***NE***	***NE***
VP-1	07/14/14	4.5	2,100	9.0	34	11	35	13	<5.0	<29	8.5	85	6.7	<0.00028	<0.14
VP-1 DUP	07/14/14	4.5	2,200	7.6	140	11	37	16	<4.8	<28	8.6	85	6.5	<0.00027	<0.13
VP-2	07/14/14	4.5	740,000	79	<58	<67	89	<67	<56	<320	10	79	10	0.12	<0.19

Abbreviations/Notes:

Total petroleum hydrocarbons as gasoline (TPHg) by EPA Method TO-15 or EPA Method TO-15 SIM

Benzene, toluene, ethylbenzene, xylenes (BTEX), and methyl tertiary butyl ether (MTBE) by EPA Method TO-15 or EPA Method TO-15 SIM

Naphthalene by EPA Method TO-15 or EPA Method TO-15 SIM or EPA Method TO-17 (VI Tubes)

Oxygen, nitrogen (N_2), carbon dioxide (CO_2), methane, and helium (He) by ASTM D-1946.

fbg = Feet below grade.

Micrograms per cubic meter ($\mu g/m^3$).

Percent Volume (%).

<x = Not detected above stated laboratory method detection limit x.

-- = not analyzed or not applicable.

a = Environmental Screening Levels (ESLs) for shallow soil gas from Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater prepared by the California Regional Water Quality Control Board, San Francisco Bay Region Interim Final November 2007, revised May 2008, revised May 2013, Table E-3.

b = Low-Threat Underground Storage Tank Case Closure Policy - Soil Gas Criteria No Bioattenuation Zone - prepared by the California State Water Resources Control Board, August 17, 2012.

Bold = Concentration exceeds applicable screening levels.

TABLE 5

ALIPHATIC AND AROMATIC HYDROCARBON SOIL GAS ANALYTICAL DATA
FORMER TEXACO STATION 359766 (ED'S LIQUORS)
2700 23RD AVENUE
OAKLAND, CALIFORNIA

Location	Date	Depth	C5-C6 Aliphatic Hydrocarbons	>C6-C8 Aliphatic Hydrocarbons	>C8-C10 Aliphatic Hydrocarbons	>C10-C12 Aliphatic Hydrocarbons	>C8-C10 Aromatic Hydrocarbons	>C10-C12 Aromatic Hydrocarbons
Units		(fbg)	Concentrations in µg/m^3					
Shallow Soil Gas Criteria [a]								
LTCP Soil Gas Criteria - Commercial [a]			NE	NE	NE	NE	NE	NE
			NE	NE	NE	NE	NE	NE
VP-1	7/14/2014	4.5	<90	420	<160	290	<140	<150
VP-1 DUP	7/14/2014	4.5	<86	550	<150	680	<130	<140
VP-2	7/14/2014	4.5	3,000	180,000	190,000	81,000	<1,500	<1,700

Notes:

Aliphatic and Aromatic Hydrocarbon analyses by EPA Method TO-15 GC/MS Full Scan.

fbg = Feet below grade.

µg/m^3 = Micrograms per cubic meter

[a] = Low-Threat Underground Storage Tank Case Closure Policy - Soil Gas Criteria No Bioattenuation Zone - prepared by the California State Water Resources Board, August 17, 2012

NE = Not Established

<x = Not detected at reporting limit x.

-- = Not analyzed/not applicable.

TABLE 6

SENSITIVE RECEPTORS
FORMER TEXACO SERVICE STATION 359766 (ED'S LIQUORS)
2700 23RD AVENUE
OAKLAND, CALIFORNIA

*Receptor ID **	*Type (number at location)*	*Name*	*Address*	*City*	*Approximate Distance From Site (feet)*	*Direction from Site*
A	Irrigation Well	Salem Lutheran Home	2361 East 29th Street	Oakland	700	NE
A	Nursing Home	Salem Lutheran Home	2361 East 29th Street	Oakland	700	NE
B	School	Manazanita Community School	2409 E. 27th Street	Oakland	750	SE
C	Daycare	Eden Child Daycare	2935 21st Avenue	Oakland	1,200	NNW
D	Daycare	Tiny Tot Cooperative Nursery	2370 Grande Vista Place	Oakland	1,250	E
E	Cathodic Well	Pacific Gas & Electric	14th Ave and Vallecito St.	Oakland	2,000	NW
F	Hospital	Highland General Hospital	1411 E. 31st Street	Oakland	2,100	NW
G	Daycare	Redwood Day School	3245 Sheffield Avenue	Oakland	2,250	NE
H	Cathodic Well	East Bay Municiapl Utility District	Macarthur Blvd and Woodruff	Oakland	2,600	NNE

Notes/Abbreviations:
N = North
S = South
E = East
W = West
* = Locations shown on Figure 3

Appendix A

Regulatory Correspondences

Hernandez, Celina

From: Lee, Nathan
Sent: Monday, June 30, 2014 3:06 PM
To: Hernandez, Celina
Subject: FW: Fuel Leak Case RO3098 - Ed's Liquor Store, Geotracker Global ID T10000004218, 2700 23rd Avenue, Oakland, CA 94606

Nathan Lee, P.G.
Conestoga-Rovers & Associates (CRA)
2300 Clayton Road, Suite 920
Concord, CA 94520

Phone: 925.849.1003
Fax: 510.420.9170
Cell: 510.385.2499
Email: nlee@CRAworld.com

From: Detterman, Karel, Env. Health [mailto:Karel.Detterman@acgov.org]
Sent: Tuesday, June 24, 2014 6:35 PM
To: 'Fischer, Alexis N'
Cc: Roe, Dilan, Env. Health; Lee, Nathan
Subject: RE: Fuel Leak Case RO3098 - Ed's Liquor Store, Geotracker Global ID T10000004218, 2700 23rd Avenue, Oakland, CA 94606

Hello Alexis:

Alameda County Environmental Health (ACEH) staff has reviewed the case file including the *Site Conceptual Model and Gap Analysis Addendum* dated May 30, 2014, prepared and submitted on your behalf by Conestoga-Rovers & Associates (CRA). The work plan was submitted in response to a meeting with you and CRA on April 24, 2014. Thank you for submitting the Addendum.

Based on ACEH staff review of the work plan, the proposed scope of work is conditionally approved for implementation provided that the technical comment below is incorporated during the proposed work. Submittal of a revised work plan or a work plan addendum is not required unless an alternate scope of work outside that described in the work plan or these technical comments is proposed. We request that you address the following technical comments, perform the proposed work, and send us the report described below. Please provide 72-hour advance written notification to this office (e-mail preferred to:karel.detterman@acgov.org) prior to the start of field activities.

TECHNICAL COMMENTS

1. **Soil Vapor Testing:** Please ensure that the soil vapor sampling is conducted in accordance with the DTSC's *Advisory Active Soil Gas Investigations* dated April 2012.

TECHNICAL REPORT REQUEST

Please upload technical reports to the ACEH ftp site (Attention: Karel Detterman), and to the State Water Resources Control Board's Geotracker website, in accordance with the following specified file naming convention and schedule:

- **August 29, 2014 –** Soil and Groundwater Investigation Report
  File to be named: RO3098_SWI_R_yyyy-mm-dd

This report is being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

Thank you for your cooperation. Should you have any questions or concerns regarding this correspondence or your case, please send me an e-mail message at karel.detterman@acgov.org or call me at (510) 567-6708.

Karel Detterman, PG
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502
Direct: 510.567.6708
Fax: 510.337.9335
Email: karel.detterman@acgov.org

PDF copies of case files can be downloaded at:

http://www.acgov.org/aceh/lop/ust.htm

From: Fischer, Alexis N [mailto:AFischer@chevron.com]
Sent: Tuesday, June 24, 2014 9:15 AM
To: Detterman, Karel, Env. Health
Cc: Roe, Dilan, Env. Health; 'Lee, Nathan (nlee@craworld.com)'
Subject: RE: Fuel Leak Case RO3098 - Ed's Liquor Store, Geotracker Global ID T10000004218, 2700 23rd Avenue, Oakland, CA 94606

Thank you Karel.

From: Detterman, Karel, Env. Health [mailto:Karel.Detterman@acgov.org]
Sent: Monday, June 23, 2014 6:34 PM
To: Fischer, Alexis N
Cc: Roe, Dilan, Env. Health; 'Lee, Nathan (nlee@craworld.com)'
Subject: RE: Fuel Leak Case RO3098 - Ed's Liquor Store, Geotracker Global ID T10000004218, 2700 23rd Avenue, Oakland, CA 94606

Hi Alexis:

Dilan and I will be discussing this case tomorrow and I'll get back to you then.

Thanks,

Karel Detterman, PG
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502
Direct: 510.567.6708
Fax: 510.337.9335
Email: karel.detterman@acgov.org

PDF copies of case files can be downloaded at:

http://www.acgov.org/aceh/lop/ust.htm

From: Fischer, Alexis N [mailto:AFischer@chevron.com]
Sent: Monday, June 23, 2014 4:15 PM

To: Detterman, Karel, Env. Health
Cc: Roe, Dilan, Env. Health; 'Lee, Nathan (nlee@craworld.com)'
Subject: RE: Fuel Leak Case RO3098 - Ed's Liquor Store, Geotracker Global ID T10000004218, 2700 23rd Avenue, Oakland, CA 94606

Karel,

Hope you are doing well. Can you please advise as to your review of our e-mail below as soon as possible. In order to meet our current schedule as provided below, we would have to begin the initial field activities this week, on Friday, June 27, 2014.

Thank you,

Alexis N. Fischer

Property Specialist - Claims & Agreements - West

Chevron's Environmental Management Company - MBU

6101 Bollinger Canyon Road

San Ramon, Ca 94583

Direct Line: (925)790-6441 / Cell: (925)786-3760

AFischer@Chevron.com

From: Fischer, Alexis N
Sent: Friday, June 20, 2014 10:21 AM
To: 'Detterman, Karel, Env. Health'
Cc: Roe, Dilan, Env. Health; Lee, Nathan (nlee@craworld.com)
Subject: RE: Fuel Leak Case RO3098 - Ed's Liquor Store, Geotracker Global ID T10000004218, 2700 23rd Avenue, Oakland, CA 94606

Karel,

Thank you for your e-mail. Based on our meeting on April 24, 2014, and the urgency around the property owners request, CVX had agreed to expedite the updated work plan by May 31, 2014 which we submitted on May 30, 2014 and ACEH agreed to review and provide approval between June 15, 2014 and June 30, 2014, in order for Chevron to complete the field activities and report by August 31, 2014.

In order to complete the timeline that we set forth in the meeting, we have scheduled the field activities to be completed in the beginning of July 2014. That being stated, we will need approval to complete the work as agreed at the meeting.

With regards to the issue around permitting as communicated on the phone, the City of Oakland requires an encroachment permit for well installation and the process takes anywhere from approximately 6-8 weeks to complete. Based on our timeline, we wanted to ensure to communicate with you in advance as to the possibility of not being able to attain the off-site encroachment permit in time for the scheduled work.

That being stated, CVX is willing to complete the on-site work as documented in the workplan on our scheduled July 2014 dates and then subsequently complete the off-site well at a later time period, once the permit is received.

Please let me know if you have any questions or would like to discuss further.

Thank you,

Alexis N. Fischer

Property Specialist - Claims & Agreements - West

Chevron's Environmental Management Company - MBU

6101 Bollinger Canyon Road

San Ramon, Ca 94583

Direct Line: (925)790-6441 / Cell: (925)786-3760

AFischer@Chevron.com

From: Detterman, Karel, Env. Health [mailto:Karel.Detterman@acgov.org]
Sent: Thursday, June 19, 2014 9:48 AM
To: Fischer, Alexis N
Cc: Roe, Dilan, Env. Health
Subject: Re: Fuel Leak Case RO3098 - Ed's Liquor Store, Geotracker Global ID T10000004218, 2700 23rd Avenue, Oakland, CA 94606

Hi Alexis:

Thank you for your voice message yesterday – please can you send me an e-mail detailing the permitting issues for this site? It would help me to answer your questions faster as we are in a severe crunch period at the end of our fiscal years (6/30) and are quite inundated until 6/30.

Karel Detterman, PG
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502
Direct: 510.567.6708
Fax: 510.337.9335
Email: karel.detterman@acgov.org

PDF copies of case files can be downloaded at:

http://www.acgov.org/aceh/lop/ust.htm

Appendix B

Summary of Environmental Investigation and Remediation

SUMMARY OF ENVIRONMENTAL INVESTIGATION AND REMEDIATION

Former Texaco Service Station 359766

2700 23rd Avenue

Oakland, California

July 2010 Subsurface Investigation

Schutze & Associates, Inc. advanced four soil borings and installed four temporary soil gas vapor probes. Additional information is available in Schutze's *Phase II Subsurface Investigation Report* dated August 24, 2010.

October 2010 Subsurface Investigation

In October of 2010 Schutze & Associates, Inc. installed groundwater monitoring wells MW-1 through MW-4. A geophysical survey revealed a metallic utility line in the central area of the parking lot and miscellaneous debris at the southeast corner of the parking lot. In November 2010, these areas were excavated and the utility line and debris were removed. Additional information is available in Schutze's *Report: Summary of Previous Investigations, Installation and Sampling of Four Monitoring Wells, and Excavation of Test Pits, Soil Testing and Limited Soil Removal* dated March 16, 2011.

February 2012 Subsurface Investigation

In February 2012, Doulos Environmental, Inc (Doulos) advanced boring BH-1 on the southwest corner of the site to compare results from previous investigations. Doulos also collected groundwater samples from site monitoring wells MW-1 through MW-4. Additional information is available in Doulos' *Hydrolic Investigation*, dated March 8, 2012.

Appendix C

Boring Logs

Conestoga Rovers & Associates.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: 510-420-0700
Fax: 510-420-9170

BORING / WELL LOG

CLIENT NAME	Chevron Environmental Management Company	**BORING/WELL NAME**	B-5
JOB/SITE NAME	Former Texaco Station 359766 (Ed's Liquors)	**DRILLING STARTED**	08-Jul-14
LOCATION	2700 23rd Avenue, Oakland, California	**DRILLING COMPLETED**	08-Jul-14
PROJECT NUMBER	062086	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vapor Tech Services C-57 # 916085	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Direct Push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	3-Inch	**SCREENED INTERVALS**	NA
LOGGED BY	O. Yan	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	N. Lee, PG 8486	**DEPTH TO WATER (Static)**	NA
REMARKS	Utility cleared by hand auger to 8 fbg		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							ASPHALT	0.3	
							FILL: Sandy Gravel	1.0	
					CL		**CLAY:** Dark brown; dry; coarse sand; low plasticity.	2.5	
							Clayey SAND: Reddish brown; dry; coarse sand.		
0.1		B-5 @ 5'		5	SC				
								7.5	
							CLAY: Yellowish brown, reddish oxidation; dry; low plasticity.		
							@ 9 fbg: Wet		
0.0		B-5 @ 10'		10					Portland Type I/II
							@ 12 fbg: Moist		
					CL		@ 14 fbg: Dry		
0.0		B-1 @ 15		15					
0.0		B-1 @ 19.5		20				20.0	Bottom of Boring @ 20 fbg

WELL LOG (PID) I:\CHEVRON\0620--\062086-359766 OAKLAND\062086-BORING LOGS\062086-BORING LOGS.GPJ DEFAULT.GDT 7/30/14

Conestoga Rovers & Associates.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: 510-420-0700
Fax: 510-420-9170

BORING / WELL LOG

CLIENT NAME	Chevron Environmental Management Company	**BORING/WELL NAME**	B-6
JOB/SITE NAME	Former Texaco Station 359766 (Ed's Liquors)	**DRILLING STARTED**	08-Jul-14
LOCATION	2700 23rd Avenue, Oakland, California	**DRILLING COMPLETED**	08-Jul-14
PROJECT NUMBER	062086	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vapor Tech Services C-57 #916085	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Direct Push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	3-Inch	**SCREENED INTERVALS**	NA
LOGGED BY	O. Yan	**DEPTH TO WATER (First Encountered)**	NA ▽
REVIEWED BY	N. Lee, PG 8486	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Utility cleared by hand auger		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							ASPHALT	0.3	
							FILL: Sandy Gravel; dark brown; dry.		
								3.0	
							CLAY with sand: Black brown; moist; trace fine sand; low to medium plasticity.		
3.7		B-6 @ 5'		5			@ 4.5 fbg: Fine to coarse angular sand; medium plasticity		
							@ 6 fbg: Dark brown, white mottling; wet.		
							@ 7.5 fbg: Moist; low plasticity.		
8.0		B-6 @ 10'		10	CL		@ 9.5 fbg: Dry.		Portland Type I/II
0.2		B-6 @ 15'		15					
0.2		B-6 @ 20'		20				20.0	Bottom of Boring @ 20 fbg

WELL LOG (PID) I:\CHEVRON\0620--\062086-359766 OAKLAND\062086-BORING LOGS\062086-BORING LOGS.GPJ DEFAULT.GDT 7/30/14

Conestoga Rovers & Associates.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: 510-420-0700
Fax: 510-420-9170

BORING / WELL LOG

CLIENT NAME	Chevron Environmental Management Company	**BORING/WELL NAME**	B-7
JOB/SITE NAME	Former Texaco Station 359766 (Ed's Liquors)	**DRILLING STARTED**	08-Jul-14
LOCATION	2700 23rd Avenue, Oakland, California	**DRILLING COMPLETED**	08-Jul-14
PROJECT NUMBER	062086	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vapor Tech Services C-57 #916085	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Direct Push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	3-Inch	**SCREENED INTERVALS**	NA
LOGGED BY	O. Yan	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	N. Lee, PG 8486	**DEPTH TO WATER (Static)**	NA
REMARKS	Utility cleared by hand auger		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
				0			Asphalt	0.3	
							FILL: Sandy Gravel	1.0	
					CL		**CLAY:** Dark brown; moist; fine sand; low to medium plasticity.		
							@ 2 fbg: Reddish brown.		
							@ 4 fbg: Grayish discoloration		
23		B-7 @ 5'		5				6.0	
					SM		**Silty SAND:** Yellowish brown; moist; fine sand.	8.0	
							CLAY: Yellowish brown; dry; low to medium plasticity.		
0.3		B-7 @ 10'		10					Portland Type I/II
					CL				
0.2		B-7 @ 15'		15					
0.2		B-7 @ 20'		20				20.0	Bottom of Boring @ 20 fbg

WELL LOG (PID) I:\CHEVRON\0620--\062086-359766 OAKLAND\062086-BORING LOGS\062086-BORING LOGS.GPJ DEFAULT.GDT 7/30/14

Conestoga Rovers & Associates.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: 510-420-0700
Fax: 510-420-9170

BORING / WELL LOG

CLIENT NAME	Chevron Environmental Management Company	**BORING/WELL NAME**	B-8
JOB/SITE NAME	Former Texaco Station 359766 (Ed's Liquors)	**DRILLING STARTED**	08-Jul-14
LOCATION	2700 23rd Avenue, Oakland, California	**DRILLING COMPLETED**	08-Jul-14
PROJECT NUMBER	062086	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vapor Tech Services C-57 #916085	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Direct Push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	3-Inch	**SCREENED INTERVALS**	NA
LOGGED BY	O. Yan	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	N. Lee, PG 8486	**DEPTH TO WATER (Static)**	NA
REMARKS	Utility cleared by hand auger		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							Concrete	0.5	
							FILL: Sandy Gravel.	1.0	
							CLAY with sand: Brown; moist; fine sand; low plasticity.		
					CL		@ 4fbg: Yellowish brown.		
0.0		B-8 @ 5'		5					
							CLAY: Black; wet; medium plasticity.	6.0	
0.0		B-8 @ 10'		10			@ 9.5 fbg: Grayish brown; moist; fine to coarse sand; low to medium plasticity.		Portland Type I/II
					CL		@ 13 fbg: Yellowish brown; dry; medium plasticity.		
0.0		B-8 @ 15'		15					
0.0		B-8 @ 20'		20				20.0	Bottom of Boring @ 20 fbg

WELL LOG (PID) I:\CHEVRON\0620--\062086-359766 OAKLAND\062086-BORING LOGS\062086-BORING LOGS.GPJ DEFAULT.GDT 7/30/14

Conestoga Rovers & Associates.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: 510-420-0700
Fax: 510-420-9170

BORING / WELL LOG

CLIENT NAME	Chevron Environmental Management Company	**BORING/WELL NAME**	VP-1
JOB/SITE NAME	Former Texaco Station 359766 (Ed's Liquors)	**DRILLING STARTED**	09-Jul-14
LOCATION	2700 23rd Avenue, Oakland, California	**DRILLING COMPLETED**	09-Jul-14
PROJECT NUMBER	062086	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vapor Tech Services C-57 #916085	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Hand-Auger	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	3-Inch	**SCREENED INTERVALS**	NA
LOGGED BY	O. Yan	**DEPTH TO WATER (First Encountered)**	NA ▽
REVIEWED BY	N. Lee, PG 8486	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Utility cleared by hand auger		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							Asphalt	0.3	Concrete
							FILL: Sandy gravel; dry.	1.0	
					CL		**CLAY:** Dark brown; dry; fine sand; low plasticity.		Hydrated Bentonite Seal
0.2		VP-1 @ 5'		5			@ 4 fbg: Moist; medium plasticity.	5.0	Dry Granulated Bentonite Monterey Sand #2/12 Permeable Stainless Steel Filter Bottom of Boring @ 5 fbg

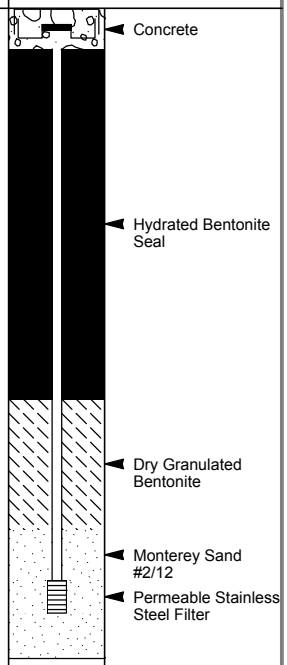
WELL LOG (PID) I:\CHEVRON\0620--\062086-359766 OAKLAND\062086-BORING LOGS\062086-BORING LOGS.GPJ DEFAULT.GDT 7/30/14

Conestoga Rovers & Associates.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: 510-420-0700
Fax: 510-420-9170

BORING / WELL LOG

CLIENT NAME	Chevron Environmental Management Company	**BORING/WELL NAME**	VP-2
JOB/SITE NAME	Former Texaco Station 359766 (Ed's Liquors)	**DRILLING STARTED**	09-Jul-14
LOCATION	2700 23rd Avenue, Oakland, California	**DRILLING COMPLETED**	09-Jul-14
PROJECT NUMBER	062086	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vapor Tech Servies C-57, #916085	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Hand-Auger	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	3-inch	**SCREENED INTERVALS**	NA
LOGGED BY	O. Yan	**DEPTH TO WATER (First Encountered)**	NA ▽
REVIEWED BY	N. Lee, PG 8486	**DEPTH TO WATER (Static)**	NA ▼
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)
							Asphalt	0.3
							FILL: Sandy Gravel.	1.0
					CL		**CLAY with sand:** Dark brown; dry; fine sand; low plasticity.	4.0
0.6		VP-2 @ 5'		5	CL		**CLAY:** Dark grayish brown; moist; medium plasticity.	5.0



Bottom of Boring @ 5 fbg

WELL LOG (PID) I:\CHEVRON\0620--\062086-359766 OAKLAND\062086-BORING LOGS\062086-BORING LOGS.GPJ DEFAULT.GDT 7/30/14

Appendix D

Permits

Alameda County Public Works Agency - Water Resources Well Permit

Public Works Agency
Alameda County

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

Application Approved on: 06/25/2014 By jamesy

Permit Numbers: W2014-0627 to W2014-0629
Permits Valid from 07/07/2014 to 07/10/2014

Application Id:	1402694388020	**City of Project Site:**	Oakland
Site Location:	2700 23rd Avenue, Oakland, California		
Project Start Date:	07/07/2014	**Completion Date:**	07/10/2014
Assigned Inspector:	Contact Steve Miller at (510) 670-5517 or stevem@acpwa.org		

Applicant:	Conestoga-Rovers & Associates - Oliver Yan 5900 Hollis Street, Suite A, Emeryville, CA 94608	**Phone:** 510-420-3372
Property Owner:	CHEVRON EMC 6101 Bollinger Canyon Road, San Ramon, CA 94583	**Phone:** --
Client:	CHEVRON EMC 6101 Bollinger Canyon Road, San Ramon, CA 94583	**Phone:** --
Contact:	Oliver Yan	**Phone:** -- **Cell:** 916-919-0467

Total Due: $927.00
Receipt Number: WR2014-0266 **Total Amount Paid:** $927.00
Payer Name : Conestoga-Rovers & Paid By: CHECK **PAID IN FULL**
Associates

Works Requesting Permits:

Borehole(s) for Investigation-Environmental/Monitorinig Study - 4 Boreholes
Driller: Vapor-Tech Services - Lic #: 916085 - Method: DP **Work Total: $265.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2014-0627	06/25/2014	10/05/2014	4	3.00 in.	20.00 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 assigned inspector listed on the top of the permit 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:
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.

Well Construction-Vapor monitoring well-Vapor monitoring well - 2 Wells
Driller: Vapor-Tech Services - Lic #: 916085 - Method: Hand **Work Total: $265.00**

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2014-0628	06/25/2014	10/05/2014	VP-1	3.00 in.	0.25 in.	4.00 ft	6.00 ft
W2014-0628	06/25/2014	10/05/2014	VP-2	3.00 in.	0.25 in.	4.00 ft	6.00 ft

Specific Work Permit Conditions

1. Drilling Permit(s) can be voided/ cancelled only in writing. It is the applicant's responsibility to notify Alameda County Public Works Agency, Water Resources Section in writing for an extension or to cancel the drilling permit application. No drilling permit application(s) shall be extended beyond ninety (90) days from the original start date. Applicants may not cancel a drilling permit application after the completion date of the permit issued has passed.

2. Compliance with the above well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate state reporting-requirements related to well destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days, including permit number and site map.

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. 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.

Alameda County Public Works Agency - Water Resources Well Permit

5. 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.

6. No changes in construction procedures or well type shall change, as described on this permit application. This permit may be voided if it contains incorrect information.

7. Applicant shall submit the copies of the approved encroachment permit to this office within 60 days.

8. Applicant shall contact assigned inspector listed on the top of the permit 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.

9. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.

10. 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.

11. Vapor monitoring wells above water level constructed with tubing maybe be backfilled with pancake-batter consistency bentonite. Minimum surface seal thickness is two inches of cement grout around well box.

Vapor monitoring wells above water level constructed with pvc pipe shall have a minimum seal depth (Neat Cement Seal) of 2 feet below ground surface (BGS). Minimum surface seal thickness is two inches of cement grout around well box. All other conditions for monitoring well construction shall apply.

Well Construction-Monitoring-Monitoring - 1 Wells

Driller: Vapor-Tech Services - Lic #: 916085 - Method: hstem **Work Total: $397.00**

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2014-0629	06/25/2014	10/05/2014	MW-5	8.00 in.	2.00 in.	13.00 ft	25.00 ft

Specific Work Permit Conditions

1. 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.

2. 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.

3. 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.

4. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well construction or destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Include permit number and site map.

5. Applicant shall submit the copies of the approved encroachment permit to this office within 60 days.

6. Applicant shall contact assigned inspector listed on the top of the permit 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.

7. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.

8. Minimum surface seal thickness is two inches of cement grout placed by tremie.

9. Minimum seal (Neat Cement seal) depth for monitoring wells is 5 feet below ground surface(BGS) or the maximum depth practicable or 20 feet.

10. 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.

Appendix E

Standard Field Procedures

STANDARD FIELD PROCEDURES FOR SOIL BORINGS

This document presents standard field methods for drilling and sampling soil borings and installing, developing and sampling groundwater monitoring wells. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

SOIL BORINGS

Objectives

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor or staining, and to collect samples for analysis at a State-certified laboratory. All borings are logged using the ASTM D2488-06 Unified Soil Classification System by a trained geologist working under the supervision of a California Professional Geologist (PG).

Soil Boring and Sampling

Prior to drilling, the first 8 feet of the boring are cleared using an air or water knife and vacuum extraction or hand auger. This minimizes the potential for impacting utilities. Soil borings are typically drilled using hollow-stem augers or direct-push technologies such as the Geoprobe®. Soil samples are collected at least every five ft to characterize the subsurface sediments and for possible chemical analysis. Additional soil samples are collected near the water table and at lithologic changes. Samples are collected using lined split-barrel or equivalent samplers driven into undisturbed sediments at the bottom of the borehole.

Drilling and sampling equipment is steam-cleaned prior to drilling and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

Sample Analysis

Sampling tubes chosen for analysis are trimmed of excess soil and capped with Teflon tape and plastic end caps. Soil samples are labeled and stored at or below 4° C on either crushed or dry ice, depending upon local regulations. Samples are transported under chain-of-custody to a State-certified analytic laboratory.

Field Screening

One of the remaining tubes is partially emptied leaving about one-third of the soil in the tube. The tube is capped with plastic end caps and set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable volatile vapor analyzer measures volatile hydrocarbon vapor concentrations in the tube headspace, extracting the vapor through a slit in the cap. Volatile vapor analyzer measurements are used along with the field observations, odors, stratigraphy and groundwater depth to select soil samples for analysis.

Water Sampling
Water samples, if they are collected from the boring, are either collected using a driven Hydropunch® type sampler or are collected from the open borehole using bailers. The groundwater samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory. Laboratory-supplied trip blanks accompany the samples and are analyzed to check for cross-contamination. An equipment blank may be analyzed if non-dedicated sampling equipment is used.

Grouting
If the borings are not completed as wells, the borings are filled to the ground surface with cement grout poured or pumped through a tremie pipe.

Waste Handling and Disposal
Soil cuttings from drilling activities are usually stockpiled onsite and covered by plastic sheeting. At least three individual soil samples are collected from the stockpiles and composited at the analytic laboratory. The composite sample is analyzed for the same constituents analyzed in the borehole samples in addition to any analytes required by the receiving disposal facility. Soil cuttings are transported by licensed waste haulers and disposed in secure, licensed facilities based on the composite analytic results.

Groundwater removed during development and sampling is typically stored onsite in sealed 55-gallon drums. Each drum is labeled with the drum number, date of generation, suspected contents, generator identification and consultant contact. Upon receipt of analytic results, the water is either pumped out using a vacuum truck for transport to a licensed waste treatment/disposal facility or the individual drums are picked up and transported to the waste facility where the drum contents are removed and appropriately disposed.

STANDARD FIELD PROCEDURES FOR
SOIL VAPOR PROBE INSTALLATION AND SAMPLING

This document describes Conestoga-Rovers & Associates' standard field procedures for soil vapor probe installation and sampling. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

Objectives

Soil vapor samples are collected and analyzed to assess whether vapor-phase subsurface contaminants pose a threat to human health or the environment.

Shallow Soil Vapor Probe Installation

The shallow soil vapor probe method for soil vapor sampling utilizes a hand auger or drill rig to advance a boring for the installation of a soil vapor sampling probe. Soil vapor probes facilitate the collection of in-situ vapor samples. Once the boring is advanced to the final depth, #2/12 filter pack is poured through a tremie pipe to fill the bottom 6 inches of the boring. A permeable, stainless-steel probe tip is connected to ¼-inch outside diameter Teflon tubing via a push-to-connect fitting. The probe tip is then placed approximately 6 inches from the bottom of the boring and covered by 6 inches of #2/16 filter sand. A 12 inch layer of dry granular bentonite is placed on top of the filter pack. Pre-hydrated granular bentonite is then poured to fill the borehole. The tube is labeled, capped, and placed within a traditional well box finished flush to grade. Soil vapor samples will be collected no sooner than 48 hours after installation of the soil vapor probe to allow adequate time for representative soil vapors to accumulate. Soil vapor sample collection will not be scheduled until after a minimum of three consecutive precipitation-free days and irrigation onsite has ceased.

Purging

At least three purge volumes of vapor are removed from the soil vapor probe prior to sampling. The purge volume is defined as the amount of air within the probe and tubing. Purging is performed using the vacuum of a dedicated Summa canister, a flow regulator set to the same flow rate used for sampling, and vacuum gauges. Immediately after purging, soil vapor samples will be collected using the appropriate size Summa canister with attached flow regulator and sediment filter.

Sampling Soil Vapor Probes

Samples collected using a SUMMA™ canister will have the SUMMA™ canister connected to the sampling tube of each vapor probe. Prior to collecting soil vapor samples, the initial vacuum of the canisters is measured and recorded on the chain-of-custody. The vacuum of the SUMMA™ canister is used to draw the soil vapor through the flow controller until a negative pressure of approximately 5 inches of mercury is observed on the vacuum gauge and recorded on the chain-of-custody. The flow controllers should be set to 100-200 milliliters per minute. Field duplicates should be collected for every day of sampling and/or for every 10 samples collected.

In accordance with the DTSC guidance document titled *Advisory-Active Soil Gas Investigations*, dated March 2010, leak testing is necessary during sampling. Helium is recommended, although shaving cream is acceptable. Helium is pumped into a shroud that contains the entire sampling apparatus and the soil vapor probe well vault. A helium meter is used to quantify the percentage helium in the shroud during sampling.

Samples collected for TO-17 analysis will be collected using a TO-17 Sorbent Tubes connected to the sampling tube of each vapor probe. A 60 cc syringe will be used to draw the sample into the sorbent tubes. Field duplicates should be collected for each day of sampling and/or for every 10 samples collected.

A leak test will be performed prior to connecting the sampling equipment to the vapor tubing. The test is performed by inserting the sorbent tube into the tube holder on the syringe assembly, turning the valve into the 'off' position, pulling the plunger of the syringe. If the plunger does not move or immediately returns to the starting position, the system is leak tight and is ready for sampling.

Vapor Sample Storage, Handling and Transport

Samples are stored and transported under chain-of-custody to a state-certified analytic laboratory. Samples should never be cooled due to the possibility of condensation within the canister.

Soil Vapor Probe Destruction

The soil vapor probes will be preserved until they are no longer needed for risk evaluation purposes. At that time, they will be destroyed by extracting the tubing, hand augering to remove the sand and bentonite, and backfilling the boring with neat cement. The boring will be patched with asphalt or concrete, as appropriate.

Appendix F

Laboratory Reports

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

July 23, 2014

Project: 359766

Submittal Date: 07/10/2014
Group Number: 1488037
PO Number: 0015152990
Release Number: FISCHER
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LL) #
B-5-S-5-140708 Grab Soil	7528677
B-5-S-10-140708 Grab Soil	7528678
B-5-S-15-140708 Grab Soil	7528679
B-5-S-20-140708 Grab Soil	7528680
B-6-S-5-140708 Grab Soil	7528681
B-6-S-10-140708 Grab Soil	7528682
B-6-S-15-140708 Grab Soil	7528683
B-6-S-20-140708 Grab Soil	7528684
B-7-S-5-140708 Grab Soil	7528685
B-7-S-10-140708 Grab Soil	7528686
B-7-S-15-140708 Grab Soil	7528687
B-7-S-20-140708 Grab Soil	7528688
B-8-S-5-140708 Grab Soil	7528689
B-8-S-10-140708 Grab Soil	7528690
B-8-S-15-140708 Grab Soil	7528691
B-8-S-20-140708 Grab Soil	7528692

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	Chevron	Attn: CRA EDD
ELECTRONIC COPY TO	CRA	Attn: Nathan Lee

Respectfully Submitted,

Natalie R. Luciano
Senior Specialist

(717) 556-7258

Sample Description: **B-5-S-5-140708 Grab Soil**
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528677
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 08:55 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O505

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	1.04
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	1.04
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	1.04
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	1.04
10237	Toluene	108-88-3	N.D.	0.001	0.005	1.04
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	1.04
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
10725	Acenaphthene	83-32-9	N.D.	0.00067	0.0017	1
10725	Acenaphthylene	208-96-8	N.D.	0.00033	0.0017	1
10725	Anthracene	120-12-7	N.D.	0.00033	0.0017	1
10725	Benzo(a)anthracene	56-55-3	N.D.	0.00067	0.0017	1
10725	Benzo(a)pyrene	50-32-8	N.D.	0.00067	0.0017	1
10725	Benzo(b)fluoranthene	205-99-2	N.D.	0.00067	0.0017	1
10725	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00067	0.0017	1
10725	Benzo(k)fluoranthene	207-08-9	N.D.	0.00067	0.0017	1
10725	Chrysene	218-01-9	N.D.	0.00033	0.0017	1
10725	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00067	0.0017	1
10725	Fluoranthene	206-44-0	N.D.	0.00067	0.0017	1
10725	Fluorene	86-73-7	N.D.	0.00067	0.0017	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00067	0.0017	1
10725	Naphthalene	91-20-3	N.D.	0.00067	0.0017	1
10725	Phenanthrene	85-01-8	N.D.	0.00067	0.0017	1
10725	Pyrene	129-00-0	N.D.	0.00067	0.0017	1
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1	1	24.11
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
02222	TPH-DRO soil C10-C28 w/Si Gel	n.a.	N.D.	4.0	12	1
	The reverse surrogate, capric acid, is present at <1%.					
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
12159	Motor Oil C16-C36 w/Si Gel	n.a.	N.D.	10	30	1
12159	Total TPH w/Si Gel	n.a.	N.D.	10	30	1
	TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The reverse surrogate, capric acid, is present at <1%.					
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06949	Cadmium	7440-43-9	0.432	0.0324	0.490	1
06951	Chromium	7440-47-3	64.5	0.108	1.47	1
06955	Lead	7439-92-1	4.28	0.490	1.47	1

*=This limit was used in the evaluation of the final result

Sample Description: B-5-S-5-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528677
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 08:55 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O505

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6010B**		mg/kg	mg/kg	mg/kg	
06961	Nickel	7440-02-0	47.7	0.147	0.980	1
06972	Zinc	7440-66-6	41.7	0.255	1.96	1

General Sample Comments

CA ELAP Lab Certification No. 2792; CA NELAP Lab Certification No. 10276CA

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/EDB/EDC 8260	SW-846 8260B	1	B141961AA	07/15/2014 17:36	Chelsea B Stong	1.04
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/11/2014 00:17	Scott W Freisher	n.a.
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	2	201419235051	07/11/2014 00:17	Scott W Freisher	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 22:32	Scott W Freisher	n.a.
10725	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	14195SLC026	07/16/2014 04:34	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	14195SLC026	07/15/2014 08:40	Katheryne V Sponheimer	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	14196A16A	07/15/2014 18:16	Marie D Beamenderfer	24.11
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 22:31	Scott W Freisher	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	141960027A	07/21/2014 19:16	Glorines Suarez-Rivera	1
12159	TPH Fuels soils w/Si Gel	SW-846 8015B modified	1	141960028A	07/22/2014 04:11	Heather E Williams	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3546	1	141960027A	07/16/2014 10:00	William H Saadeh	1
11218	TPH Fuels Soils Extraction	SW-846 3550B	1	141960028A	07/16/2014 10:00	William H Saadeh	1
06949	Cadmium	SW-846 6010B	1	141965708002	07/16/2014 20:34	Katlin N Cataldi	1
06951	Chromium	SW-846 6010B	1	141965708002	07/16/2014 20:34	Katlin N Cataldi	1
06955	Lead	SW-846 6010B	1	141965708002	07/16/2014 20:34	Katlin N Cataldi	1
06961	Nickel	SW-846 6010B	1	141965708002	07/16/2014 20:34	Katlin N Cataldi	1
06972	Zinc	SW-846 6010B	1	141965708002	07/16/2014 20:34	Katlin N Cataldi	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	141965708002	07/16/2014 06:48	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: B-5-S-10-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528678
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 09:00 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O510

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	1.04
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	1.04
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	1.04
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	1.04
10237	Toluene	108-88-3	N.D.	0.001	0.005	1.04
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	1.04
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
10725	Acenaphthene	83-32-9	N.D.	0.00067	0.0017	1
10725	Acenaphthylene	208-96-8	N.D.	0.00033	0.0017	1
10725	Anthracene	120-12-7	N.D.	0.00033	0.0017	1
10725	Benzo(a)anthracene	56-55-3	N.D.	0.00067	0.0017	1
10725	Benzo(a)pyrene	50-32-8	N.D.	0.00067	0.0017	1
10725	Benzo(b)fluoranthene	205-99-2	N.D.	0.00067	0.0017	1
10725	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00067	0.0017	1
10725	Benzo(k)fluoranthene	207-08-9	N.D.	0.00067	0.0017	1
10725	Chrysene	218-01-9	N.D.	0.00033	0.0017	1
10725	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00067	0.0017	1
10725	Fluoranthene	206-44-0	N.D.	0.00067	0.0017	1
10725	Fluorene	86-73-7	N.D.	0.00067	0.0017	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00067	0.0017	1
10725	Naphthalene	91-20-3	N.D.	0.00067	0.0017	1
10725	Phenanthrene	85-01-8	N.D.	0.00067	0.0017	1
10725	Pyrene	129-00-0	N.D.	0.00067	0.0017	1
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1	1	24.41
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
02222	TPH-DRO soil C10-C28 w/Si Gel	n.a.	N.D.	3.9	12	1
	The reverse surrogate, capric acid, is present at <1%.					
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
12159	Motor Oil C16-C36 w/Si Gel	n.a.	N.D.	9.9	30	1
12159	Total TPH w/Si Gel	n.a.	N.D.	9.9	30	1
	TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The reverse surrogate, capric acid, is present at <1%.					
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06949	Cadmium	7440-43-9	0.493	0.0330	0.500	1
06951	Chromium	7440-47-3	48.4	0.110	1.50	1
06955	Lead	7439-92-1	8.02	0.500	1.50	1

*=This limit was used in the evaluation of the final result

Sample Description: B-5-S-10-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528678
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 09:00 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O510

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6010B**		mg/kg	mg/kg	mg/kg	
06961	Nickel	7440-02-0	82.2	0.150	1.00	1
06972	Zinc	7440-66-6	57.8	0.260	2.00	1

General Sample Comments

CA ELAP Lab Certification No. 2792; CA NELAP Lab Certification No. 10276CA

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/EDB/EDC 8260	SW-846 8260B	1	B141961AA	07/15/2014 17:58	Chelsea B Stong	1.04
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/11/2014 00:17	Scott W Freisher	n.a.
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	2	201419235051	07/11/2014 00:17	Scott W Freisher	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 22:38	Scott W Freisher	n.a.
10725	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	14195SLC026	07/16/2014 05:08	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	14195SLC026	07/15/2014 08:40	Katheryne V Sponheimer	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	14196A16A	07/15/2014 18:54	Marie D Beamenderfer	24.41
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 22:37	Scott W Freisher	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	141960027A	07/21/2014 20:00	Glorines Suarez-Rivera	1
12159	TPH Fuels soils w/Si Gel	SW-846 8015B modified	1	141960028A	07/22/2014 05:18	Heather E Williams	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3546	1	141960027A	07/16/2014 10:00	William H Saadeh	1
11218	TPH Fuels Soils Extraction	SW-846 3550B	1	141960028A	07/16/2014 10:00	William H Saadeh	1
06949	Cadmium	SW-846 6010B	1	141965708002	07/16/2014 20:38	Katlin N Cataldi	1
06951	Chromium	SW-846 6010B	1	141965708002	07/16/2014 20:38	Katlin N Cataldi	1
06955	Lead	SW-846 6010B	1	141965708002	07/16/2014 20:38	Katlin N Cataldi	1
06961	Nickel	SW-846 6010B	1	141965708002	07/16/2014 20:38	Katlin N Cataldi	1
06972	Zinc	SW-846 6010B	1	141965708002	07/16/2014 20:38	Katlin N Cataldi	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	141965708002	07/16/2014 06:48	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: B-5-S-15-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528679
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 09:05 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O515

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.98
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.98
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.98
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.98
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.98
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.98
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
10725	Acenaphthene	83-32-9	N.D.	0.00066	0.0017	1
10725	Acenaphthylene	208-96-8	N.D.	0.00033	0.0017	1
10725	Anthracene	120-12-7	N.D.	0.00033	0.0017	1
10725	Benzo(a)anthracene	56-55-3	N.D.	0.00066	0.0017	1
10725	Benzo(a)pyrene	50-32-8	N.D.	0.00066	0.0017	1
10725	Benzo(b)fluoranthene	205-99-2	N.D.	0.00066	0.0017	1
10725	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00066	0.0017	1
10725	Benzo(k)fluoranthene	207-08-9	N.D.	0.00066	0.0017	1
10725	Chrysene	218-01-9	N.D.	0.00033	0.0017	1
10725	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00066	0.0017	1
10725	Fluoranthene	206-44-0	N.D.	0.00066	0.0017	1
10725	Fluorene	86-73-7	N.D.	0.00066	0.0017	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00066	0.0017	1
10725	Naphthalene	91-20-3	N.D.	0.00066	0.0017	1
10725	Phenanthrene	85-01-8	N.D.	0.00066	0.0017	1
10725	Pyrene	129-00-0	N.D.	0.00066	0.0017	1
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1.1	1.1	26.6
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
02222	TPH-DRO soil C10-C28 w/Si Gel	n.a.	N.D.	4.0	12	1
	The reverse surrogate, capric acid, is present at <1%.					
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
12159	Motor Oil C16-C36 w/Si Gel	n.a.	N.D.	10	30	1
12159	Total TPH w/Si Gel	n.a.	N.D.	10	30	1
	TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The reverse surrogate, capric acid, is present at <1%.					
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06949	Cadmium	7440-43-9	0.570	0.0314	0.476	1
06951	Chromium	7440-47-3	45.0	0.105	1.43	1
06955	Lead	7439-92-1	7.48	0.476	1.43	1

*=This limit was used in the evaluation of the final result

Sample Description: B-5-S-15-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528679
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 09:05 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O515

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6010B**		mg/kg	mg/kg	mg/kg	
06961	Nickel	7440-02-0	79.8	0.143	0.952	1
06972	Zinc	7440-66-6	53.2	0.248	1.90	1

General Sample Comments

CA ELAP Lab Certification No. 2792; CA NELAP Lab Certification No. 10276CA

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/EDB/EDC 8260	SW-846 8260B	1	B141961AA	07/15/2014 18:21	Chelsea B Stong	0.98
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/11/2014 00:18	Scott W Freisher	n.a.
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	2	201419235051	07/11/2014 00:18	Scott W Freisher	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 22:45	Scott W Freisher	n.a.
10725	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	14195SLC026	07/16/2014 05:41	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	14195SLC026	07/15/2014 08:40	Katheryne V Sponheimer	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	14196A16A	07/15/2014 19:31	Marie D Beamenderfer	26.6
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 22:44	Scott W Freisher	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	141960027A	07/21/2014 20:22	Glorines Suarez-Rivera	1
12159	TPH Fuels soils w/Si Gel	SW-846 8015B modified	1	141960028A	07/22/2014 05:41	Heather E Williams	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3546	1	141960027A	07/16/2014 10:00	William H Saadeh	1
11218	TPH Fuels Soils Extraction	SW-846 3550B	1	141960028A	07/16/2014 10:00	William H Saadeh	1
06949	Cadmium	SW-846 6010B	1	141965708002	07/16/2014 20:42	Katlin N Cataldi	1
06951	Chromium	SW-846 6010B	1	141965708002	07/16/2014 20:42	Katlin N Cataldi	1
06955	Lead	SW-846 6010B	1	141965708002	07/16/2014 20:42	Katlin N Cataldi	1
06961	Nickel	SW-846 6010B	1	141965708002	07/16/2014 20:42	Katlin N Cataldi	1
06972	Zinc	SW-846 6010B	1	141965708002	07/16/2014 20:42	Katlin N Cataldi	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	141965708002	07/16/2014 06:48	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: B-5-S-20-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528680
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 09:20 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O520

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.99
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.99
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.99
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.99
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.99
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.99
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
10725	Acenaphthene	83-32-9	N.D.	0.00066	0.0017	1
10725	Acenaphthylene	208-96-8	N.D.	0.00033	0.0017	1
10725	Anthracene	120-12-7	N.D.	0.00033	0.0017	1
10725	Benzo(a)anthracene	56-55-3	N.D.	0.00066	0.0017	1
10725	Benzo(a)pyrene	50-32-8	N.D.	0.00066	0.0017	1
10725	Benzo(b)fluoranthene	205-99-2	N.D.	0.00066	0.0017	1
10725	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00066	0.0017	1
10725	Benzo(k)fluoranthene	207-08-9	N.D.	0.00066	0.0017	1
10725	Chrysene	218-01-9	N.D.	0.00033	0.0017	1
10725	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00066	0.0017	1
10725	Fluoranthene	206-44-0	N.D.	0.00066	0.0017	1
10725	Fluorene	86-73-7	N.D.	0.00066	0.0017	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00066	0.0017	1
10725	Naphthalene	91-20-3	N.D.	0.00066	0.0017	1
10725	Phenanthrene	85-01-8	N.D.	0.00066	0.0017	1
10725	Pyrene	129-00-0	N.D.	0.00066	0.0017	1
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1.0	1.0	25.61
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
02222	TPH-DRO soil C10-C28 w/Si Gel	n.a.	N.D.	4.0	12	1
	The reverse surrogate, capric acid, is present at <1%.					
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
12159	Motor Oil C16-C36 w/Si Gel	n.a.	N.D.	10	30	1
12159	Total TPH w/Si Gel	n.a.	N.D.	10	30	1
	TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The reverse surrogate, capric acid, is present at <1%.					
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06949	Cadmium	7440-43-9	0.229	0.0320	0.485	1
06951	Chromium	7440-47-3	48.5	0.107	1.46	1
06955	Lead	7439-92-1	10.6	0.485	1.46	1

*=This limit was used in the evaluation of the final result

Sample Description: B-5-S-20-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528680
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 09:20 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O520

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6010B**		mg/kg	mg/kg	mg/kg	
06961	Nickel	7440-02-0	56.7	0.146	0.971	1
06972	Zinc	7440-66-6	44.5	0.252	1.94	1

General Sample Comments

CA ELAP Lab Certification No. 2792; CA NELAP Lab Certification No. 10276CA

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/EDB/EDC 8260	SW-846 8260B	1	B141961AA	07/15/2014 18:43	Chelsea B Stong	0.99
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/11/2014 00:18	Scott W Freisher	n.a.
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	2	201419235051	07/11/2014 00:18	Scott W Freisher	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 22:51	Scott W Freisher	n.a.
10725	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	14195SLC026	07/16/2014 06:14	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	14195SLC026	07/15/2014 08:40	Katheryne V Sponheimer	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	14196A16A	07/15/2014 20:09	Marie D Beamenderfer	25.61
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 22:50	Scott W Freisher	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	141960027A	07/21/2014 20:44	Glorines Suarez-Rivera	1
12159	TPH Fuels soils w/Si Gel	SW-846 8015B modified	1	141960028A	07/22/2014 06:03	Heather E Williams	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3546	1	141960027A	07/16/2014 10:00	William H Saadeh	1
11218	TPH Fuels Soils Extraction	SW-846 3550B	1	141960028A	07/16/2014 10:00	William H Saadeh	1
06949	Cadmium	SW-846 6010B	1	141975708003	07/17/2014 15:37	Katlin N Cataldi	1
06951	Chromium	SW-846 6010B	1	141975708003	07/17/2014 15:37	Katlin N Cataldi	1
06955	Lead	SW-846 6010B	1	141975708003	07/17/2014 15:37	Katlin N Cataldi	1
06961	Nickel	SW-846 6010B	1	141975708003	07/17/2014 15:37	Katlin N Cataldi	1
06972	Zinc	SW-846 6010B	1	141975708003	07/17/2014 15:37	Katlin N Cataldi	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	141975708003	07/17/2014 07:25	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: B-6-S-5-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528681
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 12:40 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O605

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	1.02
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	1.02
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	1.02
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	1.02
10237	Toluene	108-88-3	N.D.	0.001	0.005	1.02
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	1.02
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
10725	Acenaphthene	83-32-9	0.0027	0.00066	0.0017	1
10725	Acenaphthylene	208-96-8	0.0014	0.00033	0.0017	1
10725	Anthracene	120-12-7	0.0048	0.00033	0.0017	1
10725	Benzo(a)anthracene	56-55-3	0.0065	0.00066	0.0017	1
10725	Benzo(a)pyrene	50-32-8	0.0050	0.00066	0.0017	1
10725	Benzo(b)fluoranthene	205-99-2	0.014	0.00066	0.0017	1
10725	Benzo(g,h,i)perylene	191-24-2	0.0018	0.00066	0.0017	1
10725	Benzo(k)fluoranthene	207-08-9	0.0070	0.00066	0.0017	1
10725	Chrysene	218-01-9	0.016	0.00033	0.0017	1
10725	Dibenz(a,h)anthracene	53-70-3	0.00078	0.00066	0.0017	1
10725	Fluoranthene	206-44-0	0.029	0.00066	0.0017	1
10725	Fluorene	86-73-7	0.011	0.00066	0.0017	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	0.0020	0.00066	0.0017	1
10725	Naphthalene	91-20-3	0.013	0.00066	0.0017	1
10725	Phenanthrene	85-01-8	0.027	0.00066	0.0017	1
10725	Pyrene	129-00-0	0.021	0.00066	0.0017	1
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	22	4.0	4.0	100.3
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
02222	TPH-DRO soil C10-C28 w/Si Gel	n.a.	N.D.	4.0	12	1
	The reverse surrogate, capric acid, is present at <1%.					
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
12159	Motor Oil C16-C36 w/Si Gel	n.a.	N.D.	9.9	30	1
12159	Total TPH w/Si Gel	n.a.	N.D.	9.9	30	1
	TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The reverse surrogate, capric acid, is present at <1%.					
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06949	Cadmium	7440-43-9	0.0913	0.0320	0.485	1
06951	Chromium	7440-47-3	31.9	0.107	1.46	1
06955	Lead	7439-92-1	9.78	0.485	1.46	1

*=This limit was used in the evaluation of the final result

Sample Description: **B-6-S-5-140708 Grab Soil**
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528681
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 12:40 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O605

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6010B**		mg/kg	mg/kg	mg/kg	
06961	Nickel	7440-02-0	36.7	0.146	0.971	1
06972	Zinc	7440-66-6	22.0	0.252	1.94	1

General Sample Comments

CA ELAP Lab Certification No. 2792; CA NELAP Lab Certification No. 10276CA

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/EDB/EDC 8260	SW-846 8260B	1	B141991AA	07/19/2014 00:22	Sara E Johnson	1.02
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/11/2014 00:18	Scott W Freisher	n.a.
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	2	201419235051	07/11/2014 00:18	Scott W Freisher	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 22:58	Scott W Freisher	n.a.
10725	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	14195SLC026	07/18/2014 09:37	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	14195SLC026	07/15/2014 08:40	Katheryne V Sponheimer	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	14196A16A	07/16/2014 07:29	Marie D Beamenderfer	100.3
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 22:57	Scott W Freisher	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	141960027A	07/21/2014 21:06	Glorines Suarez-Rivera	1
12159	TPH Fuels soils w/Si Gel	SW-846 8015B modified	1	141960028A	07/22/2014 06:26	Heather E Williams	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3546	1	141960027A	07/16/2014 10:00	William H Saadeh	1
11218	TPH Fuels Soils Extraction	SW-846 3550B	1	141960028A	07/16/2014 10:00	William H Saadeh	1
06949	Cadmium	SW-846 6010B	1	141975708003	07/17/2014 15:41	Katlin N Cataldi	1
06951	Chromium	SW-846 6010B	1	141975708003	07/17/2014 15:41	Katlin N Cataldi	1
06955	Lead	SW-846 6010B	1	141975708003	07/17/2014 15:41	Katlin N Cataldi	1
06961	Nickel	SW-846 6010B	1	141975708003	07/17/2014 15:41	Katlin N Cataldi	1
06972	Zinc	SW-846 6010B	1	141975708003	07/17/2014 15:41	Katlin N Cataldi	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	141975708003	07/17/2014 07:25	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: B-6-S-10-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528682
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 12:55 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O610

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.028	0.28	55.19
10237	1,2-Dibromoethane	106-93-4	N.D.	0.055	0.28	55.19
10237	1,2-Dichloroethane	107-06-2	N.D.	0.055	0.28	55.19
10237	Ethylbenzene	100-41-4	N.D.	0.055	0.28	55.19
10237	Toluene	108-88-3	N.D.	0.055	0.28	55.19
10237	Xylene (Total)	1330-20-7	N.D.	0.055	0.28	55.19
	Reporting limits were raised due to interference from the sample matrix.					
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
10725	Acenaphthene	83-32-9	N.D.	0.00066	0.0017	1
10725	Acenaphthylene	208-96-8	N.D.	0.00033	0.0017	1
10725	Anthracene	120-12-7	N.D.	0.00033	0.0017	1
10725	Benzo(a)anthracene	56-55-3	N.D.	0.00066	0.0017	1
10725	Benzo(a)pyrene	50-32-8	N.D.	0.00066	0.0017	1
10725	Benzo(b)fluoranthene	205-99-2	N.D.	0.00066	0.0017	1
10725	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00066	0.0017	1
10725	Benzo(k)fluoranthene	207-08-9	N.D.	0.00066	0.0017	1
10725	Chrysene	218-01-9	N.D.	0.00033	0.0017	1
10725	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00066	0.0017	1
10725	Fluoranthene	206-44-0	N.D.	0.00066	0.0017	1
10725	Fluorene	86-73-7	0.00093	0.00066	0.0017	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00066	0.0017	1
10725	Naphthalene	91-20-3	0.029	0.00066	0.0017	1
10725	Phenanthrene	85-01-8	N.D.	0.00066	0.0017	1
10725	Pyrene	129-00-0	N.D.	0.00066	0.0017	1
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	130	9.9	9.9	247.28
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
02222	TPH-DRO soil C10-C28 w/Si Gel	n.a.	33	4.0	12	1
	The reverse surrogate, capric acid, is present at <1%.					
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
12159	Motor Oil C16-C36 w/Si Gel	n.a.	N.D.	10	30	1
12159	Total TPH w/Si Gel	n.a.	N.D.	10	30	1
	TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. Due to the presence of fuel in the sample extract, capric acid recovery can not be determined.					
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06949	Cadmium	7440-43-9	0.0455	0.0327	0.495	1
06951	Chromium	7440-47-3	60.7	0.109	1.49	1

*=This limit was used in the evaluation of the final result

Sample Description: B-6-S-10-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528682
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 12:55 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O610

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6010B**		mg/kg	mg/kg	mg/kg	
06955	Lead	7439-92-1	9.00	0.495	1.49	1
06961	Nickel	7440-02-0	57.1	0.149	0.990	1
06972	Zinc	7440-66-6	51.2	0.257	1.98	1

General Sample Comments

CA ELAP Lab Certification No. 2792; CA NELAP Lab Certification No. 10276CA

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/EDB/EDC 8260	SW-846 8260B	1	R141972AA	07/16/2014 15:03	Sarah A Guill	55.19
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/11/2014 00:18	Scott W Freisher	n.a.
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	2	201419235051	07/11/2014 00:18	Scott W Freisher	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 23:05	Scott W Freisher	n.a.
10725	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	14195SLC026	07/16/2014 06:47	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	14195SLC026	07/15/2014 08:40	Katheryne V Sponheimer	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	14196A16A	07/16/2014 08:07	Marie D Beamenderfer	247.28
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 23:04	Scott W Freisher	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	141960027A	07/21/2014 21:28	Glorines Suarez-Rivera	1
12159	TPH Fuels soils w/Si Gel	SW-846 8015B modified	1	141960028A	07/22/2014 06:49	Heather E Williams	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3546	1	141960027A	07/16/2014 10:00	William H Saadeh	1
11218	TPH Fuels Soils Extraction	SW-846 3550B	1	141960028A	07/16/2014 10:00	William H Saadeh	1
06949	Cadmium	SW-846 6010B	1	141995708001	07/21/2014 03:19	Tara L Snyder	1
06951	Chromium	SW-846 6010B	1	141995708001	07/21/2014 03:19	Tara L Snyder	1
06955	Lead	SW-846 6010B	1	141995708001	07/21/2014 03:19	Tara L Snyder	1
06961	Nickel	SW-846 6010B	1	141995708001	07/21/2014 03:19	Tara L Snyder	1
06972	Zinc	SW-846 6010B	1	141995708001	07/21/2014 03:19	Tara L Snyder	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	141995708001	07/20/2014 10:43	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: B-6-S-15-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528683
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 13:00 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O615

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.99
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.99
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.99
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.99
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.99
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.99
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
10725	Acenaphthene	83-32-9	N.D.	0.00066	0.0017	1
10725	Acenaphthylene	208-96-8	N.D.	0.00033	0.0017	1
10725	Anthracene	120-12-7	N.D.	0.00033	0.0017	1
10725	Benzo(a)anthracene	56-55-3	N.D.	0.00066	0.0017	1
10725	Benzo(a)pyrene	50-32-8	N.D.	0.00066	0.0017	1
10725	Benzo(b)fluoranthene	205-99-2	N.D.	0.00066	0.0017	1
10725	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00066	0.0017	1
10725	Benzo(k)fluoranthene	207-08-9	N.D.	0.00066	0.0017	1
10725	Chrysene	218-01-9	N.D.	0.00033	0.0017	1
10725	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00066	0.0017	1
10725	Fluoranthene	206-44-0	N.D.	0.00066	0.0017	1
10725	Fluorene	86-73-7	N.D.	0.00066	0.0017	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00066	0.0017	1
10725	Naphthalene	91-20-3	0.0012	0.00066	0.0017	1
10725	Phenanthrene	85-01-8	N.D.	0.00066	0.0017	1
10725	Pyrene	129-00-0	N.D.	0.00066	0.0017	1
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1.0	1.0	25.91
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
02222	TPH-DRO soil C10-C28 w/Si Gel	n.a.	N.D.	3.9	12	1
	The reverse surrogate, capric acid, is present at <1%.					
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
12159	Motor Oil C16-C36 w/Si Gel	n.a.	N.D.	9.9	30	1
12159	Total TPH w/Si Gel	n.a.	N.D.	9.9	30	1
	TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The reverse surrogate, capric acid, is present at <1%.					
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06949	Cadmium	7440-43-9	0.372	0.0330	0.500	1
06951	Chromium	7440-47-3	59.6	0.110	1.50	1
06955	Lead	7439-92-1	10.6	0.500	1.50	1

*=This limit was used in the evaluation of the final result

Sample Description: **B-6-S-15-140708 Grab Soil**
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528683
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 13:00 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O615

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6010B**		mg/kg	mg/kg	mg/kg	
06961	Nickel	7440-02-0	65.2	0.150	1.00	1
06972	Zinc	7440-66-6	59.7	0.260	2.00	1

General Sample Comments

CA ELAP Lab Certification No. 2792; CA NELAP Lab Certification No. 10276CA

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/EDB/EDC 8260	SW-846 8260B	1	B141961AA	07/15/2014 19:05	Chelsea B Stong	0.99
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/11/2014 00:18	Scott W Freisher	n.a.
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	2	201419235051	07/11/2014 00:18	Scott W Freisher	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 23:09	Scott W Freisher	n.a.
10725	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	14195SLC026	07/16/2014 07:21	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	14195SLC026	07/15/2014 08:40	Katheryne V Sponheimer	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	14196A16A	07/15/2014 20:47	Marie D Beamenderfer	25.91
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 23:09	Scott W Freisher	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	141960027A	07/21/2014 22:07	Glorines Suarez-Rivera	1
12159	TPH Fuels soils w/Si Gel	SW-846 8015B modified	1	141960028A	07/22/2014 07:11	Heather E Williams	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3546	1	141960027A	07/16/2014 10:00	William H Saadeh	1
11218	TPH Fuels Soils Extraction	SW-846 3550B	1	141960028A	07/16/2014 10:00	William H Saadeh	1
06949	Cadmium	SW-846 6010B	1	141975708003	07/17/2014 15:52	Katlin N Cataldi	1
06951	Chromium	SW-846 6010B	1	141975708003	07/17/2014 15:52	Katlin N Cataldi	1
06955	Lead	SW-846 6010B	1	141975708003	07/17/2014 15:52	Katlin N Cataldi	1
06961	Nickel	SW-846 6010B	1	141975708003	07/17/2014 15:52	Katlin N Cataldi	1
06972	Zinc	SW-846 6010B	1	141975708003	07/17/2014 15:52	Katlin N Cataldi	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	141975708003	07/17/2014 07:25	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: B-6-S-20-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528684
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 13:05 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O620

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.97
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.97
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.97
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.97
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.97
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.97
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
10725	Acenaphthene	83-32-9	N.D.	0.00066	0.0016	1
10725	Acenaphthylene	208-96-8	N.D.	0.00033	0.0016	1
10725	Anthracene	120-12-7	N.D.	0.00033	0.0016	1
10725	Benzo(a)anthracene	56-55-3	N.D.	0.00066	0.0016	1
10725	Benzo(a)pyrene	50-32-8	N.D.	0.00066	0.0016	1
10725	Benzo(b)fluoranthene	205-99-2	N.D.	0.00066	0.0016	1
10725	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00066	0.0016	1
10725	Benzo(k)fluoranthene	207-08-9	N.D.	0.00066	0.0016	1
10725	Chrysene	218-01-9	N.D.	0.00033	0.0016	1
10725	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00066	0.0016	1
10725	Fluoranthene	206-44-0	N.D.	0.00066	0.0016	1
10725	Fluorene	86-73-7	N.D.	0.00066	0.0016	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00066	0.0016	1
10725	Naphthalene	91-20-3	N.D.	0.00066	0.0016	1
10725	Phenanthrene	85-01-8	N.D.	0.00066	0.0016	1
10725	Pyrene	129-00-0	N.D.	0.00066	0.0016	1
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1.0	1.0	25.48
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
02222	TPH-DRO soil C10-C28 w/Si Gel	n.a.	N.D.	4.0	12	1
	The reverse surrogate, capric acid, is present at <1%.					
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
12159	Motor Oil C16-C36 w/Si Gel	n.a.	N.D.	10	30	1
12159	Total TPH w/Si Gel	n.a.	N.D.	10	30	1
	TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The reverse surrogate, capric acid, is present at <1%.					
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06949	Cadmium	7440-43-9	0.319	0.0330	0.500	1
06951	Chromium	7440-47-3	44.7	0.110	1.50	1
06955	Lead	7439-92-1	10.4	0.500	1.50	1

*=This limit was used in the evaluation of the final result

Sample Description: B-6-S-20-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528684
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 13:05 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O620

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6010B**		mg/kg	mg/kg	mg/kg	
06961	Nickel	7440-02-0	50.6	0.150	1.00	1
06972	Zinc	7440-66-6	47.2	0.260	2.00	1

General Sample Comments

CA ELAP Lab Certification No. 2792; CA NELAP Lab Certification No. 10276CA

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/EDB/EDC 8260	SW-846 8260B	1	B141961AA	07/15/2014 19:27	Chelsea B Stong	0.97
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/11/2014 00:18	Scott W Freisher	n.a.
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	2	201419235051	07/11/2014 00:18	Scott W Freisher	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 23:14	Scott W Freisher	n.a.
10725	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	14195SLC026	07/16/2014 07:54	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	14195SLC026	07/15/2014 08:40	Katheryne V Sponheimer	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	14197A16A	07/16/2014 20:03	Marie D Beamenderfer	25.48
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 23:14	Scott W Freisher	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	141960027A	07/21/2014 22:29	Glorines Suarez-Rivera	1
12159	TPH Fuels soils w/Si Gel	SW-846 8015B modified	1	141960028A	07/22/2014 07:34	Heather E Williams	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3546	1	141960027A	07/16/2014 10:00	William H Saadeh	1
11218	TPH Fuels Soils Extraction	SW-846 3550B	1	141960028A	07/16/2014 10:00	William H Saadeh	1
06949	Cadmium	SW-846 6010B	1	141975708003	07/17/2014 15:55	Katlin N Cataldi	1
06951	Chromium	SW-846 6010B	1	141975708003	07/17/2014 15:55	Katlin N Cataldi	1
06955	Lead	SW-846 6010B	1	141975708003	07/17/2014 15:55	Katlin N Cataldi	1
06961	Nickel	SW-846 6010B	1	141975708003	07/17/2014 15:55	Katlin N Cataldi	1
06972	Zinc	SW-846 6010B	1	141975708003	07/17/2014 15:55	Katlin N Cataldi	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	141975708003	07/17/2014 07:25	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: B-7-S-5-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528685
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 10:07 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O705

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	0.086	0.027	0.27	54.95
10237	1,2-Dibromoethane	106-93-4	N.D.	0.055	0.27	54.95
10237	1,2-Dichloroethane	107-06-2	N.D.	0.055	0.27	54.95
10237	Ethylbenzene	100-41-4	0.24	0.055	0.27	54.95
10237	Toluene	108-88-3	N.D.	0.055	0.27	54.95
10237	Xylene (Total)	1330-20-7	0.84	0.055	0.27	54.95
	Reporting limits were raised due to interference from the sample matrix.					
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
10725	Acenaphthene	83-32-9	0.00083	0.00066	0.0016	1
10725	Acenaphthylene	208-96-8	0.0013	0.00033	0.0016	1
10725	Anthracene	120-12-7	0.025	0.00033	0.0016	1
10725	Benzo(a)anthracene	56-55-3	0.23	0.00066	0.0016	1
10725	Benzo(a)pyrene	50-32-8	0.26	0.00066	0.0016	1
10725	Benzo(b)fluoranthene	205-99-2	0.55	0.0066	0.016	10
10725	Benzo(g,h,i)perylene	191-24-2	0.11	0.00066	0.0016	1
10725	Benzo(k)fluoranthene	207-08-9	0.25	0.00066	0.0016	1
10725	Chrysene	218-01-9	0.37	0.0033	0.016	10
10725	Dibenz(a,h)anthracene	53-70-3	0.038	0.00066	0.0016	1
10725	Fluoranthene	206-44-0	0.39	0.0066	0.016	10
10725	Fluorene	86-73-7	0.0040	0.00066	0.0016	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	0.12	0.00066	0.0016	1
10725	Naphthalene	91-20-3	0.16	0.00066	0.0016	1
10725	Phenanthrene	85-01-8	0.057	0.00066	0.0016	1
10725	Pyrene	129-00-0	0.34	0.0066	0.016	10
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	130	21	21	524.66
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
02222	TPH-DRO soil C10-C28 w/Si Gel	n.a.	10	4.0	12	1
	The reverse surrogate, capric acid, is present at <1%.					
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
12159	Motor Oil C16-C36 w/Si Gel	n.a.	N.D.	10	30	1
12159	Total TPH w/Si Gel	n.a.	N.D.	10	30	1
	TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The reverse surrogate, capric acid, is present at <1%.					
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06949	Cadmium	7440-43-9	0.201	0.0317	0.481	1
06951	Chromium	7440-47-3	90.0	0.106	1.44	1

*=This limit was used in the evaluation of the final result

Sample Description: B-7-S-5-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528685
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 10:07 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O705

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6010B**		mg/kg	mg/kg	mg/kg	
06955	Lead	7439-92-1	16.9	0.481	1.44	1
06961	Nickel	7440-02-0	40.1	0.144	0.962	1
06972	Zinc	7440-66-6	58.5	0.250	1.92	1

General Sample Comments

CA ELAP Lab Certification No. 2792; CA NELAP Lab Certification No. 10276CA

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/EDB/EDC 8260	SW-846 8260B	1	R141972AA	07/16/2014 15:25	Sarah A Guill	54.95
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/11/2014 00:18	Scott W Freisher	n.a.
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	2	201419235051	07/11/2014 00:18	Scott W Freisher	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 23:20	Scott W Freisher	n.a.
10725	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	14195SLC026	07/18/2014 09:04	Mark A Clark	10
10725	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	14195SLC026	07/18/2014 10:10	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	14195SLC026	07/15/2014 08:40	Katheryne V Sponheimer	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	14197A16A	07/17/2014 02:21	Marie D Beamenderfer	524.66
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 23:19	Scott W Freisher	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	141960027A	07/21/2014 22:51	Glorines Suarez-Rivera	1
12159	TPH Fuels soils w/Si Gel	SW-846 8015B modified	1	141960028A	07/22/2014 07:56	Heather E Williams	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3546	1	141960027A	07/16/2014 10:00	William H Saadeh	1
11218	TPH Fuels Soils Extraction	SW-846 3550B	1	141960028A	07/16/2014 10:00	William H Saadeh	1
06949	Cadmium	SW-846 6010B	1	141975708003	07/17/2014 15:15	Katlin N Cataldi	1
06951	Chromium	SW-846 6010B	1	141975708003	07/17/2014 15:15	Katlin N Cataldi	1
06955	Lead	SW-846 6010B	1	141975708003	07/17/2014 15:15	Katlin N Cataldi	1
06961	Nickel	SW-846 6010B	1	141975708003	07/17/2014 15:15	Katlin N Cataldi	1
06972	Zinc	SW-846 6010B	1	141975708003	07/17/2014 15:15	Katlin N Cataldi	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	141975708003	07/17/2014 07:25	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: B-7-S-10-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528686
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 10:30 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O710

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	1.04
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	1.04
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	1.04
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	1.04
10237	Toluene	108-88-3	N.D.	0.001	0.005	1.04
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	1.04
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
10725	Acenaphthene	83-32-9	N.D.	0.00067	0.0017	1
10725	Acenaphthylene	208-96-8	N.D.	0.00033	0.0017	1
10725	Anthracene	120-12-7	N.D.	0.00033	0.0017	1
10725	Benzo(a)anthracene	56-55-3	N.D.	0.00067	0.0017	1
10725	Benzo(a)pyrene	50-32-8	N.D.	0.00067	0.0017	1
10725	Benzo(b)fluoranthene	205-99-2	N.D.	0.00067	0.0017	1
10725	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00067	0.0017	1
10725	Benzo(k)fluoranthene	207-08-9	N.D.	0.00067	0.0017	1
10725	Chrysene	218-01-9	N.D.	0.00033	0.0017	1
10725	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00067	0.0017	1
10725	Fluoranthene	206-44-0	N.D.	0.00067	0.0017	1
10725	Fluorene	86-73-7	N.D.	0.00067	0.0017	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00067	0.0017	1
10725	Naphthalene	91-20-3	0.0013	0.00067	0.0017	1
10725	Phenanthrene	85-01-8	N.D.	0.00067	0.0017	1
10725	Pyrene	129-00-0	N.D.	0.00067	0.0017	1
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1.0	1.0	25.67
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
02222	TPH-DRO soil C10-C28 w/Si Gel	n.a.	N.D.	4.0	12	1
	The reverse surrogate, capric acid, is present at <1%.					
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
12159	Motor Oil C16-C36 w/Si Gel	n.a.	N.D.	10	30	1
12159	Total TPH w/Si Gel	n.a.	N.D.	10	30	1
	TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The reverse surrogate, capric acid, is present at <1%.					
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06949	Cadmium	7440-43-9	0.298	0.0314	0.476	1
06951	Chromium	7440-47-3	50.6	0.105	1.43	1
06955	Lead	7439-92-1	10.3	0.476	1.43	1

*=This limit was used in the evaluation of the final result

Sample Description: **B-7-S-10-140708 Grab Soil**
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528686
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 10:30 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O710

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6010B**		mg/kg	mg/kg	mg/kg	
06961	Nickel	7440-02-0	64.7	0.143	0.952	1
06972	Zinc	7440-66-6	54.0	0.248	1.90	1

General Sample Comments

CA ELAP Lab Certification No. 2792; CA NELAP Lab Certification No. 10276CA

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/EDB/EDC 8260	SW-846 8260B	1	B141961AA	07/15/2014 19:50	Chelsea B Stong	1.04
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/11/2014 00:18	Scott W Freisher	n.a.
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	2	201419235051	07/11/2014 00:18	Scott W Freisher	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 23:24	Scott W Freisher	n.a.
10725	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	14195SLC026	07/16/2014 08:27	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	14195SLC026	07/15/2014 08:40	Katheryne V Sponheimer	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	14197A16A	07/16/2014 20:41	Marie D Beamenderfer	25.67
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 23:24	Scott W Freisher	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	141960027A	07/21/2014 23:13	Glorines Suarez-Rivera	1
12159	TPH Fuels soils w/Si Gel	SW-846 8015B modified	1	141960028A	07/22/2014 08:19	Heather E Williams	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3546	1	141960027A	07/16/2014 10:00	William H Saadeh	1
11218	TPH Fuels Soils Extraction	SW-846 3550B	1	141960028A	07/16/2014 10:00	William H Saadeh	1
06949	Cadmium	SW-846 6010B	1	141975708003	07/17/2014 15:59	Katlin N Cataldi	1
06951	Chromium	SW-846 6010B	1	141975708003	07/17/2014 15:59	Katlin N Cataldi	1
06955	Lead	SW-846 6010B	1	141975708003	07/17/2014 15:59	Katlin N Cataldi	1
06961	Nickel	SW-846 6010B	1	141975708003	07/17/2014 15:59	Katlin N Cataldi	1
06972	Zinc	SW-846 6010B	1	141975708003	07/17/2014 15:59	Katlin N Cataldi	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	141975708003	07/17/2014 07:25	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: B-7-S-15-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528687
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 10:35 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O715

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.99
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.99
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.99
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.99
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.99
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.99
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
10725	Acenaphthene	83-32-9	N.D.	0.00066	0.0016	1
10725	Acenaphthylene	208-96-8	N.D.	0.00033	0.0016	1
10725	Anthracene	120-12-7	N.D.	0.00033	0.0016	1
10725	Benzo(a)anthracene	56-55-3	N.D.	0.00066	0.0016	1
10725	Benzo(a)pyrene	50-32-8	N.D.	0.00066	0.0016	1
10725	Benzo(b)fluoranthene	205-99-2	N.D.	0.00066	0.0016	1
10725	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00066	0.0016	1
10725	Benzo(k)fluoranthene	207-08-9	N.D.	0.00066	0.0016	1
10725	Chrysene	218-01-9	N.D.	0.00033	0.0016	1
10725	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00066	0.0016	1
10725	Fluoranthene	206-44-0	N.D.	0.00066	0.0016	1
10725	Fluorene	86-73-7	N.D.	0.00066	0.0016	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00066	0.0016	1
10725	Naphthalene	91-20-3	0.0011	0.00066	0.0016	1
10725	Phenanthrene	85-01-8	N.D.	0.00066	0.0016	1
10725	Pyrene	129-00-0	N.D.	0.00066	0.0016	1
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1	1	24.04
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
02222	TPH-DRO soil C10-C28 w/Si Gel	n.a.	N.D.	3.9	12	1
	The reverse surrogate, capric acid, is present at <1%.					
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
12159	Motor Oil C16-C36 w/Si Gel	n.a.	N.D.	9.8	30	1
12159	Total TPH w/Si Gel	n.a.	N.D.	9.8	30	1
	TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The reverse surrogate, capric acid, is present at <1%.					
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06949	Cadmium	7440-43-9	0.292	0.0330	0.500	1
06951	Chromium	7440-47-3	69.9	0.110	1.50	1
06955	Lead	7439-92-1	12.2	0.500	1.50	1

*=This limit was used in the evaluation of the final result

Sample Description: B-7-S-15-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528687
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 10:35 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O715

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6010B**		mg/kg	mg/kg	mg/kg	
06961	Nickel	7440-02-0	57.5	0.150	1.00	1
06972	Zinc	7440-66-6	60.5	0.260	2.00	1

General Sample Comments

CA ELAP Lab Certification No. 2792; CA NELAP Lab Certification No. 10276CA

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/EDB/EDC 8260	SW-846 8260B	1	B141961AA	07/15/2014 20:12	Chelsea B Stong	0.99
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/11/2014 00:18	Scott W Freisher	n.a.
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	2	201419235051	07/11/2014 00:18	Scott W Freisher	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 23:34	Scott W Freisher	n.a.
10725	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	14195SLC026	07/16/2014 09:01	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	14195SLC026	07/15/2014 08:40	Katheryne V Sponheimer	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	14197A16A	07/16/2014 21:18	Marie D Beamenderfer	24.04
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 23:34	Scott W Freisher	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	141970021A	07/22/2014 19:17	Glorines Suarez-Rivera	1
12159	TPH Fuels soils w/Si Gel	SW-846 8015B modified	1	141970020A	07/21/2014 22:53	Heather E Williams	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3546	1	141970021A	07/17/2014 10:00	Katheryne V Sponheimer	1
11218	TPH Fuels Soils Extraction	SW-846 3550B	1	141970020A	07/17/2014 10:00	Katheryne V Sponheimer	1
06949	Cadmium	SW-846 6010B	1	141975708003	07/17/2014 16:03	Katlin N Cataldi	1
06951	Chromium	SW-846 6010B	1	141975708003	07/17/2014 16:03	Katlin N Cataldi	1
06955	Lead	SW-846 6010B	1	141975708003	07/17/2014 16:03	Katlin N Cataldi	1
06961	Nickel	SW-846 6010B	1	141975708003	07/17/2014 16:03	Katlin N Cataldi	1
06972	Zinc	SW-846 6010B	1	141975708003	07/17/2014 16:03	Katlin N Cataldi	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	141975708003	07/17/2014 07:25	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: B-7-S-20-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528688
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 10:40 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O720

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.96
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.96
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.96
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.96
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.96
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.96
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
10725	Acenaphthene	83-32-9	N.D.	0.00067	0.0017	1
10725	Acenaphthylene	208-96-8	N.D.	0.00033	0.0017	1
10725	Anthracene	120-12-7	N.D.	0.00033	0.0017	1
10725	Benzo(a)anthracene	56-55-3	N.D.	0.00067	0.0017	1
10725	Benzo(a)pyrene	50-32-8	N.D.	0.00067	0.0017	1
10725	Benzo(b)fluoranthene	205-99-2	N.D.	0.00067	0.0017	1
10725	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00067	0.0017	1
10725	Benzo(k)fluoranthene	207-08-9	N.D.	0.00067	0.0017	1
10725	Chrysene	218-01-9	N.D.	0.00033	0.0017	1
10725	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00067	0.0017	1
10725	Fluoranthene	206-44-0	N.D.	0.00067	0.0017	1
10725	Fluorene	86-73-7	N.D.	0.00067	0.0017	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00067	0.0017	1
10725	Naphthalene	91-20-3	N.D.	0.00067	0.0017	1
10725	Phenanthrene	85-01-8	N.D.	0.00067	0.0017	1
10725	Pyrene	129-00-0	N.D.	0.00067	0.0017	1
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1	1	24.61
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
02222	TPH-DRO soil C10-C28 w/Si Gel	n.a.	N.D.	3.9	12	1
	The reverse surrogate, capric acid, is present at <1%.					
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
12159	Motor Oil C16-C36 w/Si Gel	n.a.	N.D.	9.9	30	1
12159	Total TPH w/Si Gel	n.a.	N.D.	9.9	30	1
	TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The reverse surrogate, capric acid, is present at <1%.					
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06949	Cadmium	7440-43-9	0.323	0.0327	0.495	1
06951	Chromium	7440-47-3	52.0	0.109	1.49	1
06955	Lead	7439-92-1	12.3	0.495	1.49	1

*=This limit was used in the evaluation of the final result

Sample Description: B-7-S-20-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528688
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 10:40 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O720

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6010B**		mg/kg	mg/kg	mg/kg	
06961	Nickel	7440-02-0	69.2	0.149	0.990	1
06972	Zinc	7440-66-6	61.5	0.257	1.98	1

General Sample Comments

CA ELAP Lab Certification No. 2792; CA NELAP Lab Certification No. 10276CA

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/EDB/EDC 8260	SW-846 8260B	1	B141972AA	07/17/2014 00:21	Sara E Johnson	0.96
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/11/2014 00:18	Scott W Freisher	n.a.
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	2	201419235051	07/11/2014 00:18	Scott W Freisher	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 23:38	Scott W Freisher	n.a.
10725	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	14195SLC026	07/16/2014 09:35	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	14195SLC026	07/15/2014 08:40	Katheryne V Sponheimer	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	14197A16A	07/16/2014 21:56	Marie D Beamenderfer	24.61
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 23:41	Scott W Freisher	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	141970021A	07/22/2014 11:31	Glorines Suarez-Rivera	1
12159	TPH Fuels soils w/Si Gel	SW-846 8015B modified	1	141970020A	07/22/2014 00:01	Heather E Williams	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3546	1	141970021A	07/17/2014 10:00	Katheryne V Sponheimer	1
11218	TPH Fuels Soils Extraction	SW-846 3550B	1	141970020A	07/17/2014 10:00	Katheryne V Sponheimer	1
06949	Cadmium	SW-846 6010B	1	141975708003	07/17/2014 16:06	Katlin N Cataldi	1
06951	Chromium	SW-846 6010B	1	141975708003	07/17/2014 16:06	Katlin N Cataldi	1
06955	Lead	SW-846 6010B	1	141975708003	07/17/2014 16:06	Katlin N Cataldi	1
06961	Nickel	SW-846 6010B	1	141975708003	07/17/2014 16:06	Katlin N Cataldi	1
06972	Zinc	SW-846 6010B	1	141975708003	07/17/2014 16:06	Katlin N Cataldi	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	141975708003	07/17/2014 07:25	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: B-8-S-5-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528689
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 14:05 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O805

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	1.01
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	1.01
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	1.01
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	1.01
10237	Toluene	108-88-3	N.D.	0.001	0.005	1.01
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	1.01
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
10725	Acenaphthene	83-32-9	N.D.	0.00066	0.0017	1
10725	Acenaphthylene	208-96-8	N.D.	0.00033	0.0017	1
10725	Anthracene	120-12-7	N.D.	0.00033	0.0017	1
10725	Benzo(a)anthracene	56-55-3	0.0016	0.00066	0.0017	1
10725	Benzo(a)pyrene	50-32-8	0.0017	0.00066	0.0017	1
10725	Benzo(b)fluoranthene	205-99-2	0.0026	0.00066	0.0017	1
10725	Benzo(g,h,i)perylene	191-24-2	0.00070	0.00066	0.0017	1
10725	Benzo(k)fluoranthene	207-08-9	0.00096	0.00066	0.0017	1
10725	Chrysene	218-01-9	0.0019	0.00033	0.0017	1
10725	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00066	0.0017	1
10725	Fluoranthene	206-44-0	0.0026	0.00066	0.0017	1
10725	Fluorene	86-73-7	N.D.	0.00066	0.0017	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00066	0.0017	1
10725	Naphthalene	91-20-3	0.0014	0.00066	0.0017	1
10725	Phenanthrene	85-01-8	0.0019	0.00066	0.0017	1
10725	Pyrene	129-00-0	0.0036	0.00066	0.0017	1
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1	1	23.88
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
02222	TPH-DRO soil C10-C28 w/Si Gel	n.a.	N.D.	4.0	12	1
	The reverse surrogate, capric acid, is present at <1%.					
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
12159	Motor Oil C16-C36 w/Si Gel	n.a.	N.D.	10	30	1
12159	Total TPH w/Si Gel	n.a.	N.D.	10	30	1
	TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The reverse surrogate, capric acid, is present at <1%.					
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06949	Cadmium	7440-43-9	0.146	0.0320	0.485	1
06951	Chromium	7440-47-3	30.0	0.107	1.46	1
06955	Lead	7439-92-1	12.7	0.485	1.46	1

*=This limit was used in the evaluation of the final result

Sample Description: B-8-S-5-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528689
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 14:05 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O805

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6010B**		mg/kg	mg/kg	mg/kg	
06961	Nickel	7440-02-0	28.5	0.146	0.971	1
06972	Zinc	7440-66-6	24.3	0.252	1.94	1

General Sample Comments

CA ELAP Lab Certification No. 2792; CA NELAP Lab Certification No. 10276CA

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/EDB/EDC 8260	SW-846 8260B	1	B141972AA	07/17/2014 00:43	Sara E Johnson	1.01
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/11/2014 00:18	Scott W Freisher	n.a.
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	2	201419235051	07/11/2014 00:18	Scott W Freisher	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 23:46	Scott W Freisher	n.a.
10725	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	14195SLC026	07/16/2014 10:08	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	14195SLC026	07/15/2014 08:40	Katheryne V Sponheimer	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	14197A16A	07/16/2014 22:34	Marie D Beamenderfer	23.88
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 23:45	Scott W Freisher	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	141970021A	07/22/2014 11:53	Glorines Suarez-Rivera	1
12159	TPH Fuels soils w/Si Gel	SW-846 8015B modified	1	141970020A	07/22/2014 00:24	Heather E Williams	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3546	1	141970021A	07/17/2014 10:00	Katheryne V Sponheimer	1
11218	TPH Fuels Soils Extraction	SW-846 3550B	1	141970020A	07/17/2014 10:00	Katheryne V Sponheimer	1
06949	Cadmium	SW-846 6010B	1	141975708003	07/17/2014 16:10	Katlin N Cataldi	1
06951	Chromium	SW-846 6010B	1	141975708003	07/17/2014 16:10	Katlin N Cataldi	1
06955	Lead	SW-846 6010B	1	141975708003	07/17/2014 16:10	Katlin N Cataldi	1
06961	Nickel	SW-846 6010B	1	141975708003	07/17/2014 16:10	Katlin N Cataldi	1
06972	Zinc	SW-846 6010B	1	141975708003	07/17/2014 16:10	Katlin N Cataldi	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	141975708003	07/17/2014 07:25	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: B-8-S-10-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528690
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 14:30 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O810

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.99
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.99
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.99
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.99
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.99
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.99
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
10725	Acenaphthene	83-32-9	N.D.	0.00066	0.0017	1
10725	Acenaphthylene	208-96-8	N.D.	0.00033	0.0017	1
10725	Anthracene	120-12-7	N.D.	0.00033	0.0017	1
10725	Benzo(a)anthracene	56-55-3	N.D.	0.00066	0.0017	1
10725	Benzo(a)pyrene	50-32-8	N.D.	0.00066	0.0017	1
10725	Benzo(b)fluoranthene	205-99-2	0.0013	0.00066	0.0017	1
10725	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00066	0.0017	1
10725	Benzo(k)fluoranthene	207-08-9	N.D.	0.00066	0.0017	1
10725	Chrysene	218-01-9	0.0016	0.00033	0.0017	1
10725	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00066	0.0017	1
10725	Fluoranthene	206-44-0	0.0027	0.00066	0.0017	1
10725	Fluorene	86-73-7	0.00078	0.00066	0.0017	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00066	0.0017	1
10725	Naphthalene	91-20-3	0.0015	0.00066	0.0017	1
10725	Phenanthrene	85-01-8	0.0024	0.00066	0.0017	1
10725	Pyrene	129-00-0	0.0014	0.00066	0.0017	1
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1	1	23.95
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
02222	TPH-DRO soil C10-C28 w/Si Gel	n.a.	N.D.	4.0	12	1
	The reverse surrogate, capric acid, is present at <1%.					
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
12159	Motor Oil C16-C36 w/Si Gel	n.a.	N.D.	10	30	1
12159	Total TPH w/Si Gel	n.a.	N.D.	10	30	1
	TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The reverse surrogate, capric acid, is present at <1%.					
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06949	Cadmium	7440-43-9	0.103	0.0314	0.476	1
06951	Chromium	7440-47-3	29.3	0.105	1.43	1
06955	Lead	7439-92-1	8.38	0.476	1.43	1

*=This limit was used in the evaluation of the final result

Sample Description: **B-8-S-10-140708 Grab Soil**
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528690
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 14:30 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O810

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6010B**		mg/kg	mg/kg	mg/kg	
06961	Nickel	7440-02-0	33.3	0.143	0.952	1
06972	Zinc	7440-66-6	23.3	0.248	1.90	1

General Sample Comments

CA ELAP Lab Certification No. 2792; CA NELAP Lab Certification No. 10276CA

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/EDB/EDC 8260	SW-846 8260B	1	B141972AA	07/17/2014 01:05	Sara E Johnson	0.99
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/11/2014 00:19	Scott W Freisher	n.a.
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	2	201419235051	07/11/2014 00:19	Scott W Freisher	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 23:51	Scott W Freisher	n.a.
10725	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	14195SLC026	07/16/2014 10:41	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	14195SLC026	07/15/2014 08:40	Katheryne V Sponheimer	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	14197A16A	07/16/2014 23:12	Marie D Beamenderfer	23.95
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 23:50	Scott W Freisher	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	141970021A	07/22/2014 12:15	Glorines Suarez-Rivera	1
12159	TPH Fuels soils w/Si Gel	SW-846 8015B modified	1	141970020A	07/22/2014 00:47	Heather E Williams	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3546	1	141970021A	07/17/2014 10:00	Katheryne V Sponheimer	1
11218	TPH Fuels Soils Extraction	SW-846 3550B	1	141970020A	07/17/2014 10:00	Katheryne V Sponheimer	1
06949	Cadmium	SW-846 6010B	1	141975708003	07/17/2014 16:14	Katlin N Cataldi	1
06951	Chromium	SW-846 6010B	1	141975708003	07/17/2014 16:14	Katlin N Cataldi	1
06955	Lead	SW-846 6010B	1	141975708003	07/17/2014 16:14	Katlin N Cataldi	1
06961	Nickel	SW-846 6010B	1	141975708003	07/17/2014 16:14	Katlin N Cataldi	1
06972	Zinc	SW-846 6010B	1	141975708003	07/17/2014 16:14	Katlin N Cataldi	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	141975708003	07/17/2014 07:25	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: B-8-S-15-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528691
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 14:35 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

30815

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	1.04
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	1.04
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	1.04
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	1.04
10237	Toluene	108-88-3	N.D.	0.001	0.005	1.04
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	1.04
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
10725	Acenaphthene	83-32-9	N.D.	0.00066	0.0016	1
10725	Acenaphthylene	208-96-8	N.D.	0.00033	0.0016	1
10725	Anthracene	120-12-7	N.D.	0.00033	0.0016	1
10725	Benzo(a)anthracene	56-55-3	N.D.	0.00066	0.0016	1
10725	Benzo(a)pyrene	50-32-8	N.D.	0.00066	0.0016	1
10725	Benzo(b)fluoranthene	205-99-2	N.D.	0.00066	0.0016	1
10725	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00066	0.0016	1
10725	Benzo(k)fluoranthene	207-08-9	N.D.	0.00066	0.0016	1
10725	Chrysene	218-01-9	N.D.	0.00033	0.0016	1
10725	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00066	0.0016	1
10725	Fluoranthene	206-44-0	N.D.	0.00066	0.0016	1
10725	Fluorene	86-73-7	N.D.	0.00066	0.0016	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00066	0.0016	1
10725	Naphthalene	91-20-3	N.D.	0.00066	0.0016	1
10725	Phenanthrene	85-01-8	N.D.	0.00066	0.0016	1
10725	Pyrene	129-00-0	N.D.	0.00066	0.0016	1
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1	1	24.73
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
02222	TPH-DRO soil C10-C28 w/Si Gel	n.a.	N.D.	4.0	12	1
	The reverse surrogate, capric acid, is present at <1%.					
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
12159	Motor Oil C16-C36 w/Si Gel	n.a.	N.D.	10	30	1
12159	Total TPH w/Si Gel	n.a.	N.D.	10	30	1
	TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The reverse surrogate, capric acid, is present at <1%.					
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06949	Cadmium	7440-43-9	N.D.	0.0317	0.481	1
06951	Chromium	7440-47-3	34.9	0.106	1.44	1
06955	Lead	7439-92-1	5.85	0.481	1.44	1

*=This limit was used in the evaluation of the final result

Sample Description: B-8-S-15-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528691
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 14:35 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O815

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6010B**		mg/kg	mg/kg	mg/kg	
06961	Nickel	7440-02-0	21.3	0.144	0.962	1
06972	Zinc	7440-66-6	18.4	0.250	1.92	1

General Sample Comments

CA ELAP Lab Certification No. 2792; CA NELAP Lab Certification No. 10276CA

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/EDB/EDC 8260	SW-846 8260B	1	B141972AA	07/17/2014 01:28	Sara E Johnson	1.04
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/11/2014 00:19	Scott W Freisher	n.a.
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	2	201419235051	07/11/2014 00:19	Scott W Freisher	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 23:57	Scott W Freisher	n.a.
10725	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	14195SLC026	07/16/2014 11:15	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	14195SLC026	07/15/2014 08:40	Katheryne V Sponheimer	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	14197A16A	07/16/2014 23:50	Marie D Beamenderfer	24.73
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/10/2014 23:57	Scott W Freisher	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	141970021A	07/22/2014 12:38	Glorines Suarez-Rivera	1
12159	TPH Fuels soils w/Si Gel	SW-846 8015B modified	1	141970020A	07/22/2014 01:09	Heather E Williams	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3546	1	141970021A	07/17/2014 10:00	Katheryne V Sponheimer	1
11218	TPH Fuels Soils Extraction	SW-846 3550B	1	141970020A	07/17/2014 10:00	Katheryne V Sponheimer	1
06949	Cadmium	SW-846 6010B	1	141975708003	07/17/2014 16:17	Katlin N Cataldi	1
06951	Chromium	SW-846 6010B	1	141975708003	07/17/2014 16:17	Katlin N Cataldi	1
06955	Lead	SW-846 6010B	1	141975708003	07/17/2014 16:17	Katlin N Cataldi	1
06961	Nickel	SW-846 6010B	1	141975708003	07/17/2014 16:17	Katlin N Cataldi	1
06972	Zinc	SW-846 6010B	1	141975708003	07/17/2014 16:17	Katlin N Cataldi	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	141975708003	07/17/2014 07:25	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: B-8-S-20-140708 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528692
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 14:40 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O820

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.99
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.99
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.99
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.99
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.99
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.99
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
10725	Acenaphthene	83-32-9	N.D.	0.00066	0.0017	1
10725	Acenaphthylene	208-96-8	N.D.	0.00033	0.0017	1
10725	Anthracene	120-12-7	N.D.	0.00033	0.0017	1
10725	Benzo(a)anthracene	56-55-3	N.D.	0.00066	0.0017	1
10725	Benzo(a)pyrene	50-32-8	N.D.	0.00066	0.0017	1
10725	Benzo(b)fluoranthene	205-99-2	N.D.	0.00066	0.0017	1
10725	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00066	0.0017	1
10725	Benzo(k)fluoranthene	207-08-9	N.D.	0.00066	0.0017	1
10725	Chrysene	218-01-9	N.D.	0.00033	0.0017	1
10725	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00066	0.0017	1
10725	Fluoranthene	206-44-0	N.D.	0.00066	0.0017	1
10725	Fluorene	86-73-7	N.D.	0.00066	0.0017	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00066	0.0017	1
10725	Naphthalene	91-20-3	N.D.	0.00066	0.0017	1
10725	Phenanthrene	85-01-8	N.D.	0.00066	0.0017	1
10725	Pyrene	129-00-0	N.D.	0.00066	0.0017	1
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1.0	1.0	26.1
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
02222	TPH-DRO soil C10-C28 w/Si Gel	n.a.	N.D.	4.0	12	1
	The reverse surrogate, capric acid, is present at <1%.					
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
12159	Motor Oil C16-C36 w/Si Gel	n.a.	N.D.	9.9	30	1
12159	Total TPH w/Si Gel	n.a.	N.D.	9.9	30	1
	TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The reverse surrogate, capric acid, is present at <1%.					
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06949	Cadmium	7440-43-9	0.0450	0.0330	0.500	1
06951	Chromium	7440-47-3	34.7	0.110	1.50	1
06955	Lead	7439-92-1	8.02	0.500	1.50	1

*=This limit was used in the evaluation of the final result

Sample Description: **B-8-S-20-140708 Grab Soil**
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528692
LL Group # 1488037
Account # 10880

Project Name: 359766

Collected: 07/08/2014 14:40 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:51

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

3O820

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6010B**		mg/kg	mg/kg	mg/kg	
06961	Nickel	7440-02-0	29.8	0.150	1.00	1
06972	Zinc	7440-66-6	20.1	0.260	2.00	1

General Sample Comments

CA ELAP Lab Certification No. 2792; CA NELAP Lab Certification No. 10276CA

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/EDB/EDC 8260	SW-846 8260B	1	B141972AA	07/17/2014 01:50	Sara E Johnson	0.99
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/11/2014 00:19	Scott W Freisher	n.a.
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	2	201419235051	07/11/2014 00:19	Scott W Freisher	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5035A Modified	1	201419235051	07/11/2014 00:03	Scott W Freisher	n.a.
10725	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	14195SLC026	07/16/2014 11:48	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	14195SLC026	07/15/2014 08:40	Katheryne V Sponheimer	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	14197A16A	07/17/2014 00:27	Marie D Beamenderfer	26.1
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/11/2014 00:03	Scott W Freisher	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	141970021A	07/22/2014 13:02	Glorines Suarez-Rivera	1
12159	TPH Fuels soils w/Si Gel	SW-846 8015B modified	1	141970020A	07/22/2014 01:32	Heather E Williams	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3546	1	141970021A	07/17/2014 10:00	Katheryne V Sponheimer	1
11218	TPH Fuels Soils Extraction	SW-846 3550B	1	141970020A	07/17/2014 10:00	Katheryne V Sponheimer	1
06949	Cadmium	SW-846 6010B	1	141975708003	07/17/2014 16:21	Katlin N Cataldi	1
06951	Chromium	SW-846 6010B	1	141975708003	07/17/2014 16:21	Katlin N Cataldi	1
06955	Lead	SW-846 6010B	1	141975708003	07/17/2014 16:21	Katlin N Cataldi	1
06961	Nickel	SW-846 6010B	1	141975708003	07/17/2014 16:21	Katlin N Cataldi	1
06972	Zinc	SW-846 6010B	1	141975708003	07/17/2014 16:21	Katlin N Cataldi	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	141975708003	07/17/2014 07:25	James L Mertz	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: ChevronTexaco Group Number: 1488037
Reported: 07/23/14 at 02:51 PM

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL**	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: B141961AA	Sample number(s): 7528677-7528680,7528683-7528684,7528686-7528687								
Benzene	N.D.	0.0005	0.005	mg/kg	106	102	80-120	4	30
1,2-Dibromoethane	N.D.	0.001	0.005	mg/kg	104	101	80-120	3	30
1,2-Dichloroethane	N.D.	0.001	0.005	mg/kg	111	106	66-136	4	30
Ethylbenzene	N.D.	0.001	0.005	mg/kg	107	103	80-120	4	30
Toluene	N.D.	0.001	0.005	mg/kg	110	105	80-120	4	30
Xylene (Total)	N.D.	0.001	0.005	mg/kg	110	107	80-120	3	30
Batch number: B141972AA	Sample number(s): 7528688-7528692								
Benzene	N.D.	0.0005	0.005	mg/kg	96		80-120		
1,2-Dibromoethane	N.D.	0.001	0.005	mg/kg	92		80-120		
1,2-Dichloroethane	N.D.	0.001	0.005	mg/kg	102		66-136		
Ethylbenzene	N.D.	0.001	0.005	mg/kg	96		80-120		
Toluene	N.D.	0.001	0.005	mg/kg	98		80-120		
Xylene (Total)	N.D.	0.001	0.005	mg/kg	99		80-120		
Batch number: B141991AA	Sample number(s): 7528681								
Benzene	N.D.	0.0005	0.005	mg/kg	104	103	80-120	2	30
1,2-Dibromoethane	N.D.	0.001	0.005	mg/kg	104	100	80-120	3	30
1,2-Dichloroethane	N.D.	0.001	0.005	mg/kg	108	104	66-136	4	30
Ethylbenzene	N.D.	0.001	0.005	mg/kg	105	104	80-120	1	30
Toluene	N.D.	0.001	0.005	mg/kg	108	107	80-120	1	30
Xylene (Total)	N.D.	0.001	0.005	mg/kg	107	107	80-120	0	30
Batch number: R141972AA	Sample number(s): 7528682,7528685								
Benzene	N.D.	0.025	0.25	mg/kg	94	97	80-120	3	30
1,2-Dibromoethane	N.D.	0.050	0.25	mg/kg	94	98	80-120	5	30
1,2-Dichloroethane	N.D.	0.050	0.25	mg/kg	102	103	66-136	1	30
Ethylbenzene	N.D.	0.050	0.25	mg/kg	92	98	80-120	5	30
Toluene	N.D.	0.050	0.25	mg/kg	94	99	80-120	5	30
Xylene (Total)	N.D.	0.050	0.25	mg/kg	92	96	80-120	5	30
Batch number: 14195SLC026	Sample number(s): 7528677-7528692								
Acenaphthene	N.D.	0.00067	0.0017	mg/kg	100		84-118		
Acenaphthylene	N.D.	0.00033	0.0017	mg/kg	101		78-120		
Anthracene	N.D.	0.00033	0.0017	mg/kg	102		85-118		
Benzo(a)anthracene	N.D.	0.00067	0.0017	mg/kg	111		83-119		
Benzo(a)pyrene	N.D.	0.00067	0.0017	mg/kg	100		80-122		
Benzo(b)fluoranthene	N.D.	0.00067	0.0017	mg/kg	113		82-135		
Benzo(g,h,i)perylene	N.D.	0.00067	0.0017	mg/kg	99		79-121		
Benzo(k)fluoranthene	N.D.	0.00067	0.0017	mg/kg	102		79-123		
Chrysene	N.D.	0.00033	0.0017	mg/kg	109		84-113		
Dibenz(a,h)anthracene	N.D.	0.00067	0.0017	mg/kg	101		83-123		
Fluoranthene	N.D.	0.00067	0.0017	mg/kg	108		85-116		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: ChevronTexaco Group Number: 1488037
Reported: 07/23/14 at 02:51 PM

Analysis Name	Blank Result	Blank MDL**	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Fluorene	N.D.	0.00067	0.0017	mg/kg	107		84-120		
Indeno(1,2,3-cd)pyrene	N.D.	0.00067	0.0017	mg/kg	98		82-123		
Naphthalene	N.D.	0.00067	0.0017	mg/kg	100		79-113		
Phenanthrene	N.D.	0.00067	0.0017	mg/kg	101		83-113		
Pyrene	N.D.	0.00067	0.0017	mg/kg	99		80-119		
Batch number: 14196A16A	Sample number(s): 7528677-7528683								
TPH-GRO N. CA soil C6-C12	N.D.	1.0	1.0	mg/kg	105		66-126		
Batch number: 14197A16A	Sample number(s): 7528684-7528692								
TPH-GRO N. CA soil C6-C12	N.D.	1.0	1.0	mg/kg	104	104	66-126	1	30
Batch number: 141960027A	Sample number(s): 7528677-7528686								
TPH-DRO soil C10-C28 w/Si Gel	N.D.	4.0	12	mg/kg	105		59-120		
Batch number: 141960028A	Sample number(s): 7528677-7528686								
Motor Oil C16-C36 w/Si Gel	N.D.	10.	30	mg/kg					
Total TPH w/Si Gel	N.D.	10.	30	mg/kg	89		53-123		
Batch number: 141970020A	Sample number(s): 7528687-7528692								
Motor Oil C16-C36 w/Si Gel	N.D.	10.	30	mg/kg					
Total TPH w/Si Gel	N.D.	10.	30	mg/kg	105		53-123		
Batch number: 141970021A	Sample number(s): 7528687-7528692								
TPH-DRO soil C10-C28 w/Si Gel	N.D.	4.0	12	mg/kg	99		59-120		
Batch number: 141965708002	Sample number(s): 7528677-7528679								
Cadmium	N.D.	0.0330	0.500	mg/kg	101		80-120		
Chromium	N.D.	0.110	1.50	mg/kg	99		80-120		
Lead	N.D.	0.500	1.50	mg/kg	102		80-120		
Nickel	N.D.	0.150	1.00	mg/kg	106		80-120		
Zinc	0.483	0.260	2.00	mg/kg	101		80-120		
Batch number: 141975708003	Sample number(s): 7528680-7528681,7528683-7528692								
Cadmium	N.D.	0.0330	0.500	mg/kg	101		80-120		
Chromium	N.D.	0.110	1.50	mg/kg	100		80-120		
Lead	N.D.	0.500	1.50	mg/kg	103		80-120		
Nickel	N.D.	0.150	1.00	mg/kg	106		80-120		
Zinc	0.401	0.260	2.00	mg/kg	100		80-120		
Batch number: 141995708001	Sample number(s): 7528682								
Cadmium	N.D.	0.0330	0.500	mg/kg	101		80-120		
Chromium	N.D.	0.110	1.50	mg/kg	100		80-120		
Lead	N.D.	0.500	1.50	mg/kg	109		80-120		
Nickel	N.D.	0.150	1.00	mg/kg	106		80-120		
Zinc	0.318	0.260	2.00	mg/kg	100		80-120		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

	MS	MSD	MS/MSD	RPD	BKG	DUP	DUP	Dup RPD

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: ChevronTexaco Group Number: 1488037
Reported: 07/23/14 at 02:51 PM

Analysis Name	%REC	%REC	Limits	RPD	MAX	Conc	Conc	RPD	Max
Batch number: B141961AA	Sample number(s): 7528677-7528680,7528683-7528684,7528686-7528687 UNSPK: P529632								
Benzene	112		55-143						
1,2-Dibromoethane	99		54-129						
1,2-Dichloroethane	112		54-143						
Ethylbenzene	112		44-141						
Toluene	116		50-146						
Xylene (Total)	114		44-136						
Batch number: B141972AA	Sample number(s): 7528688-7528692 UNSPK: P530784								
Benzene	90	86	55-143	2	30				
1,2-Dibromoethane	52*	51*	54-129	0	30				
1,2-Dichloroethane	86	82	54-143	3	30				
Ethylbenzene	65	62	44-141	3	30				
Toluene	80	76	50-146	3	30				
Xylene (Total)	65	62	44-136	3	30				
Batch number: 14195SLC026	Sample number(s): 7528677-7528692 UNSPK: P528697								
Acenaphthene	98	99	48-127	1	30				
Acenaphthylene	97	98	60-128	1	30				
Anthracene	97	100	52-126	2	30				
Benzo(a)anthracene	101	105	44-143	3	30				
Benzo(a)pyrene	91	94	49-137	3	30				
Benzo(b)fluoranthene	96	98	26-142	2	30				
Benzo(g,h,i)perylene	89	89	33-141	1	30				
Benzo(k)fluoranthene	94	97	49-144	2	30				
Chrysene	98	103	43-141	4	30				
Dibenz(a,h)anthracene	97	98	25-145	1	30				
Fluoranthene	99	102	38-153	2	30				
Fluorene	99	102	57-130	2	30				
Indeno(1,2,3-cd)pyrene	91	91	26-139	0	30				
Naphthalene	54	55	52-136	1	30				
Phenanthrene	94	97	50-137	3	30				
Pyrene	90	93	37-136	3	30				
Batch number: 14196A16A	Sample number(s): 7528677-7528683 UNSPK: P529585								
TPH-GRO N. CA soil C6-C12	120*	109	39-118	11	30				
Batch number: 141960027A	Sample number(s): 7528677-7528686 UNSPK: 7528677 BKG: 7528677								
TPH-DRO soil C10-C28 w/Si Gel	80		30-159			N.D.	N.D.	0 (1)	20
Batch number: 141960028A	Sample number(s): 7528677-7528686 UNSPK: 7528677 BKG: 7528677								
Motor Oil C16-C36 w/Si Gel						N.D.	N.D.	0 (1)	20
Total TPH w/Si Gel	78		10-168			N.D.	N.D.	0 (1)	20
Batch number: 141970020A	Sample number(s): 7528687-7528692 UNSPK: 7528687 BKG: 7528687								
Motor Oil C16-C36 w/Si Gel						N.D.	N.D.	0 (1)	20
Total TPH w/Si Gel	97		10-168			N.D.	N.D.	0 (1)	20
Batch number: 141970021A	Sample number(s): 7528687-7528692 UNSPK: 7528687 BKG: 7528687								
TPH-DRO soil C10-C28 w/Si Gel	101		30-159			N.D.	N.D.	0 (1)	20
Batch number: 141965708002	Sample number(s): 7528677-7528679 UNSPK: P530784 BKG: P530784								
Cadmium	73*	81	75-120	6	20	1.90	2.08	9 (1)	20
Chromium	-2452 (2)	-679 (2)	75-125	41*	20	1,140	1,050	9	20
Lead	-890	-738	75-125	9	20	393	483	21*	20

*- Outside of specification
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Quality Control Summary

Client Name: ChevronTexaco Group Number: 1488037
Reported: 07/23/14 at 02:51 PM

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
	(2)	(2)							
Nickel	83	86	75-125	1	20	42.6	38.5	10	20
Zinc	-986 (2)	-334 (2)	75-125	43*	20	1,060	1,480	33*	20
Batch number: 141975708003	Sample number(s): 7528680-7528681,7528683-7528692 UNSPK: 7528685 BKG: 7528685								
Cadmium	96	94	75-120	3	20	0.201	0.140	36* (1)	20
Chromium	-27 (2)	30 (2)	75-125	12	20	90.0	83.4	8	20
Lead	81	66*	75-125	6	20	16.9	12.9	27*	20
Nickel	88	92	75-125	5	20	40.1	40.7	2	20
Zinc	69*	63*	75-125	1	20	58.5	38.0	42*	20
Batch number: 141995708001	Sample number(s): 7528682 UNSPK: P528001 BKG: P528001								
Cadmium	99	98	75-120	0	20	N.D.	N.D.	0 (1)	20
Chromium	102	101	75-125	0	20	1.45	1.85	24* (1)	20
Lead	101	99	75-125	1	20	1.78	1.88	5 (1)	20
Nickel	103	102	75-125	0	20	1.42	1.74	20 (1)	20
Zinc	100	99	75-125	0	20	5.21	5.95	13 (1)	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 8260 Ext. Soil Master
Batch number: B141961AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7528677	102	100	100	92
7528678	105	105	100	94
7528679	106	105	99	94
7528680	102	100	101	91
7528683	103	100	101	91
7528684	104	102	100	91
7528686	102	99	100	94
7528687	103	99	101	92
Blank	105	108	100	95
LCS	104	102	102	98
LCSD	102	99	103	99
MS	103	101	105	96
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260 Ext. Soil Master
Batch number: B141972AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7528688	105	106	99	94
7528689	103	99	101	93

*- Outside of specification
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Quality Control Summary

Client Name: ChevronTexaco Group Number: 1488037
Reported: 07/23/14 at 02:51 PM

Surrogate Quality Control

7528690	103	102	101	92
7528691	105	104	100	93
7528692	106	106	99	93
Blank	104	99	100	92
LCS	104	104	102	98
MS	105	103	107	94
MSD	104	104	106	95
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260 Ext. Soil Master
Batch number: B141991AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7528681	103	103	103	115
Blank	101	101	101	95
LCS	102	104	103	99
LCSD	101	98	103	99
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260 Ext. Soil Master
Batch number: R141972AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7528682	86	85	84	90
7528685	91	89	93	102
Blank	97	95	93	89
LCS	92	90	91	92
LCSD	95	92	93	95
Limits:	50-141	54-135	52-141	50-131

Analysis Name: SIM SVOA (microwave)
Batch number: 14195SLC026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
7528677	101	100	89
7528678	100	102	88
7528679	98	100	87
7528680	101	103	89
7528681	105	101	94
7528682	96	102	94
7528683	96	102	87
7528684	99	105	90
7528685	105	107	91
7528686	97	102	87
7528687	98	104	90
7528688	99	105	89
7528689	96	95	90
7528690	97	95	89
7528691	99	102	89
7528692	96	100	88
Blank	99	104	88
LCS	104	109	96

*- Outside of specification
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Quality Control Summary

Client Name: ChevronTexaco Group Number: 1488037
Reported: 07/23/14 at 02:51 PM

Surrogate Quality Control

MS	101	102	90
MSD	104	105	92
Limits:	59-115	61-118	70-127

Analysis Name: TPH-GRO N. CA soil C6-C12
Batch number: 14196A16A

	Trifluorotoluene-F
7528677	95
7528678	86
7528679	83
7528680	94
7528681	95
7528682	104
7528683	99
Blank	96
LCS	105
MS	92
MSD	86
Limits:	50-142

Analysis Name: TPH-GRO N. CA soil C6-C12
Batch number: 14197A16A

	Trifluorotoluene-F
7528684	90
7528685	104
7528686	85
7528687	90
7528688	89
7528689	89
7528690	84
7528691	85
7528692	84
Blank	108
LCS	107
LCSD	107
Limits:	50-142

Analysis Name: TPH-DRO soil C10-C28 w/Si Gel
Batch number: 141960027A

	Orthoterphenyl
7528677	75
7528678	90
7528679	71
7528680	71
7528681	91
7528682	81
7528683	73
7528684	74
7528685	79
7528686	81

*- Outside of specification
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Quality Control Summary

Client Name: ChevronTexaco Group Number: 1488037
Reported: 07/23/14 at 02:51 PM

Surrogate Quality Control

Blank	94	
DUP	93	
LCS	110	
MS	78	
Limits:	52-136	

Analysis Name: TPH Fuels soils w/Si Gel
Batch number: 141960028A

	Chlorobenzene	Orthoterphenyl
7528677	76	70
7528678	82	80
7528679	75	66
7528680	78	65
7528681	74	78
7528682	112	76
7528683	90	78
7528684	78	65
7528685	103	90
7528686	81	73
Blank	99	100
DUP	85	82
LCS	86	95
MS	84	78
Limits:	54-137	48-135

Analysis Name: TPH Fuels soils w/Si Gel
Batch number: 141970020A

	Chlorobenzene	Orthoterphenyl
7528687	106	88
7528688	95	89
7528689	106	114
7528690	105	103
7528691	94	98
7528692	108	102
Blank	95	102
DUP	92	79
LCS	107	113
MS	103	97
Limits:	54-137	48-135

Analysis Name: TPH-DRO soil C10-C28 w/Si Gel
Batch number: 141970021A

	Orthoterphenyl
7528687	94
7528688	91
7528689	99
7528690	94
7528691	103
7528692	93
Blank	111

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
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Quality Control Summary

Client Name: ChevronTexaco Group Number: 1488037
Reported: 07/23/14 at 02:51 PM

Surrogate Quality Control

DUP	89
LCS	104
MS	102
Limits:	52-136

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
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(2) The unspiked result was more than four times the spike added.

Chevron California Region Analysis Request/Chain of Custody

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Acct. # 10880 Group # 1488037 Sample # 1528077-92

For Lancaster Laboratories use only

Instructions on reverse side correspond with circled numbers.

070914-02 2 of 5

1 Client Information

Facility # FORMER TEXACO 359766 WBS 07.11

Site Address 2700 23RD AVENUE, OAKLAND, CA

Chevron PM ALEXIS FISCHER Lead Consultant CRA

Consultant/Office CRA – EMERYVILLE

Consultant Project Mgr. NATHAN LEE

Consultant Phone # (925) 849-1003

Sampler O. YAN

SCR #: _____

- ☐ Results in Dry Weight
- ☐ J value reporting needed
- ☐ Must meet lowest detection limits possible for 8260 compounds
- ☐ 8021 MTBE Confirmation
- ☐ Confirm highest hit by 8260
- ☐ Confirm all hits by 8260
- ☐ Run _____ oxy's on highest hit
- ☐ Run _____ oxy's on all hits

2 Sample Identification / 3 / 4 Matrix / 5 Analyses Requested

Sample Identification	Collected Date	Collected Time	3 Grab	3 Composite	4 Soil	4 Sediment	4 Water: Potable	4 Water: Ground	4 Water: NPDES	4 Water: Surface	4 Oil	4 Air	Total Number of Containers	BTEX + MTBE 8021 ☐ / 8260 ☒	TPH GRO 8015 ☐ / 8260 ☒	TPH 8015 MOD DRO + TPH MOTOR OIL 8015 w/ SILICA GEL CLEANUP	Silica Gel Cleanup	8260 Full Scan	8260 B Oxygenates 2 / EDB / 1,2-Dichloroethane	Total Lead Method	Dissolved Lead Method	PAHs by 8270 SIM (16 Priority PAHs)	Cadmium/Chromium/Nickel/Lead/Zinc by EPA 6010/6020
B-5 @ 5'	7/8/14	855	X		X								1	X	X	X			X			X	X
B-5 @ 10'		0900																					
B-5 @ 15'		0905																					
B-5 @ 20'		0920																					
B-6 @ 5'		1240																					
B-6 @ 10'		1255																					
B-6 @ 15'		1360																					
B-6 @ 20'		1305																					
B-7 @ 5'		1007																					
B-7 @ 10'		1030																					
B-7 @ 15'		1035																					
B-7 @ 20'		1040																					
B-8 @ 5'		1405																					

6 Remarks

email results to:

NLEE@CRAWORLD.COM

7 Turnaround Time Requested (TAT) (please circle)

Standard | 5 day | 4 day | 72 hour | 48 hour | 24 hour

8 Data Package Options (please circle if required)

Type I - Full | Type VI (Raw Data)

Relinquished by	Date	Time	Received by	Date	Time
	7/8/14	15:55	CRA SECURE LOCATION	7/8/14	1555
Relinquished by	Date	Time	Received by	Date	Time
	7/9/14	1345		7/9/14	1345
Relinquished by Commerical Carrier: UPS ___ FedEx ___ Other 16356			Received by SOUTHWEST	Date 7/10/14	Time 1735
Temperature Upon Receipt 1.0 °C			Custody Seals Intact? (Yes) No		

9

Chevron California Region Analysis Request/Chain of Custody

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0709.14-02 1 of 5

Acct. # 10880 Group # 1486037 Sample # 752867 7-92

For Lancaster Laboratories use only

Instructions on reverse side correspond with circled numbers.

1 Client Information

Facility # FORMER TEXACO 359766 WBS 07.11

Site Address 2700 23RD AVENUE, OAKLAND, CA

Chevron PM ALEXIS FISCHER Lead Consultant CRA

Consultant/Office CRA-EMERYVILLE

Consultant Project Mgr. NATHAN LEE

Consultant Phone # (925) 849-1003

Sampler O. YAN

4 Matrix

Sediment ☐ Ground ☐ Surface ☐ Potable ☐ NPDES ☐ Water ☐ Air ☐ Soil ☒ Oil ☐

3 Grab / Composite

2 Sample Identification

Sample Identification	Collected Date	Collected Time	Grab	Composite
B-8 @ 10'	07/08/14	1430	X	
B-8 @ 15'	↓	1435	↓	
B-8 @ 20'	↓	1440	↓	

5 Analyses Requested

Total Number of Containers: 1

- BTEX + ~~MTBE~~ 8021 ☐ 8260 ☒ — X
- TPH GRO 8015 ☒ 8260 ☐ — X
- TPH 8015 MOD DRO + TPH Motor Oil 8015 w/Silica Gel Cleanup — X
- Silica Gel Cleanup — —
- 8260 Full Scan — —
- Oxygenates 8260 (2) EDB / 1,2-DICHLOROETHANE — X
- Total Lead Method ____ — —
- Dissolved Lead Method ____ — —
- PAH's BY 8270 SIM (16 PRIORITY PAHS) — X
- CADMIUM / CHROMIUM / NICKEL / LEAD / ZINC BY EPA 6010 / 6020 — X

SCR #: _____

- ☐ Results in Dry Weight
- ☐ J value reporting needed
- ☐ Must meet lowest detection limits possible for 8260 compounds
- ☐ 8021 MTBE Confirmation
- ☐ Confirm highest hit by 8260
- ☐ Confirm all hits by 8260
- ☐ Run _____ oxy's on highest hit
- ☐ Run _____ oxy's on all hits

6 Remarks

email results to:

NLEE @ CRAWORLD.COM

7 Turnaround Time Requested (TAT) (please circle)

Standard | 5 day | 4 day | 72 hour | 48 hour | 24 hour

8 Data Package Options (please circle if required)

Type I - Full | Type VI (Raw Data)

Relinquished by	Date	Time	Received by	Date	Time
	7/8/14	15:55	CRA SECURE LOCATION	7/8/14	1555
	7/9/14	1345		7/9/14	1345
Relinquished by Commerical Carrier: UPS ____ FedEx ____ Other 1632			Received by SOUTHWEST	7/10/14	1735

Temperature Upon Receipt 1.0 °C

Custody Seals Intact? (Yes) No

9

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	**B**	Value is <CRDL, but ≥IDL
B	Analyte was also detected in the blank	**E**	Estimated due to interference
C	Pesticide result confirmed by GC/MS	**M**	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	**N**	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	**S**	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	**U**	Compound was not detected
P	Concentration difference between primary and confirmation columns >25%	**W**	Post digestion spike out of control limits
U	Compound was not detected	*****	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	**+**	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

July 23, 2014

Project: 359766

Submittal Date: 07/10/2014
Group Number: 1488039
PO Number: 0015152990
Release Number: FISCHER
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LL) #
VP-1-S-5-140709 Grab Soil	7528696
VP-2-S-5-140709 Grab Soil	7528697

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	Chevron	Attn: CRA EDD
ELECTRONIC COPY TO	CRA	Attn: Nathan Lee

Respectfully Submitted,

Natalie R. Luciano
Senior Specialist

(717) 556-7258

Sample Description: VP-1-S-5-140709 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528696
LL Group # 1488039
Account # 10880

Project Name: 359766

Collected: 07/09/2014 08:23 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:50

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

23O15

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0006	0.006	1.1
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.006	1.1
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	1.1
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	1.1
10237	Toluene	108-88-3	N.D.	0.001	0.006	1.1
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	1.1
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
10725	Acenaphthene	83-32-9	N.D.	0.00066	0.0016	1
10725	Acenaphthylene	208-96-8	N.D.	0.00033	0.0016	1
10725	Anthracene	120-12-7	0.00046	0.00033	0.0016	1
10725	Benzo(a)anthracene	56-55-3	0.0017	0.00066	0.0016	1
10725	Benzo(a)pyrene	50-32-8	0.0018	0.00066	0.0016	1
10725	Benzo(b)fluoranthene	205-99-2	0.0038	0.00066	0.0016	1
10725	Benzo(g,h,i)perylene	191-24-2	0.0011	0.00066	0.0016	1
10725	Benzo(k)fluoranthene	207-08-9	0.0018	0.00066	0.0016	1
10725	Chrysene	218-01-9	0.0032	0.00033	0.0016	1
10725	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00066	0.0016	1
10725	Fluoranthene	206-44-0	0.0036	0.00066	0.0016	1
10725	Fluorene	86-73-7	N.D.	0.00066	0.0016	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	0.00077	0.00066	0.0016	1
10725	Naphthalene	91-20-3	0.00074	0.00066	0.0016	1
10725	Phenanthrene	85-01-8	0.0016	0.00066	0.0016	1
10725	Pyrene	129-00-0	0.0039	0.00066	0.0016	1
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	0.9	0.9	22.79
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
02222	TPH-DRO soil C10-C28 w/Si Gel	n.a.	N.D.	4.0	12	1
	The reverse surrogate, capric acid, is present at <1%.					
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
12159	Motor Oil C16-C36 w/Si Gel	n.a.	N.D.	10	30	1
12159	Total TPH w/Si Gel	n.a.	N.D.	10	30	1
	TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The reverse surrogate, capric acid, is present at <1%.					
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06949	Cadmium	7440-43-9	0.118	0.0324	0.490	1
06951	Chromium	7440-47-3	33.4	0.108	1.47	1
06955	Lead	7439-92-1	8.77	0.490	1.47	1

*=This limit was used in the evaluation of the final result

Sample Description: VP-1-S-5-140709 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528696
LL Group # 1488039
Account # 10880

Project Name: 359766

Collected: 07/09/2014 08:23 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:50

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

23O15

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6010B**		mg/kg	mg/kg	mg/kg	
06961	Nickel	7440-02-0	39.4	0.147	0.980	1
06972	Zinc	7440-66-6	28.6	0.255	1.96	1

General Sample Comments

CA ELAP Lab Certification No. 2792; CA NELAP Lab Certification No. 10276CA

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/EDB/EDC 8260	SW-846 8260B	1	B141972AA	07/17/2014 02:13	Sara E Johnson	1.1
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/11/2014 00:19	Scott W Freisher	n.a.
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	2	201419235051	07/11/2014 00:19	Scott W Freisher	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5035A Modified	1	201419235051	07/11/2014 00:08	Scott W Freisher	n.a.
10725	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	14195SLC026	07/16/2014 12:22	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	14195SLC026	07/15/2014 08:40	Katheryne V Sponheimer	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	14197A16A	07/17/2014 01:05	Marie D Beamenderfer	22.79
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/11/2014 00:07	Scott W Freisher	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	141970021A	07/22/2014 13:25	Glorines Suarez-Rivera	1
12159	TPH Fuels soils w/Si Gel	SW-846 8015B modified	1	141970020A	07/22/2014 01:55	Heather E Williams	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3546	1	141970021A	07/17/2014 10:00	Katheryne V Sponheimer	1
11218	TPH Fuels Soils Extraction	SW-846 3550B	1	141970020A	07/17/2014 10:00	Katheryne V Sponheimer	1
06949	Cadmium	SW-846 6010B	1	141975708003	07/17/2014 16:25	Katlin N Cataldi	1
06951	Chromium	SW-846 6010B	1	141975708003	07/17/2014 16:25	Katlin N Cataldi	1
06955	Lead	SW-846 6010B	1	141975708003	07/17/2014 16:25	Katlin N Cataldi	1
06961	Nickel	SW-846 6010B	1	141975708003	07/17/2014 16:25	Katlin N Cataldi	1
06972	Zinc	SW-846 6010B	1	141975708003	07/17/2014 16:25	Katlin N Cataldi	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	141975708003	07/17/2014 07:25	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: VP-2-S-5-140709 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528697
LL Group # 1488039
Account # 10880

Project Name: 359766

Collected: 07/09/2014 07:48 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:50

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

23025

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.95
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.95
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.95
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.95
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.95
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.95
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
10725	Acenaphthene	83-32-9	N.D.	0.00066	0.0017	1
10725	Acenaphthylene	208-96-8	N.D.	0.00033	0.0017	1
10725	Anthracene	120-12-7	N.D.	0.00033	0.0017	1
10725	Benzo(a)anthracene	56-55-3	0.00087	0.00066	0.0017	1
10725	Benzo(a)pyrene	50-32-8	0.00089	0.00066	0.0017	1
10725	Benzo(b)fluoranthene	205-99-2	0.0022	0.00066	0.0017	1
10725	Benzo(g,h,i)perylene	191-24-2	0.00082	0.00066	0.0017	1
10725	Benzo(k)fluoranthene	207-08-9	0.00072	0.00066	0.0017	1
10725	Chrysene	218-01-9	0.0015	0.00033	0.0017	1
10725	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00066	0.0017	1
10725	Fluoranthene	206-44-0	0.0016	0.00066	0.0017	1
10725	Fluorene	86-73-7	N.D.	0.00066	0.0017	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	0.00075	0.00066	0.0017	1
10725	Naphthalene	91-20-3	0.014	0.00066	0.0017	1
10725	Phenanthrene	85-01-8	0.00083	0.00066	0.0017	1
10725	Pyrene	129-00-0	0.0016	0.00066	0.0017	1
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1	1	24.98
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
02222	TPH-DRO soil C10-C28 w/Si Gel	n.a.	42	4.0	12	1
	The reverse surrogate, capric acid, is present at <1%.					
GC Petroleum Hydrocarbons w/Si	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	**mg/kg**	
12159	Motor Oil C16-C36 w/Si Gel	n.a.	85	9.9	30	1
12159	Total TPH w/Si Gel	n.a.	85	9.9	30	1
	TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The reverse surrogate, capric acid, is present at <1%.					
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06949	Cadmium	7440-43-9	0.107	0.0317	0.481	1
06951	Chromium	7440-47-3	41.1	0.106	1.44	1
06955	Lead	7439-92-1	5.47	0.481	1.44	1

*=This limit was used in the evaluation of the final result

Sample Description: VP-2-S-5-140709 Grab Soil
Facility# 359766 CRAW
2700 23rd Avenue-Oakland T10000004218

LL Sample # SW 7528697
LL Group # 1488039
Account # 10880

Project Name: 359766

Collected: 07/09/2014 07:48 by OY

Submitted: 07/10/2014 17:35
Reported: 07/23/2014 14:50

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

23025

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6010B**		mg/kg	mg/kg	mg/kg	
06961	Nickel	7440-02-0	38.9	0.144	0.962	1
06972	Zinc	7440-66-6	25.8	0.250	1.92	1

General Sample Comments

CA ELAP Lab Certification No. 2792; CA NELAP Lab Certification No. 10276CA

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/EDB/EDC 8260	SW-846 8260B	1	B141972AA	07/17/2014 02:35	Sara E Johnson	0.95
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/11/2014 00:19	Scott W Freisher	n.a.
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	2	201419235051	07/11/2014 00:19	Scott W Freisher	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5035A Modified	1	201419235051	07/11/2014 00:12	Scott W Freisher	n.a.
10725	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	14195SLC026	07/16/2014 02:54	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	14195SLC026	07/15/2014 08:40	Katheryne V Sponheimer	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	14197A16A	07/17/2014 01:43	Marie D Beamenderfer	24.98
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201419235051	07/11/2014 00:11	Scott W Freisher	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	141970021A	07/22/2014 13:52	Glorines Suarez-Rivera	1
12159	TPH Fuels soils w/Si Gel	SW-846 8015B modified	1	141970020A	07/22/2014 02:17	Heather E Williams	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3546	1	141970021A	07/17/2014 10:00	Katheryne V Sponheimer	1
11218	TPH Fuels Soils Extraction	SW-846 3550B	1	141970020A	07/17/2014 10:00	Katheryne V Sponheimer	1
06949	Cadmium	SW-846 6010B	1	141955708001	07/15/2014 22:15	Katlin N Cataldi	1
06951	Chromium	SW-846 6010B	1	141955708001	07/15/2014 22:15	Katlin N Cataldi	1
06955	Lead	SW-846 6010B	1	141955708001	07/15/2014 22:15	Katlin N Cataldi	1
06961	Nickel	SW-846 6010B	1	141955708001	07/15/2014 22:15	Katlin N Cataldi	1
06972	Zinc	SW-846 6010B	1	141955708001	07/15/2014 22:15	Katlin N Cataldi	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	141955708001	07/15/2014 06:55	James L Mertz	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: ChevronTexaco Group Number: 1488039
Reported: 07/23/14 at 02:50 PM

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL**	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: B141972AA	Sample number(s): 7528696-7528697								
Benzene	N.D.	0.0005	0.005	mg/kg	96		80-120		
1,2-Dibromoethane	N.D.	0.001	0.005	mg/kg	92		80-120		
1,2-Dichloroethane	N.D.	0.001	0.005	mg/kg	102		66-136		
Ethylbenzene	N.D.	0.001	0.005	mg/kg	96		80-120		
Toluene	N.D.	0.001	0.005	mg/kg	98		80-120		
Xylene (Total)	N.D.	0.001	0.005	mg/kg	99		80-120		
Batch number: 14195SLC026	Sample number(s): 7528696-7528697								
Acenaphthene	N.D.	0.00067	0.0017	mg/kg	100		84-118		
Acenaphthylene	N.D.	0.00033	0.0017	mg/kg	101		78-120		
Anthracene	N.D.	0.00033	0.0017	mg/kg	102		85-118		
Benzo(a)anthracene	N.D.	0.00067	0.0017	mg/kg	111		83-119		
Benzo(a)pyrene	N.D.	0.00067	0.0017	mg/kg	100		80-122		
Benzo(b)fluoranthene	N.D.	0.00067	0.0017	mg/kg	113		82-135		
Benzo(g,h,i)perylene	N.D.	0.00067	0.0017	mg/kg	99		79-121		
Benzo(k)fluoranthene	N.D.	0.00067	0.0017	mg/kg	102		79-123		
Chrysene	N.D.	0.00033	0.0017	mg/kg	109		84-113		
Dibenz(a,h)anthracene	N.D.	0.00067	0.0017	mg/kg	101		83-123		
Fluoranthene	N.D.	0.00067	0.0017	mg/kg	108		85-116		
Fluorene	N.D.	0.00067	0.0017	mg/kg	107		84-120		
Indeno(1,2,3-cd)pyrene	N.D.	0.00067	0.0017	mg/kg	98		82-123		
Naphthalene	N.D.	0.00067	0.0017	mg/kg	100		79-113		
Phenanthrene	N.D.	0.00067	0.0017	mg/kg	101		83-113		
Pyrene	N.D.	0.00067	0.0017	mg/kg	99		80-119		
Batch number: 14197A16A	Sample number(s): 7528696-7528697								
TPH-GRO N. CA soil C6-C12	N.D.	1.0	1.0	mg/kg	104	104	66-126	1	30
Batch number: 141970020A	Sample number(s): 7528696-7528697								
Motor Oil C16-C36 w/Si Gel	N.D.	10.	30	mg/kg					
Total TPH w/Si Gel	N.D.	10.	30	mg/kg	105		53-123		
Batch number: 141970021A	Sample number(s): 7528696-7528697								
TPH-DRO soil C10-C28 w/Si Gel	N.D.	4.0	12	mg/kg	99		59-120		
Batch number: 141955708001	Sample number(s): 7528697								
Cadmium	N.D.	0.0330	0.500	mg/kg	102		80-120		
Chromium	N.D.	0.110	1.50	mg/kg	102		80-120		
Lead	N.D.	0.500	1.50	mg/kg	104		80-120		
Nickel	N.D.	0.150	1.00	mg/kg	107		80-120		
Zinc	1.70	0.260	2.00	mg/kg	101		80-120		
Batch number: 141975708003	Sample number(s): 7528696								

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: ChevronTexaco Group Number: 1488039
Reported: 07/23/14 at 02:50 PM

Analysis Name	Blank Result	Blank MDL**	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Cadmium	N.D.	0.0330	0.500	mg/kg	101		80-120		
Chromium	N.D.	0.110	1.50	mg/kg	100		80-120		
Lead	N.D.	0.500	1.50	mg/kg	103		80-120		
Nickel	N.D.	0.150	1.00	mg/kg	106		80-120		
Zinc	0.401	0.260	2.00	mg/kg	100		80-120		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: B141972AA	Sample number(s): 7528696-7528697 UNSPK: P530784								
Benzene	90	86	55-143	2	30				
1,2-Dibromoethane	52*	51*	54-129	0	30				
1,2-Dichloroethane	86	82	54-143	3	30				
Ethylbenzene	65	62	44-141	3	30				
Toluene	80	76	50-146	3	30				
Xylene (Total)	65	62	44-136	3	30				
Batch number: 14195SLC026	Sample number(s): 7528696-7528697 UNSPK: 7528697								
Acenaphthene	98	99	48-127	1	30				
Acenaphthylene	97	98	60-128	1	30				
Anthracene	97	100	52-126	2	30				
Benzo(a)anthracene	101	105	44-143	3	30				
Benzo(a)pyrene	91	94	49-137	3	30				
Benzo(b)fluoranthene	96	98	26-142	2	30				
Benzo(g,h,i)perylene	89	89	33-141	1	30				
Benzo(k)fluoranthene	94	97	49-144	2	30				
Chrysene	98	103	43-141	4	30				
Dibenz(a,h)anthracene	97	98	25-145	1	30				
Fluoranthene	99	102	38-153	2	30				
Fluorene	99	102	57-130	2	30				
Indeno(1,2,3-cd)pyrene	91	91	26-139	0	30				
Naphthalene	54	55	52-136	1	30				
Phenanthrene	94	97	50-137	3	30				
Pyrene	90	93	37-136	3	30				
Batch number: 141970020A	Sample number(s): 7528696-7528697 UNSPK: P528687 BKG: P528687								
Motor Oil C16-C36 w/Si Gel						N.D.	N.D.	0 (1)	20
Total TPH w/Si Gel	97		10-168			N.D.	N.D.	0 (1)	20
Batch number: 141970021A	Sample number(s): 7528696-7528697 UNSPK: P528687 BKG: P528687								
TPH-DRO soil C10-C28 w/Si Gel	101		30-159			N.D.	N.D.	0 (1)	20
Batch number: 141955708001	Sample number(s): 7528697 UNSPK: P530863 BKG: P530863								
Cadmium	90	90	75-120	1	20	N.D.	N.D.	0 (1)	20
Chromium	125	153*	75-125	6	20	57.3	58.6	2	20
Lead	88	85	75-125	3	20	7.99	8.15	2	20
Nickel	93	96	75-125	1	20	58.9	55.2	7	20
Zinc	97	99	75-125	0	20	49.7	49.2	1	20

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: ChevronTexaco Group Number: 1488039
Reported: 07/23/14 at 02:50 PM

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 141975708003	Sample number(s): 7528696			UNSPK: P528685		BKG: P528685			
Cadmium	96	94	75-120	3	20	0.201	0.140	36* (1)	20
Chromium	-27 (2)	30 (2)	75-125	12	20	90.0	83.4	8	20
Lead	81	66*	75-125	6	20	16.9	12.9	27*	20
Nickel	88	92	75-125	5	20	40.1	40.7	2	20
Zinc	69*	63*	75-125	1	20	58.5	38.0	42*	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 8260 Ext. Soil Master
Batch number: B141972AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7528696	103	99	101	90
7528697	104	102	102	91
Blank	104	99	100	92
LCS	104	104	102	98
MS	105	103	107	94
MSD	104	104	106	95
Limits:	50-141	54-135	52-141	50-131

Analysis Name: SIM SVOA (microwave)
Batch number: 14195SLC026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
7528696	103	101	92
7528697	99	103	92
Blank	99	104	88
LCS	104	109	96
MS	101	102	90
MSD	104	105	92
Limits:	59-115	61-118	70-127

Analysis Name: TPH-GRO N. CA soil C6-C12
Batch number: 14197A16A

	Trifluorotoluene-F
7528696	84
7528697	92
Blank	108
LCS	107
LCSD	107

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: ChevronTexaco Group Number: 1488039
Reported: 07/23/14 at 02:50 PM

Surrogate Quality Control

Limits: 50-142

Analysis Name: TPH Fuels soils w/Si Gel
Batch number: 141970020A

	Chlorobenzene	Orthoterphenyl
7528696	91	91
7528697	96	86
Blank	95	102
DUP	92	79
LCS	107	113
MS	103	97
Limits:	54-137	48-135

Analysis Name: TPH-DRO soil C10-C28 w/Si Gel
Batch number: 141970021A

	Orthoterphenyl
7528696	91
7528697	91
Blank	111
DUP	89
LCS	104
MS	102
Limits:	52-136

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Chevron California Region Analysis Request/Chain of Custody

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For Lancaster Laboratories use only
Acct. # 10880 Group # 1488039 Sample # 7528696-97
070914-03 3 of 5
Instructions on reverse side correspond with circled numbers.

SCR #: ______

① Client Information

Facility #: FORMER TEXACO 359766 WBS: 07.11
Site Address: 2700 23RD AVENUE, OAKLAND, CA
Chevron PM: ALEXIS FISCHER Lead Consultant: CRA
Consultant/Office: CRA – EMERYVILLE
Consultant Project Mgr.: NATHAN LEE
Consultant Phone #: (925) 849-1003
Sampler: O. YAN

④ Matrix: ☐ Sediment ☐ Ground ☐ Surface ☐ Potable ☐ NPDES ☐ Air ☒ Soil, Water, Oil

⑤ Analyses Requested: BTEX + MTBE ☐ 8021 ☒ 8260; TPH GRO ☒ 8015 ☐ 8260; TPH 8015 MOD DRO + TPH MOTOR OIL 8015 W/ SILICA GEL CLEANUP; Silica Gel Cleanup; 8260 Full Scan; Oxygenates (2) EDB/1,2-Dichloroethane by 8260; Total Lead Method; Dissolved Lead Method; PAHs by 8270 SIM (16 priority PAHs); Cadmium/Chromium/Nickel/Lead/Zinc by 6010/6020

② Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil	Water	Oil	Total Number of Containers	BTEX + MTBE	TPH GRO	TPH 8015 MOD DRO + TPH Motor Oil	Silica Gel Cleanup	8260 Full Scan	Oxygenates / EDB, 1,2-DCA	Total Lead	Dissolved Lead	PAHs by 8270 SIM	Cd/Cr/Ni/Pb/Zn
VP-1 @5'	7/9/14	0823	X		X			1	X	X	X			X			X	X
VP-2 @5'	7/9/14	0748	X		✓			1	X	X	X			X			X	X

☐ Results in Dry Weight
☐ J value reporting needed
☐ Must meet lowest detection limits possible for 8260 compounds
☐ 8021 MTBE Confirmation
☐ Confirm highest hit by 8260
☐ Confirm all hits by 8260
☐ Run ______ oxy's on highest hit
☐ Run ______ oxy's on all hits

⑥ Remarks
SEND RESULTS TO:
NLEE@CRAWORLD.COM

⑦ Turnaround Time Requested (TAT) (please circle)
(Standard) 5 day 4 day
72 hour 48 hour 24 hour

⑧ Data Package Options (please circle if required)
Type I - Full Type VI (Raw Data)

Relinquished by	Date	Time	Received by	Date	Time
[signature]	07/09/14	1130	CRA SECURE LOCATION	07/09/14	1130
[signature]	7/9/14	1345	[signature]	7/9/14	1345
Relinquished by Commercial Carrier: [signature] 09JULY14 1635 — UPS FedEx Other			Received by [signature] SOUTHWEST	7/10/14	1735

Temperature Upon Receipt 1.0 °C
Custody Seals Intact? (Yes) No

Lancaster Laboratories, Inc. • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300
The white copy should accompany samples to Lancaster Laboratories. The yellow copy should be retained by the client.
Issued by Dept. 40 Management 7050.01

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	**B**	Value is <CRDL, but ≥IDL
B	Analyte was also detected in the blank	**E**	Estimated due to interference
C	Pesticide result confirmed by GC/MS	**M**	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	**N**	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	**S**	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	**U**	Compound was not detected
P	Concentration difference between primary and confirmation columns >25%	**W**	Post digestion spike out of control limits
U	Compound was not detected	*****	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	**+**	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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7/30/2014
Mr. Oliver Yan
Conestoga-Rovers Associates (CRA)
5900 Hollis Street
Suite A
Emeryville CA 94608

Project Name: Former Texaco 359766
Project #: 062086
Workorder #: 1407330A

Dear Mr. Oliver Yan

The following report includes the data for the above referenced project for sample(s) received on 7/16/2014 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori

Project Manager

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WORK ORDER #: 1407330A

Work Order Summary

CLIENT:	Mr. Oliver Yan Conestoga-Rovers Associates (CRA) 5900 Hollis Street Suite A Emeryville, CA 94608	**BILL TO:**	Accounts Payable Chevron U.S.A. Inc. 6001 Bollinger Canyon Road L4310 San Ramon, CA 94583
PHONE:	510-420-0700	**P.O. #**	SS30580
FAX:	510-420-9170	**PROJECT #**	062086 Former Texaco 359766
DATE RECEIVED:	07/16/2014	**CONTACT:**	Kyle Vagadori
DATE COMPLETED:	07/30/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VP-1	TO-15	8.2 "Hg	14.9 psi
02A	VP-1 DUP	TO-15	7.3 "Hg	14.8 psi
03A	VP-2	TO-15	4.5 "Hg	14.4 psi
04A	Lab Blank	TO-15	NA	NA
05A	CCV	TO-15	NA	NA
06A	LCS	TO-15	NA	NA
06AA	LCSD	TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 07/30/14

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-13-6, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
Conestoga-Rovers Associates (CRA)
Workorder# 1407330A

Three 1 Liter Summa Canister (100% Certified) samples were received on July 16, 2014. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

The Chain of Custody (COC) information for sample VP-1 did not match the information on the canister with regard to canister identification. The client was notified of the discrepancy and the information on the canister was used to process and report the sample.

Analytical Notes

Dilution was performed on sample VP-2 due to matrix interference.

A single point calibration for TPH referenced to Gasoline was performed for each daily analytical batch. Recovery is reported as 100% in the associated results for each CCV.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: VP-1

Lab ID#: 1407330A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.4	2.8	4.4	9.0
Ethyl Benzene	1.4	2.6	6.0	11
Toluene	1.4	9.2	5.2	34
m,p-Xylene	1.4	8.0	6.0	35
o-Xylene	1.4	3.1	6.0	13
TPH ref. to Gasoline (MW=100)	69	510	280	2100

Client Sample ID: VP-1 DUP

Lab ID#: 1407330A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.3	2.4	4.2	7.6
Ethyl Benzene	1.3	2.5	5.8	11
Toluene	1.3	38	5.0	140
m,p-Xylene	1.3	8.6	5.8	37
o-Xylene	1.3	3.6	5.8	16
TPH ref. to Gasoline (MW=100)	66	550	270	2200

Client Sample ID: VP-2

Lab ID#: 1407330A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	16	25	50	79
m,p-Xylene	16	20	67	89
TPH ref. to Gasoline (MW=100)	780	180000	3200	740000

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Client Sample ID: VP-1

Lab ID#: 1407330A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3072509**	**Date of Collection: 7/14/14 10:33:00 AM**	
Dil. Factor:	**2.77**	**Date of Analysis: 7/25/14 11:31 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.4	2.8	4.4	9.0
Ethyl Benzene	1.4	2.6	6.0	11
Toluene	1.4	9.2	5.2	34
m,p-Xylene	1.4	8.0	6.0	35
o-Xylene	1.4	3.1	6.0	13
Methyl tert-butyl ether	1.4	Not Detected	5.0	Not Detected
Naphthalene	5.5	Not Detected	29	Not Detected
TPH ref. to Gasoline (MW=100)	69	510	280	2100

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: VP-1 DUP

Lab ID#: 1407330A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3072510**	**Date of Collection:**	**7/14/14 10:33:00 AM**
Dil. Factor:	**2.65**	**Date of Analysis:**	**7/25/14 11:58 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.3	2.4	4.2	7.6
Ethyl Benzene	1.3	2.5	5.8	11
Toluene	1.3	38	5.0	140
m,p-Xylene	1.3	8.6	5.8	37
o-Xylene	1.3	3.6	5.8	16
Methyl tert-butyl ether	1.3	Not Detected	4.8	Not Detected
Naphthalene	5.3	Not Detected	28	Not Detected
TPH ref. to Gasoline (MW=100)	66	550	270	2200

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: VP-2

Lab ID#: 1407330A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3072514**	**Date of Collection:**	**7/14/14 11:16:00 AM**
Dil. Factor:	**31.0**	**Date of Analysis:**	**7/25/14 01:55 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	16	25	50	79
Ethyl Benzene	16	Not Detected	67	Not Detected
Toluene	16	Not Detected	58	Not Detected
m,p-Xylene	16	20	67	89
o-Xylene	16	Not Detected	67	Not Detected
Methyl tert-butyl ether	16	Not Detected	56	Not Detected
Naphthalene	62	Not Detected	320	Not Detected
TPH ref. to Gasoline (MW=100)	780	180000	3200	740000

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1407330A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3072508**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/25/14 10:16 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	Not Detected	1.6	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
Naphthalene	2.0	Not Detected	10	Not Detected
TPH ref. to Gasoline (MW=100)	25	Not Detected	100	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: CCV

Lab ID#: 1407330A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3072502**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/25/14 07:41 AM**	

Compound	%Recovery
Benzene	99
Ethyl Benzene	102
Toluene	99
m,p-Xylene	105
o-Xylene	106
Methyl tert-butyl ether	101
Naphthalene	106
TPH ref. to Gasoline (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: LCS

Lab ID#: 1407330A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3072503**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/25/14 08:08 AM**	

Compound	%Recovery	Method Limits
Benzene	98	70-130
Ethyl Benzene	98	70-130
Toluene	96	70-130
m,p-Xylene	102	70-130
o-Xylene	99	70-130
Methyl tert-butyl ether	97	70-130
Naphthalene	80	60-140
TPH ref. to Gasoline (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: LCSD

Lab ID#: 1407330A-06AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3072504**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/25/14 08:33 AM**	

Compound	%Recovery	Method Limits
Benzene	99	70-130
Ethyl Benzene	101	70-130
Toluene	97	70-130
m,p-Xylene	102	70-130
o-Xylene	101	70-130
Methyl tert-butyl ether	99	70-130
Naphthalene	88	60-140
TPH ref. to Gasoline (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	107	70-130

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7/30/2014
Mr. Oliver Yan
Conestoga-Rovers Associates (CRA)
5900 Hollis Street
Suite A
Emeryville CA 94608

Project Name: Former Texaco 359766
Project #: 062086
Workorder #: 1407330B

Dear Mr. Oliver Yan

The following report includes the data for the above referenced project for sample(s) received on 7/16/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 APH are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1407330B

Work Order Summary

CLIENT:	Mr. Oliver Yan Conestoga-Rovers Associates (CRA) 5900 Hollis Street Suite A Emeryville, CA 94608	**BILL TO:**	Accounts Payable Chevron U.S.A. Inc. 6001 Bollinger Canyon Road L4310 San Ramon, CA 94583
PHONE:	510-420-0700	**P.O. #**	SS30580
FAX:	510-420-9170	**PROJECT #**	062086 Former Texaco 359766
DATE RECEIVED:	07/16/2014	**CONTACT:**	Kyle Vagadori
DATE COMPLETED:	07/30/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VP-1	Modified TO-15 APH	8.2 "Hg	14.9 psi
01B	VP-1	Modified TO-15 APH	8.2 "Hg	14.9 psi
02A	VP-1 DUP	Modified TO-15 APH	7.3 "Hg	14.8 psi
02B	VP-1 DUP	Modified TO-15 APH	7.3 "Hg	14.8 psi
03A	VP-2	Modified TO-15 APH	4.5 "Hg	14.4 psi
03B	VP-2	Modified TO-15 APH	4.5 "Hg	14.4 psi
04A	Lab Blank	Modified TO-15 APH	NA	NA
04B	Lab Blank	Modified TO-15 APH	NA	NA
05A	CCV	Modified TO-15 APH	NA	NA
05B	CCV	Modified TO-15 APH	NA	NA

CERTIFIED BY: Heidi Mayo DATE: 07/30/14

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-13-6, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 & VPH Fractions
Conestoga-Rovers Associates (CRA)
Workorder# 1407330B

Three 1 Liter Summa Canister (100% Certified) samples were received on July 16, 2014. The laboratory performed analysis via EPA Method TO-15 and Air Toxics VPH (Volatile Petroleum Hydrocarbon) methods for the Determination of VPH Fractions using GC/MS in the full scan mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis. This method is designed to measure gaseous phase aliphatic and aromatic compounds in ambient air and soil gas collected in stainless steel Summa canisters. Air Toxics VPH method is a hybrid of EPA TO-15, MADEP APH and WSDE VPH methods. Chromatographic peaks were identified via mass spectrum as either aliphatic or aromatic petroleum hydrocarbons and included in the appropriate range as defined by the method. The volatile Aliphatic hydrocarbons are collectively quantified within the C5 to C6 range, C6 to C8 range, C8 to C10 range and the C10 to C12 range. Additionally, the volatile Aromatic hydrocarbons are collectively quantified within the C8 to C10 range and the C10 to C12 range. The Aromatic ranges refer to the equivalent carbon (EC) ranges.

Aliphatic data is calculated from the Total Ion chromatogram which has been reprocessed in a duplicate file differentiated from the original by the addition of an alphanumeric extension. The Aromatic calculation also uses the information contained in the associated Extracted Ion file.

Receiving Notes

The Chain of Custody (COC) information for sample VP-1 did not match the information on the canister with regard to canister identification. The client was notified of the discrepancy and the information on the canister was used to process and report the sample.

Analytical Notes

Dilution was performed on sample VP-2 due to matrix interference.

The C6-C8 Aliphatic Hydrocarbon result in sample VP-2 is reported as biased high due to an unknown hydrocarbon coeluting with surrogate 1,2-Dichloroethane-d4. Since there was no resolution between the unknown and the surrogate, the peak area originating from 1,2-Dichloroethane-d4 could not be discounted and thus was unavoidably included in the calculation for this analytical fraction. The unknown hydrocarbon was classified and reported in the C6-C8 Aliphatic range.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit.
UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: VP-1

Lab ID#: 1407330B-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
>C6-C8 Aliphatic Hydrocarbons (ref. to Heptane)	28	100	110	420
>C10-C12 Aliphatic Hydrocarbons (ref. to Dodecane)	28	41	190	290

Client Sample ID: VP-1

Lab ID#: 1407330B-01B

No Detections Were Found.

Client Sample ID: VP-1 DUP

Lab ID#: 1407330B-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
>C6-C8 Aliphatic Hydrocarbons (ref. to Heptane)	26	130	110	550
>C10-C12 Aliphatic Hydrocarbons (ref. to Dodecane)	26	98	180	680

Client Sample ID: VP-1 DUP

Lab ID#: 1407330B-02B

No Detections Were Found.

Client Sample ID: VP-2

Lab ID#: 1407330B-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
C5-C6 Aliphatic Hydrocarbons (ref. to Pentane + Hexane)	310	920	1000	3000
>C6-C8 Aliphatic Hydrocarbons (ref. to Heptane)	310	45000	1300	180000
>C8-C10 Aliphatic Hydrocarbons (ref. to Decane)	310	33000	1800	190000
>C10-C12 Aliphatic Hydrocarbons (ref. to Dodecane)	310	12000	2200	81000

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Summary of Detected Compounds
MODIFIED METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: VP-2

Lab ID#: 1407330B-03B

No Detections Were Found.

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Client Sample ID: VP-1

Lab ID#: 1407330B-01A

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**3072509a**	**Date of Collection: 7/14/14 10:33:00 AM**	
Dil. Factor:	**2.77**	**Date of Analysis: 7/25/14 11:31 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
C5-C6 Aliphatic Hydrocarbons (ref. to Pentane + Hexane)	28	Not Detected	90	Not Detected
>C6-C8 Aliphatic Hydrocarbons (ref. to Heptane)	28	100	110	420
>C8-C10 Aliphatic Hydrocarbons (ref. to Decane)	28	Not Detected	160	Not Detected
>C10-C12 Aliphatic Hydrocarbons (ref. to Dodecane)	28	41	190	290

Container Type: 1 Liter Summa Canister (100% Certified)

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Client Sample ID: VP-1

Lab ID#: 1407330B-01B

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**3072509c**	**Date of Collection: 7/14/14 10:33:00 AM**	
Dil. Factor:	**2.77**	**Date of Analysis: 7/25/14 11:31 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
>C8-C10 Aromatic Hydrocarbons	28	Not Detected	140	Not Detected
>C10-C12 Aromatic Hydrocarbons	28	Not Detected	150	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

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Client Sample ID: VP-1 DUP

Lab ID#: 1407330B-02A

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**3072510a**	**Date of Collection: 7/14/14 10:33:00 AM**	
Dil. Factor:	**2.65**	**Date of Analysis: 7/25/14 11:58 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
C5-C6 Aliphatic Hydrocarbons (ref. to Pentane + Hexane)	26	Not Detected	86	Not Detected
>C6-C8 Aliphatic Hydrocarbons (ref. to Heptane)	26	130	110	550
>C8-C10 Aliphatic Hydrocarbons (ref. to Decane)	26	Not Detected	150	Not Detected
>C10-C12 Aliphatic Hydrocarbons (ref. to Dodecane)	26	98	180	680

Container Type: 1 Liter Summa Canister (100% Certified)

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Client Sample ID: VP-1 DUP

Lab ID#: 1407330B-02B

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**3072510c**	**Date of Collection: 7/14/14 10:33:00 AM**	
Dil. Factor:	**2.65**	**Date of Analysis: 7/25/14 11:58 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
>C8-C10 Aromatic Hydrocarbons	26	Not Detected	130	Not Detected
>C10-C12 Aromatic Hydrocarbons	26	Not Detected	140	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

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Client Sample ID: VP-2

Lab ID#: 1407330B-03A

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**3072514a**	**Date of Collection: 7/14/14 11:16:00 AM**	
Dil. Factor:	**31.0**	**Date of Analysis: 7/25/14 01:55 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
C5-C6 Aliphatic Hydrocarbons (ref. to Pentane + Hexane)	310	920	1000	3000
>C6-C8 Aliphatic Hydrocarbons (ref. to Heptane)	310	45000	1300	180000
>C8-C10 Aliphatic Hydrocarbons (ref. to Decane)	310	33000	1800	190000
>C10-C12 Aliphatic Hydrocarbons (ref. to Dodecane)	310	12000	2200	81000

Container Type: 1 Liter Summa Canister (100% Certified)

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Client Sample ID: VP-2

Lab ID#: 1407330B-03B

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**3072514c**	**Date of Collection: 7/14/14 11:16:00 AM**	
Dil. Factor:	**31.0**	**Date of Analysis: 7/25/14 01:55 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
>C8-C10 Aromatic Hydrocarbons	310	Not Detected	1500	Not Detected
>C10-C12 Aromatic Hydrocarbons	310	Not Detected	1700	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

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Client Sample ID: Lab Blank

Lab ID#: 1407330B-04A

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**3072508a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/25/14 10:16 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
C5-C6 Aliphatic Hydrocarbons (ref. to Pentane + Hexane)	10	Not Detected	32	Not Detected
>C6-C8 Aliphatic Hydrocarbons (ref. to Heptane)	10	Not Detected	41	Not Detected
>C8-C10 Aliphatic Hydrocarbons (ref. to Decane)	10	Not Detected	58	Not Detected
>C10-C12 Aliphatic Hydrocarbons (ref. to Dodecane)	10	Not Detected	70	Not Detected

Container Type: NA - Not Applicable

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Client Sample ID: Lab Blank

Lab ID#: 1407330B-04B

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**3072508c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/25/14 10:16 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
>C8-C10 Aromatic Hydrocarbons	10	Not Detected	49	Not Detected
>C10-C12 Aromatic Hydrocarbons	10	Not Detected	55	Not Detected

Container Type: NA - Not Applicable

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Client Sample ID: CCV

Lab ID#: 1407330B-05A

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**3072506a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/25/14 09:23 AM**	

Compound	%Recovery
C5-C6 Aliphatic Hydrocarbons (ref. to Pentane + Hexane)	98
>C6-C8 Aliphatic Hydrocarbons (ref. to Heptane)	97
>C8-C10 Aliphatic Hydrocarbons (ref. to Decane)	94
>C10-C12 Aliphatic Hydrocarbons (ref. to Dodecane)	74

Container Type: NA - Not Applicable

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Client Sample ID: CCV

Lab ID#: 1407330B-05B

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**3072506c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/25/14 09:23 AM**	

Compound	%Recovery
>C8-C10 Aromatic Hydrocarbons	98
>C10-C12 Aromatic Hydrocarbons	86

Container Type: NA - Not Applicable

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7/29/2014
Mr. Oliver Yan
Conestoga-Rovers Associates (CRA)
5900 Hollis Street
Suite A
Emeryville CA 94608

Project Name: Former Texaco 359766
Project #: 062086
Workorder #: 1407330C

Dear Mr. Oliver Yan

The following report includes the data for the above referenced project for sample(s) received on 7/16/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori

Project Manager

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WORK ORDER #: 1407330C

Work Order Summary

CLIENT:	Mr. Oliver Yan Conestoga-Rovers Associates (CRA) 5900 Hollis Street Suite A Emeryville, CA 94608	**BILL TO:**	Accounts Payable Chevron U.S.A. Inc. 6001 Bollinger Canyon Road L4310 San Ramon, CA 94583
PHONE:	510-420-0700	**P.O. #**	SS30580
FAX:	510-420-9170	**PROJECT #**	062086 Former Texaco 359766
DATE RECEIVED:	07/16/2014	**CONTACT:**	Kyle Vagadori
DATE COMPLETED:	07/29/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VP-1	Modified ASTM D-1946	8.2 "Hg	14.9 psi
02A	VP-1 DUP	Modified ASTM D-1946	7.3 "Hg	14.8 psi
03A	VP-2	Modified ASTM D-1946	4.5 "Hg	14.4 psi
04A	Lab Blank	Modified ASTM D-1946	NA	NA
04B	Lab Blank	Modified ASTM D-1946	NA	NA
05A	LCS	Modified ASTM D-1946	NA	NA
05AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: Heidi Rayos DATE: 07/29/14

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-13-6, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified ASTM D-1946
Conestoga-Rovers Associates (CRA)
Workorder# 1407330C

Three 1 Liter Summa Canister (100% Certified) samples were received on July 16, 2014. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Since Nitrogen is used to pressurize samples, the reported Nitrogen values are calculated by adding all the sample components and subtracting from 100%.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***ASTM D-1946***	***ATL Modifications***
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A minimum of 5-point calibration curve is performed. Quantitation is based on average Response Factor.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a >/= 95% accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections > 5 X's the RL.

Receiving Notes

The Chain of Custody (COC) information for sample VP-1 did not match the information on the canister with regard to canister identification. The client was notified of the discrepancy and the information on the canister was used to process and report the sample.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: VP-1

Lab ID#: 1407330C-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	8.5
Nitrogen	0.28	85
Carbon Dioxide	0.028	6.7

Client Sample ID: VP-1 DUP

Lab ID#: 1407330C-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	8.6
Nitrogen	0.27	85
Carbon Dioxide	0.027	6.5

Client Sample ID: VP-2

Lab ID#: 1407330C-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.38	10
Nitrogen	0.38	79
Carbon Dioxide	0.038	10
Methane	0.00038	0.12

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Client Sample ID: VP-1

Lab ID#: 1407330C-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10072616**	**Date of Collection: 7/14/14 10:33:00 AM**	
Dil. Factor:	**2.77**	**Date of Analysis: 7/26/14 10:48 AM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.28	8.5
Nitrogen	0.28	85
Carbon Dioxide	0.028	6.7
Methane	0.00028	Not Detected
Helium	0.14	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

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Client Sample ID: VP-1 DUP

Lab ID#: 1407330C-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10072618**	**Date of Collection: 7/14/14 10:33:00 AM**	
Dil. Factor:	**2.66**	**Date of Analysis: 7/26/14 12:11 PM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	8.6
Nitrogen	0.27	85
Carbon Dioxide	0.027	6.5
Methane	0.00027	Not Detected
Helium	0.13	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

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Client Sample ID: VP-2

Lab ID#: 1407330C-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10072617**	**Date of Collection: 7/14/14 11:16:00 AM**	
Dil. Factor:	**3.77**	**Date of Analysis: 7/26/14 11:31 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.38	10
Nitrogen	0.38	79
Carbon Dioxide	0.038	10
Methane	0.00038	0.12
Helium	0.19	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

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Client Sample ID: Lab Blank

Lab ID#: 1407330C-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10072606**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/25/14 07:58 PM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	Not Detected
Nitrogen	0.10	Not Detected
Carbon Dioxide	0.010	Not Detected
Methane	0.00010	Not Detected

Container Type: NA - Not Applicable

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Client Sample ID: Lab Blank

Lab ID#: 1407330C-04B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10072605c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/25/14 07:35 PM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Helium	0.050	Not Detected

Container Type: NA - Not Applicable

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Client Sample ID: LCS

Lab ID#: 1407330C-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10072604**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/25/14 07:11 PM**	

Compound	%Recovery	Method Limits
Oxygen	100	85-115
Nitrogen	93	85-115
Carbon Dioxide	100	85-115
Methane	103	85-115
Helium	99	85-115

Container Type: NA - Not Applicable

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Client Sample ID: LCSD

Lab ID#: 1407330C-05AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10072623**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/26/14 02:51 PM**	

Compound	%Recovery	Method Limits
Oxygen	100	85-115
Nitrogen	93	85-115
Carbon Dioxide	100	85-115
Methane	103	85-115
Helium	99	85-115

Container Type: NA - Not Applicable

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Nathan Lee
Collected by: (Print and Sign) OLIVER YAN
Company CONESTOGA-ROVERS & ASSOCIATES Email NLEE@CRAWORLD.COM
Address 5900 HOLLIS ST, SUITE A City EMERYVILLE State CA Zip 94608
Phone (510) 420-0700 Fax (510) 420-9170

Project Info:
P.O. #
Project # 062086
Project Name Former Texaco 359766

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	VP-1	35268	7/14/14	1033	EPA TO-15 GC/MS (TPHs/BTEX MTBE/NAPH), TO-15 APH, ASTM D-1946 (CH_4, CO_2, He, N_2/O_2)	-30	-8		
02A	VP-1 DUP	37684	7/14/14	1033	↓	-30	-8		
03A	VP-2	14529	7/14/14	1116	↓	-30	-5.5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
	07/14/14 1415	David Mitchell	FATL 7/16/14 1609
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
email results to: NLEE@CRAWORLD.COM, OYAN@CRAWORLD.COM

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex		NA	Good	Yes No (None)	1407330

Form 1293 rev.11

Appendix G

Geophysical Investigation Report

NORCAL GEOPHYSICAL CONSULTANTS, INC.

July 15, 2014

Mr. Oliver Yan
Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608

Subject: Geophysical Investigation
Ed's Liquors (Chevron Station #359766), 2700 23rd Avenue, Oakland, CA
NORCAL Job No. 14-462.188

Dear Mr. Yan:

This report presents the findings of a geophysical survey performed by NORCAL Geophysical Consultants, Inc. at the subject property in Oakland, CA. The field survey was conducted on July 2, 2014 by NORCAL California Professional Geophysicist Donald J. Kirker and geophysical technician Travis Black. Site information and logistical support were provided by Oliver Yan of Conestoga-Rovers & Associates (CRA).

1.0 PURPOSE AND SITE DESCRIPTION

The geophysical investigation was conducted at the property presently occupied by Ed's Liquor. It is located on the northeast corner of 23rd Avenue and East 27th Street, as shown on Plate 1, and includes a building and asphalt parking lot. This property was formerly occupied by a Chevron gas station. However, all associated features including the pump island, underground storage tanks, and piping have been removed.

The survey area, as designated by CRA, covers approximately 4,600 square feet and includes the parking lot and adjacent sidewalks. Additional site features include bollards, a light pole, and electrical boxes in the southwest corner. The remaining site is open and covered with asphalt paving.

As part of ongoing work at the property, CRA is gathering information to assess potential groundwater movement beneath the site and planning to drill borings at six locations. Therefore, the purpose of the geophysical survey is to investigate for detectable underground utilities and other features that may act as preferential pathways for groundwater movement and as subsurface obstructions to the proposed drilling.

2.0 FIELD INVESTIGATIONS

2.1 EQUIPMENT

We investigated the designated survey area using the electromagnetic line locating/metal detection (EMLL) and ground penetrating radar (GPR) methods. The EMLL method was used in the electromagnetic conduction, ambient, and metal detection (MD) modes. The conduction mode was used to locate metal utilities that are accessible from the surface in at least one location. This is typically done by applying a current to a line by directly connecting the transmitter to the exposed utility through a vault or a hose bib. The ambient procedure was used to locate utilities that exhibit currents already flowing on the line (passive signals). The most common passive signals are generated by live electric lines, water lines acting as electrical grounds, and metal pipes re-radiating radio signals.

The MD mode was used to locate metal utilities that are not accessible at the surface, and isolated buried objects such as USTs, utility vaults, and other debris. This is done by holding the transmitter-receiver unit above the ground and continuously scanning over the surface. Metallic utilities and isolated objects will produce a response indicating when the unit is directly over the metal object.

The GPR method was used to confirm the location of the utilities detected with the EMLL, and to locate possible non-metallic utilities. Since GPR depth of detection is based on site specific soil conditions, not all subsurface features are detectable. Descriptions of the MD, EMLL, and GPR methods are provided in Appendix A.

2.2 LIMITATIONS

2.2.1 Electromagnetic Line Locating

The detection of underground utilities is dependent upon the composition and construction of the line of interest, as well as depth. Utilities detectable with standard line location techniques include any continuously connected metal pipes, cables/wires or utilities with tracer wires. Unless carrying a passive current these utilities must be exposed at the surface or accessible in utility vaults. These generally include water, electric, natural gas, telephone, and other conduits related to facility operations. Utilities that may not be detectable using standard electromagnetic line location techniques may include certain abandoned utilities, utilities not exposed at the ground surface, or those made of non-electrically conductive materials such as PVC, fiberglass, vitrified clay, and metal pipes with insulating joints. Also, pipes generally deeper than about five to seven feet may not be detected.

2.2.2 Ground Penetrating Radar

The ability to detect subsurface targets is dependent on site specific conditions. These conditions include depth of burial, the size or diameter of the target, the condition of the specific target in question, the type of backfill material associated with the target, and the surface conditions over the target. Under ideal conditions, the GPR can generally detect objects buried to approximately six feet. However, as the clay content in the subsurface increases, the GPR depth of detection decreases. Therefore, it is possible that on-site soil conditions and target features may limit the depth of detection to the upper two to four feet below ground surface.

2.3 SITE SURVEY

We investigated the designated survey area and proposed boring locations for detectable underground utilities and other potential subsurface features in a two phased approach. Phase 1 consisted of locating utilities that where visually evident. Phase 2 consisted of scanning the survey area for subsurface features not accessible at the surface. A brief description of our field procedures are presented below:

PHASE 1

A. Site Reconnaissance: We visually inspected the general area to locate visible man-way covers, utility vaults, valves, clean-outs, meters, hose bibs, etc.

B. EMLL Direct Connect and Induction Survey: We traced accessible utilities within the general area using the EMLL direct connect and induction methods, as described above.

PHASE 2

A. EMLL Ambient Survey: We used the EMLL ambient procedure to investigate the survey area for non-accessible utilities emitting a passive signal, as described above.

B. EMLL Metal Detection (MD) Survey: We scanned the survey area with the MD to investigate for metal utilities that were not accessible at the surface. Since the specific type of utility (i.e. water, gas, etc.) cannot be determined by this method, they are referred to as undifferentiated utilities. We also used the MD method to investigate the survey area for possible buried metal objects.

C. GPR Survey: We obtained GPR data along both south-north and west-east trending traverses spaced 5- to 10-ft apart. We examined the GPR records for reflection patterns characteristic of underground utilities and other potential subsurface objects.

D. Field Documentation: Upon completion of the survey, we drafted a scaled site diagram showing the limits of the designated survey area, the location of each proposed boring, structures or above ground cultural features that are in close proximity to the site, and the locations of detected subsurface objects and utility alignments.

3.0 RESULTS

The results of the geophysical investigation are presented on the Geophysical Survey Map, Plate 1. This map shows the limits of the designated survey area, structures or above ground cultural features that are in close proximity, the locations of the detected utility alignments and subsurface features and the location of each proposed boring.

3.1 SUBSURFACE OBJECTS AND UTILITIES

The results of the EMLL, MD, and GPR surveys defined the location of a metal detector anomaly and numerous utility alignments, including electric, water, sanitary sewer, storm drain, natural gas and undifferentiated utilities.

The metal detector anomaly is located in the southwest corner and measures approximately 3- by 3-ft. These dimensions are consistent with many different features such as small reinforced concrete footings, utility vaults, and/or buried metal debris.

The electric lines were defined along the west and south sides of the property and trend from the building to a light and utility pole located in the southwest corner. The water and sanitary sewer lines were defined near the building and trend south to 27th Street. The storm drain line was detected in the parking lot and trends from a catch basin to 27th Street. The natural gas line was detected along the north boundary and trends from the building to 23rd Street. The undifferentiated utility is located in the center and trends from one portion of the building to another. It should be noted that the specific type of utility is unknown.

3.2 PROPOPSED BORING LOCATIONS

Six proposed borings are located within the parking lot west of the building and in the small concrete covered area south of the building. They are designated as VP-1 and -2, and B-3, -6, -7, and -8. Their locations were adjusted to be approximately 5-ft away from the detected utilities mentioned above. Specifically, VP-1, VP-2, and B-6 are located near the sanitary sewer, electric, and undifferentiated utilities adjacent to the building. B-3 is located near the electric line along the 23rd Avenue sidewalk, and B-8 is located near the water line. We did not detect utilities within 5-ft of B-7. However, the metal detector anomaly is located approximately 3-ft east of the boring.

4.0 STANDARD CARE AND WARRANTY

The scope of NORCAL's services for this project consisted of using geophysical methods to explore the area of investigation for underground utilities. The accuracy of our findings is subject to specific site conditions and limitations inherent to the techniques used. We performed our services in a manner consistent with the level of skill ordinarily exercised by members of the profession currently employing similar methods. No warranty, with respect to the performance of services or products delivered under this agreement, expressed or implied, is made by NORCAL.

We appreciate having the opportunity to provide our geophysical services to Conestoga-Rovers & Associates. If you have any questions, or require additional geophysical services, please do not hesitate to call.

Respectfully,

NORCAL Geophysical Consultants, Inc.

Donald J. Kirker

Donald J. Kirker
Professional Geophysicist, PGp-997

DJK/tt

Enclosure: Plate 1
Appendix A: GEOPHYSICAL METHODOLOGY

Appendix A

GEOPHYSICAL METHODOLOGY

Appendix A

ELECTROMAGNETIC LINE LOCATION/METAL DETECTION (EMLL/MD)

METHODOLOGY

Electromagnetic line location techniques (EMLL) are used to locate the magnetic field resulting from an electric current flowing on a line. These magnetic fields can arise from currents already on the line (passive) or currents applied to a line with a transmitter (active). The most common passive signals are generated by live electric lines and re-radiated radio signals. Active signals can be introduced by connecting the transmitter to the line at accessible locations or by induction.

The detection of underground utilities is affected by the composition and construction of the line in question. Utilities detectable with standard line location techniques include any continuously connected metal pipes, cables/wires or utilities with tracer wires. Unless the utilities carry a passive current, they must be exposed at the surface or in accessible utility vaults. These generally include water, electric, natural gas, telephone, and other conduits related to facility operations. Utilities that are not detectable using standard electromagnetic line location techniques include those made of non-electrically conductive materials such as PVC, fiberglass, vitrified clay, and pipes with insulated connections.

Buried objects can also be detected, without direct contact, by using the metal detection technique (MD). This is used to detect buried near surface metal objects such as rebar, manhole covers, USTs, and various metallic debris. The MD transmitter-receiver unit is held above the ground and continuously scanned over the surface. The unit utilizes two orthogonal coils that are separated by a specified distance. One of the coils transmits an electromagnetic signal (primary magnetic field) which in turn produces a secondary magnetic field about the subsurface metal object. Since the receiver coil is orthogonal to the transmitter coil, it is unaffected by the primary field. Therefore, the secondary magnetic fields produced by buried metal object will generate an audible response from the unit. The peak of this response indicates when the unit is directly over the metal object.

The instrumentation we used for the EMLL and MD survey consists of a Radio Detection RD-400 and a Fisher TW-6 inductive pipe and cable locator.

DATA ANALYSIS

The EMLL/MD instrumentation indicates the presence of buried metal by emitting an audible tone; there are no recorded data to analyze. Therefore, the locations of buried objects detected with these methods are marked on the ground surface during the survey.

LIMITATION

The detection of underground utilities is dependent upon the composition and construction of the line of interest, as well as depth. Utilities detectable with standard line location techniques include any continuously connected metal pipes, cables/wires or utilities with tracer wires. Unless carrying a passive current these utilities must be exposed at the surface or accessible in utility vaults. These generally include water, electric, natural gas, telephone, and other conduits related to facility operations. Utilities that may not be detectable using standard electromagnetic line location techniques include certain abandoned utilities, utilities not exposed at the ground surface, or those made of non-electrically conductive materials such as PVC, fiberglass, vitrified clay, and metal pipes with insulating joints. Pipes generally deeper than about five to seven feet may not be detected.

GROUND PENETRATING RADAR (GPR)

METHODOLOGY

Ground penetrating radar is a method that provides a continuous, high resolution cross-section depicting variations in the electrical properties of the shallow subsurface. The method is particularly sensitive to variations in electrical conductivity and electrical permittivity (the ability of a material to hold a charge when an electrical field is applied).

The GPR system operates by radiating electromagnetic pulses into the ground from a transducer (antenna) as it is moved along a traverse. Since most earth materials are transparent to electromagnetic energy, the signal spreads downward into the subsurface. However, when the signal encounters a variation in electrical permittivity, a portion of the electromagnetic energy is reflected back to the surface. When the signal encounters a metal object, all of the incident energy is reflected. The reflected signals are received by the same transducer and are printed in cross-section form on a graphical recorder. Changes in subsurface reflection character on the GPR records can provide information regarding the location of USTs, sumps, buried debris, underground utilities, and variations in the shallow stratigraphy.

The GPR system used was a Geophysical Survey Systems, Inc. SIR-3000 Subsurface Interface Radar Systems equipped with a 400 megahertz (MHz) transducer, respectively. This transducer is used to provide high resolution at shallow depths.

DATA ANALYSIS

GPR records are examined to identify reflection patterns characteristic of USTs, utilities, septic tanks, and other buried debris. Typically, USTs are manifested by broad localized hyperbolic (upside-down "U" shape) reflection patterns that vary in intensity. The intensity of a reflection pattern is usually dependent upon the condition of the respective UST, its burial depth, and the type of fill over the UST. Utilities and other buried debris are typically manifested by narrow localized hyperbolic reflections that also vary in intensity.

LIMITATIONS

The ability to detect subsurface targets is dependent on site specific conditions. These conditions include depth of burial, the size or diameter of the target, the condition of the specific target in question, the type of backfill material associated with the target, and the surface conditions over the target. Under ideal conditions, the GPR can generally detect objects buried to approximately six feet. However, as the clay content in the subsurface increases, the GPR depth of detection decreases. Therefore, it is possible that on-site soil conditions and target features may limit the depth of detection to the upper one to two feet below ground surface.

SCALE

0 10 20 40

(1 inch = 20 feet)

LEGEND

	LIMITS OF GEOPHYSICAL SURVEY
E	ELECTRIC LINE
NG	NATURAL GAS LINE
SS	SANITARY SEWER LINE
SD	STORM DRAIN LINE
UU	UNDIFFERENTIATED UTILITY LINE
W	WATER LINE
	APPARENT UTILITY LINE TERMINATION (LINE BECOMES UNDETECTABLE AND IS SUSPECTED TO END)
	UTILITY LINE CONTINUATION (LINE IS SUSPECTED TO CONTINUE BEYOND DETECTED LOCATION)
?	UTILITY LINE NOT DETECTED BEYOND LOCATION (LINE MAY TERMINATE OR CONTINUE)
x	FENCE
	PROPOSED BORING LOCATION
	METAL DETECTOR ANOMALY
	BOLLARD
	LIGHT POLE
	NATURAL GAS METER
CO	SANITARY SEWER CLEANOUT
	STORM DRAIN CATCH BASIN
	UTILITY POLE
	UTILITY PULL BOX
(AC)	ASPHALT
(C)	CONCRETE

LIMITATIONS:

The detected utilities, as shown, may not represent all of the existing underground utilities as there are limitations unique to each geophysical method. These limitations may include: 1) subsurface targets too small or at depths beyond the detection limits of specific instruments, 2) subsurface targets not having a significant contrast in physical properties with the surrounding soils and 3) other cultural features above or below ground that cause instrumental interference and do not allow the detection of certain subsurface targets.

Some utilities may not be detectable using standard line location techniques, such as certain abandoned utilities, utilities not exposed at the ground surface, or those made of non-electrically conductive materials such as PVC, fiberglass, vitrified clay, metal pipes with insulating joints, communication lines, and non-energized electrical lines. In addition, utilities with tracer wires may be unavailable to private utility locating companies due to security reasons.

NORCAL

GEOPHYSICAL SURVEY MAP
ED'S LIQUORS
2700 23RD AVENUE

LOCATION: OAKLAND, CALIFORNIA

CLIENT: CRA

JOB #: 14-462.188

NORCAL GEOPHYSICAL CONSULTANTS INC.

DATE: JUL. 2014

DRAWN BY: G.RANDALL

APPROVED BY: DJK

PLATE 1