CONESTOGA-ROVERS & ASSOCIATES

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TRANSMITTAL

DATE: 4/17/2015

REFERENCE NO.: 062086
Chevron 359766

PROJECT NAME: RO 00003098

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

RECEIVED
By Alameda County Environmental Health 2:48 pm, Apr 20, 2015

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

Sent via:
- ☐ Mail
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- ☐ Same Day Courier
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QUANTITY	DESCRIPTION
1	SUBSURFACE INVESTIGATION REPORT AND UPDATED CONCEPTUAL SITE MODEL

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

COMMENTS:

Copy to: Mark Horne (Chevron) e-copy
Pedro and Maria Pulildo, Property Owner

Completed by: Celina Hernandez [Please Print]

Signed: Celina Hernandez

Filing: **Correspondence File**

Mark Horne
Project Manager
Marketing Business Unit

Chevron Environmental Management Company
6101 Bollinger Canyon Road
San Ramon, CA 94583
Tel (925) 790-3964
markhorne@chevron.com

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

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

I have reviewed the attached report titled *Subsurface Investigation Report and Updated 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,

Mark E Horne

Mark Horne
Project Manager

Attachment: *Subsurface Investigation Report and Updated Conceptual Site Model*

SUBSURFACE INVESTIGATION REPORT
AND UPDATED 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:
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APRIL 17, 2015
REF. NO. 062086 (4)

SUBSURFACE INVESTIGATION REPORT AND UPDATED CONCEPTUAL SITE MODEL

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

Celina Hernandez, PG 8931

Prepared by:
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APRIL 17, 2015
REF. NO. 062086 (4)

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Section 1.0 Introduction

Conestoga-Rovers & Associates (CRA) is submitting this *Subsurface Investigation Report and Updated Conceptual Site 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). The scope of work was approved by the Alameda County Environmental Health (ACEH) in an email correspondence dated June 24, 2014 (Appendix A). The purpose of this subsurface investigation was to define the downgradient extent of hydrocarbons in soil and groundwater offsite. Presented below are the site background, investigation results, updated conceptual site model (CSM), conclusions, and recommendations.

It should be noted that a *Subsurface Investigation Report and Conceptual Model* dated August 29, 2014 was previously submitted by CRA, which addressed ACEH's past technical comments with the exception of the offsite delineation. The downgradient delineation work was delayed due to the processing time associated with the City of Oakland offsite permitting.

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 a previously completed Phase I investigation, the site operated as a gasoline service station from 1928 to 1964. The former dispenser island was located near the southwestern corner of the site and the former station's "kiosk" was located near the northeastern corner. The location of the former underground storage tanks (USTs) is 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, nine soil borings have been advanced, four temporary soil vapor probes, two permanent shallow soil vapor probes, and five groundwater monitoring wells have been installed. In 2010, two onsite test pits were excavated by other consultants based on a geophysical survey completed to

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.

search for historical USTs and associated underground piping.[2,3] CRA has advanced four onsite soil borings, installed the two onsite shallow soil vapor probes, and installed one offsite groundwater monitoring well. Boring, vapor probe and well locations are presented on Figure 2. 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 the maximum explored depth. Sediments encountered offsite at MW-5 consist primarily of silt to the total depth explored of 24 fbg. The boring log for the current investigation is included in Appendix C and an updated geologic cross-section A-A' is presented as Figure 3.

2.4 Site Hydrogeology

The site is relatively flat, lying at an approximate elevation of 165 feet above mean sea level (ft amsl), with a gradual slope toward the south. The site 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 a 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] In March 2015, the depth to groundwater was measured in wells MW-1 through MW-5 ranging between 6.50 fbg (MW-3) to 16.50 fbg (MW-5). The groundwater flow direction was to the southwest with a gradient of 0.10. The nearest surface water body is the Central Reservoir, located approximately 1,000 feet to the northeast (upgradient).

Section 3.0 Subsurface Investigation

The objective of this investigation was to delineate the extent of petroleum hydrocarbons in soil and groundwater downgradient. To meet this objective, CRA observed the installation of groundwater monitoring well MW-5. Monitoring well MW-5 is located in the landscaped area between the street and sidewalk on 23rd Avenue southwest of the East 27th Street intersection (Figure 2). Field activities are summarized below.

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

4 Department of Water Resources, *California's Groundwater Bulletin 118 – Santa Clara Valley Groundwater Basin, East Bay Plain Subbasin*, 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.

3.1 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 the following permits:

- Alameda County Public Works Agency (ACPWA) drilling permit W2014-0629
- City of Oakland Minor Encroachment permit ENMI14142
- City of Oakland Excavation permit X1500036
- City of Oakland Obstruction permits OB1500014

Copies of all permits are included in Appendix D.

3.3 Drilling Company

Vapor Tech Services (VTS) of Hayward, California (C57 license #916085) performed the monitoring well installation.

3.4 Drilling Dates

The monitoring well installation took place on February 12, 2015.

3.5 CRA Personnel

CRA personnel Alyssa Beerling and Oliver Yan managed the drilling under the supervision of California Professional Geologist (PG) Celina Hernandez, PG 8931.

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 drilling location. Norcal utilized a metal detector, tracer cable, electronic line location equipment, and ground penetrating radar (GPR) to determine utilities in the area. The boring location was hand cleared using a hand auger to 8 fbg to ensure no underground utilities existed beneath the borehole location. Norcal's Geophysical Investigation Report is presented in Appendix E.

3.7 Soil Logging and Sampling

Prior to the monitoring well installation a soil boring was advanced using direct push technology (DPT) to continuously log the soil and collect soil samples. Soil samples were collected at approximately 5 fbg, 8 fbg, and at 5-foot intervals to the total depth of each boring. Undisturbed soil samples from 5 fbg and 8 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 DPT to drive samplers lined with polyethylene tubes into undisturbed sediments. Soil was logged according to the ASTM D2488-06 Unified Soil Classification System and field 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 (Eurofins) of Lancaster, Pennsylvania for analysis. The boring log in Appendix C presents the PID data, soil types and soil sample depths.

3.8 Monitoring Well Installation

Prior to well installation, no groundwater was observed immediately after advancing the DPT boring to 24 fbg. CRA waited approximately 1 hour to measure static groundwater; however, no measurable groundwater was observed. The screen interval was based on field observations where moist soil was identified. Eight-inch hollow-stem augers were advanced to the bottom of the DPT boring at 24 fbg. The bottom 4 feet was backfilled with bentonite chips and the monitoring well was installed with a screen interval of approximately 10 to 20 fbg. The well consists of a 2-inch diameter Schedule 40 PVC casing with a 0.020-inch factory-machined slotted screen. The filter pack consists of #3 sand from approximately 9 to 20 fbg and extends 1 foot above the screened interval. The well annulus was backfilled with a 2-foot thick hydrated bentonite seal above the sand pack, from 7 to 9 fbg. The remainder of the well boring was backfilled with Portland Type II/V cement to approximately 1 fbg. A well box was installed flush to grade in concrete. A well construction diagram is shown on the MW-5 boring log in Appendix C. CRA's *Standard Field Procedures for Soil Boring and Monitoring Well Installation* are presented in Appendix F.

3.9 Well Development

On February 16, 2015, Blaine Tech Services, Inc. (Blaine Tech) developed well MW-5 using a 2-inch surge block. Well development sheets are included in Appendix G.

3.10 Groundwater Monitoring and Sampling

On March 10, 2015, Blaine Tech monitored and sampled MW-5 using low-flow purge and sampling methods. On March 13, 2015, Blaine Tech returned to monitor the depth to groundwater in onsite wells MW-1 through MW-4 and offsite well MW-5. Groundwater samples were collected from MW-5 using disposal tubing used during low-flow purge and decanted into laboratory provided containers, properly

sealed, labeled, preserved on ice, logged on COC forms, and submitted to Eurofins for analysis. Blaine Tech's field forms are included in Appendix G.

3.11 Monitoring Well Survey

On February 24, 2015, Morrow Surveying completed a land survey that included site features, EMC soil vapor probes, EMC well MW-5 and non-EMC wells MW-1 through MW-4. A copy of the survey is presented in Appendix H.

3.12 Chemical Analyses

Soil samples were analyzed for the chemicals listed below and the soil laboratory analytical reports are included in Appendix I.

- Total petroleum hydrocarbons as motor oil (TPHmo) and TPH as diesel (TPHd) by Environmental Protection Agency (EPA) Method 8015B modified with silica gel cleanup
- TPH as gasoline (TPHg) by EPA Method 8015B 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 6010/6020

The groundwater sample collected from offsite well MW-5 was initially analyzed by the following methods and the laboratory report is presented in Appendix I:

- TPHg by EPA Method 8015B modified
- BTEX and MTBE by EPA Method 8260B

3.13 Waste Disposal

Soil cuttings were stored onsite in sealed and labeled Department of Transportation (DOT) approved 55-gallon drums. Sampling was not required because the waste analysis profile from the previous investigation was still applicable for this scope. The drums were removed on February 27, 2015 and transported to Waste Management, Inc.'s Altamont facility in Livermore, California for disposal.

3.14 Well Completion Reports

Department of Water Resources (DWR) Well Completion Reports are confidential documents and are not included in this report. On March 9, 2015, CRA submitted the well completion report for MW-5 to DWR and ACPW under a separate cover.

Section 4.0 Updated Conceptual Site Model

The previous CSM was presented in CRA's August 29, 2014 *Subsurface Investigation Report and Conceptual Model,* and did not include the data from offsite well MW-5 due to the delays associated with City of Oakland permits. Presented below is the updated CSM incorporating the soil and groundwater data from the offsite location, and updated preferential pathway study.

4.1 Petroleum Hydrocarbon Distribution in Soil

The primary chemicals of concern are TPHmo, TPHd, TPHg, and benzene. Secondary chemicals of concern include toluene, ethylbenzene, and xylenes. Low-Threat Underground Storage Tank Case Closure Policy (LTCP)[6] also evaluates the risk associated with PAHs (including naphthalene) if the site had a historical used-oil UST. Hydrocarbon concentrations in soil are shown on Figure 3 and presented in Tables 1 and 2. During the recent investigation, no soil samples collected from MW-5 had concentrations above laboratory detection limits with the exception of PAHs detected at 5 fbg. However, the concentrations did not exceed the commercial direct contact limits presented in LTCP's Table 1. 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.[7]

Of the 61 samples analyzed to date, no soil samples exceeded the LTCP commercial criteria for direct contact and outdoor air exposure. Petroleum hydrocarbon concentrations are adequately delineated vertically up to 20 fbg. Petroleum hydrocarbon concentrations are adequately delineated horizontally, including offsite toward the southwest. Cumulative soil analytical results are presented in Tables 1 and 2. The laboratory analytical report for soil from MW-5 is included in Appendix I.

4.2 Petroleum Hydrocarbon Distribution in Groundwater

During the July 2010 site investigation performed by Schutze and Associates (SA), elevated hydrocarbon concentrations were detected in grab-groundwater samples collected from borings B-1 and B-2 (non-EMC). In October 2010, SA installed monitoring wells MW-1 through MW-4 to delineate the

6 State Water Resources Control Board, LTCP, August 17, 2012.

7 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.

dissolved hydrocarbon plume onsite. Since installation of these wells, only two groundwater monitoring and sampling events have been completed; one in November 2010 and one in February 2012.[8] In February 2015, offsite well MW-5 was sampled, and in March 2015 groundwater elevation data was obtained from all wells to determine the groundwater flow direction. Cumulative monitoring and sampling data are presented in Table 3. The laboratory analytical report for groundwater is included in Appendix I.

During the previous groundwater sampling events, no petroleum hydrocarbon constituents were detected in wells MW-1 and MW-2, with the exception of MTBE at MW-1 below the drinking water ESL of 5 µg/L. Concentrations of ethylbenzene and xylenes detected in MW-3 did not exceed drinking water ESLs; however, concentrations of TPHd and TPHg exceeded the ESL of 100 µg/L. Well MW-4 contained the highest historical hydrocarbon concentrations detected onsite including 27,000 µg/L TPHg and 2,800 µg/L benzene, which exceed drinking water ESLs. No TPHg or BTEX were detected in offsite well MW-5.

Recent groundwater elevation data indicates a southwest groundwater flow direction toward well MW-5. Dissolved hydrocarbons appear localized along the southern boundary based on groundwater data from wells MW-3 and MW-4. The dissolved hydrocarbon plume is delineated to the southwest by MW-5 where no concentrations were detected above the laboratory method detection limit. The irrigation well identified in CRA's previous CSM as the closest receptor is approximately 700 feet to the northeast, which is considered upgradient, and is not considered at risk. No surface water bodies were identified within 1,000 feet downgradient of the site.

Additional groundwater monitoring data will be collected to evaluate the groundwater quality, trends and risks per the LTCP groundwater criteria.

4.3 Summary of Preferential Pathway Study

CRA's previous CSM presented preferential pathways study results that included mapping and construction details of surrounding underground utilities. Between 2010 and 2015, the depth to groundwater has ranged from approximately 4.98 fbg (MW-3) to 17.81 fbg (MW-5) with an average of 9.03 fbg. Underground water, natural gas, electric, and communication utilities in the vicinity 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. The storm drain adjacent to well MW-5 is estimated to be 6 to 7 fbg based on field observations (Norcal's geophysical survey report in Appendix E). Static groundwater at MW-4 has been measured at approximately 6.45 fbg (2012) and 10.70 fbg (2015) and in offsite well MW-5 at 16.48 fbg and 17.81 fbg in February and March 2015. Based on the groundwater depths, underground utility lines in the streets

[8] Doulos Environmental, Inc., *Hydrolic Investigation*, March 8, 2012

downgradient appear to be above the groundwater table and are not considered a preferential pathway.

Section 5.0 Conclusions

Based on CRA's evaluation of current and historic site data, presented above and in CRA's August 29, 2014 *Subsurface Investigation Report and Conceptual Model* the following conclusions can be made:

- The vertical extent of petroleum hydrocarbons in soil is adequately delineated.
- The horizontal extent of petroleum hydrocarbons in soil is adequately delineated.
- No soil sample exceeds commercial LTCP criteria.
- CRA's previous CSM stated that an elevated TPHg soil vapor concentration was detected in VP-2; however, all benzene, ethylbenzene, and naphthalene concentrations were below the LTCP criteria or not detected. The soil vapor data does not exceed LTCP criteria; therefore, there is no vapor risk.
- Using the March 2015 data the groundwater flow direction was calculated to be towards the southwest with a gradient of 0.10.
- Dissolved hydrocarbons in groundwater are primarily located along the southern boundary in the area of wells MW-3 and MW-4. Well MW-4 has the highest dissolved hydrocarbon concentrations detected that exceed the drinking water ESLs for TPHmo, TPHd, TPHg, BTEX, and naphthalene.
- The downgradient extent of dissolved TPHg, BTEX, and MTBE are delineated to the southwest by recently installed well MW-5 where no concentrations were detected above the laboratory method detection limits.
- The irrigation well identified in CRA's previous CSM as the closest receptor is approximately 700 feet northeast or upgradient of the site, and is not considered at risk.
- No surface water bodies were identified within a 1,000 feet downgradient of the site.
- Based primarily on depth to groundwater data, downgradient underground utilities are not considered a preferential pathway for the dissolved hydrocarbon plume.

Section 6.0 Data Gaps/Recommendations

Based on this investigation data, CRA recommends the following:

- Collect additional groundwater monitoring data to evaluate the groundwater quality, trends and risks per the LTCP groundwater criteria.

- CRA will monitor and sample well MW- 5 quarterly for one year and measure groundwater depth in onsite wells MW-1 through MW-4. The results will be presented in a groundwater monitoring reports and submitted to ACEH.
- No further investigation is recommended at this time.

Figures

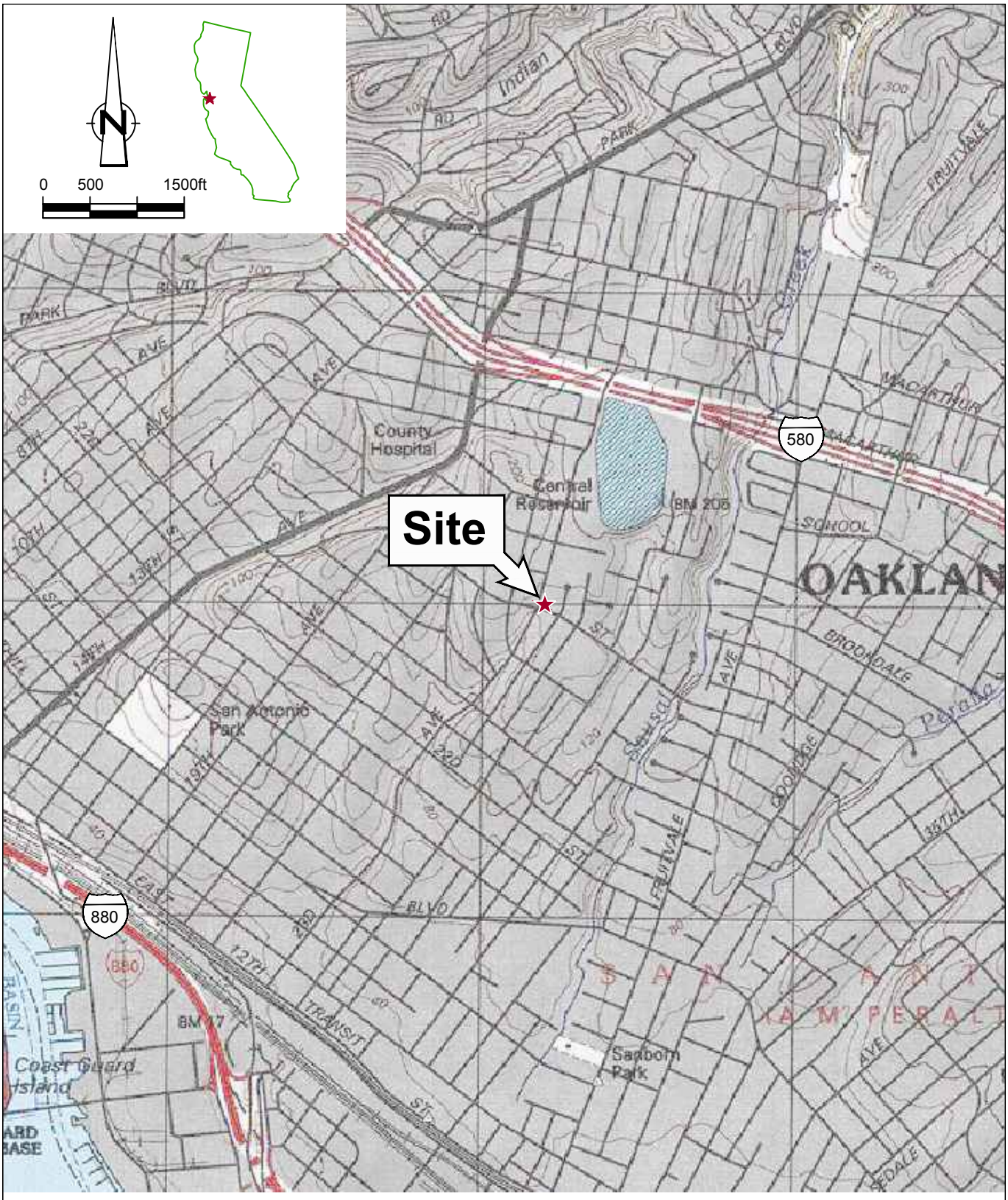
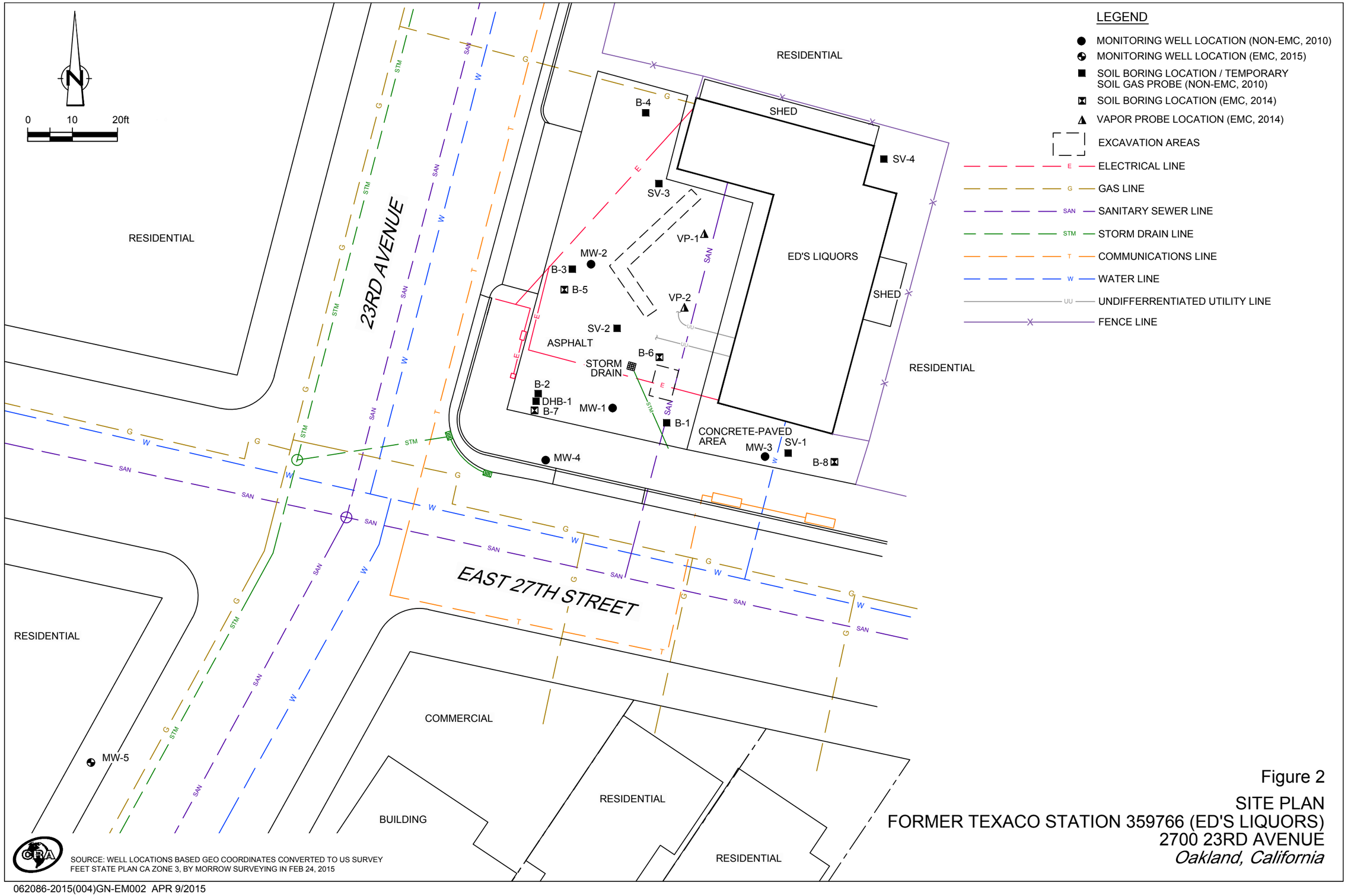


Figure 1

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

062086-2014(004)GN-EM001 MAR 6/2015

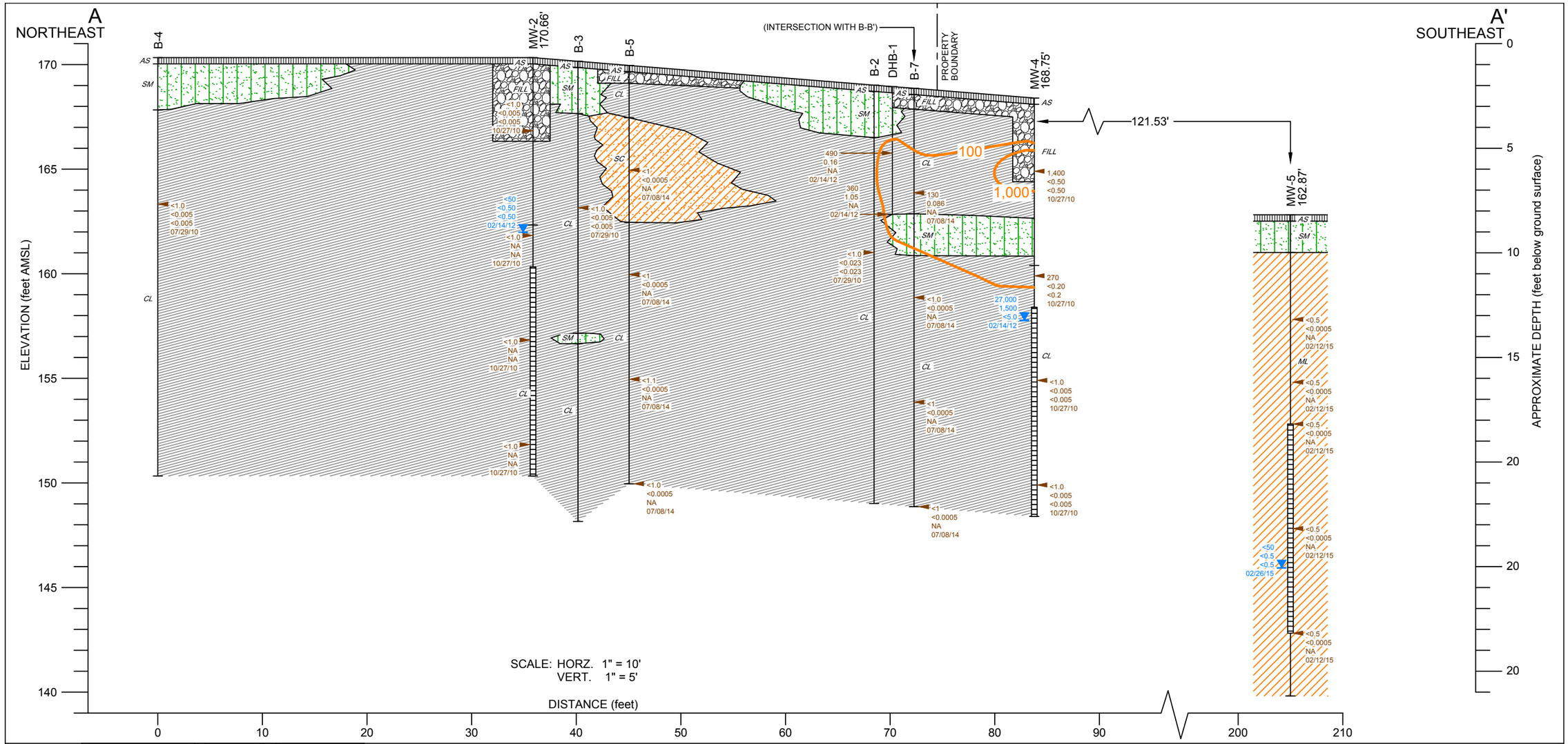


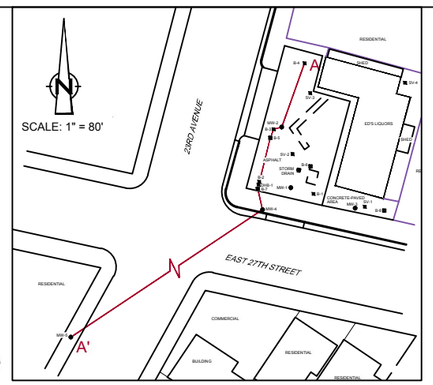
SOURCE: WELL LOCATIONS BASED GEO COORDINATES CONVERTED TO US SURVEY FEET STATE PLAN CA ZONE 3, BY MORROW SURVEYING IN FEB 24, 2015

Figure 2

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

062086-2015(004)GN-EM002 APR 9/2015





SOURCE: WELL LOCATIONS BASED GEO COORDINATES CONVERTED TO US SURVEY FEET STATE PLAN CA ZONE 3, BY MORROW SURVEYING ON FEB 24, 2015

LEGEND

- MW-2 170.66' — WELL DESIGNATION + SURFACE ELEVATION (FT. AMSL)
- GROUND SURFACE
- OBSERVATION WELL INSTALLATION
- STRATIGRAPHIC BOUNDARY
- CL — TYPICAL SOIL CLASSIFICATION
- SCREENED INTERVAL
- BOTTOM OF BORING

- *AS* - ASPHALT
- *FILL*
- *CL* - INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
- *ML* - INORGANIC SILTS AND VERY FINE SAND ROCK FLOUR, SILTY SANDS OF SLIGHT PLASTICITY
- *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)

- APPROXIMATE SOIL SAMPLE LOCATION
- TPHg / BENZENE / MTBE / DATE — HYDROCARBON CONCENTRATIONS IN SOIL (mg/kg) ON DATE INDICATED
- APPROXIMATE GROUNDWATER SAMPLE LOCATION + ELEVATION ON MAR 13, 2015
- TPHg / BENZENE / MTBE / DATE — HYDROCARBON CONCENTRATIONS IN GROUNDWATER (µg/L) ON DATE INDICATED

Figure 3

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

62086-2014(004)GN-EM003 APR 6/2015

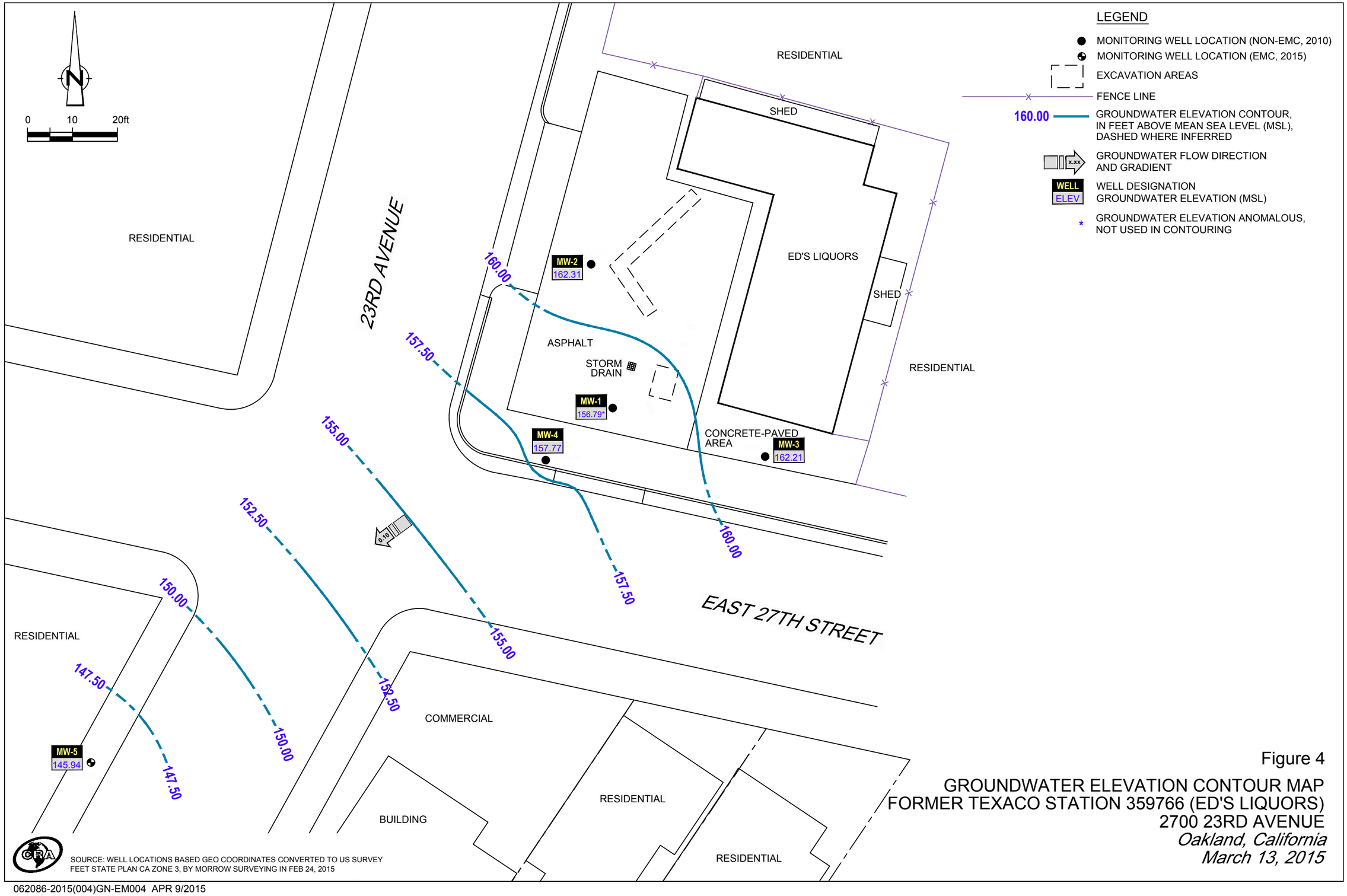


Figure 4

GROUNDWATER ELEVATION CONTOUR MAP
FORMER TEXACO STATION 359766 (ED'S LIQUORS)
2700 23RD AVENUE
Oakland, California
March 13, 2015

062086-2015(004)GN-EM004 APR 9/2015

Tables

TABLE 1

SOIL ANALYTICAL DATA
PETROLEUM HYDROCARBONS, VOLATILE ORGANICS AND METALS
FORMER TEXACO 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] - Commerical (0 to 5 fbg)			NE	NE	NE	8.2	NE	89	NE	NE	45	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Low-Threat Underground Storage Tank Case Closure Policy - Table 1 [a] - Commerical- Volatization to Outdoor Air (5 to 10 fbg)			NE	NE	NE	12	NE	134	NE	NE	45	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																							
MW-5	02/12/15	5	<10	<4.0	<0.5	<0.0005	<0.001	<0.001	<0.001	--	--	--	--	--	--	<0.001	<0.001	--	0.773	52.4	7.14	71.9	57.7
MW-5	02/12/15	8	<10	<4.0	<0.5	<0.0005	<0.001	<0.001	<0.001	--	--	--	--	--	--	<0.001	<0.001	--	0.752	44.6	4.72	54.7	45.7
MW-5	02/12/15	10	<10	<4.0	<0.5	<0.0005	<0.001	<0.001	<0.001	--	--	--	--	--	--	<0.001	<0.001	--	0.643	35.8	3.85	44.8	35.4
MW-5	02/12/15	15	<30	<4.0	<0.5	<0.0005	<0.001	<0.001	<0.001	--	--	--	--	--	--	<0.001	<0.001	--	0.688	57.1	5.94	57.9	51.1
MW-5	02/12/15	20	<10	<4.0	<0.5	<0.0005	<0.001	<0.001	<0.001	--	--	--	--	--	--	<0.001	<0.001	--	0.675	61.6	4.46	62.3	48.5
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

TABLE 1

SOIL ANALYTICAL DATA
PETROLEUM HYDROCARBONS, VOLATILE ORGANICS AND METALS
FORMER TEXACO 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] - Commerical (0 to 5 fbg)			NE	NE	NE	8.2	NE	89	NE	NE	45	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Low-Threat Underground Storage Tank Case Closure Policy - Table 1 [a] - Commerical- Volatization to Outdoor Air (5 to 10 fbg)			NE	NE	NE	12	NE	134	NE	NE	45	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-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
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

TABLE 1

SOIL ANALYTICAL DATA
PETROLEUM HYDROCARBONS, VOLATILE ORGANICS AND METALS
FORMER TEXACO 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] - Commerical (0 to 5 fbg)			NE	NE	NE	8.2	NE	89	NE	NE	45	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Low-Threat Underground Storage Tank Case Closure Policy - Table 1 [a] - Commerical- Volatization to Outdoor Air (5 to 10 fbg)			NE	NE	NE	12	NE	134	NE	NE	45	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
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

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), and tertiary butyl alcohol (TBA) by EPA Method 8260B; naphthalene by EPA Method 8260B or 8270C
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

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

Concentrations in milligrams per kilogram (mg/kg)

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
Low-Threat Underground Storage Tank Case Closure Policy - Table 1 [a] - Residential/Commerical (0 to 5 fbg)			NE	NE	NE	0.063/0.68	0.063/0.68	0.063/0.68	NE	0.063/0.68	0.063/0.68	0.063/0.68	NE	NE	0.063/0.68	NE	NE	9.7/45	NE	NE
Low-Threat Underground Storage Tank Case Closure Policy - Table 1 [a] - Residential/Commerical - Volatization to Outdoor Air (5 to 10 fbg)			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	9.7/45	NE	NE
Low-Threat Underground Storage Tank Case Closure Policy - Table 1 [a] - Utility Worker (0 to 10 fbg)			NE	NE	NE	4.5	4.5	4.5	NE	4.5	4.5	4.5	NE	NE	4.5	NE	NE	219	NE	NE
MW-5	02/12/15	5	<0.00066	<0.00033	<0.00033	0.00082 J	0.00089 J	0.0023	0.0020	0.00075 J	0.0024	<0.00066	0.0019	<0.00066	0.00083 J	--	--	0.0016 J	0.0014 J	0.0016 J
MW-5	02/12/15	8	<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
MW-5	02/12/15	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
MW-5	02/12/15	15	<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
MW-5	02/12/15	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	--	--	0.00094 J	<0.00066	<0.00066
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

SOIL ANALYTICAL DATA
POLYNUCLEAR AROMATIC HYDROCARBONS
FORMER TEXACO 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/Commerical (0 to 5 fbg)			NE	NE	NE	0.063/0.68	0.063/0.68	0.063/0.68	NE	0.063/0.68	0.063/0.68	0.063/0.68	NE	NE	0.063/0.68	NE	NE	9.7/45	NE	NE
Low-Threat Underground Storage Tank Case Closure Policy - Table 1 [a] - Residential/Commerical - Volatization to Outdoor Air (5 to 10 fbg)			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	9.7/45	NE	NE
Low-Threat Underground Storage Tank Case Closure Policy - Table 1 [a] - Utility Worker (0 to 10 fbg)			NE	NE	NE	4.5	4.5	4.5	NE	4.5	4.5	4.5	NE	NE	4.5	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 (PAHs) 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 (LTCP), California State Water Resource Control Board, August 17, 2012

= The seven PAHs referenced in the LTCP criteria

J = estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)

TABLE 3

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

Sample ID	Date	TOC[a]	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-5	02/26/15	162.42	17.81	144.61	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
	03/13/15	162.42	16.48	145.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	11/18/10	168.84	7.93	160.91	<250	<50	--	--	--	--	--	1.3	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	02/14/12	168.84	7.31	161.53	--	<50	<50	<0.50	<0.50	<0.50	<0.50	1.2	--	--	--	--	--	--	--	--
	03/13/15	168.90	12.11	156.79																
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
	02/14/12	170.33	6.37	163.96	--	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--	--	--
	03/13/15	170.41	8.10	162.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
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]
	02/14/12	168.67	4.98	163.69	--	<1,500	3,400	<0.50	<0.50	1.2	<0.50	<0.50	--	--	--	--	--	--	--	--
	03/13/15	168.71	6.50	162.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
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]
	02/14/12	168.40	6.45	161.95	--	<3,000	27,000	1,500	660	520	1,500	<5.0	--	--	--	--	--	--	--	--
	03/13/15	168.47	10.70	157.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-1	07/29/10	--	--	--	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	07/29/10	--	--	--	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 and ND = 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 = Top of casing elevation was surveyed by Morrow Surveying on February 24, 2015; coordinates are California State Plan Zone 3, from GPS observation using CSDS virtual survey network, coordinate datum is NAD 83, reference geoid is GEOID03, and vertical datus is NAVD 88 from GPS observations. Prior to 2015, a survey was completed by licensed surveyor Ty Hawkins on December 20, 2010; based on California Coordinate System NAD 83, Zone III (2002.00), and elevations based on NAVD 88.

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

Appendix A

Regulatory Correspondence

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

From: Lee, Nathan
Sent: Monday, January 19, 2015 4:07 PM
To: Detterman, Karel, Env. Health
Cc: Roe, Dilan, Env. Health; Coulter, Alexis N; Hernandez, Celina
Subject: RO# 0003098 Texaco Services Station 359766 - 2700 23rd Ave Oakland - Ed's Liquor - Notification of Activities

Karel,
Conestoga-Rovers and Associates (CRA) on behalf of Chevron Environmental Management Company (EMC) would like to inform you of the upcoming field activities related to the monitoring well installation. The off site monitoring well installation that was proposed in CRA Site Conceptual Model and Gap Analysis Addendum dated May 30, 2014 and approved by the Alameda County Environmental Health (ACEH) in an email correspondence dated June 24, 2014. CRA is currently scheduled to conduct the utility locate in the proposed well area on January 20, 2015. The well installation will occur on February 12, 2015.

Thanks,

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: Lee, Nathan
Sent: Monday, December 22, 2014 4:32 PM
To: 'Detterman, Karel, Env. Health'
Cc: 'Roe, Dilan, Env. Health'; 'Coulter, Alexis N'; Hernandez, Celina
Subject: RO# 0003098 Texaco Services Station 359766 - 2700 23rd Ave Oakland - Ed's Liquor - Permitting Update and Off Site Welll Installation Schedule

Karel,
Conestoga-Rovers and Associates (CRA) on behalf of Chevron Environmental Management Company (EMC) would like to update you on the schedule for the off site monitoring well installation. The off site monitoring well was proposed in CRA *Site Conceptual Model and Gap Analysis Addendum* dated May 30, 2014, is located within the City of Oakland's right of way. Unfortunately, the process required to obtain encroachment, obstruction, and excavation permits from the City of Oakland is extensive. We are currently scheduled to conduct the well installation on February 12, 2015. The report documenting the monitoring well installation will be submitted by **April 17, 2015**.

Thanks,

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

Appendix B

Summary of Environmental Investigation and Remediation

SUMMARY OF ENVIRONMENTAL INVESTIGATION AND REMEDIATION

Former Texaco Service Station 359766

2700 23rd Avenue

Oakland, California

April 2010 File Review

Basics Environmental (Basics) completed an environmental transaction screen on April 20, 2010 for Summit Bank. Basics also reviewed files at various local agencies to obtain historical use of the property. Based on the file review, the site was developed as a gas station by 1928 and demolished by 1967. The current building was constructed in 1968/1969. Additional information is available in Basics' *Local Regulatory Agency File Review* dated May 7, 2010.

July 2010 Subsurface Investigation

Schutze & Associates, Inc. (SA) advanced four soil borings (B-1 through B-4) and installed four temporary soil gas vapor probes (SV-1 through SV-4). Additional information is available in SA's *Phase II Subsurface Investigation Report* dated August 24, 2010.

October 2010 Subsurface Investigation

In October 2010, SA 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 SA'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 DHB-1 on the southwest corner of the site and collected soil samples to compare soil analytical 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.

July 2014 Subsurface Investigation and Conceptual Site Model

In July 2014, Conestoga-Rovers and Associates (CRA) completed an investigation on behalf of Chevron Environmental Management Company (EMC). CRA advanced soil borings B-5 through B-8, and installed soil vapor probes VP-1 and VP-2 to assess soil and soil vapor beneath the site. Results of the investigation and a conceptual site model that included a sensitive receptor survey and preferential pathway study are presented in CRA's *Subsurface Investigation Report and Conceptual Model* dated August 29, 2014.

Appendix C

Boring Log

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

BORING / WELL LOG

CLIENT NAME	Chevron Environmental Management Company	**BORING/WELL NAME**	MW-5
JOB/SITE NAME	Former Texaco Station 359766 (Ed's Liquors)	**DRILLING STARTED**	12-Feb-15
LOCATION	2700 23rd Avenue, Oakland, California	**DRILLING COMPLETED**	12-Feb-15
PROJECT NUMBER	062086	**WELL DEVELOPMENT DATE (YIELD)**	16-Feb-15 (2.2 gallons)
DRILLER	Vapor Tech Servies C-57, #916085	**GROUND SURFACE ELEVATION**	162.87 ft above msl
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	162.42 ft above msl
BORING DIAMETER	8-inch	**SCREENED INTERVALS**	10 to 20 fbg
LOGGED BY	A.Beerling	**DEPTH TO WATER (First Encountered)**	NA ▽
REVIEWED BY	C. Hernandez, PG 8931	**DEPTH TO WATER (Static)**	16.48 fbg (13-Mar-15) ▼
REMARKS	Utility cleared by hand auger. Boring by Direct Push Geoprobe		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
					SM		**Silty SAND:** Brown; dry; fine to medium sand; non-plastic.	2.0	
					ML		**SILT:** Brown; soft; slightly moist; low plasticity.	4.0	Portland Type II/V
0.0		MW-5 @ 5		5			**SILT w/ Sand:** Brown; dry; non-plastic.		2" diam., Schedule 40 PVC
0.0		MW-5 @ 8			ML				Bentonite Seal
								9.0	
0.0		MW-5 @ 10		10			**SILT w/ Clay:** Brown; firm; moist; low plasticity.		Monterey Sand #3
0.0		MW-5 @ 15		15	ML		▼		2"-diam., 0.020" Slotted Schedule 40 PVC
0.0		MW-5 @ 20		20					Bentonite Seal
								24.0	Bottom of Boring @ 24 fbg

WELL LOG (PID) I:\CHEVRON\0620-\062086-359766 OAKLAND\062086-BORING LOGS\062086-BORING LOGS.GPJ DEFAULT.GDT 4/6/15

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.

Beerling, Alyssa

From: Miller, Steve <stevem@acpwa.org>
Sent: Friday, December 12, 2014 5:16 PM
To: Beerling, Alyssa
Cc: Hernandez, Celina
Subject: RE: Permit Extension W2014-0629

Hi Alyssa,

That refund has not been processed, so yes, you can do the work under that permit. Let me know when you plan to install.

Thanks,
Steve

From: Beerling, Alyssa [mailto:abeerling@craworld.com]
Sent: Friday, December 12, 2014 2:15 PM
To: Miller, Steve
Cc: Hernandez, Celina
Subject: RE: Permit Extension W2014-0629

Hi Steve,

We are close to completing the permit process with the city of Oakland for this well installation at 2700 23rd Avenue. I wanted to follow up with you on the status of the well permit. Did you ever issue us a refund for the initial permit application as discussed in the emails below? And if not, can we still do work under the existing permit?

Thanks,

Alyssa Beerling
Conestoga-Rovers & Associates (CRA)
5900 Hollis Street, Suite A
Emeryville, CA 94608

Phone: 510.420.3355
Fax: 510.420.9170
Cell: 510.435.6078
Email: abeerling@CRAworld.com
www.CRAworld.com

From: Miller, Steve [mailto:stevem@acpwa.org]
Sent: Thursday, October 02, 2014 10:58 AM
To: Beerling, Alyssa
Cc: Hernandez, Celina; Lee, Nathan
Subject: RE: Permit Extension W2014-0629

Hi Alyssa,

No, that is the process!

Thanks,
Steve

From: Beerling, Alyssa [mailto:abeerling@craworld.com]
Sent: Thursday, October 02, 2014 8:34 AM
To: Miller, Steve
Cc: Hernandez, Celina; Lee, Nathan
Subject: RE: Permit Extension W2014-0629

Hi Steve,

Please see attached site plan showing the proposed location of MW-5.

Since we will not be able to schedule the drilling for at least 6 weeks we decided that we would like to request a refund now for MW-5 and we will re-apply once we have a better idea of drilling dates. Does this process require anything else besides completing the two attached forms?

Thanks,

Alyssa Beerling
Conestoga-Rovers & Associates (CRA)
5900 Hollis Street, Suite A
Emeryville, CA 94608

Phone: 510.420.3355
Fax: 510.420.9170
Cell: 510.435.6078
Email: abeerling@CRAworld.com
www.CRAworld.com
Think before you print
Perform every task the safe way, the right way, every time!

From: Miller, Steve [mailto:stevem@acpwa.org]
Sent: Wednesday, October 01, 2014 3:44 PM
To: Beerling, Alyssa
Cc: Hernandez, Celina; Lee, Nathan
Subject: RE: Permit Extension W2014-0629

Hi Alyssa,

Our system won't let us grant official extensions past the permit's expiration date (also, once that date passes, you are no longer eligible for a refund). However, I can work with you on this—let me know when the drilling does get scheduled and I will put you on my calendar and come out to inspect the grouting. That way your permit will still be valid.

Also, please send me a revised sitemap that shows the location of MW-5.

Thanks,
Steve

From: Beerling, Alyssa [mailto:abeerling@craworld.com]
Sent: Wednesday, October 01, 2014 1:04 PM
To: Miller, Steve
Cc: Hernandez, Celina; Lee, Nathan
Subject: Permit Extension W2014-0629

Hi Steve,

I am emailing you to request an extension on permit W2014-0629 for the installation of MW-5 at 2700 23rd Ave, Oakland, which expires 10/05/2014 (permit attached). The reason that this part of the job was not completed is because we did not have all necessary permits from the City of Oakland in time. We are in the process of obtaining those permits now – half of the application package has been submitted and it will be another 6-8 weeks from now until we get approval and can move forward with the rest. We will keep you updated in terms of dates of the work as we are holding off on scheduling until we obtain all permits.

Please let me know if you approve this request and/or need any additional information.

Thanks,

Alyssa Beerling
Conestoga-Rovers & Associates (CRA)
5900 Hollis Street, Suite A
Emeryville, CA 94608

Phone: 510.420.3355
Fax: 510.420.9170
Cell: 510.435.6078
Email: abeerling@CRAworld.com
www.CRAworld.com
Think before you print
Perform every task the safe way, the right way, every time!

Applications for which no permit is issued within 180 days shall expire by limitation. No refund more than 180 days after expiration or final.

CITY OF OAKLAND

250 FRANK H. OGAWA PLAZA ▪ 2ND FLOOR ▪ OAKLAND, CA 94612

Planning and Building Department
www.oaklandnet.com

PH: 510-238-3891
FAX: 510-238-2263
TDD: 510-238-3254

Permit No: ENMI14142 Minor Encroachment **Filed Date:** 10/3/2014

Job Site: 2700 23RD AVE **Schedule Inspection by calling:** 510-238-3444

Parcel No: 026 079303100

District:

Project Description: MINOR ENCROACHMENT TO INSTALL ONE MONITORING WELL (MW-5) S/O 23RD AVE OFF E 27TH ST.

Related Permits:

	Name	Applicant	Address	Phone	License #
Owner:	PULIDO MARIA & PEDRO		22762 MOURA CT HAYWARD, CA		
Owner-Agent:	ALYSSA BEERLING	X	22762 MOURA CT HAYWARD, CA	510-420-3355	

PERMIT DETAILS: Building/Public Use/Facility/Minor Encroachment

Required Documents And Information

Encroachment Type:	New Encroachment	Request Letter Submitted?:	Yes
Carrier:		Site Plan Submitted?:	Yes
Insurance Expiration Date:		Certificate of Insurance Submitted?:	No
		Copy of Recorded Grant Deed with Legal Description Submitted?:	Yes

TOTAL FEES TO BE PAID AT FILING: $1,133.73

Application Fee	$71.00	Processing Fee (New Encroachment)	$917.00	Records Management Fee	$93.86
Technology Enhancement Fee	$51.87				

DAVID HARLAN
510-238-6321

Permits for which no major inspection has been approved within 180 days shall expire by limitation. No refund more than 180 days after expiration or final.

JOB SITE

CITY OF OAKLAND

250 FRANK H. OGAWA PLAZA ▪ 2ND FLOOR ▪ OAKLAND, CA 94612

Planning and Building Department
www.oaklandnet.com

PH: 510-238-3891
FAX: 510-238-2263
TDD: 510-238-3254

Permit No: OB1500014 Obstruction **Filed Date:** 1/7/2015

Job Site: 2700 23RD AVE **Schedule Inspection by calling:** ~~510-238-3444~~

Parcel No: 026 079303100

District:

Project Description: Block 25' s/w & reserve 75' (3 spaces). Fee for two spaces, one each NO FEE per X1500036. Total: 75'.
Note: disregard start/end dates shown below. They are listed only for invoicing purposes.
Actual dates (Jan 20 & Feb 12) are non-consecutive.
Install monitoring well MW-5; see site plan. Ref: ENMI14142
Contact Alyssa Beerling, 510-420-3355, CRA.
Permit valid 90 days.
Call PWA INSPECTION prior to start: 510-238-3651. 4th FLOOR.

MINOR ENCROACHMENT TO INSTALL ONE MONITORING WELL (MW-5) S/O 23RD AVE OFF E 27TH ST.

Related Permits: OB1500012

	Name	Applicant	Address	Phone	License #
Owner:	PULIDO MARIA & PEDRO		22762 MOURA CT HAYWARD, CA		
Contractor-Employee:	VAPOR TECH SERVICES	X	2316 TRIPALDI WAY HAYWARD, CA	(415) 378-0415	916085

PERMIT DETAILS: Building/Public Use/Activity/Obstructions

Work Information

Start Date: 01/20/2015
End Date: 01/21/2015

Obstruction Permit Type: Short Term (Max 14 Days)
Number of Meters (Metered Area):
Length Of Obstruction (Unmetered Area): 75

TOTAL FEES TO BE PAID AT FILING: $200.24

Application Fee	$71.00	Records Management Fee	$16.58	Short Term Permits	$103.50
Technology Enhancement Fee	$9.16				

Plans Checked By _____ Date _____ Permit Issued By _____ Date 1/7

Finalized By _____ Date _____

SPECIAL PROVISION 7-10.1 TRAFFIC REQUIREMENTS

Project Name:
Project Number: TSD-14-0232
Reviewed By: Jwatson
Date: 1/7/2015
Permit good from 2/1/2015
to 3/1/2015

OB15444

ADD NEW SUBSECTION TO READ:
SP 7-10.1.4 Vehicular Traffic

Attention is directed to Section 7-10. Public Convenience and Safety, of the City of Oakland Standard Specification for Public Works Construction, 2006 Edition (Include this paragraph for p-jobs, excavation permits or obstruction permits).

The Contractor shall conduct its work in such a manner as to provide public convenience and safety and according to the provisions in this subsection. The provisions shall not be modified or altered without written approval from the Engineer.

Standard traffic control devices shall be placed at the construction zone according to the latest edition of the Work Area Traffic Control Handbook or Manual on Uniform Traffic Control Devices (MUTCD), Chapter 6 – "Traffic Controls for Construction and Maintenance Work Zone," or as directed by the Engineer.

All trenches and excavations in any public street or roadway shall be back filled and opened to traffic, or covered with suitable steel plates securely placed and opened to traffic at all times except during actual construction operations unless otherwise permitted by the Engineer.

Each section of work shall be completed or temporarily paved and open to traffic in not more than 5 days after commencing work unless otherwise permitted in writing by the Engineer.
at all times for pedestrian use. Pedestrian barricades, shelter, and detour signs per Caltrans standards may be required.

Where construction encroaches into the sidewalk area, a minimum of 5 ½ feet of unobstructed sidewalk shall be maintained
The contractor shall conduct its operation in such a manner as to leave the following traffic lanes unobstructed and in a condition satisfactory for vehicular travel during the Obstruction Period. At all times traffic lanes will be restricted and reopened to travel. Emergency access shall be provided at all times.

Street Name Limits	Obstruction Period	North Bound	South Bound	East Bound	West Bound
23rd Avenue between E. 27th Street and E.26th Street	Mon. – Fri. 9am – 4pm	N/A	N/A	Sidewalk Closure	N/A

The Contractor Shall Also include all check item:

1. ☐ Design a construction traffic control plan and submit (2) copies to the Engineer for approval prior to starting any work.
2. ☒ Replace all signs, pavement markings, and traffic detector loops damaged or removed due to construction within 3 days of completion of work or the final pavement lift.
3. ☒ Provide advance notice to Oakland Police at (510) 777-3333 (24-hrs) and Oakland Fire at (510) 238-3331 (2-rhs) when a single lane of traffic or less is provided on any street.
4. ☒ Provide 72-hour advance notice to AC Transit at (510) 891-4909 when affecting a bus stop.
5. ☒ For Caltrans roadways, ramps, or maintained facilities, the Contractor shall obtain appropriate permits and notify the Traffic Management Center 24 hours in advance of any work.
6. ☒ Flagger control is required. Certified Flagger is required.
7. ☐ Pedestrian walkway by K-rail, Canopy or Plywood is required. (See detour plan)
8. ☒ Pedestrian traffic shall be maintained and guided through the project at all times.
9. ☒ Provide advance notice to Business and Residence within 72-hours.
10. ☒ Allow all traffic movement at intersection.

Nothing specified herein shall prohibit emergency work and/or repair necessary to ensure public health and safety.

JOB SITE

Permits for which no major inspection has been approved within 180 days shall expire by limitation. No refund more than 180 days after expiration or final.

CITY OF OAKLAND

250 FRANK H. OGAWA PLAZA ▪ 2ND FLOOR ▪ OAKLAND, CA 94612

Planning and Building Department
www.oaklandnet.com

PH: 510-238-3891
FAX: 510-238-2263
TDD: 510-238-3254

Permit No: X1500036 Excavation **Filed Date:** 1/7/2015

Job Site: 2700 23RD AVE **Schedule Inspection by calling:** 510-238-3444

Parcel No: 026 079303100

District:

For SL; X; and CGS permits see **SPECIAL NOTE** below

Project Description: Install monitoring well MW-5; see site plan. Ref: ENMI14142
Contact Alyssa Beerling, 510-420-3355, CRA.
Permit valid 90 days.
Call PWA INSPECTION prior to start: 510-238-3651. 4th FLOOR.

MINOR ENCROACHMENT TO INSTALL ONE MONITORING WELL (MW-5) S/O 23RD AVE OFF E 27TH ST.

Related Permits: X1500034 X1500035

	Name	Applicant	Address	Phone	License #
Owner:	PULIDO MARIA & PEDRO		22762 MOURA CT HAYWARD, CA		
Contractor-Employee:	VAPOR TECH SERVICES	X	2316 TRIPALDI WAY HAYWARD, CA	(415) 378-0415	916085

PERMIT DETAILS: Building/Public Infrastructure/Excavation/NA

General Information

Excavation Type: Private Party
Special Paving Detail Required:
Tree Removal Involved:
Date Street Last Resurfaced:
Holiday Restriction (Nov 1 - Jan 1):
Worker's Compensation Company Name:
Limited Operation Area (7AM-9AM) And (4PM-6PM):
Worker's Compensation Policy #:

Key Dates

Approximate Start Date:
Approximate End Date:

TOTAL FEES TO BE PAID AT FILING: $436.05

Application Fee	$71.00	Excavation - Private Party Type	$309.00	Records Management Fee	$36.10
Technology Enhancement Fee	$19.95				

Plans Checked By _____ Date _____ Permit Issued By _____ Date 1-7

Finalized By _____ Date _____

SPECIAL NOTE

- For SL; X; and CGS permits Call PWA INSPECTION prior to start: 510-238-3651 or visit 4th FLOOR.
- SL and X permits valid 90 days; CGS permits valid 30 days

Permits for which no major inspection has been approved within 180 days shall expire by limitation. No refund more than 180 days after expiration or final.

Permit No: X1500036 **Parcel No:** 026 079303100 **Job Site:** 2700 23RD AVE

LICENSED CONTRACTOR'S DECLARATION

I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code, and my license is in full force and effect.

CONSTRUCTION LENDING AGENCY DECLARATION

I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Section 8172, Civil Code).

Lender's Name _____

Branch Designation _____

Lender's Address _____

WORKERS' COMPENSATION DECLARATION

WARNING: FAILURE TO SECURE WORKERS' COMPENSATION COVERAGE IS UNLAWFUL, AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS ($100,000), IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST, AND ATTORNEY'S FEES.

I hereby affirm under penalty of perjury one of the following declarations:

☐ I have and will maintain a certificate of consent to self-insure for workers' compensation, issued by the Director of Industrial Relations as provided for by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued.

☐ I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued.

☐ I certify that, in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California, and agree that, if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

HAZARDOUS MATERIALS DECLARATION

I hereby affirm that the intended occupancy ☐WILL ☐ WILL NOT use, handle or store any hazardous, or acutely hazardous, materials. (Checking "WILL" acknowledges that Sections 25505, 25533, and 25534 of the Health and Safety Code, as well as filing instructions were made available to you).

I HEREBY CERTIFY THE FOLLOWING: That I have read this document; that the above information is correct; and that I have truthfully affirmed all applicable declarations contained in this document. I agree to comply with all city and county ordinances and state laws relating to building construction, and hereby authorize representatives of this city to enter upon the above-mentioned property for inspection purposes.

I hereby agree to save, defend, indemnify and keep harmless the City of Oakland and its officials, officers, employees, representatives, agents, and volunteers from all actions, claims, demands, litigation, or proceedings, including those for attorneys' fees, against the City in consequence of the granting of this permit or from the use or occupancy of the public right-of-way, public easement, or any sidewalk, street or sub-sidewalk or otherwise by virtue thereof, and will in all things strictly comply with the conditions under which this permit is granted I further certify that I am the owner of the property involved in this permit or that I am fully authorized by the owner to access the property and perform the work authorized by this permit.

Name _____

Signature _____

☐ Contractor, or ☐Contractor's Agent Date

NOTICE: No activities related to the approved work, including storage/use of materials, is allowed within the public right-of-way without an encroachment permit. Dust control measures shall be used throughout all phases of construction.

Permits for which no major inspection has been approved within 180 days shall expire by limitation. No refund more than 180 days after expiration or final.

CITY OF OAKLAND

250 FRANK H. OGAWA PLAZA ▪ 2ND FLOOR ▪ OAKLAND, CA 94612

Planning and Building Department
www.oaklandnet.com

PH: 510-238-3891
FAX: 510-238-2263
TDD: 510-238-3254

Permit No: OB1500047 Obstruction

Filed Date: 1/15/2015

Job Site: 2700 23RD AVE

Schedule Inspection by calling: 510-238-3444

Parcel No: 026 079303100

District:

Project Description: RESERVE 25' OF PARKING LANE FOR MON. WELL SURVEYING.

Related Permits:

	Name	Applicant	Address	Phone	License #
Owner:	PULIDO MARIA & PEDRO		22762 MOURA CT HAYWARD, CA		
Contractor:	~~VAPOR TECH SERVICES~~ Morrow Surveying	X	~~2316 TRIPALDI WAY HAYWARD, CA~~	~~(415) 378-0415~~	916085

PERMIT DETAILS: Building/Public Use/Activity/Obstructions

Work Information

Start Date: 02/24/2015
End Date: 02/24/2015

Obstruction Permit Type: Short Term (Max 14 Days)
Number of Meters (Metered Area):
Length Of Obstruction (Unmetered Area): 25

TOTAL FEES TO BE PAID AT FILING: $101.26

Application Fee	$71.00	Records Management Fee	$8.38	Short Term Permits	$17.25
Technology Enhancement Fee	$4.63				

Plans Checked By _____ Date _____

Permit Issued By _____ Date 1/15/15

Finalized By _____ Date _____

FIELD COPY

...major inspection has been approved within 180 days shall expire by limitation. No refund more than 180 days after expiration or final.

LICENSED CONTRACTOR'S DECLARATION

I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code, and my license is in full force and effect.

CONSTRUCTION LENDING AGENCY DECLARATION

I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Section 8172, Civil Code).

Lender's Name _____

Branch Designation _____

Lender's Address _____

WORKERS' COMPENSATION DECLARATION

WARNING: FAILURE TO SECURE WORKERS' COMPENSATION COVERAGE IS UNLAWFUL, AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS ($100,000), IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST, AND ATTORNEY'S FEES.

I hereby affirm under penalty of perjury one of the following declarations:

☐ I have and will maintain a certificate of consent to self-insure for workers' compensation, issued by the Director of Industrial Relations as provided for by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued.

☐ I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued.

☐ I certify that, in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California, and agree that, if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

HAZARDOUS MATERIALS DECLARATION

I hereby affirm that the intended occupancy ☐WILL ☐ WILL NOT use, handle or store any hazardous, or acutely hazardous, materials. (Checking "WILL" acknowledges that Sections 25505, 25533, and 25534 of the Health and Safety Code, as well as filing instructions were made available to you).

I HEREBY CERTIFY THE FOLLOWING: That I have read this document; that the above information is correct; and that I have truthfully affirmed all applicable declarations contained in this document. I agree to comply with all city and county ordinances and state laws relating to building construction, and hereby authorize representatives of this city to enter upon the above-mentioned property for inspection purposes.

I hereby agree to save, defend, indemnify and keep harmless the City of Oakland and its officials, officers, employees, representatives, agents, and volunteers from all actions, claims, demands, litigation, or proceedings, including those for attorneys' fees, against the City in consequence of the granting of this permit or from the use or occupancy of the public right-of-way, public easement, or any sidewalk, street or sub-sidewalk or otherwise by virtue thereof, and will in all things strictly comply with the conditions under which this permit is granted I further certify that I am the owner of the property involved in this permit or that I am fully authorized by the owner to access the property and perform the work authorized by this permit.

Name _____

Signature _____

☐ Contractor, or ☐Contractor's Agent Date

NOTICE: No activities related to the approved work, including storage/use of materials, is allowed within the public right-of-way without an encroachment permit. Dust control measures shall be used throughout all phases of construction.

City of Oakland

Planning and Building Department

250 Frank H. Ogawa Plaza
510-238-4774

844 Accela Permit		
Permit Number: OB1500047	0.00	0.00
Fee		
Application Fee	71.00	71.00
Fee		
Short Term Permits	17.25	17.25
Fee		
Technology Enhancement Fee	4.63	4.63
Fee		
Records Management Fee	8.38	8.38

Payer Name: CONESTOGA-ROVERS & ASSOCIATES INC.

SubTotal:	101.26
Total:	101.26
Check Number : 11830	101.26

1/15/2015 13:11
#0497923 /77/24

Thank You

Appendix E

Geophysical Investigation Report

NORCAL GEOPHYSICAL CONSULTANTS, INC.

January 26, 2015

Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608

Subject: Geophysical Investigation
Former Texaco Station #359766
2700 23rd Avenue, Oakland, California
NORCAL Job No. 15-462.202

Attention: Ms. Alyssa Beerling

This report presents the findings of a geophysical survey performed by NORCAL Geophysical Consultants, Inc. for Conestoga-Rovers & Associates (CRA) at the subject location. The field survey was conducted on January 20, 2015 by NORCAL Senior Geophysical Technician Travis Black. Site information and logistical support, including traffic control, were provided by Alyssa Beerling of CRA.

1.0 SITE DESCRIPTION AND PURPOSE

Former Texaco Station #359766 is situated at the northeast corner of the intersection of 23rd Avenue and E. 27th Street in Oakland, California. The location of the property, now occupied by Ed's Liquors, is shown on the vicinity map included on Plate 1. However, the geophysical investigation was not conducted at the former station but across the street at the southwest corner of the intersection. Specifically, the survey area comprised a 50 foot long by 22 foot wide rectangle oriented with its long axis parallel to the centerline of 23rd Avenue. The north end of the rectangle coincided with the southernmost limit line of the intersection (yellow line in Vicinity Map). The west side of the rectangle was defined by the west edge of the sidewalk on the west side of 23rd Avenue. The ground surface within the survey area consisted of, from west to east, the 8 foot wide concrete sidewalk and the westernmost 14 feet of the asphalt paved south bound lane of 23rd Avenue. In addition, a 1.5 foot wide grass strip occupied the east side of the sidewalk. The location of the survey area is shown on Plate 1.

As part of an ongoing investigation, CRA is gathering information to further evaluate and assess potential groundwater movement beneath the former Texaco Station. To facilitate this, a monitoring well will be installed somewhere within the designated survey area. Therefore, the purpose of the geophysical survey is to investigate for detectable underground utilities and other subsurface obstructions which may interfere with the proposed drilling.

2.0 GEOPHYSICAL INVESTIGATION

2.1 APPROACH

We investigated the designated survey area for underground utilities using the electromagnetic line locating (EMLL) and ground penetrating radar (GPR) methods. The EMLL method was used in the electromagnetic conduction, induction, ambient, and metal detection (MD) modes. The conduction mode consisted of placing a signal directly on a utility through a direct connection at a surface location such as a valve box, hose bib, hydrant, etc. The induction mode consisted of transmitting a signal onto an underground utility through electromagnetic induction. This requires that the transmitter be placed on the surface directly above the utility at a known location. The ambient mode consisted of detecting 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. With all three of these modes the currents flowing on the utility were then traced by carrying the receiver above the ground surface. The audio output of the receiver indicated when the unit was directly above the utility.

The MD mode was used to locate underground utilities that are not accessible at the surface, as well as isolated buried objects such as metallic pipelines, vaults, and other subsurface obstructions. This is done by continuously scanning the survey area with an electromagnetic transmitter-receiver unit carried at hip level. During operation the transmitter emits a time varying electromagnetic field (primary) that induces a secondary field in electrically conductive objects. The secondary field is detected by the receiver which emits an audible tone that peaks when the instrument is directly above the object.

The GPR method was used to confirm the location of the utilities detected with the EMLL, and to locate possible non-metallic utilities. With this method an electromagnetic pulse is transmitted into the ground by an antenna mounted on a four wheel cart as it is moved along the surface. Buried objects reflect some of the electromagnetic energy back to the surface where it is detected by the same antenna. The reflected signals are displayed in strip chart format on an LCD display in real time as the data are being collected. The resulting charts (records) can then be inspected for reflection patterns characteristic of buried objects.

Descriptions of the MD, EMLL, and GPR methods are provided in Appendix A.

2.2 FIELD PROCEDURES

We investigated the designated survey area for detectable underground utilities and other potential subsurface objects using the procedures outlined below:

1. Site Reconnaissance: We inspected the survey area for visual evidence of underground utilities and/or buried objects. This evidence can consist of man way covers, utility vaults, valves, clean-outs, meters, pavement patches, surface markings left by others, etc.

2. EMLL conduction and Induction Survey: Utilities that were accessible at the surface within the general vicinity were traced using the EMLL direct connect and induction methods, as described above.

3. EMLL Ambient Survey: The EMLL ambient procedure was used to investigate the survey area for non-accessible utilities carrying a passive signal, as described above.

4. EMLL Metal Detection (MD) Survey: We scanned the survey area with the MD to investigate for metallic underground 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.

5. GPR Survey: We obtained GPR data along both south-north and west-east trending traverses spaced 8 - to 25- ft apart. We examined the GPR records for reflection patterns characteristic of underground utilities and other potential subsurface objects. In addition, multiple GPR traverses were conducted in reconnaissance mode to better characterize and define suspected utility alignments delineated using the EMLL methods.

6. Field Documentation: Upon completion of the survey, we drafted a scaled site diagram showing the limits of the designated survey area, the locations of structures or above ground cultural features that are in close proximity to the site, and the locations of detected subsurface objects and utility alignments.

2.3 INSTRUMENTATION

We conducted the EMLL (conduction, induction and ambient mode) survey using a Radio Detection RD-7000. This instrument consists of a separate transmitter and receiver. The two units are used together in the conduction and induction modes. Only the receiver is required for the ambient mode.

The EMLL metal detection mode was conducted using a Fischer TW-6 pipe and cable locator (M-Scope). This instrument consists of a transmitter and receiver that are mounted at opposite ends of a four foot long aluminum staff. A speaker mounted in the receiver emits an audible tone that peaks in the proximity of objects that are electrically conductive.

We conducted the GPR survey using a SIR-3000 Subsurface Interface Radar system manufactured by Geophysical Survey Systems, Inc. of Salem, NH. The system consisted of a 400 MHz antenna and a control console mounted on a four-wheel cart.

2.4 LIMITATIONS

The detection of underground utilities using the EMLL method 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.

The ability of the GPR system 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.

3.0 RESULTS

The results of the geophysical investigation are illustrated by the Geophysical Survey Map shown on Plate 1. This map shows the limits of the designated survey area, the locations of above ground structures and cultural features that are in close proximity to the survey area, and the locations of the detected utility alignments and subsurface objects. These are described in the following paragraphs.

NORCAL detected four underground utilities within the area of investigation. These consisted of a storm drain (green dashed line labeled "SD"), a natural gas line (yellow dashed line labeled "NG") and two undifferentiated utilities (purple and red dashed lines labeled "uu"). All four utilities are located in the street and generally parallel the centerline of 23rd Avenue.

The storm drain is located 2 feet from the curb. It could not be detected using the geophysical methods described above. This is probably because of its depth and non-metallic construction. Instead, we identified it through visual inspection and mapped its location through line of site between two man ways. One man way was located in the intersection of 23rd Avenue and E. 27th Street and the other was located in the intersection of 22nd and 23rd Avenues. Since these intersections are 500 feet apart, the location of the storm drain is approximate. Our visual inspection indicated that the storm drain was approximately 36 inches in diameter and buried six to seven feet below grade.

The natural gas line is located 6 feet east of the curb and was detected using the EMLL conduction mode. This consisted of transmitting a signal into tracer wires attached to the line. The tracer wires were accessed through the valve box shown on Plate 1. Apparently, there is a tee that trends east from the line approximately 24 feet south of the valve. The tee had previously been marked by PG&E. It was not detected by the geophysical investigation.

The undifferentiated utility (uu) that is located closest to the natural gas line was detected with GPR. Although it mirrors the natural gas line in depth and direction, it could not be detected in the northern 15 feet of the survey area, probably because it is non-metallic. The exact type or purpose of the utility is unknown.

The other undifferentiated utility (uu) was discovered using the M-scope, thus indicating that the utility is metallic. The exact type or purpose of the utility is unknown.

The GPR survey detected a zone of high amplitude reflections bordering the east side of the survey area. The pattern of the reflections are characteristic of multiple utilities. Although this zone lies outside the area of investigation, we deemed it prudent to mention in this report.

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,

Travis Black
Senior Geophysical Technician
NORCAL Geophysical Consultants, Inc

William E. Black
Principal Geophysicist PGp No. 843
TWB/WEB/tt

Enclosure: Plate 1
Appendix A: GEOPHYSICAL METHODOLOGY

APPENDIX A

GEOPHYSICAL METHODOLOGY

1.0 ELECTROMAGNETIC LINE LOCATION (EMLL)

1.1 METHODOLOGY

This method involves tracing the paths of radio signals that are emitted by conductive utility lines. This is possible because under certain conditions metallic utility conduits and pipelines can act as radio antennas. Energized utilities such as electric, telephone, and grounded water lines often carry electrical currents. Radio signals resulting from these currents are often radiated from the lines. These types of signals are referred to as "passive signals" since only a radio receiver tuned to the appropriate frequency is required to trace them. Other utilities such as natural gas lines, drain lines, cathodic protection lines, etc. are not normally energized and thus require a radio signal to be placed on them in order to be traced. These types of signals are referred to as "active signals" and are placed on the lines by a specialized radio transmitter, either by induction or by directly connecting an electrical lead to them.

Whether the tracing signal is passive or active, the surface trace of a line is determined the same way. A specialized radio receiver is carried along a series of traverses crossing the line and the strength of the emitted signal noted. In most cases, the line is located below the point where the signal is strongest. After a series of traverses have been completed and the position of the strongest signal strength determined the alignment of the underground utility becomes apparent.

1.2 INSTRUMENTATION

The EMLL instrument used for this investigation was a Radio Detection RD 7000. This instrument consists of a specialized radio receiver and separate transmitter. The receiver is a multi-frequency, multiple antenna device that is capable of determining the relative strength and direction of signals emitted from buried pipes and cables. The receiver generates both a meter reading (dimensionless relative amplitude) and an audible response when near an energized line. It does not record the variations in signal strength. The receiver is typically capable of tracing a line buried to a depth of about ten feet. The transmitter is a multi-frequency device with a variable power output and various modes of transmission using "air-coupled" induction, induction clamp, and direct connection. In most cases, the highest power setting is sufficient to trace a line for several hundred feet.

1.3 LIMITATIONS

The EMLL method works by detecting radio signals. In many cases, the sources of these signals are from known isolated subsurface utility lines. In some cases however, signals from other sources may be present. These other signals may originate from overhead electric and telephone lines, grounded water lines and commercial radio towers. These other signals may distort or completely mask the primary signal of interest. In other cases, the primary signal may actually "jump" from one underground conductor to another, thus leading to erroneous results. Finally, traceable currents can only be detected as long as there is electrical continuity. Metal conduits having insulating joints and utilities made of non-metallic material cannot be traced with EMLL, unless they are equipped with an accompanying "tracer" wire.

2.0 METAL DETECTION (MD)

2.1 METHODOLOGY

This method uses the principle of electromagnetic induction to detect shallowly buried metal objects such as underground storage tanks (USTs), metal utility conduits, rebar in concrete, manhole covers, and metallic debris. A hand-held radio transmitter-receiver unit is carried above the ground surface at hip level along a traverse or in random search mode. The transmitter broadcasts a time varying electromagnetic signal (primary field) that induces current flow in nearby metal objects. The induced current flow produces a secondary magnetic field that is detected by the receiver.

2.2 INSTRUMENTATION

The MD instrument that we typically use for shallow subsurface investigations is a Fisher TW-6 Pipe and Cable Locator. This instrument is expressly designed to detect metallic pipes, cables, USTs, manhole covers and other large, shallowly buried metallic objects. It is configured in such a way that the effects of minor near surface objects such as beverage cans, nuts and bolts, etc. are reduced or ignored. The instrument response consists of both a meter reading (dimensionless relative amplitude) and an audible response that increases in volume in the proximity of surface or buried metal objects. The TW-6 does record variations in the strength of the secondary magnetic field. Locating buried objects is based solely on the relative meter reading and audio output. Consequently, the results are generally limited to marking the interpreted outlines of detected objects in the field and mapping their locations.

2.3 LIMITATIONS

In general, the response of the MD instrument is roughly proportional to the horizontal surface area of near-surface buried objects (typically in the upper three or four feet). This relationship can be used to advantage in discriminating between metal debris, reinforced concrete pads, and pipelines. However, in the presence of above-ground metal objects such as fences, walls, parked cars, and debris boxes this may no longer be valid. In some instances the presence of such objects can make it very difficult to determine whether the instrument responses are associated with below-ground targets or above-ground cultural features. When multiple sources are present it may not be possible to identify individual targets. Also, relatively large objects that have a limited horizontal cross-section, such as well casing and fence posts, are sometimes difficult to detect.

3.0 GROUND PENETRATING RADAR (GPR)

3.1 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 UST's, sumps, buried debris, underground utilities, and variations in the shallow stratigraphy.

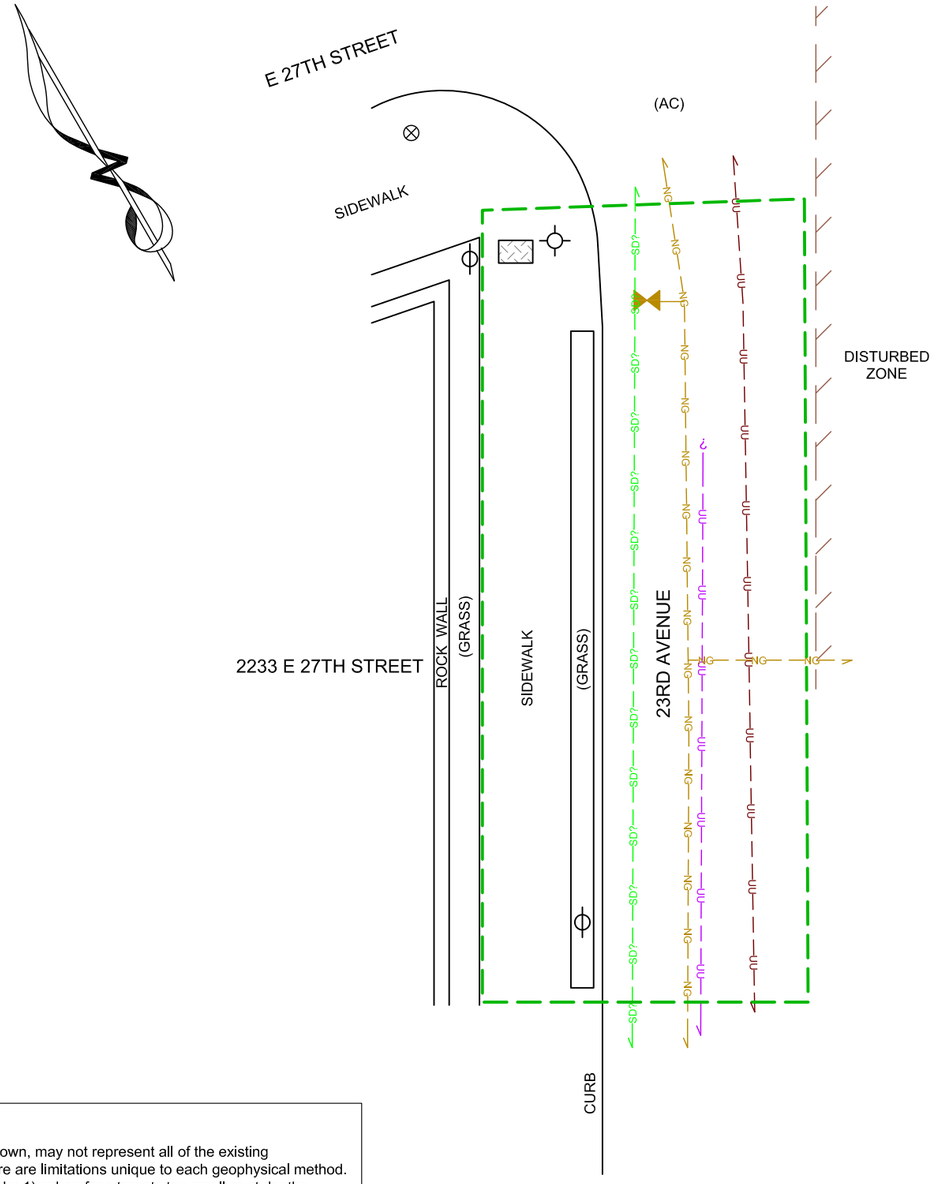
The GPR system used was a Geophysical Survey Systems, Inc. SIR-3000 Subsurface Interface Radar equipped with a 400 megahertz (MHz) transducer. This transducer is near the center of the available frequency range and is used to provide high resolution at shallow depths.

3.2 DATA ANALYSIS

GPR records are examined to identify reflection patterns characteristic of UST's, utilities, and other buried debris. Typically, UST's 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.

3.3 LIMITATIONS

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 a utility vault. 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.



VICINITY MAP

LEGEND

— — —	LIMITS OF GEOPHYSICAL SURVEY
—NG—	NATURAL GAS LINE
—SD?—	SUSPECTED STORM DRAIN LINE BASED ON MANWAY LOCATIONS (NOT DETECTED)
—UU—	UNDIFFERENTIATED UTILITY LINE
—UU—	UNDIFFERENTIATED UTILITY LINE (METALLIC)
——>	UTILITY LINE CONTINUATION (LINE IS SUSPECTED TO CONTINUE BEYOND DETECTED LOCATION)
——?	UTILITY LINE NOT DETECTED BEYOND LOCATION (LINE MAY TERMINATE OR CONTINUE)
⊗	CROSS-WALK POST
⋈	NATURAL GAS VALVE
⌽	SIGN POST
⌖	TRAFFIC SIGNAL
▭	UTILITY VAULT
(AC)	ASPHALT

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 FORMER TEXACO STATION 359766 (ED'S LIQUORS) 2700 23RD AVENUE

	LOCATION: OAKLAND, CALIFORNIA		
	CLIENT: CRA		PLATE 1
JOB #: 15-462.202	NORCAL GEOPHYSICAL CONSULTANTS INC.		
DATE: JAN. 2015	DRAWN BY: G.RANDALL	APPROVED BY: TWB	

Appendix F

Standard Field Procedures

STANDARD FIELD PROCEDURES FOR SOIL BORING AND MONITORING WELL INSTALLATION

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.

MONITORING WELL INSTALLATION, DEVELOPMENT AND SAMPLING

Well Construction and Surveying
Groundwater monitoring wells are installed to monitor groundwater quality and determine the groundwater elevation, flow direction and gradient. Well depths and screen lengths are based on groundwater depth, occurrence of hydrocarbons or other compounds in the borehole, stratigraphy and State and local regulatory guidelines. Well screens typically extend 10 to 15 feet below and 5 feet above the static water level at the time of drilling. However, the well screen will generally not extend into or through a clay layer that is at least three feet thick.

Well casing and screen are flush-threaded, Schedule 40 PVC. Screen slot size varies according to the sediments screened, but slots are generally 0.010 or 0.020 inches wide. A rinsed and graded sand occupies the annular space between the boring and the well screen to about one to two feet above the well screen. A two feet thick hydrated bentonite seal separates the sand from the overlying sanitary surface seal composed of Portland type II/V cement.

Well-heads are secured by locking well-caps inside traffic-rated vaults finished flush with the ground surface. A stovepipe may be installed between the well-head and the vault cap for additional security.

The well top-of-casing elevation is surveyed with respect to mean sea level and the well is surveyed for horizontal location with respect to an onsite or nearby offsite landmark.

Well Development

Wells are generally developed using a combination of groundwater surging and extraction. Surging agitates the groundwater and dislodges fine sediments from the sand pack. After about ten minutes of surging, groundwater is extracted from the well using bailing, pumping and/or reverse air-lifting through an eductor pipe to remove the sediments from the well. Surging and extraction continue until at least ten well-casing volumes of groundwater are extracted and the sediment volume in the groundwater is negligible. This process usually occurs prior to installing the sanitary surface seal to ensure sand pack stabilization. If development occurs after surface seal installation, then development occurs 24 to 72 hours after seal installation to ensure that the Portland cement has set up correctly.

All equipment is steam-cleaned prior to use and air used for air-lifting is filtered to prevent oil entrained in the compressed air from entering the well. Wells that are developed using air-lift evacuation are not sampled until at least 24 hours after they are developed.

Groundwater Sampling

Depending on local regulatory guidelines, three to four well-casing volumes of groundwater are purged prior to sampling. Low flow purging and sampling procedures are presented in the groundwater monitoring and sampling contractor's report. Purging continues until groundwater pH, conductivity, and temperature have stabilized. Groundwater samples are collected using bailers or pumps and 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.

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.

Appendix G

Blaine Tech Data

WELL GAUGING DATA

Project # 150216-BW2 Date 2/16/15 Client Chevron

Site 2700 23rd Ave Oakland

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
MW-5	1250	2					17.14	19.78	TOC	

WELL DEVELOPMENT DATA SHEET

Project #: 150216-BW2	Client: Chevron
Developer: B. Weeks	Date Developed: 2/16/15
Well I.D. MW-5	Well Diameter: (circle one) (2) 3 4 6
Total Well Depth: Before 19.78 After 19.78	Depth to Water: Before 17.14 After 19.48
Reason not developed: —	If Free Product, thickness: —
Additional Notations:	

Volume Conversion Factor (VCF):	Well dia.		VCF
{12 x (d^2/4) x π} /231	2"	=	0.16
where	3"	=	0.37
12 = in / foot	4"	=	0.65
d = diameter (in.)	6"	=	1.47
π = 3.1416	10"	=	4.08
231 = in 3/gal	12"	=	6.87

0.4	X	10	=	4.0
1 Case Volume		Specified Volumes		gallons

Purging Device: ☒ Bailer ☐ Suction Pump ☐ Electric Submersible ☐ Positive Air Displacement

Type of Installed Pump _____

Other equipment used 2" surge block

TIME	TEMP (F)	pH	Cond. (mS or (µS))	TURBIDITY (NTUs)	VOLUME REMOVED:	NOTATIONS:
1258	* Surged Well for 10 minutes					
1309	70.9	7.44	5134	>1000	0.4	Silty
1310	70.4	7.44	5146	>1000	0.8	Hard Bottom
1312	70.1	7.42	5152	>1000	1.2	
1315	69.9	7.40	5178	>1000	1.6	Clearing
* Dewatered @ 1.8 gallons						DTW 19.59'
1410	* Surged Well for 10 minutes					DTW 18.91'
1425	68.5	7.33	5218	>1000	2.0	
1426	* Dewatered @ 2.2 gallons					DTW 19.48'

Did Well Dewater? Yes	If yes, note above.	Gallons Actually Evacuated:	2.2

WELLHEAD INSPECTION CHECKLIST

Client Chevron Date 2/16/15

Site Address 2700 23rd Ave Oakland

Job Number 150216-BW2 Technician BW

Well ID	Well Inspected - No Corrective Action Required	WELL IS SECURABLE BY DESIGN (12"or less)	WELL IS CLEARLY MARKED WITH THE WORDS "MONITORING WELL" (12"or less)	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)	Repair Order Submitted
MW-5	X									

NOTES: Added Lock

CHEVRON-NORTHERN CALIFORNIA TYPE **A** BILL OF LADING BILL OF LADING No._____

SOURCE RECORD **BILL OF LADING**

FOR PURGEWATER RECOVERED FROM GROUNDWATER WELLS AT CHEVRON FACILITIES IN THE STATE OF CALIFORNIA. THE PURGE- WATER WHICH HAS BEEN RECOVERED FROM GROUND-WATER WELLS IS COLLECTED BY THE CONTRACTOR AND HAULED TO THEIR FACILITY IN SAN JOSE, CALIFORNIA FOR TEMPORARILY HOLDING PENDING TRANSPORT BY OTHERS TO FINAL DESTINATION.

The contractor performing this work is BLAINE TECH SERVICES, INC. (BLAINE TECH), 1680 Rogers Ave. San Jose CA (408) 573-0555). BLAINE TECH. is authorized by Chevron Environmental Management Company (CHEVRON EMC) to recover, collect, apportion into loads, and haul the purgewater that is drawn from wells at the CHEVRON EMC facility indicated below and to deliver that purgewater to BLAINE TECH for temporarily holding. Transport routing of the purgewater may be direct from one CHEVRON EMC facility to BLAINE TECH; from one CHEVRON EMC facility to BLAINE TECH via another CHEVRON EMC facility; or any combination thereof. The well purgewater is and remains the property of CHEVRON EMC.

This **Source Record BILL OF LADING** was initiated to cover the recovery of Non-Hazardous Well Purgewater from wells at the Chevron facility described below:

CHEVRON # Chevron Engineer

2700 23rd Ave Oakland CA

street number street name city state

WELL I.D.	GALS.	WELL I.D.	GALS.
MW-5	1 2		

added equip. rinse water 1 1

any other adjustments

TOTAL GALS. RECOVERED 3

loaded onto BTS vehicle # 89

BTS event # 150216-BL02 time 1520 date 2/16/15

Transporter signature

* *

REC'D AT B75-SJ time date 2/16/15

Unloaded/received by signature

BLAINE™
TECH SERVICES

March 10, 2015

Chevron Environmental Management Company
Alexis Coulter
6101 Bollinger Canyon Rd.
San Ramon, CA 94583

First Quarter 2015 Monitoring at
Chevron Service Station 359766
2700 23rd Avenue
Oakland, CA

Monitoring performed on February 26, 2015

Blaine Tech Services, Inc. Groundwater Monitoring Event 150226-BW1

This submission covers the routine monitoring of groundwater wells conducted on February 26, 2015 at this location. One monitoring well was measured for depth to groundwater (DTW). One monitoring well was sampled. All sampling activities were performed in accordance with local, state and federal guidelines.

Water levels measurements were collected using an electronic slope indicator. All sampled wells were purged using low flow methodology until water temperature, pH, conductivity, dissolved oxygen and oxidation reduction potential were stabilized. Purging was accomplished using Geotech Peri Pumps. Subsequent sample collection and sample handling was performed in accordance with EPA protocols. Alternately, where applicable, wells were sampled utilizing no-purge methodology. All reused equipment was decontaminated in an integrated stainless steel sink with de-ionized water supplied Hotsy pressure washer and Liquinox or equivalent.

Samples were delivered under chain-of-custody to Lancaster Laboratories, for analysis. Monitoring well purgewater and equipment rinsate water was collected and transported under bill-of-lading to Blaine Tech of San Jose, California.

SAN JOSE 1680 ROGERS AVENUE SAN JOSE, CA 95112-1105 (408) 573-0555
SACRAMENTO
LOS ANGELES FAX (408) 573-7771 LIC. 746684
SAN DIEGO www.blainetech.com

Enclosed documentation from this event includes copies of the Well Gauging Sheet, Well Monitoring Data Sheets, and Chain-of-Custody.

Blaine Tech Services, Inc.'s activities at this site consisted of objective data and sample collection only. No interpretation of analytical results, defining of hydrogeologic conditions or formulation of recommendations was performed.

Please call if you have any questions.

Sincerely,

Dustin Becker
Blaine Tech Services, Inc.
Senior Project Manager

attachments: SOP
Well Gauging Sheet
Individual Well Monitoring Data Sheets
Wellhead Inspection Form
Bill of Lading
Calibration Log

cc: Stantec
Attn: Nathan Lee
2300 Clayton Rd., Suite 920
Concord, CA 94520

SAN JOSE 1680 ROGERS AVENUE SAN JOSE, CA 95112-1105 (408) 573-0555
SACRAMENTO
LOS ANGELES FAX (408) 573-7771 LIC. 746684
SAN DIEGO www.blainetech.com

BLAINE TECH SERVICES, INC.
METHODS AND PROCEDURES
FOR THE ROUTINE MONITORING OF
GROUNDWATER WELLS AT CHEVRON SITES

Blaine Tech Services, Inc. performs environmental sampling and documentation as an independent third party. We specialize in groundwater monitoring assignments and intentionally limit the scope of our services to those centered on the generation of objective information.

To avoid conflicts of interest, Blaine Tech Services, Inc. personnel do not evaluate or interpret the information we collect. As a state licensed contractor (C-57 well drilling –water – 746684) performing strictly technical services, we do not make any professional recommendations and perform no consulting of any kind.

SAMPLING PROCEDURES OVERVIEW

SAFETY

All groundwater monitoring assignments performed for Chevron comply with Chevron's safety guidelines, 29 CFR 1910.120 and SB-198 Injury and Illness Prevention Program (IIPP). All Field Technicians receive the full 40-hour 29CFR 1910.120 OSHA SARA HAZWOPER course, medical clearance and on-the-job training prior to commencing any work on any Chevron site.

INSPECTION AND GAUGING

Wells are inspected prior to evacuation and sampling. The condition of the wellhead is checked and noted according to a wellhead inspection checklist.

Standard measurements include the depth to water (DTW) and the total well depth (TD) obtained with industry standard electronic water level indicators that are graduated in increments of hundredths of a foot.

The water in each well is inspected for the presence of immiscibles. When free product is suspected, its presence is confirmed using an electronic interface probe (e.g. GeoTech). No samples are collected from a well containing product.

TRADITIONAL PURGING & SAMPLING

Evacuation

Depth to water measurements are collected by our personnel prior to purging and minimum purge volumes are calculated anew for each well based on the height of the water column and the diameter of the well. Expected purge volumes are never less than three case volumes and are set at no less than four case volumes in some jurisdictions.

Well purging devices are selected on the basis of the well diameter and the total volume to be evacuated. In most cases the well will be purged using an electric submersible pump (i.e. Grundfos) suspended near (but not touching) the bottom of the well.

Parameter Stabilization

Well purging completion standards include minimum purge volumes, but additionally require stabilization of specific groundwater parameters prior to sample collection. Typical groundwater parameters used to measure stability are electrical conductivity, pH, and temperature. Instrument readings are obtained at regular intervals during the evacuation process (no less than once per case volume).

Stabilization standards for routine quarterly monitoring of fuel sites include the following: Temperature is considered to have stabilized when successive readings do not fluctuate more than +/- 1 degree Celsius. Electrical conductivity is considered stable when successive readings are within 10%. pH is considered to be stable when successive readings remain constant or vary no more than 0.2 of a pH unit.

Sample Collection

All samples are collected using disposable bailers.

Sample Containers

Sample material is decanted directly from the sampling bailer into sample containers provided by the laboratory that will analyze the samples. The transfer of sample material from the bailer to the sample container conforms to specifications contained in the USEPA T.E.G.D. The type of sample container, material of construction, method of closure and filling requirements are specific to the intended analysis. Chemicals needed to preserve the sample material are commonly placed inside the sample containers by the laboratory or glassware vendor prior to delivery of the bottle to our personnel. The laboratory sets the number of replicate containers.

Dewatered Wells

Normal evacuation removes no less than three case volumes of water from the well. However, less water may be removed in cases where the well dewaters and does not immediately recharge.

Measuring Recharge

Upon completion of well purging, a depth to water measurement is collected and notated to ensure that the well has recharged to within 80% of its static, pre-purge level prior to sampling.

Wells that do not immediately show 80% recharge or dewatered wells will be allowed approximately 2 hours to recharge prior to sampling or will be sampled at site departure. All wells requiring off-site traffic control in the public right-of-way, the 80% recharge rule may be disregarded in the interests of Health and Safety. The sample may be collected as soon as there is sufficient water. The water level at time of sampling will be noted.

Dissolved Oxygen Measurements

Dissolved Oxygen readings are taken pre- and/or post-purge using YSI meters (e.g. YSI Model 550) or HACH field test kits.

The YSI meters are able to collect accurate in-situ readings. The probe allows downhole measurements to be taken from wells with diameters as small as two inches. The probe and reel is decontaminated between wells as described above. The meter is calibrated

as per the instructions in the operating manual. The probe is lowered into the water column and the reading is allowed to stabilize prior to collection.

Oxidation Reduction Potential Measurements (ORP)

All readings are obtained with either Corning or Myron-L meters (e.g. Corning ORP-65 or a Myron-L Ultrameter). The meter is cleaned between wells as described above. The meter is calibrated at the start of each day according to the instruction manual.

LOW FLOW SAMPLING USING SAMPLE-PRO BLADDER PUMP

Calibration

Calibrate YSI Flow Cell as per manufacturer's specifications. Thoroughly rinse probe and cup between parameters. Calibration order as follows:

1. pH (use 3-point calibration of 7, 4, 10)
2. Specific Conductance
3. Temperature

Purging & Sampling Collection

1. Insert new bladder into Sample-Pro pump housing.
2. Remove dedicated PE tubing from the well or start with new PE tubing cut to the required length.
3. Attach the PE tubing to the Sample-Pro Bladder Pump.
4. Gently lower the Sample-Pro Bladder Pump, and PE tubing into the well, placing the Sample-Pro Bladder Pump intake at the specified screened interval. Take care to minimize disturbance to the water column.
5. Direct effluent line into YSI 556 Flow Cell.
6. Set Sample-Pro Bladder Pump speed at 100 - 500 ml/min.
7. Collect water quality parameter measurements for temperature, pH, conductivity, turbidity, DO and ORP every 3-5 minutes.
8. Monitor drawdown during purging with electronic water level meter. Record water level with each parameter measurement. MAXIMUM DRAWDOWN IS 0.33 FEET.
9. Collect parameter measurements until stability is achieved. Stability is defined as three consecutive measurements where:

Temp	± 1° Celsius
pH	± 0.1
Conductivity	± 3%

10. Sample may be collected once one system has been removed and stability readings have been achieved after the system volume has been removed.
11. Disconnect effluent line from YSI 556 Flow Cell.
12. Sample through effluent line while maintaining constant flow rate.
13. Remove Sample-Pro Bladder Pump, and PE tubing from well.
14. Detach and reinstall dedicated PE tubing in well.

PURGEWATER CONTAINMENT

All non-hazardous purgewater evacuated from each groundwater monitoring well is captured and contained in on-board storage tanks on the Sampling Vehicle and/or special water hauling trailers. Effluent from the decontamination of reusable apparatus (sounders, electric pumps and hoses etc.), consisting of groundwater combined with deionized water and non-phosphate soap, is also captured and pumped into effluent tanks.

Non-hazardous purgewater is transported under standard Bill of Lading or Non-Hazardous Waste Manifest to a Blaine Tech Services, Inc. facility before being transported to a Chevron approved disposal facility

TRIP BLANKS

Trip Blanks, if requested, are taken to the site and kept inside the sample cooler for the duration of the event. They are turned over to the laboratory for analysis with the samples from that site.

DUPLICATES

Duplicates, if requested, may be collected at a site.

SAMPLE STORAGE

All sample containers are promptly placed in food grade ice chests for storage in the field and transport (direct or via our facility) to the designated analytical laboratory. These ice chests contain quantities of restaurant grade ice as a refrigerant material. The samples are maintained in either an ice chest or a refrigerator until relinquished into the custody of the laboratory or laboratory courier.

DOCUMENTATION CONVENTIONS

A label must be affixed to all sample containers. In most cases these labels are generated by our office personnel and are partially preprinted. Labels can also be hand written by our field personnel. The site is identified with the store number and site address, as is the particular groundwater well from which the sample is drawn (e.g. MW-1, MW-2, S-1 etc.). The time and date of sample collection along with the initials of the person who collects the sample are handwritten onto the label. Field documentation is contemporaneous.

DECONTAMINATION

All equipment is brought to the site in clean and serviceable condition and is cleaned after use in each well and before subsequent use in any other well. Equipment such as hose reels, pumps and bailers is decontaminated before leaving the site.

The primary decontamination device is a commercial steam cleaner. The steam cleaner is de-tuned to function as a hot pressure washer that is then operated with high quality deionized water that is produced at our facility and stored onboard our sampling vehicle. Cleaning is facilitated by the use of proprietary fixtures and devices included in the patented workstation (U.S. Patent 5,535,775) that is incorporated in each sampling vehicle.
Any sensitive equipment or parts (i.e. Dissolved Oxygen sensor membrane, water level

indicator, etc.) that cannot be washed using the high pressure water, will be sprayed with a non-phosphate soap and deionized water solution and rinsed with deionized water.

FERROUS IRON MEASUREMENTS

All field measurements are collected at time of sampling with a HACH test kit.

WELL GAUGING DATA

Project # 150226-BW1 Date 2/26/15 Client Chevron

Site 2700 23rd Ave Oakland

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or (TOC)	Notes
MW-5	1325	2					17.81	19.83	TOC	

LOW FLOW WELL MONITORING DATA SHEET

Project #: 150226-BW1	Client: Chevron
Sampler: BW	Start Date: 2/26/15
Well I.D.: MW-5	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth: 19.83	Depth to Water Pre: 17.81 Post: 18.10
Depth to Free Product: -	Thickness of Free Product (feet): -
Referenced to: (PVC) Grade	Flow Cell Type: YSI Pro Plus

Purge Method: 2" Grundfos Pump X Peristaltic Pump Bladder Pump
Sampling Method: Dedicated Tubing X New Tubing Other ___

Flow Rate: 100ml/min Pump Depth: 195'

Time	Temp. (°C or °F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	DTW / Observations
1330	21.4	7.39	3603	15	-	-	300	17.94
1333	21.3	7.45	3308	10	-	-	600	17.98
1336	21.2	7.51	3209	8	-	-	900	18.00
1339	21.3	7.50	3236	7	-	-	1200	18.05
1342	21.3	7.48	3280	6	-	-	1500	18.10

Did well dewater? Yes (No) Amount actually evacuated: 1500ml

Sampling Time: 1345 Sampling Date: 2/26/15

Sample I.D.: MW-5 Laboratory: Lancaster

Analyzed for: TPH-G BTEX MTBE TPH-D Other: See COC

Equipment Blank I.D.: @ Time Duplicate I.D.:

CHAIN OF CUSTODY FORM

Chevron Environmental Management Company ▪ 6111 Bollinger Canyon Rd.▪ San Ramon, CA 94583 COC 1 of 1

Chevron Site Number: 359766
Chevron Site Global ID: T0600000004218
Chevron Site Address: 2700 23rd Ave., Oakland, CA
Chevron PM: Alexis Coulter
Chevron PM Phone No.: (925)790-6441
☒ Retail and Terminal Business Unit (RTBU) Job
☒ Construction/Retail Job

Chevron Consultant: CRA
Address: 2300 Clayton Rd., Concord, CA 94520
Consultant Contact: Nathan Lee
Consultant Phone No. 925-849-1003
Consultant Project No. 150226-Bwi
Sampling Company: Blaine Tech Services
Sampled By (Print): Brian Weeks
Sampler Signature:

Charge Code: NWRTB-0098247-0-OML
NWRTB 00SITE NUMBER-0- WBS
(WBS ELEMENTS:
SITE ASSESSMENT: A1L REMEDIATION IMPLEMENTATION: R5L
SITE MONITORING: OML OPERATION MAINTENANCE & MONITORING: M1L

THIS IS A LEGAL DOCUMENT. ALL FIELDS MUST BE FILLED OUT CORRECTLY AND COMPLETELY.

Lancaster Laboratories
☒ Lancaster, PA
Lab Contact: Nicole Maljovec
2425 New Holland Pike, Lancaster, PA 17601
Phone No: (717)656-2300

Other Lab

Temp. Blank Check Time / Temp.

ANALYSES REQUIRED

Preservation Codes: H =HCL T= Thiosulfate; N =HNO_3 B = NaOH; S = H_2SO_4 O = Other

Special Instructions: Must meet 5.0 PPB detection limit by 8260

SAMPLE ID: Field Point Name	Matrix	Top Depth	Date (yymmdd)	Sample Time	# of Containers	Container Type	EPA 8260B/GC/MS TPH-G☐ BTEX☒ MTBE☒ OXYGENATES☐ HVOC☐	EPA 8015B GRO☒ DRO☐ ORO☐ HC SCREEN☐	EPA 8021B BTEX☐ MTBE☐	EPA 6010 Ca, Fe, K, Mg, Mn, Na	EPA6010/7000 TITLE 22 METALS☐ TTLC☐ STLC☐	EPA150.1 PH☐	EPA 310.1 ALKALINITY☐	SM2510B SPECIFIC CONDUCTIVITY	EPA 418.1 TRPH☐	EPA 413.1 OIL & GREASE☐	EPA 8260 ETHANOL	EPA 8015 TPH-D☐	Notes/Comments
MW-5	WG		150226	1345	6	VOA	X	X											
QA	TB		150226	1305	2	VOA	X	X											

Relinquished By	Company	Date/Time:	Relinquished To	Company	Date/Time
	BTS	2/26/15 @1600	Sample custody		2/26/15 @1600
(Sample custody)	BTS	2/27/15 0945		ELLE	2/27/15 945
Relinquished By	Company	Date/Time	Relinquished To	Company	Date/Time

Turnaround Time: Standard☒ 24 Hours☐ 48 hours☐ 72 Hours☐ Other☐

Sample Integrity: (Check by lab on arrival)
Intact: On Ice: Temp:
COC #

WELLHEAD INSPECTION CHECKLIST

Client Chevron Date 2/26/15

Site Address 2700 23rd Ave Oakland

Job Number 150226-BLW Technician BW

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)	Repair Order Submitted
MW-5	X							

NOTES:

CHEVRON-NORTHERN CALIFORNIA TYPE **A** BILL OF LADING BILL OF LADING No._____

SOURCE RECORD **BILL OF LADING**

FOR PURGEWATER RECOVERED FROM GROUNDWATER WELLS AT CHEVRON FACILITIES IN THE STATE OF CALIFORNIA. THE PURGE- WATER WHICH HAS BEEN RECOVERED FROM GROUND-WATER WELLS IS COLLECTED BY THE CONTRACTOR AND HAULED TO THEIR FACILITY IN SAN JOSE, CALIFORNIA FOR TEMPORARILY HOLDING PENDING TRANSPORT BY OTHERS TO FINAL DESTINATION.

The contractor performing this work is BLAINE TECH SERVICES, INC. (BLAINE TECH), 1680 Rogers Ave. San Jose CA (408) 573-0555). BLAINE TECH. is authorized by Chevron Environmental Management Company (CHEVRON EMC) to recover, collect, apportion into loads, and haul the purgewater that is drawn from wells at the CHEVRON EMC facility indicated below and to deliver that purgewater to BLAINE TECH for temporarily holding. Transport routing of the purgewater may be direct from one CHEVRON EMC facility to BLAINE TECH; from one CHEVRON EMC facility to BLAINE TECH via another CHEVRON EMC facility; or any combination thereof. The well purgewater is and remains the property of CHEVRON EMC.

This **Source Record BILL OF LADING** was initiated to cover the recovery of Non-Hazardous Well Purgewater from wells at the Chevron facility described below:

35-9766 Alexis Coulter
CHEVRON # Chevron Engineer

2700 23rd Ave Oakland CA
street number street name city state

WELL I.D.	GALS.	WELL I.D.	GALS.
MW-5	1		

added equip. rinse water 1 / 1

any other adjustments /

TOTAL GALS. RECOVERED 2

loaded onto BTS vehicle # 91

BTS event # 150226-BW1 time 1415 date 2/26/15

Transporter signature

****

REC'D AT BTS-SJ time 1530 date 2/26/15

Unloaded/received by signature

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME 150226-BW1				PROJECT NUMBER 2700 23rd Ave Oakland			
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP.	INITIALS
YSI Pro Plus	14A102849	2/26/15 @ 0635	pH 7, 10.4 Cond 3900 µm/cm	7.0, 10.0, 4.0 3900 µm/cm	ok	18.2°C	BW

WELL GAUGING DATA

Project # 150313-DC1 Date 3/13/15 Client CHEVRON

Site 2700 23RD AVE, OAKLAND, CA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or (TOC)	Notes
MW-1	1301	2					12.11	19.64		
MW-2	1258	2					8.10	19.58		
MW-3	1304	2					6.50	19.70		
MW-4	1307	2	ODOR				10.70	19.60		
MW-5	1310	2					16.48	19.80	↓	

WELLHEAD INSPECTION CHECKLIST

Client CHEVRON Date 3/13/15

Site Address 2700 23RD AVE, OAKLAND, CA

Job Number 150313-DC1 Technician DC

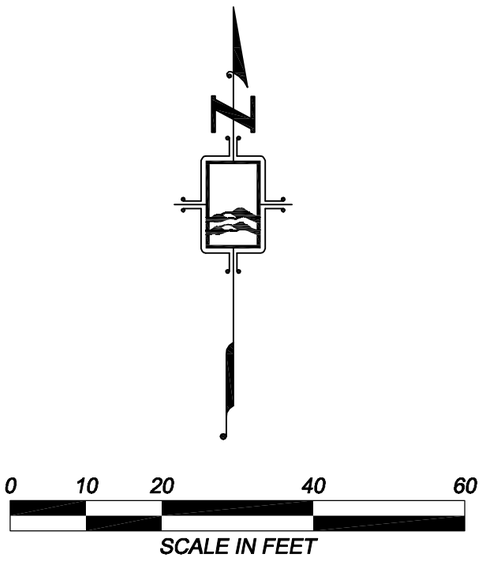
Well ID	Well Inspected - No Corrective Action Required	WELL IS SECURABLE BY DESIGN (12"or less)	WELL IS CLEARLY MARKED WITH THE WORDS "MONITORING WELL" (12"or less)	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)	Repair Order Submitted
MW-1	X	X	X							
MW-2	X	X	X							
MW-3	X	X	X							
MW-4	X	X	X							
MW-5	X	X	X							

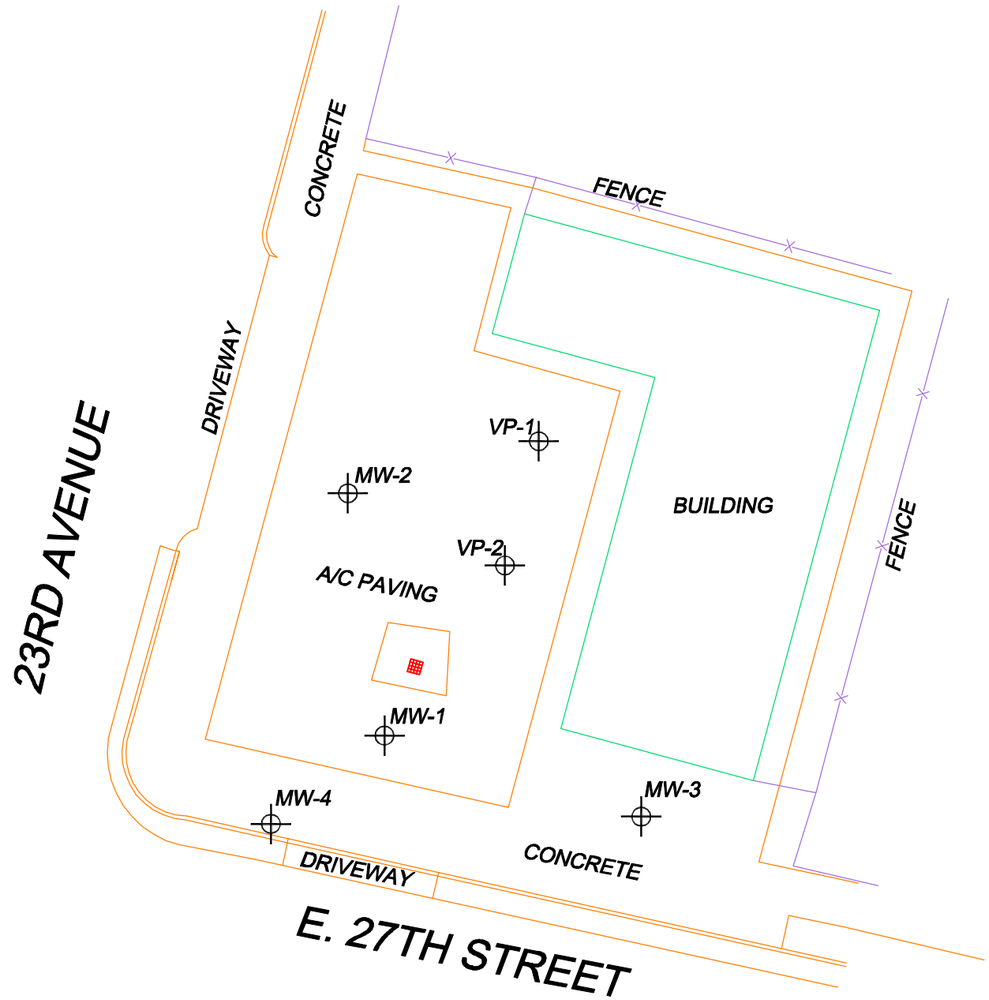
NOTES:

Appendix H

Morrow Surveying Report

DESC.	NORTHING	EASTING	LATITUDE	LONGITUDE	EL. PVC	EL. RIM
MW-1	2116037.7	6062825.4	37.7936180	-122.2264971	168.90	169.19
MW-2	2116069.7	6062820.6	37.7937056	-122.2265157	170.41	170.66
MW-3	2116026.9	6062859.3	37.7935900	-122.2263791	168.71	169.06
MW-4	2116026.1	6062810.5	37.7935854	-122.2265479	168.47	168.75
MW-5	2115958.8	6062709.3	37.7933954	-122.2268937	162.42	162.87
VP-1	2116076.5	6062845.8				
VP-2	2116060.1	6062841.4				





MW-5 IS 39.5' SOUTH

Morrow Surveying
LAND SURVEYORS

1255 Starboard Drive
West Sacramento ~ CA ~ 95691
Phone: 916-372-8124
Fax: 916-372-8538
Email: matt@morrowsurveying.com
www.morrowsurveying.com

DATE: March, 2015
DATE SURVEYED: 2-24-15 KR
SCALE: 1"=20'
SHEET 1 OF 1
FIELD BOOK: DRAWING NO. : 0951-191
DRAWN BY: MM

BASIS OF COORDINATES & ELEVATIONS:

COORDINATES ARE CALIFORNIA STATE PLANE ZONE 3
COORDINATES FROM GPS OBSERVATIONS USING CSDS VIRTUAL SURVEY NETWORK.

COORDINATE DATUM IS NAD 83.

REFERENCE GEOID IS GEOID03.

VERTICAL DATUM IS NAVD 88 FROM GPS OBSERVATIONS.

Monitoring Well Exhibit
Prepared for:
CRA

PROJECT

2700 23rd Avenue
City of Oakland Alameda County
California

Appendix I

Laboratory Reports

eurofins | Lancaster Laboratories Environmental

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

REVISED

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

March 11, 2015

Project: 359766

Submittal Date: 02/14/2015
Group Number: 1538642
PO Number: 0015166648
Release Number: COULTER

State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LL) #
MW-5-S-5-150212 Grab Soil	7773194
MW-5-S-8-150212 Grab Soil	7773195
MW-5-S-10-150212 Grab Soil	7773196
MW-5-S-15-150212 Grab Soil	7773197
MW-5-S-20-150212 Grab Soil	7773198

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

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	Chevron	Attn: CRA EDD
ELECTRONIC COPY TO	CRA	Attn: Celina Hernandez
ELECTRONIC COPY TO	CRA	Attn: Nathan Lee
ELECTRONIC COPY TO	CRA	Attn: Alyssa Beerling

REVISED

Respectfully Submitted,

Amek Carter
Specialist

(717) 556-7252

REVISED

Sample Description: MW-5-S-5-150212 Grab Soil
Facility# 359766 CRAW
2700 23rd Ave-Oakland T10000004218

LL Sample # SW 7773194
LL Group # 1538642
Account # 10880

Project Name: 359766

Collected: 02/12/2015 09:50 by AB

Submitted: 02/14/2015 09:45
Reported: 03/11/2015 14:16

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OA505

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	0.0016	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	0.00082 J	0.00066	0.0016	1
10725	Benzo(a)pyrene	50-32-8	0.00089 J	0.00066	0.0016	1
10725	Benzo(b)fluoranthene	205-99-2	0.0023	0.00066	0.0016	1
10725	Benzo(g,h,i)perylene	191-24-2	0.0020	0.00066	0.0016	1
10725	Benzo(k)fluoranthene	207-08-9	0.00075 J	0.00066	0.0016	1
10725	Chrysene	218-01-9	0.0024	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	0.0019	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	0.00083 J	0.00066	0.0016	1
10725	Naphthalene	91-20-3	0.0016 J	0.00066	0.0016	1
10725	Phenanthrene	85-01-8	0.0014 J	0.00066	0.0016	1
10725	Pyrene	129-00-0	0.0016 J	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.	0.5	1.0	26.12
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	0.773	0.0324	0.490	1
06951	Chromium	7440-47-3	52.4	0.108	1.47	1
06955	Lead	7439-92-1	7.14	0.490	1.47	1

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

REVISED

Sample Description: MW-5-S-5-150212 Grab Soil
Facility# 359766 CRAW
2700 23rd Ave-Oakland T10000004218

LL Sample # SW 7773194
LL Group # 1538642
Account # 10880

Project Name: 359766

Collected: 02/12/2015 09:50 by AB

Submitted: 02/14/2015 09:45
Reported: 03/11/2015 14:16

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OA505

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	71.9	0.147	0.980	1
06972	Zinc	7440-66-6	57.7	0.255	1.96	1

General Sample Comments

CA ELAP Lab Certification No. 2792

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	B150481AA	02/17/2015 17:36	Chelsea B Stong	0.98
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	1	201504736834	02/16/2015 08:50	Stephanie A Sanchez	n.a.
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	2	201504736834	02/16/2015 08:50	Stephanie A Sanchez	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5035A Modified	1	201504736834	02/16/2015 08:25	Stephanie A Sanchez	n.a.
10725	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	15049SLC026	02/20/2015 09:21	Brian K Graham	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	15049SLC026	02/19/2015 09:15	Jessica M Velez	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	15048A34A	02/17/2015 14:37	Jeremy C Giffin	26.12
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201504736834	02/16/2015 08:26	Stephanie A Sanchez	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	150500018A	03/04/2015 11:53	Christine E Dolman	1
12159	TPH Fuels soils w/Si Gel	SW-846 8015B modified	1	150500028A	02/23/2015 21:42	Heather E Williams	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3546	1	150500018A	02/20/2015 08:30	Roman Kuropatkin	1
11218	TPH Fuels Soils Extraction	SW-846 3550B	1	150500028A	02/20/2015 10:35	Denise L Trimby	1
06949	Cadmium	SW-846 6010B	1	150495708006	02/20/2015 04:54	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	150495708006	02/20/2015 04:54	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	150495708006	02/20/2015 12:41	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	150495708006	02/20/2015 04:54	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	150495708006	02/20/2015 04:54	Elaine F Stoltzfus	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	150495708006	02/19/2015 11:16	James L Mertz	1

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

REVISED

Sample Description: MW-5-S-8-150212 Grab Soil
Facility# 359766 CRAW
2700 23rd Ave-Oakland T10000004218

LL Sample # SW 7773195
LL Group # 1538642
Account # 10880

Project Name: 359766

Collected: 02/12/2015 10:55 by AB

Submitted: 02/14/2015 09:45
Reported: 03/11/2015 14:16

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OA508

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	1.03
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	1.03
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	1.03
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	1.03
10237	Toluene	108-88-3	N.D.	0.001	0.005	1.03
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	1.03
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.	0.5	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.	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	0.752	0.0330	0.500	1
06951	Chromium	7440-47-3	44.6	0.110	1.50	1
06955	Lead	7439-92-1	4.72	0.500	1.50	1

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

REVISED

Sample Description: MW-5-S-8-150212 Grab Soil
Facility# 359766 CRAW
2700 23rd Ave-Oakland T10000004218

LL Sample # SW 7773195
LL Group # 1538642
Account # 10880

Project Name: 359766

Collected: 02/12/2015 10:55 by AB

Submitted: 02/14/2015 09:45
Reported: 03/11/2015 14:16

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OA508

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	54.7	0.150	1.00	1
06972	Zinc	7440-66-6	45.7	0.260	2.00	1

General Sample Comments

CA ELAP Lab Certification No. 2792

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	B150481AA	02/17/2015 17:58	Chelsea B Stong	1.03
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	1	201504736834	02/16/2015 08:50	Stephanie A Sanchez	n.a.
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	2	201504736834	02/16/2015 08:50	Stephanie A Sanchez	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5035A Modified	1	201504736834	02/16/2015 08:36	Stephanie A Sanchez	n.a.
10725	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	15049SLC026	02/20/2015 09:55	Brian K Graham	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	15049SLC026	02/19/2015 09:15	Jessica M Velez	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	15048A34A	02/17/2015 15:12	Jeremy C Giffin	24.41
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201504736834	02/16/2015 08:35	Stephanie A Sanchez	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	150500018A	03/04/2015 12:15	Christine E Dolman	1
12159	TPH Fuels soils w/Si Gel	SW-846 8015B modified	1	150500028A	02/23/2015 22:03	Heather E Williams	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3546	1	150500018A	02/20/2015 08:30	Roman Kuropatkin	1
11218	TPH Fuels Soils Extraction	SW-846 3550B	1	150500028A	02/20/2015 10:35	Denise L Trimby	1
06949	Cadmium	SW-846 6010B	1	150495708006	02/20/2015 05:05	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	150495708006	02/20/2015 05:05	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	150495708006	02/20/2015 12:45	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	150495708006	02/20/2015 05:05	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	150495708006	02/20/2015 05:05	Elaine F Stoltzfus	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	150495708006	02/19/2015 11:16	James L Mertz	1

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

REVISED

Sample Description: MW-5-S-10-150212 Grab Soil
Facility# 359766 CRAW
2700 23rd Ave-Oakland T10000004218

LL Sample # SW 7773196
LL Group # 1538642
Account # 10880

Project Name: 359766

Collected: 02/12/2015 11:10 by AB

Submitted: 02/14/2015 09:45
Reported: 03/11/2015 14:16

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OA510

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.	0.00067	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.	0.5	1.0	25.23
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	0.643	0.0324	0.490	1
06951	Chromium	7440-47-3	35.8	0.108	1.47	1
06955	Lead	7439-92-1	3.85	0.490	1.47	1

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

REVISED

Sample Description: MW-5-S-10-150212 Grab Soil
Facility# 359766 CRAW
2700 23rd Ave-Oakland T10000004218

LL Sample # SW 7773196
LL Group # 1538642
Account # 10880

Project Name: 359766

Collected: 02/12/2015 11:10 by AB

Submitted: 02/14/2015 09:45
Reported: 03/11/2015 14:16

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OA510

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	44.8	0.147	0.980	1
06972	Zinc	7440-66-6	35.4	0.255	1.96	1

General Sample Comments

CA ELAP Lab Certification No. 2792

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	B150481AA	02/17/2015 18:20	Chelsea B Stong	1.01
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	1	201504736834	02/16/2015 08:50	Stephanie A Sanchez	n.a.
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	2	201504736834	02/16/2015 08:50	Stephanie A Sanchez	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5035A Modified	1	201504736834	02/16/2015 08:41	Stephanie A Sanchez	n.a.
10725	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	15049SLC026	02/20/2015 10:28	Brian K Graham	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	15049SLC026	02/19/2015 09:15	Jessica M Velez	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	15048A34A	02/17/2015 15:48	Jeremy C Giffin	25.23
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201504736834	02/16/2015 08:42	Stephanie A Sanchez	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	150500018A	03/04/2015 12:37	Christine E Dolman	1
12159	TPH Fuels soils w/Si Gel	SW-846 8015B modified	1	150500028A	02/23/2015 22:25	Heather E Williams	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3546	1	150500018A	02/20/2015 08:30	Roman Kuropatkin	1
11218	TPH Fuels Soils Extraction	SW-846 3550B	1	150500028A	02/20/2015 10:35	Denise L Trimby	1
06949	Cadmium	SW-846 6010B	1	150495708006	02/20/2015 05:09	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	150495708006	02/20/2015 05:09	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	150495708006	02/20/2015 12:49	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	150495708006	02/20/2015 05:09	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	150495708006	02/20/2015 05:09	Elaine F Stoltzfus	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	150495708006	02/19/2015 11:16	James L Mertz	1

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

REVISED

Sample Description: MW-5-S-15-150212 Grab Soil
Facility# 359766 CRAW
2700 23rd Ave-Oakland T10000004218

LL Sample # SW 7773197
LL Group # 1538642
Account # 10880

Project Name: 359766

Collected: 02/12/2015 11:15 by AB

Submitted: 02/14/2015 09:45
Reported: 03/11/2015 14:16

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OA515

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	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.	0.5	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.	30	89	1
12159	Total TPH w/Si Gel	n.a.	N.D.	30	89	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%. Reporting limits were raised due to limited sample volume.					
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06949	Cadmium	7440-43-9	0.688	0.0317	0.481	1
06951	Chromium	7440-47-3	57.1	0.106	1.44	1

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

REVISED

Sample Description: MW-5-S-15-150212 Grab Soil
Facility# 359766 CRAW
2700 23rd Ave-Oakland T10000004218

LL Sample # SW 7773197
LL Group # 1538642
Account # 10880

Project Name: 359766

Collected: 02/12/2015 11:15 by AB

Submitted: 02/14/2015 09:45
Reported: 03/11/2015 14:16

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OA515

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	5.94	0.481	1.44	1
06961	Nickel	7440-02-0	57.9	0.144	0.962	1
06972	Zinc	7440-66-6	51.1	0.250	1.92	1

General Sample Comments

CA ELAP Lab Certification No. 2792

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	B150481AA	02/17/2015 18:42	Chelsea B Stong	1.02
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	1	201504736834	02/16/2015 09:00	Stephanie A Sanchez	n.a.
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	2	201504736834	02/16/2015 09:00	Stephanie A Sanchez	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5035A Modified	1	201504736834	02/16/2015 08:48	Stephanie A Sanchez	n.a.
10725	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	15049SLC026	02/20/2015 11:00	Brian K Graham	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	15049SLC026	02/19/2015 09:15	Jessica M Velez	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	15048A34A	02/17/2015 16:24	Jeremy C Giffin	25.67
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201504736834	02/16/2015 08:49	Stephanie A Sanchez	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	150500018A	03/04/2015 12:58	Christine E Dolman	1
12159	TPH Fuels soils w/Si Gel	SW-846 8015B modified	1	150500028A	02/23/2015 22:46	Heather E Williams	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3546	1	150500018A	02/20/2015 08:30	Roman Kuropatkin	1
11218	TPH Fuels Soils Extraction	SW-846 3550B	1	150500028A	02/20/2015 10:35	Denise L Trimby	1
06949	Cadmium	SW-846 6010B	1	150495708006	02/20/2015 05:13	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	150495708006	02/20/2015 05:13	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	150495708006	02/20/2015 12:53	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	150495708006	02/20/2015 05:13	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	150495708006	02/20/2015 05:13	Elaine F Stoltzfus	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	150495708006	02/19/2015 11:16	James L Mertz	1

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

REVISED

Sample Description: MW-5-S-20-150212 Grab Soil
Facility# 359766 CRAW
2700 23rd Ave-Oakland T10000004218

LL Sample # SW 7773198
LL Group # 1538642
Account # 10880

Project Name: 359766

Collected: 02/12/2015 11:20 by AB

Submitted: 02/14/2015 09:45
Reported: 03/11/2015 14:16

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OA520

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	0.0017	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	0.00094 J	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.	0.5	1	24.58
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 1.6%.
The surrogate data is outside the QC limits. Results from the reextraction are within the limits. The hold time had expired prior to the reextraction therefore, all results are reported from the original extract. Similar results were obtained in both extracts.

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%.

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

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Analysis Report

REVISED

Sample Description: MW-5-S-20-150212 Grab Soil
Facility# 359766 CRAW
2700 23rd Ave-Oakland T10000004218

LL Sample # SW 7773198
LL Group # 1538642
Account # 10880

Project Name: 359766

Collected: 02/12/2015 11:20 by AB

Submitted: 02/14/2015 09:45
Reported: 03/11/2015 14:16

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OA520

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	
06949	Cadmium	7440-43-9	0.675	0.0314	0.476	1
06951	Chromium	7440-47-3	61.6	0.105	1.43	1
06955	Lead	7439-92-1	4.46	0.476	1.43	1
06961	Nickel	7440-02-0	62.3	0.143	0.952	1
06972	Zinc	7440-66-6	48.5	0.248	1.90	1

General Sample Comments

CA ELAP Lab Certification No. 2792

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	B150481AA	02/17/2015 19:04	Chelsea B Stong	1.04
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	1	201504736834	02/16/2015 09:00	Stephanie A Sanchez	n.a.
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	2	201504736834	02/16/2015 09:00	Stephanie A Sanchez	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5035A Modified	1	201504736834	02/16/2015 08:54	Stephanie A Sanchez	n.a.
10725	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	15049SLC026	02/20/2015 11:32	Brian K Graham	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	15049SLC026	02/19/2015 09:15	Jessica M Velez	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	15048A34A	02/17/2015 17:00	Jeremy C Giffin	24.58
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201504736834	02/16/2015 08:55	Stephanie A Sanchez	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	150500018A	03/04/2015 13:20	Christine E Dolman	1
12159	TPH Fuels soils w/Si Gel	SW-846 8015B modified	1	150500028A	02/23/2015 23:08	Heather E Williams	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3546	1	150500018A	02/20/2015 08:30	Roman Kuropatkin	1
11218	TPH Fuels Soils Extraction	SW-846 3550B	1	150500028A	02/20/2015 10:35	Denise L Trimby	1
06949	Cadmium	SW-846 6010B	1	150495708006	02/20/2015 05:17	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	150495708006	02/20/2015 05:17	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	150495708006	02/20/2015 12:57	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	150495708006	02/20/2015 05:17	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	150495708006	02/20/2015 05:17	Elaine F Stoltzfus	1

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

REVISED

Sample Description: MW-5-S-20-150212 Grab Soil
Facility# 359766 CRAW
2700 23rd Ave-Oakland T10000004218

LL Sample # SW 7773198
LL Group # 1538642
Account # 10880

Project Name: 359766

Collected: 02/12/2015 11:20 by AB

Submitted: 02/14/2015 09:45
Reported: 03/11/2015 14:16

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OA520

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	150495708006	02/19/2015 11:16	James L Mertz	1

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

REVISED

Quality Control Summary

Client Name: ChevronTexaco Group Number: 1538642
Reported: 03/11/2015 14:16

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: B150481AA	Sample number(s): 7773194-7773198								
Benzene	N.D.	0.0005	0.005	mg/kg	95	97	80-120	2	30
1,2-Dibromoethane	N.D.	0.001	0.005	mg/kg	100	101	80-120	1	30
1,2-Dichloroethane	N.D.	0.001	0.005	mg/kg	102	103	77-130	1	30
Ethylbenzene	N.D.	0.001	0.005	mg/kg	91	94	80-120	3	30
Toluene	N.D.	0.001	0.005	mg/kg	93	96	80-120	3	30
Xylene (Total)	N.D.	0.001	0.005	mg/kg	91	95	80-120	4	30
Batch number: 15049SLC026	Sample number(s): 7773194-7773198								
Acenaphthene	N.D.	0.00067	0.0017	mg/kg	103		84-118		
Acenaphthylene	N.D.	0.00033	0.0017	mg/kg	99		78-120		
Anthracene	N.D.	0.00033	0.0017	mg/kg	99		82-112		
Benzo(a)anthracene	N.D.	0.00067	0.0017	mg/kg	104		80-120		
Benzo(a)pyrene	N.D.	0.00067	0.0017	mg/kg	98		84-110		
Benzo(b)fluoranthene	N.D.	0.00067	0.0017	mg/kg	108		87-135		
Benzo(g,h,i)perylene	N.D.	0.00067	0.0017	mg/kg	106		79-121		
Benzo(k)fluoranthene	N.D.	0.00067	0.0017	mg/kg	96		82-116		
Chrysene	N.D.	0.00033	0.0017	mg/kg	101		82-122		
Dibenz(a,h)anthracene	N.D.	0.00067	0.0017	mg/kg	111		83-123		
Fluoranthene	N.D.	0.00067	0.0017	mg/kg	94		85-116		
Fluorene	N.D.	0.00067	0.0017	mg/kg	103		84-120		
Indeno(1,2,3-cd)pyrene	N.D.	0.00067	0.0017	mg/kg	107		82-123		
Naphthalene	N.D.	0.00067	0.0017	mg/kg	97		79-113		
Phenanthrene	N.D.	0.00067	0.0017	mg/kg	96		83-113		
Pyrene	N.D.	0.00067	0.0017	mg/kg	93		68-111		
Batch number: 15048A34A	Sample number(s): 7773194-7773198								
TPH-GRO N. CA soil C6-C12	N.D.	0.5	1.0	mg/kg	100	99	73-120	2	30
Batch number: 150500018A	Sample number(s): 7773194-7773198								
TPH-DRO soil C10-C28 w/Si Gel	N.D.	4.0	12	mg/kg	125*	117	59-120	7	20
Batch number: 150500028A	Sample number(s): 7773194-7773198								
Motor Oil C16-C36 w/Si Gel	N.D.	10.	30	mg/kg					
Total TPH w/Si Gel	N.D.	10.	30	mg/kg	85	86	53-123	2	20
Batch number: 150495708006	Sample number(s): 7773194-7773198								
Cadmium	N.D.	0.0330	0.500	mg/kg	100		80-120		
Chromium	N.D.	0.110	1.50	mg/kg	98		80-120		
Lead	N.D.	0.500	1.50	mg/kg	102		80-120		
Nickel	N.D.	0.150	1.00	mg/kg	101		80-120		
Zinc	N.D.	0.260	2.00	mg/kg	99		80-120		

*- 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.

REVISED

Quality Control Summary

Client Name: ChevronTexaco Group Number: 1538642
Reported: 03/11/2015 14:16

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: 15049SLC026	Sample number(s): 7773194-7773198 UNSPK: P770331								
Acenaphthene	105	130*	48-127	7	30				
Acenaphthylene	68*	95	76-118	14	30				
Anthracene	108	117	61-134	7	30				
Benzo(a)anthracene	107	109	41-155	3	30				
Benzo(a)pyrene	94	95	46-139	2	30				
Benzo(b)fluoranthene	112	116	26-142	4	30				
Benzo(g,h,i)perylene	67	65	21-133	3	30				
Benzo(k)fluoranthene	105	107	49-144	2	30				
Chrysene	104	107	43-141	3	30				
Dibenz(a,h)anthracene	78	75	24-138	3	30				
Fluoranthene	118	124	38-153	5	30				
Fluorene	72 (2)	211 (2)	57-130	13	30				
Indeno(1,2,3-cd)pyrene	75	73	34-129	3	30				
Naphthalene	-17 (2)	-62 (2)	41-144	7	30				
Phenanthrene	260 (2)	276 (2)	59-126	1	30				
Pyrene	96	100	37-136	4	30				
Batch number: 150495708006	Sample number(s): 7773194-7773198 UNSPK: P775774 BKG: P775774								
Cadmium	84	86	75-125	2	20	0.244 J	0.466 J	63* (1)	20
Chromium	103	96	75-125	3	20	23.7	24.2	2	20
Lead	112	108	75-125	2	20	8.57	15.1	55*	20
Nickel	86	82	75-125	2	20	25.3	27.3	8	20
Zinc	92	89	75-125	1	20	39.1	39.2	0	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: BTEX/EDB/EDC 8260
Batch number: B150481AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7773194	101	98	99	94
7773195	103	102	98	93
7773196	103	98	98	93
7773197	103	101	98	93
7773198	103	100	98	93
Blank	102	101	98	94
LCS	102	101	100	100
LCSD	100	100	100	100
Limits:	50-141	54-135	52-141	50-131

Analysis Name: PAH SIM 8270 Soil Microwave
Batch number: 15049SLC026

*- 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.

REVISED

Quality Control Summary

Client Name: ChevronTexaco Group Number: 1538642
Reported: 03/11/2015 14:16

Surrogate Quality Control

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
7773194	101	101	85
7773195	96	104	84
7773196	99	109	89
7773197	96	104	86
7773198	104	106	86
Blank	95	114	97
LCS	94	113	96
MS	116	110	86
MSD	120	112	90
Limits:	73-124	75-131	67-119

Analysis Name: TPH-GRO N. CA soil C6-C12
Batch number: 15048A34A

	Trifluorotoluene-F
7773194	83
7773195	81
7773196	81
7773197	80
7773198	85
Blank	89
LCS	86
LCSD	85
Limits:	50-142

Analysis Name: TPH-DRO soil C10-C28 w/Si Gel
Batch number: 150500018A

	Orthoterphenyl
7773194	94
7773195	94
7773196	102
7773197	64
7773198	47*
Blank	109
LCS	122
LCSD	111
Limits:	50-123

Analysis Name: TPH Fuels soils w/Si Gel
Batch number: 150500028A

	Chlorobenzene	Orthoterphenyl
7773194	59	76
7773195	61	78
7773196	62	72
7773197	69	84
7773198	64	80
Blank	85	86
LCS	87	87
LCSD	89	92
Limits:	56-128	44-128

*- 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

eurofins | Lancaster Laboratories Environmental

Acct. # 10880 — For Eurofins Lancaster Laboratories Environmental use only — Group # 1538642 Sample # 7773194-98

021315-05

Instructions on reverse side correspond with circled numbers.

(1) Client Information

- Facility #: CHEVRON 359766
- WBS:
- Site Address: 2700 23rd Ave. Oakland, CA
- Chevron PM: Alexis Coulter
- Lead Consultant: CRA
- Consultant/Office: Emeryville
- Consultant Project Mgr.: Celina Hernandez / Nathan Lee
- Consultant Phone #: 510-420-3340 / 925-849-1003
- Sampler: Alyssa Beerling

(4) Matrix: Sediment ☐ Ground ☐ Surface ☐ / Soil ☒ Potable ☐ NPDES ☐ Air ☐ / Water / Oil ☐

(5) Analyses Requested: BTEX + ~~MTBE~~ 8260 ☒ 8021 ☐; TPH-GRO 8260 ☐ 8015 ☒; TPH-DRO 8015 without Silica Gel Cleanup ☐; TPH-DRO 8015 with Silica Gel Cleanup ☒; 8260 Full Scan; Oxygenates; Total Lead Method; Dissolved Lead Method; 16 PAHs by 8270 SIM; TPHmo by 8015 w/ SGCU; EDB and EDC by 8020; Cd, Cr, Ni, Pb, Zn by 6010/6020

SCR #:

(2)

Sample Identification	Soil Depth	Date	Time	Grab	Composite	Soil	Water	Oil	Total Number of Containers	BTEX + ~~MTBE~~	TPH-GRO	TPH-DRO 8015 without Silica Gel Cleanup	TPH-DRO 8015 with Silica Gel Cleanup	8260 Full Scan	Oxygenates	Total Lead	Dissolved Lead	16 PAHs by 8270 SIM	TPHmo by 8015 w/ SGCU	EDB and EDC by 8020	Cd, Cr, Ni, Pb, Zn by 6010/6020
MW-5 @ 5	5 fbg	2/12/15	0950	X		X			1	X	X		X					X	X	X	X
MW-5 @ 8	8 fbg	↓	1055	↓		↓			↓	↓	↓		↓					↓	↓	↓	↓
MW-5 @ 10	10 fbg	↓	1110	↓		↓			↓	↓	↓		↓					↓	↓	↓	↓
MW-5 @ 15	15 fbg	↓	1115	↓		↓			↓	↓	↓		↓					↓	↓	↓	↓
MW-5 @ 20	20 fbg	↓	1120	↓		↓			↓	↓	↓		↓					↓	↓	↓	↓

- ☐ 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: Please send results to: chernandez@craworld.com and nlee@craworld.com

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

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

EDD (circle if required): EDFFLAT (default) Other: ______

(9)

Relinquished by	Date	Time	Received by	Date	Time
Alyssa Beerling	2/12/15	1630	Secure Location	2/12/15	1630
[signature]	2/13/15	1:47pm	[signature]	2/13/15	1345
[signature]	2/13/15	1600	FE		
Relinquished by Commercial Carrier: UPS ___ FedEx X Other ___			[signature]	2/14/15	945

Temperature Upon Receipt 1.3 °C — Custody Seals Intact? (Yes) No

Eurofins Lancaster Laboratories Environmental, LLC • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300

The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client.

7050 0713

acct#10880 Gp#1538642 Samp6#7773194-98

Chemical Analyses
Soil and groundwater samples will be analyzed for:

- Total petroleum hydrocarbons as motor oil (TPHmo) and Total petroleum hydrocarbons as diesel (TPHd) by Environmental Protection Agency (EPA) Method 8015B modified with silica gel cleanup
- Total petroleum hydrocarbons as gasoline (TPHg) by 8015B modified
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX), 1,2-dibromoethane (EDB) and 1,2-dichloroethane (EDC) by EPA Method 8260B
- 16 priority pollutant polycyclic aromatic hydrocarbon (PAHs) by EPA Method 8270 SIM: naphthalene, acenaphthene, acenaphthylene, anthracene, phenanthrene, fluorene, 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, benzo(g,h,i)perylene
- Metals: cadmium, chromium, nickel, lead, and zinc by EPA 6010/6020

Waste Disposal
Investigation derived wastes will be temporarily stored onsite in properly labeled, Department of Transportation approved 55-gallon drums pending soil profiling results. A Chevron-approved waste transporter will transport and dispose of wastes at an appropriate Chevron and State-approved disposal facilities.

Utility Survey and Preferential Pathway Study
CRA proposes to map the subsurface utility structures by noting exposed features (e.g. manhole covers) and underground service alert markings, reviewing engineering drawings from the utility purveyors, and completing a private utility mark out. CRA will attempt to determine the top and bottom depths of utility trenches. CRA will also contact individual utility companies and local agencies to acquire plans of subsurface utilities in the vicinity. All utilities will be shown on a scaled site plan, and if available the diameter, depth, and flow direction of the utilities will also be represented on site plans and cross-sections.

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
>	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.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) 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.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

March 09, 2015

Project: 359766

Submittal Date: 02/28/2015
Group Number: 1541899
PO Number: 0015166637
Release Number: COULTER

State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LL) #
MW-5-W-150226 NA Water	7788452
QA-T-150226 NA Water	7788453

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

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	Chevron c/o CRA	Attn: Report Contact
ELECTRONIC COPY TO	Blaine Tech Services, Inc.	Attn: Dustin Becker
ELECTRONIC COPY TO	Chevron	Attn: Anna Avina
ELECTRONIC COPY TO	CRA	Attn: Ian Hull
ELECTRONIC COPY TO	CRA	Attn: Nathan Lee

Respectfully Submitted,

Amek Carter
Specialist

(717) 556-7252

Sample Description: MW-5-W-150226 NA Water
Facility# 359766 BTST
2700 23rd Ave-Oakland T10000004218

LL Sample # WW 7788452
LL Group # 1541899
Account # 10991

Project Name: 359766

Collected: 02/26/2015 13:45 by BW

Submitted: 02/28/2015 10:15
Reported: 03/09/2015 15:20

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

23O05

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC Volatiles	**SW-846 8015B**		ug/l	ug/l	ug/l	
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	50	100	1

General Sample Comments

CA ELAP Lab Certification No. 2792

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
10945	BTEX/MTBE	SW-846 8260B	1	Z150622AA	03/03/2015 08:21	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z150622AA	03/03/2015 08:21	Anita M Dale	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	15061B20A	03/02/2015 20:05	Brett W Kenyon	1
01146	GC VOA Water Prep	SW-846 5030B	1	15061B20A	03/02/2015 20:05	Brett W Kenyon	1

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

Sample Description: QA-T-150226 NA Water
Facility# 359766 BTST
2700 23rd Ave-Oakland T10000004218

LL Sample # WW 7788453
LL Group # 1541899
Account # 10991

Project Name: 359766

Collected: 02/26/2015 13:05

Submitted: 02/28/2015 10:15
Reported: 03/09/2015 15:20

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

23OQA

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC Volatiles	**SW-846 8015B**		**ug/l**	**ug/l**	**ug/l**	
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	50	100	1

General Sample Comments

CA ELAP Lab Certification No. 2792

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
10945	BTEX/MTBE	SW-846 8260B	1	Z150622AA	03/03/2015 07:57	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z150622AA	03/03/2015 07:57	Anita M Dale	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	15061B20A	03/02/2015 13:35	Brett W Kenyon	1
01146	GC VOA Water Prep	SW-846 5030B	1	15061B20A	03/02/2015 13:35	Brett W Kenyon	1

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

Quality Control Summary

Client Name: Chevron Group Number: 1541899
Reported: 03/09/2015 15:20

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: Z150622AA	Sample number(s): 7788452-7788453								
Benzene	N.D.	0.5	1	ug/l	100		78-120		
Ethylbenzene	N.D.	0.5	1	ug/l	102		80-120		
Methyl Tertiary Butyl Ether	N.D.	0.5	1	ug/l	103		75-120		
Toluene	N.D.	0.5	1	ug/l	103		80-120		
Xylene (Total)	N.D.	0.5	1	ug/l	103		80-120		
Batch number: 15061B20A	Sample number(s): 7788452-7788453								
TPH-GRO N. CA water C6-C12	N.D.	50.	100	ug/l	118	119	80-139	1	30

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: Z150622AA	Sample number(s): 7788452-7788453 UNSPK: 7788452								
Benzene	107	109	72-134	2	30				
Ethylbenzene	112	112	71-134	0	30				
Methyl Tertiary Butyl Ether	105	108	72-126	3	30				
Toluene	113	113	80-125	0	30				
Xylene (Total)	112	113	79-125	1	30				

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: BTEX/MTBE
Batch number: Z150622AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7788452	104	101	99	98
7788453	102	99	100	98
Blank	102	99	100	98
LCS	100	100	100	100
MS	101	100	99	100
MSD	102	100	99	99

*- 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: Chevron Group Number: 1541899
Reported: 03/09/2015 15:20

Surrogate Quality Control

Limits: 80-116 77-113 80-113 78-113

Analysis Name: TPH-GRO N. CA water C6-C12
Batch number: 15061B20A

	Trifluorotoluene-F
7788452	86
7788453	88
Blank	89
LCS	93
LCSD	93
Limits:	63-135

*- 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.

022715-01

CHAIN OF CUSTODY FORM

Chevron Environmental Management Company ■ 6111 Bollinger Canyon Rd.■ San Ramon, CA 94583 COC 1 of 1

Chevron Site Number: 359766

Chevron Site Global ID: T060000004218

Chevron Site Address: 2700 23rd Ave., Oakland, CA

Chevron PM: Alexis Coulter

Chevron PM Phone No.: (925)790-6441

☒ Retail and Terminal Business Unit (RTBU) Job
☒ Construction/Retail Job

Chevron Consultant: CRA

Address: 2300 Clayton Rd., Concord, CA 94520

Consultant Contact: Nathan Lee

Consultant Phone No. 925-849-1003

Consultant Project No. 150226-Bw1

Sampling Company: Blaine Tech Services

Sampled By (Print): Brian Weeks

Sampler Signature:

Charge Code: NWRTB-0098247-0-OML
NWRTB 00SITE NUMBER-0- WBS
(WBS ELEMENTS:
SITE ASSESSMENT: **A1L** REMEDIATION IMPLEMENTATION: **R5L**
SITE MONITORING: **OML** OPERATION MAINTENANCE & MONITORING: **M1L**

THIS IS A LEGAL DOCUMENT. ALL FIELDS MUST BE FILLED OUT CORRECTLY AND COMPLETELY.

Lancaster Laboratories

☒ Lancaster, PA
Lab Contact: Nicole Maljovec

2425 New Holland Pike,
Lancaster, PA 17601
Phone No:
(717)656-2300

Other Lab

Temp. Blank Check
Time Temp.

ANALYSES REQUIRED

Preservation Codes

H =HCL T= Thiosulfate

N =HNO_3 B = NaOH

S = H_2SO_4 O = Other

acct# 10991
GP# 1541899
Sample#
7788452-53

Special Instructions
Must meet 5.0 PPB detection limit by 8260

SAMPLE ID							EPA 8260B/GC/MS VOC☐ TPH-G☐ BTEX☒ MTBE☒ OXYGENATES☐	EPA 8015B DRO☐ ORO☐ GRO☒ HC SCREEN☐	EPA 8021B BTEX☐ MTBE☐	EPA 6010 Ca, Fe, K, Mg, Mn, Na	EPA6010/7000 TITLE 22 METALS☐ TTLC☐ STLC☐	EPA150.1 PH☐	SM2510B SPECIFIC CONDUCTIVITY	EPA 418.1 TRPH☐	EPA 413.1 OIL & GREASE☐	EPA 8260 ETHANOL	EPA 8015 TPH-D☐	EPA 310.1 ALKALINITY☐	Notes/Comments
Field Point Name	Matrix	Top Depth	Date (yymmdd)	Sample Time	# of Containers	Container Type													
MW-5	WG		150226	1345	6	VOA	X	X											
QA	TB		150226	1305	2	VOA	X	X											

Relinquished By	Company	Date/Time:	Relinquished To	Company	Date/Time
	BTS	2/26/15@1600	Sample custody		2/26/15 @1600
(Sample custody)	BTS	2/27/15 0945		ELLE	2/27/15 945
	ELLE	27FEB15 1630	FX	ELLE	2/28/15 1015

Turnaround Time:
Standard☒ 24 Hours☐ 48 hours☐ 72 Hours☐ Other☐

Sample Integrity: (Check by lab on arrival)
Intact: X On Ice: X Temp: 0.6

COC #

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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
>	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.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) 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.

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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