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Jennifer C. Sedlachek
Project Manager

ExxonMobil

May 24, 2013

Ms. Barbara Jakub
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: **Work Plan for Subsurface Investigation**
Former Exxon RAS #70234
3450 35th Avenue, Oakland, California
ACHCSA File No. RO0002515

Dear Ms. Jakub:

Attached for your review and comment is a copy of the *Work Plan for Subsurface Investigation* for the above-referenced site. The document, prepared by ETIC Engineering, Inc. of Pleasant Hill, California, is submitted in response to correspondence from the Alameda County Health Care Services Agency dated March 5, 2013.

Upon information and belief, I declare, under penalty of perjury, that the information contained in the attached document is true and correct.

If you have any questions or comments, please contact me at 510.547.8196.

Sincerely,

Jennifer C. Sedlachek
Project Manager

Attachment: ETIC Work Plan for Subsurface Investigation

c: w/ attachment:
Mr. William D. Spencer, FWS Highland LLC, 99 South Hill Drive, Brisbane, CA 94005
Mr. Shay Wideman, The Valero Companies, Environ. Liability Mgt., P.O. Box 696000, San Antonio, TX 78269

c: w/o attachment:
Mr. Thomas E. Neely, ETIC Engineering, Inc.

Work Plan for Subsurface Investigation

Former Exxon Service Station 70234
3450 35th Avenue
Oakland, California

Prepared for

ExxonMobil Oil Corporation

Prepared by

ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, California 94523
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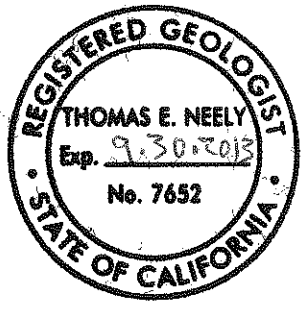

Thomas E. Neely, PG, CHG, QSD
Senior Hydrogeologist

May 24, 2013
Date

May 2013

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Former Exxon Service Station 70234

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5	Additional groundwater monitoring data.

SITE CONTACTS

Site Name:	Former Exxon Service Station 70234
Site Address:	3450 35th Avenue Oakland, California
ExxonMobil Project Manager:	Jennifer C. Sedlachek ExxonMobil Environmental Services Company 4096 Piedmont Avenue #194 Oakland, California 94611 (510) 547-8196
Consultant to ExxonMobil:	ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, California 94523 (925) 602-4710
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Regulatory Oversight:	Barbara Jakub Alameda County Health Care Services Agency 1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502-6577 (510) 639-1287

1.0 INTRODUCTION

At the request of ExxonMobil Environmental Services Company on behalf of ExxonMobil Oil Corporation (ExxonMobil), ETIC Engineering, Inc. (ETIC) has prepared this Work Plan for Subsurface Investigation (Work Plan) for Former Exxon Service Station 70234, located at 3450 35th Avenue in Oakland, California (Figures 1, 2, and 3). This Work Plan is being submitted in response to e-mail correspondence from the Alameda County Health Care Services Agency (ACHCSA) dated 5 March 2013. A copy of the correspondence from the ACHCSA is included in Appendix A.

2.0 SITE BACKGROUND

2.1 SITE LOCATION AND LAND USE

Former Exxon Service Station 70234 is located at 3450 35th Avenue in Oakland, California. The site is situated on the eastern corner of the intersection of 35th Avenue and Quigley Street (Figures 1 and 2). Residential properties are northwest of the site across 35th Avenue and adjacent to the site on the northeastern and southeastern sides. An active ConocoPhillips 76 service station is located southwest of the site across Quigley Street.

An Exxon-branded service station was operated at the site and then sold to Valero Energy Corporation (Valero) in 2000. The underground fueling systems were removed in 2002; however, the station building and canopy remained at the site. The site is current unoccupied and the perimeter is surrounded by a fence. The former UST excavation was reportedly filled with gravel and resurfaced (Cardno ERI 2012a).

The site topography slopes generally to the southwest toward San Francisco Bay. The site is located approximately 2 miles northeast of the Oakland Estuary, which connects to San Francisco Bay. The nearest surface water is Peralta Creek, which flows to the southwest (toward San Francisco Bay) and passes within approximately 600 feet northwest and cross-gradient of the site (Figure 1).

2.2 UNDERGROUND STORAGE TANKS AND HYDRAULIC LIFTS

In August 1991, three 8,000-gallon gasoline underground storage tanks (USTs) were excavated and removed from the site and were replaced with three 12,000-gallon gasoline USTs (Alton Geoscience 1992). In June 1997, one 500-gallon used-oil UST and two hydraulic hoists were removed from the site (ACHCSA 2000). In 2002, the three 12,000-gallon gasoline USTs and associated product piping were excavated and removed from the site (TRC 2002). The former UST excavation and product piping trenches were reportedly filled with gravel (Cardno ERI 2012a).

2.3 SUMMARY OF PREVIOUS INVESTIGATIONS

Various investigations were performed from 1986 to 2000 as part of the initial environmental case for the site. Soil borings B1 through B10, EB1, EB2, SB1, and SB2 were drilled and groundwater monitoring wells MW1 through MW3 were installed (Alton Geoscience 1991) (IT 1992) (Cardno ERI 2012a). Well construction details are presented in Table 1. Total Petroleum

Hydrocarbons quantified as gasoline (TPH-g) and benzene were detected in soil samples from the borings at concentrations up to 440 milligrams per kilogram (mg/kg) and 0.7 mg/kg, respectively (boring B3 at 15.5 feet below ground surface [bgs]). TPH-g, benzene, and methyl tertiary butyl ether (MTBE) were detected in groundwater samples at concentrations up to 75.0 micrograms per liter (µg/L), 6.6 µg/L, and 1.87 µg/L, respectively (Cardno ERI 2012a). The ACHCSA closed the environmental case for the site, and the groundwater monitoring wells were subsequently destroyed in 2000 (ERI 2000).

In March 2007, the ACHCSA opened an environmental case for the site based upon the discovery of MTBE in groundwater samples collected from the UST excavation during removal of the tanks in 2002 (Cardno ERI 2012a).

In September and November 2007, Environmental Resolutions, Inc. (ERI) observed the drilling of borings B11 through B18 (ERI 2007). In March 2009, ERI observed the drilling of borings B19 through B21 and the installation of groundwater monitoring wells MW4 through MW9 (ERI 2009). TPH-g, benzene, toluene, ethylbenzene, xylenes, MTBE, tertiary butyl alcohol (TBA), and 1,2-dichloroethane (1,2-DCA) were detected in soil samples collected from the borings at concentrations up to 300 mg/kg (B15 at 20 feet bgs), 6.1 mg/kg (B15 at 20 feet bgs), 36 mg/kg (B15 at 20 feet bgs), 14 mg/kg (B15 at 20 feet bgs), 72 mg/kg (B15 at 20 feet bgs), 1.7 mg/kg (B17 at 35.5 feet bgs), 0.70 mg/kg (B18 at 35 feet bgs), and 0.011 mg/kg (B15 at 15.5 feet bgs), respectively. TPH-g, benzene, toluene, ethylbenzene, xylenes, MTBE, and TBA were detected at concentrations up to 18,000 µg/L, 3,400 µg/L, 2,500 µg/L, 330 µg/L, 2,000 µg/L, 12,000 µg/L, and 1,900 µg/L, respectively, in the grab groundwater sample collected at 38 feet bgs from boring B15 situated near the southeastern edge of the former UST excavation (Cardno ERI 2012a).

In December 2011, Cardno ERI observed the installation of recovery well RW1 at the site. The purpose of installing well RW1 was to conduct feasibility testing, including a step-drawdown and a constant-rate groundwater pumping test to evaluate whether groundwater extraction and treatment would be a viable remediation strategy. TPH-g was detected at 440 mg/kg in the soil sample collected at 40 feet bgs from the boring for well RW1 (Cardno ERI 2012a).

Quarterly groundwater monitoring was performed at the site from 1992 to 1995. Groundwater monitoring was also performed once in 1999. Non-aqueous-phase liquid (NAPL) was not detected. TPH-g, BTEX, and MTBE were detected in groundwater samples collected from monitoring wells MW1 (located west of the UST area) and MW3 (located upgradient of the fueling system). Groundwater monitoring wells MW1 through MW3 were destroyed in 2000 when the ACHCSA closed the initial environmental case for the site (Cardno ERI 2012a).

Groundwater monitoring wells MW4 through MW9 have been monitored since March 2009. The highest concentrations of TPH-g, BTEX, and MTBE have been detected in samples collected from wells MW5 (located southeast of the former UST excavation), MW6 (located southwest of the former UST excavation), and RW1 (located inside the former UST excavation).

In February 2012, Cardno ERI performed a step-drawdown pumping test and attempted subsequent constant-rate pumping tests in well RW1. The tests indicated a sustainable pumping rate of no more than 0.2 gallons per minute. The data also yielded a corresponding transmissivity of 197.1 gallons per day per foot (gpd/ft), a storativity (specific yield) of 0.016, and a hydraulic conductivity of 5.8×10^{-4} centimeters per second (cm/sec). Based upon the data, the anticipated downgradient extent of the capture zone was approximately 14.5 feet and the anticipated cross-gradient extent of the capture zone was approximately 45 feet. Based upon the findings of the feasibility test, Cardno ERI indicated that groundwater extraction and treatment would not be an effective remedial alternative for the site (Cardno ERI 2012b).

Well construction details are presented in Table 1. Historical data for soil samples and groundwater samples are presented in Tables 2 through 5.

2.4 SUMMARY OF PREVIOUS REMEDIAL MEASURES

In 1991, approximately 1,200 cubic yards of fill material and soil were excavated when the gasoline USTs, dispensers, and product piping were removed and the excavation was enlarged to accommodate the larger replacement USTs. TPH-g and benzene were detected at concentrations up to 5 mg/kg and 0.36 mg/kg, respectively, in soil samples collected from the limits of the enlarged excavation (Cardno ERI 2012a).

In June 1997, one 500-gallon used-oil UST and two hydraulic hoists were removed from the site (ACHCSA 2000). Hydraulic oil was detected in the soil samples collected from the hydraulic lift excavations at concentrations up to 2,100 mg/kg. Total Petroleum Hydrocarbons quantified as motor oil (TPH-mo), diesel (TPH-d), TPH-g, toluene, ethylbenzene, and xylenes were detected in the soil sample collected from the used-oil UST excavation at 680 mg/kg, 200 mg/kg, 8.6 mg/kg, 0.038 mg/kg, 0.016 mg/kg, and 0.046 mg/kg, respectively.

In 2002, approximately 170 cubic yards of pea gravel and soil were excavated during removal of the 12,000-gallon USTs (Cardno ERI 2012a). Four soil samples were collected from the sidewalls of the UST excavation. TPH-g, BTEX, and MTBE were not detected in the samples. Four soil samples were collected beneath the product piping. TPH-g, BTEX, and MTBE were not detected in three of the four samples. TPH-g (24 mg/kg), benzene (0.057 mg/kg), toluene (0.11 mg/kg), ethylbenzene (0.12 mg/kg), total xylenes (1.2 mg/kg), and MTBE (0.020 mg/kg) were detected in soil sample B collected at approximately 4.9 feet bgs beneath the northeastern dispenser island (Cardno ERI 2012a).

3.0 GEOLOGY AND HYDROGEOLOGY

3.1 REGIONAL GEOLOGY AND HYDROGEOLOGY

The site is located in the East Bay Plain Subbasin of the Santa Clara Valley Groundwater Basin. The East Bay Plain Subbasin is a northwest trending alluvial plain bounded on the north by San Pablo Bay, on the east by the contact with Franciscan Basement rock, and on the south by the Niles Cone Groundwater Basin. The East Bay Plain Basin extends beneath San Francisco Bay to the west. Numerous creeks including San Pablo Creek, Wildcat Creek, San Leandro Creek, and San Lorenzo Creek flow from the western slope of the Coast Ranges westward across the plain and into San Francisco Bay. The East Bay Plain Subbasin aquifer system consists of unconsolidated deposits of Quaternary age. Deposits include the early Pleistocene Santa Clara Formation, the late Pleistocene Alameda Formation, the early Holocene Temescal Formation, and Artificial Fill. The cumulative thickness of the unconsolidated deposits is about 1,000 feet (DWR 2003).

Early Pleistocene Santa Clara Formation

The Santa Clara Formation consists of alluvial fan deposits inter-fingered with lake, swamp, river channel, and flood plain deposits. The formation ranges from 300 to 600 feet thick (DWR 2003).

Late Pleistocene Alameda Formation

The Alameda Formation includes a sequence of alluvial fan deposits. The formation was deposited primarily in an estuarine environment and ranges from 26 to 245 feet thick (DWR 2003).

Early Holocene Temescal Formation

The Temescal Formation is an alluvial deposit consisting primarily of silt and clay with some gravel layers. The formation ranges from 1 to 50 feet thick (DWR 2003).

Artificial Fill

Artificial fill is found mostly along the bay front and wetlands areas and is derived primarily from dredging as well as quarrying, construction, demolition debris, and municipal waste. The fill ranges in thickness from 1 to 50 feet with the thickest deposits found closer to San Francisco Bay (DWR 2003).

3.2 LOCAL GEOLOGY AND HYDROGEOLOGY

The geologic and hydrogeologic characteristics of the site have been evaluated using data from boring logs from previous site investigations. Soil beneath the site generally consists of clayey sand and sandy clay with varying amounts of silt and gravel to approximately 45 feet bgs (Cardno ERI 2012a). Groundwater was first encountered in the soil borings at depths ranging from approximately 29 to 38 feet bgs.

The depth to groundwater measured in wells at the site during the May 2012 monitoring event was approximately 26.5 to 30.5 feet bgs. However, historical data indicate that groundwater levels have fluctuated approximately 5 to 7 feet in some wells over time. Historical data also indicate that the predominant direction of groundwater flow beneath the site is to the southwest at a horizontal hydraulic gradient of approximately 0.013 to 0.016 foot/foot (Cardno ERI 2012a).

4.0 PROPOSED SCOPE OF WORK FOR SUBSURFACE INVESTIGATION

A Conceptual Site Model (CSM) was prepared and submitted to the ACHCSA on 10 May 2013. Two of the data gaps identified in the CSM include: 1) assessment of the vapor intrusion and inhalation exposure pathways and 2) delineating the vertical extent of impacts at the site. The objective of the proposed scope of services is to assess the risk to potential receptors via vapor intrusion and to further assess the vertical extent of petroleum hydrocarbons and MTBE in the area of the former UST system excavations. Six soil vapor monitoring wells (V1-V6) will be installed and two cone penetrometer testing (CPT) borings (H1 and H2) will be drilled at the locations shown on Figure 3.

The following tasks are proposed for this site assessment.

- Obtain drilling and soil vapor monitoring well installation permits;
- Implement health and safety measures;
- Perform a geophysical survey to aid in identifying the locations of underground utilities and clear proposed drilling locations;
- Conduct a subsurface investigation at the locations shown on Figure 3;
- Install and sample six soil vapor monitoring wells;
- Drill two CPT borings;
- Drill up to two additional borings near each CPT boring for the collection of Hydropunch groundwater samples;
- Analyze the samples for chemical constituents;
- Evaluate the hydrogeologic and laboratory analytical data; and
- Prepare a written report of the investigation activities.

Details regarding each of these tasks are presented below.

4.1 VAPOR INTRUSION ASSESSMENT

The following work will be conducted and data collected to assess the risk to potential receptors via vapor intrusion. The assessment will include a comparison of concentrations of chemicals of concern to relevant Environmental Screening Levels (ESLs) adopted by the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB 2013).

An advisory published by the Department of Toxic Substances Control and the California Regional Water Quality Control Board, Los Angeles and San Francisco Bay Regions (DTSC/LARWQCB/SFBRWQCB) will be used as a guideline for the installation of soil vapor monitoring wells and the collection of the soil vapor samples proposed below

(DTSC/LARWQCB/SFBRWQCB 2012).

4.1.1 Field Preparation

Drilling and well installation permits will be obtained from the Alameda County Public Works Agency (ACPWA) prior to the performance of this work. Each proposed boring location will be marked, and Underground Service Alert will be notified to check for the presence of underground utilities. A private contractor will be hired to check each proposed drilling location for underground utilities. A site-specific health and safety plan will be prepared and implemented during drilling and sampling activities.

4.1.2 Drilling, Soil Sampling, and Well Installation

ETIC will oversee the advancement of six soil borings to depths of approximately 6 feet bgs; the borings will be advanced using a hand auger. Figure 3 shows the proposed locations of borings V1 through V6. The proposed boring locations were selected based on the historical hydrocarbon concentrations beneath the site, the groundwater flow direction, and the location of structures. Well V1 will be installed in the former gasoline UST excavation. V2 will be installed near the former dispenser islands in the vicinity of previously identified soil impacts. V3 will be installed to evaluate shallow soil impacts upgradient of the former dispenser islands. V4 and V5 will be installed outside the UST area toward the onsite building and the adjacent residents. V6 will be installed in the vicinity of the former used oil tank near the onsite building and the adjacent residents.

Drilling and sample collection methods are described in Appendix B. One soil sample will be collected from each location at approximately 5 to 5.5 feet bgs and one at approximately 5.5 to 6 feet bgs. The soil samples will be screened in the field with an organic vapor analyzer and logged. The soil samples will be submitted for laboratory analysis. The soil samples will be examined for lithologic identification and evidence of impacts. The observations will be recorded in the field log. Soil will be described in accordance with the Unified Soil Classification System. Technical guidance for the program will be provided by a California Professional Geologist.

The borings will be completed as soil vapor monitoring wells for collection of shallow soil vapor samples from 5 to 6 feet bgs. A proposed well completion diagram is shown on Figure 4.

4.1.3 Soil Vapor Sampling

Soil vapor samples will be collected in 1-liter SUMMA canisters and will be analyzed by a state-certified laboratory. During sampling, a shroud will be placed over the sampling assembly and helium will be used as a tracer to check for leaks. A duplicate sample will be collected in one location. Sample collection methods are described in Appendix B.

4.1.4 Laboratory Analysis

The soil samples will be collected in pre-cleaned liners, sealed, labeled, stored on ice in a cooler, and transported to a state-certified analytical laboratory under chain-of-custody protocol.

The soil samples collected at approximately 5 to 5.5 feet bgs will be analyzed for:

- Moisture content by ASTM D2216-92.
- Porosity (including dry bulk density) by SSSA #5 or equivalent methods.
- Total Organic Carbon (TOC) by EPA 9060A or equivalent methods.
- Air-Filled Void Space by API 40RP.

The soil samples collected at approximately 5.5 to 6 feet bgs will be analyzed for:

- TPH-g by EPA Method 8015B.
- BTEX by EPA Method 8021B.
- MTBE, TBA, DIPE, ETBE, TAME, and naphthalene by EPA Method 8260B.

The soil vapor samples will be analyzed for:

- TPH-g by EPA Method TO-3M.
- BTEX by EPA Method TO-15.
- MTBE, TBA, DIPE, ETBE, and TAME by EPA Method TO-15.
- Oxygen, carbon dioxide, and methane by ASTM D1946.

4.2 GROUNDWATER ASSESSMENT

The objective of the proposed scope of services is to further assess the vertical extent of impacts in the area of the former gasoline UST excavation. Two CPT borings will be drilled at locations upgradient (boring H2) and downgradient (boring H1) of the former UST system excavation.

4.2.1 Field Preparation

Drilling permits will be obtained from the ACPWA prior to the performance of this work. Each proposed boring location will be marked, and Underground Service Alert will be notified to check for the presence of underground utilities. A private contractor will be hired to check each proposed drilling location for underground utilities. A site-specific health and safety plan will be prepared and implemented during drilling and sampling activities.

4.2.2 Drilling and Sampling

ETIC will oversee the drilling of each CPT boring to a maximum depth of 100 feet bgs. The proposed locations of borings H1 and H2 are shown on Figure 3. CPT logging will be performed at each location to assess soil types and the location of various water-bearing zones. Technical

guidance for the program will be provided by a California Professional Geologist.

Up to two groundwater samples will be collected between 45 and 100 feet bgs at depths determined during drilling based on hydrogeologic data obtained from the CPT borings. Hydropunch borings will be drilled near each CPT location and groundwater samples will be collected by lowering disposable bailers through Hydropunch rods screened at the desired sampling depth. Each groundwater sample will be collected from a separate Hydropunch boring.

All reusable sampling equipment will be decontaminated between uses. Each CPT and Hydropunch boring will be filled and sealed with a grout mixture consisting of neat cement, upon completing sampling, in accordance with ACHCSA and California Department of Water Resources requirements.

4.2.3 Laboratory Analysis

Groundwater samples will be placed in pre-cleaned laboratory supplied containers. The containers will be sealed, labeled, stored on ice in a cooler, and transported to a state-certified analytical laboratory under chain-of-custody protocol. Groundwater samples will be analyzed for TPH-g by EPA Method 8015B, BTEX by EPA Method 8021B, five fuel oxygenates (MTBE, TBA, DIPE, ETBE, and TAME) by EPA Method 8260B, and naphthalene by EPA Method 8260B.

4.3 DISPOSAL OF INVESTIGATIVE-DERIVED WASTE

Soil, groundwater, and rinsate water derived from investigation activities will be contained in Department of Transportation (DOT)-approved drums stored temporarily at the site. Soil and water samples will be collected and submitted for laboratory analyses. The samples will be analyzed for TPH-g by EPA Method 8015M or 8260B, TPH-d and TPH-mo by EPA Method 8015M with a silica gel cleanup, BTEX and MTBE by EPA Method 8260B, and lead by EPA Method 6010. The waste will be profiled and delivered to an approved disposal facility.

4.4 DATA EVALUATION AND REPORTING

After investigation activities have been completed, ETIC will evaluate the data and prepare a written report which will include the results of the soil vapor and CPT/Hydropunch investigations. Soil boring locations will be illustrated on a map of the site. Field procedures and laboratory methods will be described in the report, and technical data collected during the sampling program will be tabulated and evaluated. The soil, soil vapor, and groundwater data will be compared to ESLs. In addition to a narrative summary of field efforts and analytical data, the report will include conclusions regarding the need for additional assessment or evaluation of remedial options for the site, if warranted.

5.0 SCHEDULE

Completion of the proposed investigation is contingent upon approval of this work plan by the ACHCSA and upon receipt of approved soil boring and well installation permits. The written report will be prepared after receipt of laboratory analytical data associated with soil and groundwater samples. ETIC will inform the ACHCSA of the schedule for the investigation.

Additionally, in the event that the work scope must be altered significantly due to access constraints and/or other unexpected issues, ETIC will notify ACHCSA personnel prior to implementing changes to the work scope.

6.0 REFERENCES

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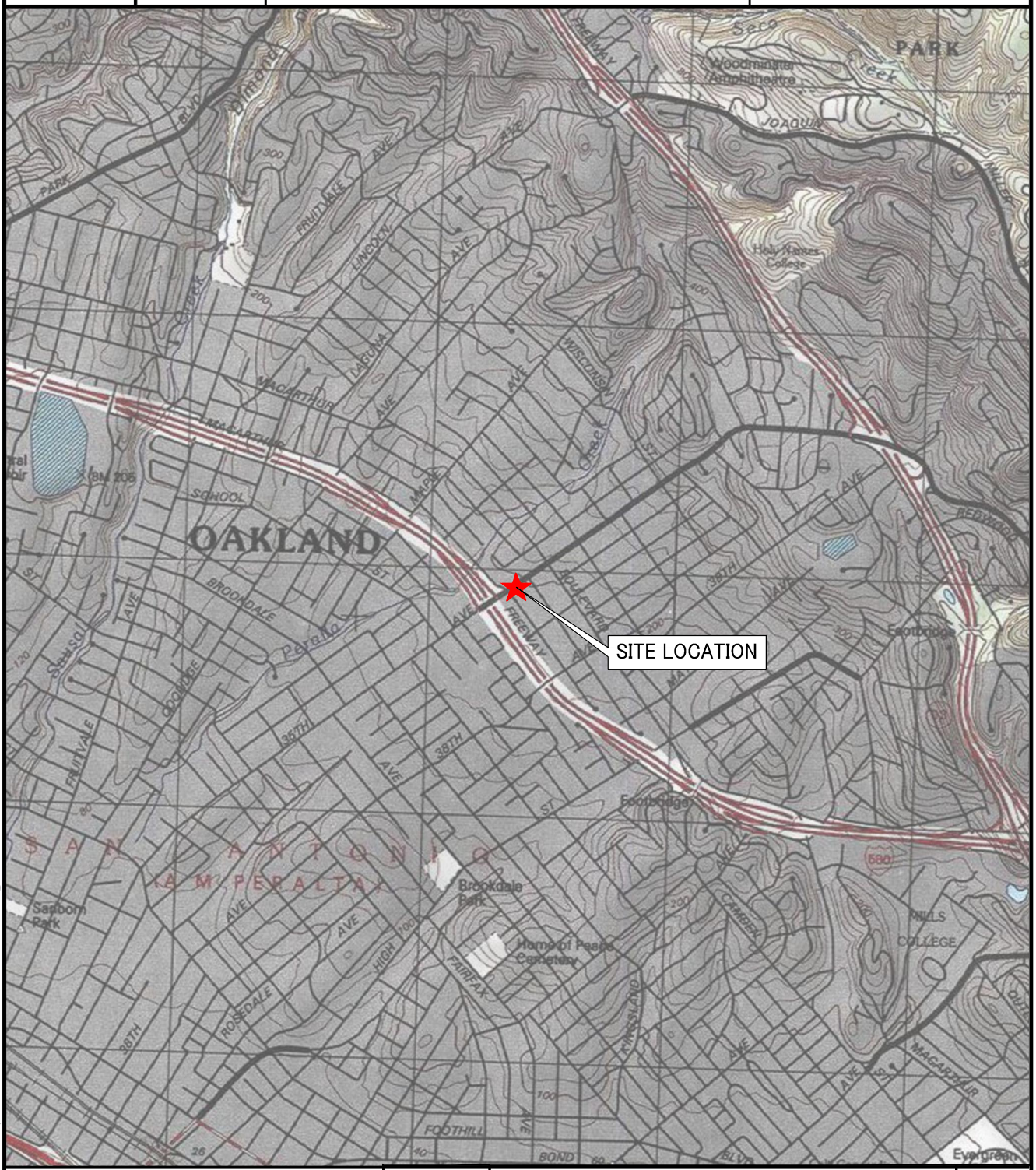
Figures



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	OR: TEN	SITE LOCATION AND TOPOGRAPHIC MAP FORMER EXXON SERVICE STATION 70234 3450 35th AVENUE	
	DR: AJW		FIGURE: 1
	CK:		
	FR:	OAKLAND, CALIFORNIA	

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LEGEND:

- EXCAVATED AREA
- GROUNDWATER MONITORING WELL
- GROUNDWATER MONITORING WELL (by others)
- DESTROYED GROUNDWATER MONITORING WELL
- GROUNDWATER RECOVERY WELL
- SOIL BORING (GTI, 1986)
- SOIL BORING (HLA, 1988)
- SOIL BORING (Alton, 1991)
- SOIL SAMPLE (Alton, 1991)
- SOIL SAMPLE (TRC, 2002)
- SOIL BORING (ERI, 2007)
- SOIL BORING (ERI, 2009)

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1″ = 30 FEET

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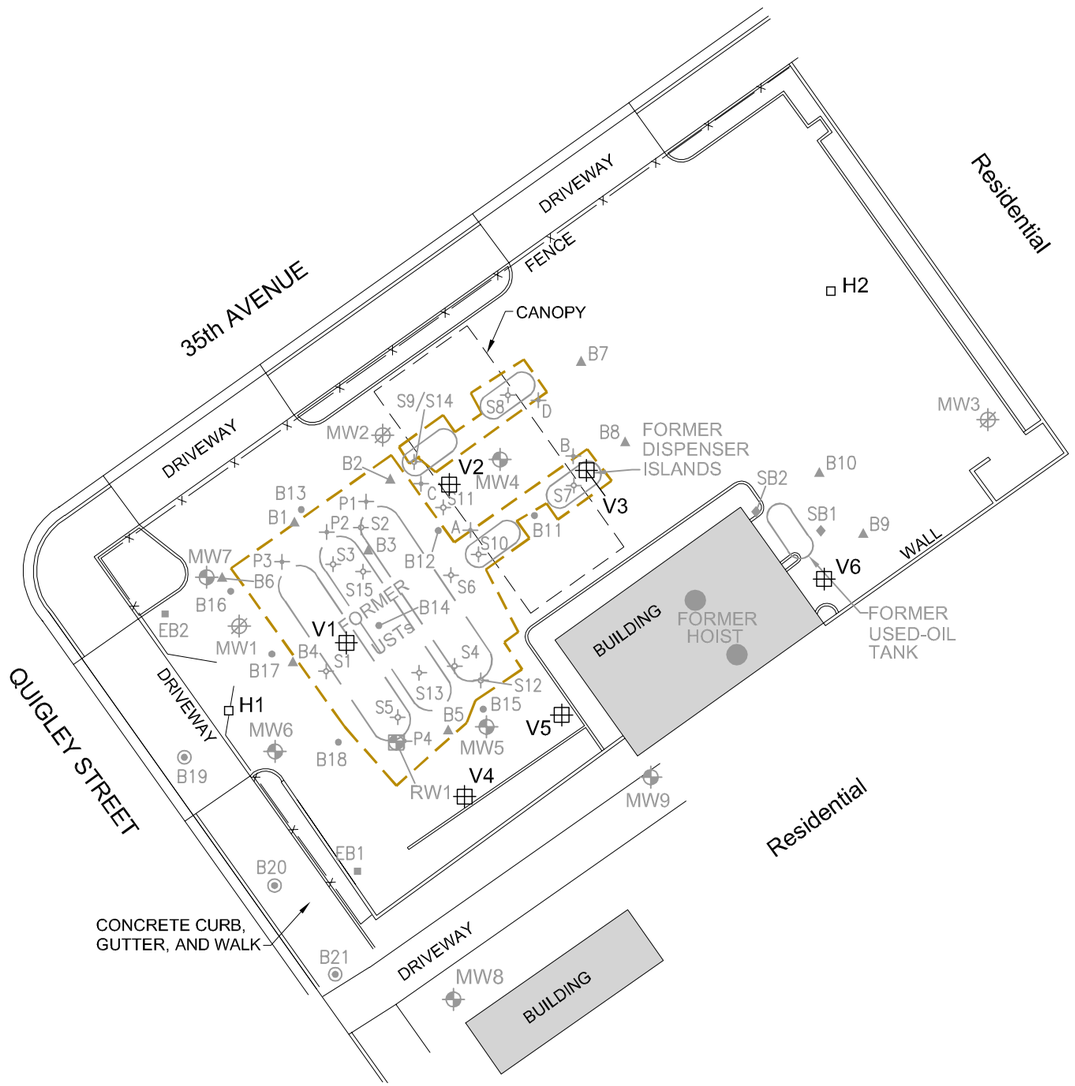
13-070234-UP	EXXONMOBIL OIL CORPORATION
OR: TEN	SITE MAP
DR: AJW	FORMER EXXON SERVICE STATION 70234
CK:	3450 35th AVENUE
FR:	OAKLAND, CALIFORNIA

FIGURE: 2



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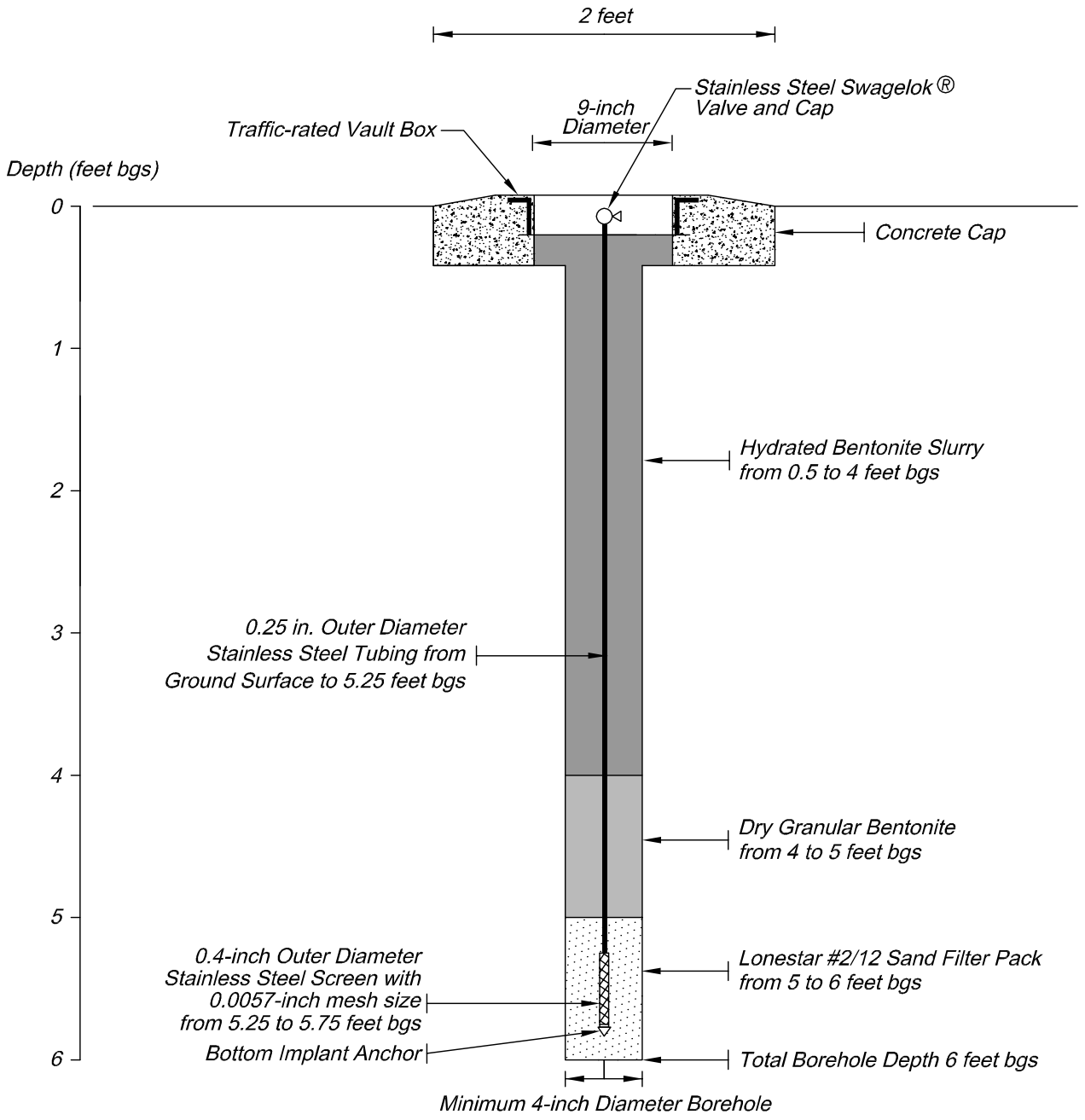
- SOIL SAMPLE (Alton, 1991)
- SOIL SAMPLE (TRC, 2002)
- SOIL BORING (ERI, 2007)
- SOIL BORING (ERI, 2009)
- PROPOSED CPT/HYDROPUNCH BORING
- PROPOSED SOIL VAPOR MONITORING WELL

0 15 30

1″ = 30 FEET

ETIC ENGINEERING 2285 MORELLO AVENUE PLEASANT HILL, CA 94523 (925) 602-4710 eticeng.com	13-070234-UP	EXXONMOBIL OIL CORPORATION
	OR: TEN DR: AJW CK: FR:	PROPOSED SAMPLING LOCATIONS FORMER EXXON SERVICE STATION 70234 3450 35th AVENUE OAKLAND, CALIFORNIA
		FIGURE: 3



bgs = Below Ground Surface

13-070234-UP	EXXONMOBIL OIL CORPORATION	
	PROPOSED COMPLETION SPECIFICATIONS FOR SOIL VAPOR MONITORING WELLS FORMER EXXON SERVICE STATION 70234 3450 35th AVENUE OAKLAND, CALIFORNIA	FIGURE: 4
DR: AJW		
CK:		
FR:		

ETIC ENGINEERING
2285 MORELLO AVENUE
PLEASANT HILL, CA 94523
(925) 602-4710
eticeng.com

Tables

TABLE 1 WELL CONSTRUCTION DETAILS, FORMER EXXON SERVICE STATION 70234, 3450 35TH AVENUE, OAKLAND, CALIFORNIA

Well Number	Date Installed	Date Destroyed	Elevation TOC (feet)	Borehole Diameter (inches)	Total Depth of Boring (feet bgs)	Well Depth (feet bgs)	Casing Diameter (inches)	Casing Material	Screened Interval (feet bgs)	Slot Size (inches)	Filter Pack Interval (feet bgs)	Filter Pack Material
MW1	07/15/92	Jun-00	192.00	11	45	45	4	Schedule 40 PVC	25-45	0.010	23-45	2/12 Lonestar Sand
MW2	07/15/92	Jun-00	194.85	11	45	45	4	Schedule 40 PVC	25-45	0.010	23-45	2/12 Lonestar Sand
MW3	07/15/92	Jun-00	196.90	11	45	45	4	Schedule 40 PVC	25-45	0.010	23-45	2/12 Lonestar Sand
MW4	03/02/09	---	197.62	8	45	45	2	Schedule 40 PVC	35-45	0.020	33-45	#3 Sand
MW5	03/06/09	---	196.35	8	40	40	2	Schedule 40 PVC	30-40	0.020	28-40	#3 Sand
MW6	03/09/09	---	192.41	8	40	39	2	Schedule 40 PVC	29-39	0.020	27-39	#3 Sand
MW7	03/09/09	---	194.34	8	40	40	2	Schedule 40 PVC	30-40	0.020	28-40	#3 Sand
MW8	03/04/09	---	192.96	8	40	40	2	Schedule 40 PVC	30-40	0.020	28-40	#3 Sand
MW9	03/05/09	---	195.16	8	40	40	2	Schedule 40 PVC	30-40	0.020	28-40	#3 Sand
RW1	12/22/11	---	195.15	10	40	40	4	Stainless Steel	25-39.5	0.020	23-40	#2/12 Sand

Notes: Data prior to 2013 provided by Cardno ERI.

TOC Top of well casing elevation; datum is mean sea level.
PVC Polyvinyl chloride.
feet bgs Feet below ground surface.
--- Not applicable.

TABLE 2 CUMULATIVE SOIL ANALYTICAL RESULTS, FORMER EXXON SERVICE STATION 70234, 3450 35TH AVENUE, OAKLAND, CA

Sample ID	Sampling Date	Depth (feet bgs)	TPH-g (mg/kg)	Kerosene (mg/kg)	TPH-d (mg/kg)	TPH-mo (mg/kg)	EHC-HO (mg/kg)	TOG (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	MTBE (mg/kg)	Lead (mg/kg)
Used-Oil UST Confirmation Soil Sample														
T1-12	06/18/97	---	8.6a	---	200b	680c	---	---	ND	0.038	0.016	0.046	---	8.8
Hydraulic Hoist Confirmation Samples														
H1-8	06/18/97	---	---	---	---	---	99d	---	---	---	---	---	---	---
H2-8	06/18/97	---	---	---	---	---	2,100d	---	---	---	---	---	---	---
Samples from the UST Cavity Sidewall														
Pit1@12'	06/14/02	12	<1.0	---	---	---	---	---	<0.005	<0.005	<0.005	<0.005	<0.005	---
Pit2@11.5'	06/14/02	11.5	<1.0	---	---	---	---	---	<0.005	<0.005	<0.005	<0.005	<0.005	---
Pit3@11'	06/14/02	11	<1.0	---	---	---	---	---	<0.005	<0.005	<0.005	<0.005	<0.005	---
Pit4@10'	06/14/02	10	<1.0	---	---	---	---	---	<0.005	<0.005	<0.005	<0.005	<0.005	---
Samples from Beneath Product Piping														
A-6.4	06/25/02	6.4	<1.0	---	---	---	---	---	<0.005	<0.005	<0.005	<0.005	<0.005	---
B-4.9	06/25/02	4.9	24	---	---	---	---	---	0.057	0.11	0.12	1.2	0.020	---
C-6.5	06/25/02	6.5	<1.0	---	---	---	---	---	<0.005	<0.005	<0.005	<0.005	<0.005	---
D-5.2	06/25/02	5.2	<1.0	---	---	---	---	---	<0.005	<0.005	<0.005	<0.005	<0.005	---
Soil Samples from 1991 UST Excavation														
S-1	08/28/91	10	<1.0	---	---	---	---	---	<0.005	<0.005	<0.005	<0.005	---	<5
S-2	08/28/91	10	<1.0	---	---	---	---	---	<0.005	<0.005	<0.005	<0.005	---	<5
S-3	08/28/91	10	<1.0	---	---	---	---	---	<0.005	<0.005	<0.005	<0.005	---	<5
S-4	08/28/91	10	290	---	---	---	---	---	2.8	6.5	5.2	27	---	<5
S-5	08/28/91	10	3.5	---	---	---	---	---	0.27	0.096	0.064	0.32	---	<5
S-6	08/28/91	11	4.1	---	---	---	---	---	0.19	0.13	0.056	0.23	---	<5
S-7	08/28/91	3	4.0	---	---	---	---	---	0.66	0.040	0.11	0.13	---	<5
S-8	08/28/91	3	<1.0	---	---	---	---	---	<0.005	<0.005	<0.005	<0.005	---	<5
S-9	08/28/91	3	210	---	---	---	---	---	1.4	7.2	3.0	18	---	<5
S-10	08/28/91	3	<1.0	---	---	---	---	---	<0.005	0.031	0.029	0.067	---	<5
S-11	08/28/91	1.5	<1.0	---	---	---	---	---	<0.005	<0.005	<0.005	<0.005	---	<5
S-12	08/28/91	15	3.1	---	---	---	---	---	0.36	0.048	0.052	0.16	---	---
S-13	08/28/91	15	1.8	---	---	---	---	---	0.26	0.008	0.009	0.041	---	---
S-14	08/28/91	4	5.0	---	---	---	---	---	0.047	0.063	0.009	0.041	---	---
S-15	08/28/91	15	<1.0	---	---	---	---	---	<0.005	<0.005	<0.005	<0.005	---	---
Soil Borings														
B-1	3/20/91	15.5	<1.0	---	---	---	---	---	0.011	0.007	0.011	0.04	---	---
B-1	3/20/91	20.5	<1.0	---	---	---	---	---	0.012	0.007	0.01	0.04	---	---
B-2	3/20/91	15.5	<1.0	---	---	---	---	---	0.036	0.026	0.012	0.055	---	---

TABLE 2 CUMULATIVE SOIL ANALYTICAL RESULTS, FORMER EXXON SERVICE STATION 70234, 3450 35TH AVENUE, OAKLAND, CA

Sample ID	Sampling Date	Depth (feet bgs)	TPH-g (mg/kg)	Kerosene (mg/kg)	TPH-d (mg/kg)	TPH-mo (mg/kg)	EHC-HO (mg/kg)	TOG (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	MTBE (mg/kg)	Lead (mg/kg)
B-2	3/20/91	20.5	<1.0	---	---	---	---	---	0.0073	0.0063	0.0098	0.038	---	---
B-3	3/20/91	10.5	1	---	---	---	---	---	0.006	0.006	0.008	0.036	---	---
B-3	3/20/91	15.5	440	---	---	---	---	---	0.7	5.4	4.7	24	---	---
B-4	3/20/91	10.5	5	---	---	---	---	---	0.013	0.019	0.014	0.082	---	<5
B-4	3/20/91	15.5	6.6	---	---	---	---	---	0.039	0.043	0.027	0.12	---	---
B-4	3/20/91	20.5	<1.0	---	---	---	---	---	0.0076	0.0073	0.011	0.054	---	---
B-5	3/20/91	10.5	26	---	---	---	---	---	0.055	0.061	0.17	0.67	---	---
B-6	3/20/91	10.5	240	---	---	---	---	---	0.28	2.2	2.8	13	---	---
B-6	3/20/91	15.5	1.4	---	---	---	---	---	0.0055	0.0054	0.009	0.034	---	---
B-7	3/20/91	10.5	<1.0	---	---	---	---	---	0.006	0.006	0.008	0.033	---	---
B-8	3/20/91	10.5	<1.0	---	---	---	---	---	0.006	0.005	0.008	0.035	---	---
B-9	3/20/91	10.5	---	---	---	---	---	<50	---	---	---	---	---	---
B-10	3/20/91	10.5	---	---	---	---	---	<50	---	---	---	---	---	---
S-5-B11	09/05/07	5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-10-B11	09/10/07	10	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-13.5-B11	09/10/07	13.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-18-B11	09/11/07	18	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-20-B11	09/11/07	20	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-25.5-B11	11/14/07	25.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-29.5-B11	11/14/07	29.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-34.5-B11	11/14/07	34.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-5-B12	09/04/07	5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-15.5-B12	11/13/07	15.5	43	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-20.5-B12	11/13/07	20.5	3.2	---	---	---	---	---	0.076	<0.0050	0.0053	<0.0050	0.15	---
S-5-B13	09/05/07	5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-10-B13	09/10/07	10	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-14.5-B13	09/10/07	14.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-20-B13	09/10/07	20	4.3	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-25-B13	11/12/07	25	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-30-B13	11/12/07	30	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---

TABLE 2 CUMULATIVE SOIL ANALYTICAL RESULTS, FORMER EXXON SERVICE STATION 70234, 3450 35TH AVENUE, OAKLAND, CA

Sample ID	Sampling Date	Depth (feet bgs)	TPH-g (mg/kg)	Kerosene (mg/kg)	TPH-d (mg/kg)	TPH-mo (mg/kg)	EHC-HO (mg/kg)	TOG (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	MTBE (mg/kg)	Lead (mg/kg)
S-35-B13	11/12/07	35	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-5.0-B14	09/06/07	5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-16-B14	11/13/07	16	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-20.5-B14	11/13/07	20.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	0.031	---
S-5-B15	09/04/07	5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-10.5-B15	11/15/07	10.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-15.5-B15	11/15/07	15.5	1.1	---	---	---	---	---	0.32	0.019	0.017	0.074	0.12	---
S-20-B15	11/15/07	20	300	---	---	---	---	---	6.1	36	14	72	<0.25	---
S-25.5-B15	11/15/07	25.5	220	---	---	---	---	---	3.1	18	6.8	36	<0.12	---
S-30.5-B15	11/15/07	30.5	59	---	---	---	---	---	2.9	5.6	1.5	20	<0.25	---
S-35.5-B15	11/15/07	35.5	3.3	---	---	---	---	---	0.28	0.21	0.26	0.79	0.26	---
S-5-B16	09/04/07	5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-11-B16	11/14/07	11	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-15.5-B16	11/14/07	15.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-21-B16	11/14/07	21	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-26-B16	11/14/07	26	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-30.5-B16	11/14/07	30.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-34.5-B16	11/14/07	34.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	0.021	---
S-38.5-B16	11/14/07	38.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-5-B17	09/05/07	5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-11-B17	11/13/07	11	90	---	---	---	---	---	0.052	<0.0050	0.086	0.020	0.036	---
S-16-B17	11/13/07	16	<0.50	---	---	---	---	---	0.0052	<0.0050	<0.0050	<0.0050	0.099	---
S-21-B17	11/13/07	21	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	0.011	---
S-24.5-B17	11/13/07	24.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	0.59	---
S-31-B17	11/13/07	31	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-35.5-B17	11/13/07	35.5	0.85	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	1.7	---
S-5-B18	09/04/07	5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-10-B18	11/12/07	10	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-15-B18	11/12/07	15	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	0.0051	---
S-20-B18	11/12/07	20	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	0.019	---
S-25-B18	11/12/07	25	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	0.18	---
S-30-B18	11/12/07	30	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	0.54	---
S-35-B18	11/12/07	35	24	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	0.53	---
S-5-B19	02/25/09	5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---

TABLE 2 CUMULATIVE SOIL ANALYTICAL RESULTS, FORMER EXXON SERVICE STATION 70234, 3450 35TH AVENUE, OAKLAND, CA

Sample ID	Sampling Date	Depth (feet bgs)	TPH-g (mg/kg)	Kerosene (mg/kg)	TPH-d (mg/kg)	TPH-mo (mg/kg)	EHC-HO (mg/kg)	TOG (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	MTBE (mg/kg)	Lead (mg/kg)
S-10-B19	03/02/09	10	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-15.5-B19	03/03/09	15.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-20.5-B19	03/03/09	20.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-25.5-B19	03/03/09	25.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-30.5-B19	03/03/09	30.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-35.5-B19	03/03/09	35.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	0.51	---
S-39.5-B19	03/03/09	39.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	0.048	---
S-5-B20	02/25/09	5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-10.5-B20	03/03/09	10.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-15.0-B20	03/03/09	15.0	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-20.5-B20	03/03/09	20.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-25.5-B20	03/03/09	25.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-30.5-B20	03/03/09	30.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-35.5-B20	03/03/09	35.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-39.5-B20	03/03/09	39.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-5-B21	02/25/09	5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-10.5-B21	03/04/09	10.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-15-B21	03/04/09	15	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-20.5-B21	03/04/09	20.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-25.5-B21	03/04/09	25.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-30.5-B21	03/04/09	30.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-35.5-B21	03/04/09	35.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-39.5-B21	03/04/09	39.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
Monitoring and Recovery Wells														
MW1	07/14/92	8	<1.0	---	---	---	---	---	<0.0050	<0.0050	<0.0050	0.0064	---	<10
MW1	07/14/92	29.5	<1.0	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	---	<10
MW2	07/14/92	28	<1.0	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	---	<10
MW3	07/14/92	29.5	<1.0	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	---	<10
S-5-MW4	02/25/09	5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-10.5-MW4	03/02/09	10.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-15.5-MW4	03/02/09	15.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-20.5-MW4	03/02/09	20.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-25.5-MW4	03/02/09	25.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-30.5-MW4	03/02/09	30.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-35.5-MW4	03/02/09	35.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-40-MW4	03/02/09	40	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---

TABLE 2 CUMULATIVE SOIL ANALYTICAL RESULTS, FORMER EXXON SERVICE STATION 70234, 3450 35TH AVENUE, OAKLAND, CA

Sample ID	Sampling Date	Depth (feet bgs)	TPH-g (mg/kg)	Kerosene (mg/kg)	TPH-d (mg/kg)	TPH-mo (mg/kg)	EHC-HO (mg/kg)	TOG (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	MTBE (mg/kg)	Lead (mg/kg)
S-44.5-MW4	03/02/09	44.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-5-MW5	02/27/09	5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-10-MW5	03/05/09	10	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-15-MW5	03/05/09	15	0.70	---	---	---	---	---	0.22	0.022	0.071	0.31	0.036	---
S-20-MW5	03/05/09	20	260	---	---	---	---	---	5.4	19	11	63	<5.0	---
S-25-MW5	03/06/09	25	41	---	---	---	---	---	<0.0050	0.069	0.15	0.75	<0.50	---
S-30-MW5	03/06/09	30	0.91	---	---	---	---	---	0.14	0.0061	0.011	0.036	<0.50	---
S-35-MW5	03/06/09	35	5.4	---	---	---	---	---	<0.050	3.9	1.5	15	<0.50	---
S-39.5-MW5	03/06/09	39.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-5-MW6	02/27/09	5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-10-MW6	03/09/09	10	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-15.5-MW6	03/09/09	15.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	0.011	---
S-20.5-MW6	03/09/09	20.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	0.015	---
S-25.5-MW6	03/09/09	25.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-30.5-MW6	03/09/09	30.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	0.063	---
S-35.5-MW6	03/09/09	35.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-39.5-MW6	03/09/09	39.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-5-MW7	02/27/09	5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-10.5-MW7	03/09/09	10.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-15.5-MW7	03/09/09	15.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-20.5-MW7	03/09/09	20.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-25.5-MW7	03/09/09	25.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-30.5-MW7	03/09/09	30	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-35.5-MW7	03/09/09	35.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-39.5-MW7	03/09/09	39.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-5-MW8	02/25/09	5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-10.5-MW8	03/04/09	10.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-15.5-MW8	03/04/09	15.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-20.5-MW8	03/04/09	20.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-25.5-MW8	03/04/09	25.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-30.5-MW8	03/04/09	30.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-35.5-MW8	03/04/09	35.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-39.5-MW8	03/04/09	39.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-5-MW9	02/25/09	5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-10-MW9	03/05/09	10	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---

TABLE 2 CUMULATIVE SOIL ANALYTICAL RESULTS, FORMER EXXON SERVICE STATION 70234, 3450 35TH AVENUE, OAKLAND, CA

Sample ID	Sampling Date	Depth (feet bgs)	TPH-g (mg/kg)	Kerosene (mg/kg)	TPH-d (mg/kg)	TPH-mo (mg/kg)	EHC-HO (mg/kg)	TOG (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	MTBE (mg/kg)	Lead (mg/kg)
S-15-MW9	03/05/09	15	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-20-MW9	03/05/09	20	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-25-MW9	03/05/09	25	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-30-MW9	03/05/09	30	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-35-MW9	03/05/09	35	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-40-MW9	03/05/09	40	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---
S-5.0-RW1	12/22/11	5.0	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-15.0-RW1	12/22/11	15.0	1.3e	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	0.0053	---
S-25.0-RW1	12/22/11	25.0	6.5e	---	---	---	---	---	<0.0050	<0.0050	<0.0050	0.029	0.0066g	---
S-28.0-RW1	12/22/11	28.0	27e	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---
S-31.0-RW1	12/22/11	31.0	1.7	---	---	---	---	---	<0.0050	0.0072	<0.0050	0.096	0.50	---
S-32.5-RW1	12/22/11	32.5	0.95	---	---	---	---	---	<0.0050	<0.0050	<0.0050	0.0087	0.72	---
S-34.0-RW1	12/22/11	34.0	2.3e	---	---	---	---	---	<0.0050	<0.0050	<0.0050	0.0053	0.94	---
S-37.0-RW1	12/22/11	37.0	420	---	---	---	---	---	<0.50	<0.50	0.88	10	<0.50	---
S-38.5-RW1	12/22/11	38.5	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	0.0071	---
S-40.0-RW1	12/22/11	40.0	440	---	---	---	---	---	<1.0	<1.0	2.1	29	<1.0	---
Soil Stockpile Samples														
SP-1(S-SP1-S-SP4)	09/12/07	---	<0.10	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	7.2
SP(1-4)	06/18/97	---	ND	---	47b	150c	---	---	ND	ND	ND	ND	---	8.7
SP-2	03/09/09	---	<0.50	---	---	---	---	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	5.83
S-SP1 (1,2,3,4)	12/22/11	---	40	8.0	<5.0	<25	---	---	0.0068	0.012	0.048	0.46	<0.50	4.50

Notes:

TPH-g	=	Total Petroleum Hydrocarbons as gasoline analyzed using EPA Method 8015M.
Kerosene	=	Kerosene analyzed using EPA Method 8015B.
TPH-d	=	Total Petroleum Hydrocarbons as diesel.
TPH-mo	=	Total Petroleum Hydrocarbons as motor oil.
EHC-HO	=	Extractable hydrocarbons as hydraulic oil.
TOG	=	Total oil and grease.
BTEX	=	Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8021B/8260B.
MTBE	=	Methyl tertiary butyl ether analyzed using EPA Method 8021B/8260B
Lead	=	Lead analyzed using EPA Method 6010B.
feet bgs	=	Feet below ground surface.
mg/kg	=	Milligrams per kilogram.
ND	=	Not detected at or above the laboratory reporting limit.
<	=	Less than the stated laboratory reporting limit.
---	=	Not analyzed/not applicable.
a	=	Unidentified C8-C12.

TABLE 2 CUMULATIVE SOIL ANALYTICAL RESULTS, FORMER EXXON SERVICE STATION 70234, 3450 35TH AVENUE, OAKLAND, CA

Sample ID	Sampling Date	Depth (feet bgs)	TPH-g (mg/kg)	Kerosene (mg/kg)	TPH-d (mg/kg)	TPH-mo (mg/kg)	EHC-HO (mg/kg)	TOG (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	MTBE (mg/kg)	Lead (mg/kg)

b = Unidentified C9-C24.
c = Unidentified C16-C36.
d = Unidentified C16-C40.
e = Hydrocarbon pattern does not match that of the specified standard.

Analytical data prior to 2013 provided by Cardno ERI.

TABLE 3 ADDITIONAL CUMULATIVE SOIL ANALYTICAL RESULTS, FORMER EXXON SERVICE STATION 70234, 3450 35TH AVENUE, OAKLAND, CA

Sample ID	Sampling Date	Depth (feet bgs)	1,2-DCA (mg/kg)	EDB (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)	Ethanol (mg/kg)	VOCs (mg/kg)	SVOCs (mg/kg)	HVOCs (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)
Used-Oil UST Confirmation Soil Sample																
T1-12	06/18/97	---	---	---	---	---	---	---	---	---	ND	ND	ND	47	56	84
Hydraulic Hoist Confirmation Samples																
Not analyzed for these analytes.																
Samples from the UST Cavity Sidewall																
Not analyzed for these analytes.																
Samples from Beneath Product Piping																
Not analyzed for these analytes.																
Soil Samples from 1991 UST Excavation																
Not analyzed for these analytes.																
Soil Borings																
Soil borings sampled prior to 2007 not analyzed for these analytes.																
S-5-B11	09/05/07	5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-10-B11	09/10/07	10	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-13.5-B11	09/10/07	13.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-18-B11	09/11/07	18	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-20-B11	09/11/07	20	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-25.5-B11	11/14/07	25.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-29.5-B11	11/14/07	29.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-34.5-B11	11/14/07	34.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-5-B12	09/04/07	5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-15.5-B12	11/13/07	15.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-20.5-B12	11/13/07	20.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-5-B13	09/05/07	5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-10-B13	09/10/07	10	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-14.5-B13	09/10/07	14.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-20-B13	09/10/07	20	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-25-B13	11/12/07	25	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-30-B13	11/12/07	30	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-35-B13	11/12/07	35	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---

TABLE 3 ADDITIONAL CUMULATIVE SOIL ANALYTICAL RESULTS, FORMER EXXON SERVICE STATION 70234, 3450 35TH AVENUE, OAKLAND, CA

Sample ID	Sampling Date	Depth (feet bgs)	1,2-DCA (mg/kg)	EDB (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)	Ethanol (mg/kg)	VOCs (mg/kg)	SVOCs (mg/kg)	HVOCs (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)
S-5.0-B14	09/06/07	5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-16-B14	11/13/07	16	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-20.5-B14	11/13/07	20.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-5-B15	09/04/07	5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-10.5-B15	11/15/07	10.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-15.5-B15	11/15/07	15.5	0.011	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-20-B15	11/15/07	20	<0.25	<0.25	<0.50	<0.50	<0.50	<2.5	<12	---	---	---	---	---	---	---
S-25.5-B15	11/15/07	25.5	<0.12	<0.12	<0.25	<0.25	<0.25	<1.2	<6.2	---	---	---	---	---	---	---
S-30.5-B15	11/15/07	30.5	<0.25	<0.25	<0.50	<0.50	<0.50	<2.5	<12	---	---	---	---	---	---	---
S-35.5-B15	11/15/07	35.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	0.25	<0.25	---	---	---	---	---	---	---
S-5-B16	09/04/07	5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-11-B16	11/14/07	11	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-15.5-B16	11/14/07	15.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-21-B16	11/14/07	21	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-26-B16	11/14/07	26	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-30.5-B16	11/14/07	30.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-34.5-B16	11/14/07	34.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-38.5-B16	11/14/07	38.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-5-B117	09/05/07	5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-11-B17	11/13/07	11	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-16-B17	11/13/07	16	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-21-B17	11/13/07	21	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-24.5-B17	11/13/07	24.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	0.20	---	---	---	---	---	---	---	---
S-31-B17	11/13/07	31	<0.0050	<0.0050	<0.010	<0.010	<0.010	0.15	---	---	---	---	---	---	---	---
S-35.5-B17	11/13/07	35.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-5-B18	09/04/07	5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-10-B18	11/12/07	10	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-15-B18	11/12/07	15	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-20-B18	11/12/07	20	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-25-B18	11/12/07	25	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-30-B18	11/12/07	30	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-35-B18	11/12/07	35	<0.0050	<0.0050	<0.010	<0.010	<0.010	0.70	---	---	---	---	---	---	---	---
S-5-B19	02/25/09	5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---

TABLE 3 ADDITIONAL CUMULATIVE SOIL ANALYTICAL RESULTS, FORMER EXXON SERVICE STATION 70234, 3450 35TH AVENUE, OAKLAND, CA

Sample ID	Sampling Date	Depth (feet bgs)	1,2-DCA (mg/kg)	EDB (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)	Ethanol (mg/kg)	VOCs (mg/kg)	SVOCs (mg/kg)	HVOCs (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)
S-10-B19	03/02/09	10	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-15.5-B19	03/03/09	15.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-20.5-B19	03/03/09	20.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-25.5-B19	03/03/09	25.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-30.5-B19	03/03/09	30.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-35.5-B19	03/03/09	35.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-39.5-B19	03/03/09	39.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-5-B20	02/25/09	5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-10.5-B20	03/03/09	10.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-15.0-B20	03/03/09	15.0	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-20.5-B20	03/03/09	20.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-25.5-B20	03/03/09	25.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-30.5-B20	03/03/09	30.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-35.5-B20	03/03/09	35.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-39.5-B20	03/03/09	39.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-5-B21	02/25/09	5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-10.5-B21	03/04/09	10.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-15-B21	03/04/09	15	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-20.5-B21	03/04/09	20.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-25.5-B21	03/04/09	25.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-30.5-B21	03/04/09	30.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-35.5-B21	03/04/09	35.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-39.5-B21	03/04/09	39.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
Monitoring and Recovery Wells																
MW1	07/14/92	8	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW2	07/14/92	29.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW3	07/14/92	28	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW4	07/14/92	29.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-5-MW4	02/25/09	5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-10.5-MW4	03/02/09	10.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-15.5-MW4	03/02/09	15.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-20.5-MW4	03/02/09	20.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-25.5-MW4	03/02/09	25.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-30.5-MW4	03/02/09	30.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---

TABLE 3 ADDITIONAL CUMULATIVE SOIL ANALYTICAL RESULTS, FORMER EXXON SERVICE STATION 70234, 3450 35TH AVENUE, OAKLAND, CA

Sample ID	Sampling Date	Depth (feet bgs)	1,2-DCA (mg/kg)	EDB (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)	Ethanol (mg/kg)	VOCs (mg/kg)	SVOCs (mg/kg)	HVOCs (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)
S-35.5-MW4	03/02/09	35.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-40-MW4	03/02/09	40	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-44.5-MW4	03/02/09	44.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-5-MW5	02/27/09	5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-10-MW5	03/05/09	10	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-15-MW5	03/05/09	15	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-20-MW5	03/05/09	20	<5.0	<5.0	<10	<10	<10	<50	<250	---	---	---	---	---	---	---
S-25-MW5	03/06/09	25	<0.50	<0.50	<1.0	<1.0	<1.0	<5.0	<25	---	---	---	---	---	---	---
S-30-MW5	03/06/09	30	<0.50	<0.50	<1.0	<1.0	<1.0	<5.0	<25	---	---	---	---	---	---	---
S-35-MW5	03/06/09	35	<0.50	<0.50	<1.0	<1.0	<1.0	<5.0	<25	---	---	---	---	---	---	---
S-39.5-MW5	03/06/09	39.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-5-MW6	02/27/09	5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-10-MW6	03/09/09	10	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-15.5-MW6	03/09/09	15.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-20.5-MW6	03/09/09	20.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-25.5-MW6	03/09/09	25.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-30.5-MW6	03/09/09	30.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-35.5-MW6	03/09/09	35.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	0.054	<0.25	---	---	---	---	---	---	---
S-39.5-MW6	03/09/09	39.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-5-MW7	02/27/09	5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-10.5-MW7	03/09/09	10.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-15.5-MW7	03/09/09	15.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-20.5-MW7	03/09/09	20.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-25.5-MW7	03/09/09	25.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-30.5-MW7	03/09/09	30	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-35.5-MW7	03/09/09	35.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-39.5-MW7	03/09/09	39.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-5-MW8	02/25/09	5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-10.5-MW8	03/04/09	10.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-15.5-MW8	03/04/09	15.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-20.5-MW8	03/04/09	20.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-25.5-MW8	03/04/09	25.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-30.5-MW8	03/04/09	30.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-35.5-MW8	03/04/09	35.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---

TABLE 3 ADDITIONAL CUMULATIVE SOIL ANALYTICAL RESULTS, FORMER EXXON SERVICE STATION 70234, 3450 35TH AVENUE, OAKLAND, CA

Sample ID	Sampling Date	Depth (feet bgs)	1,2-DCA (mg/kg)	EDB (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)	Ethanol (mg/kg)	VOCs (mg/kg)	SVOCs (mg/kg)	HVOCs (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)
S-39.5-MW8	03/04/09	39.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-5-MW9	02/25/09	5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-10-MW9	03/05/09	10	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-15-MW9	03/05/09	15	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-20-MW9	03/05/09	20	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-25-MW9	03/05/09	25	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-30-MW9	03/05/09	30	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-35-MW9	03/05/09	35	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-40-MW9	03/05/09	40	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	---	---	---	---	---
S-5.0-RW1	12/22/11	5.0	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-15.0-RW1	12/22/11	15.0	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-25.0-RW1	12/22/11	25.0	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-28.0-RW1	12/22/11	28.0	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-31.0-RW1	12/22/11	31.0	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-32.5-RW1	12/22/11	32.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	0.17	---	---	---	---	---	---	---	---
S-34.0-RW1	12/22/11	34.0	<0.0050	<0.0050	<0.010	<0.010	<0.010	0.42	---	---	---	---	---	---	---	---
S-37.0-RW1	12/22/11	37.0	<0.50	<0.50	<1.0	<1.0	<1.0	<5.0	---	---	---	---	---	---	---	---
S-38.5-RW1	12/22/11	38.5	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	---	---	---	---	---	---	---	---
S-40.0-RW1	12/22/11	40.0	<1.0	<1.0	<2.0	<2.0	<2.0	<10	---	---	---	---	---	---	---	---
Soil Stockpile Samples																
SP-1(S-SP1-S-SP4)	09/12/07	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.020	---	---	---	---	---	---	---	---
SP(1-4)	06/18/97	---	---	---	---	---	---	---	---	ND	ND	---	ND	55	53	43
SP-2	03/09/09	---	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.25	---	---	ND	---	---	---	---
S-SP1 (1,2,3,4)	12/22/11	---	<0.0050	<0.0050	<0.010	<0.010	<0.010	0.076	---	a	---	---	---	---	---	---

Notes:

1,2-DCA = 1,2-dichloroethane analyzed using EPA Method 8260B.

EDB = Ethylene dibromide (1,2-dibromoethane) analyzed using EPA Method 8260B.

DIPE = Di-isopropyl ether analyzed using EPA Method 8260B.

ETBE = Ethyl tertiary butyl ether analyzed using EPA Method 8260B.

TAME = Tertiary amyl methyl ether analyzed using EPA Method 8260B.

TBA = Tertiary butyl alcohol analyzed using EPA Method 8260B.

Ethanol = Ethanol analyzed using EPA Method 8260B.

Add'l SVOCs = Additional semi-volatile organic compounds.

TABLE 3 ADDITIONAL CUMULATIVE SOIL ANALYTICAL RESULTS, FORMER EXXON SERVICE STATION 70234, 3450 35TH AVENUE, OAKLAND, CA

Sample ID	Sampling Date	Depth (feet bgs)	1,2-DCA (mg/kg)	EDB (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)	Ethanol (mg/kg)	VOCs (mg/kg)	SVOCs (mg/kg)	HVOCs (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)

HVOCs	=	Halogenated volatile organic compounds analyzed using EPA Method 8260B.
feet bgs	=	Feet below ground surface.
mg/kg	=	Milligrams per kilogram.
ND	=	Not detected at or above the laboratory reporting limit.
<	=	Less than the stated laboratory reporting limit.
---	=	Not analyzed/not applicable.
a	=	1.1 mg/kg 1,2,4-trimethylbenzene; 0.16 mg/kg 1,3,5-trimethylbenzene; 0.022 mg/kg isopropyltoluene; 0.078 mg/kg naphthalene; 0.059 mg/kg n-butylbenzene; 0.091 mg/kg n-propylbenzene; 0.0070 p-isopropyltoluene; 0.012 sec-butylbenzene.

Analytical data prior to 2013 provided by Cardno ERI.

TABLE 4 GROUNDWATER MONITORING DATA, FORMER EXXON SERVICE STATION 70234, 3450 35TH AVENUE, OAKLAND, CALIFORNIA

Well Number	Date	Depth (feet)	TOC Elev. (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	NAPL (feet)	Concentration (µg/L) TPH-g	MTBE 8260B	B	T	E	X	Total Pb (µg/L)	Organic Pb (mg/L)
Monitoring Well Samples														
MW1	07/15/92	---	---	Well installed.										
MW1	07/17/92	---	192.00	33.02	158.98	No	67	---	6.6	6.9	2.0	4.5	17	---
MW1	10/22/92	---	192.00	34.07	157.93	No	<50	---	2.9	<0.5	<0.5	<0.5	16	---
MW1	02/04/93	---	192.00	29.43	162.57	No	<50	---	0.8	<0.5	<0.5	<0.5	4	---
MW1	05/03/93	---	192.00	29.72	162.28	No	71	---	2.8	7.2	2.2	22	40	---
MW1	07/30/93	---	192.00	32.95	159.05	No	<50	---	<0.5	<0.5	<0.5	<0.5	5	---
MW1	10/19/93	---	192.00	34.34	157.66	No	<50	---	<0.5	<0.5	<0.5	<0.5	12	---
MW1	02/23/94	---	192.00	31.72	160.28	No	<50	---	<0.5	<0.5	<0.5	<0.5	4	---
MW1	06/06/94	---	192.00	31.77	160.23	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3	---
MW1	08/18/94	---	192.00	33.76	158.24	No	<50	---	<0.5	<0.5	<0.5	<0.5	130	---
MW1	11/15/94	---	192.00	34.08	157.92	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3.0	<100
MW1	02/06/95	---	192.00	28.50	163.50	No	<50	---	<0.5	<0.5	<0.5	<0.5	---	---
MW1	05/10/95	---	192.00	29.30	162.70	No	<50	---	<0.5	<0.5	<0.5	<0.5	---	---
MW1	09/20/99	---	192.00	33.30	158.70	No	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<75	<50
MW1		---	Well destroyed in June 2000.											
MW2	07/15/92	---	---	Well installed.										
MW2	07/17/92	---	194.85	34.65	160.20	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3	---
MW2	10/22/92	---	194.85	35.64	159.21	No	<50	---	<0.5	<0.5	<0.5	<0.5	--	---
MW2	02/04/93	---	194.85	31.13	163.72	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3	---
MW2	05/03/93	---	194.85	31.08	163.77	No	<50	---	<0.5	<0.5	<0.5	<0.5	3	---
MW2	07/30/93	---	194.85	34.34	160.51	No	<50	---	<0.5	<0.5	<0.5	<0.5	14	---
MW2	10/19/93	---	194.85	36.00	158.85	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3	---
MW2	02/23/94	---	194.85	33.92	160.93	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3	---
MW2	06/06/94	---	194.85	33.50	161.35	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3	---
MW2	08/18/94	---	194.85	35.38	159.47	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3.0	---
MW2	11/15/94	---	194.85	35.93	158.92	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3.0	<100
MW2	02/06/95	---	194.85	30.38	164.47	No	<50	---	<0.5	<0.5	<0.5	<0.5	---	---
MW2	05/10/95	---	194.85	30.77	164.08	No	<50	---	<0.5	<0.5	<0.5	<0.5	---	---
MW2	09/20/99	---	194.85	35.15	159.70	No	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<75	<0.5
MW2		---	Well destroyed in June 2000.											

TABLE 4 GROUNDWATER MONITORING DATA, FORMER EXXON SERVICE STATION 70234, 3450 35TH AVENUE, OAKLAND, CALIFORNIA

Well Number	Date		Depth (feet)	TOC Elev. (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	NAPL (feet)	Concentration (µg/L) TPH-g	MTBE 8260B	B	T	E	X	Total Pb (µg/L)	Organic Pb (mg/L)
MW3	07/15/92		---	---	Well installed.										
MW3	07/17/92		---	196.90	37.24	159.66	No	<50	---	<0.5	<0.5	<0.5	<0.5	50	---
MW3	10/22/92		---	196.90	35.95	160.95	No	<50	---	<0.5	<0.5	<0.5	<0.5	9	---
MW3	02/04/93		---	196.90	29.85	167.05	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3	---
MW3	05/03/93		---	196.90	29.87	167.03	No	<50	---	<0.5	<0.5	<0.5	<0.5	3	---
MW3	07/30/93		---	196.90	33.85	163.05	No	<50	---	<0.5	<0.5	<0.5	<0.5	22	---
MW3	10/19/93		---	196.90	35.89	161.01	No	<50	---	<0.5	<0.5	<0.5	<0.5	12	---
MW3	02/23/94		---	196.90	32.88	164.02	No	<50	---	<0.5	<0.5	<0.5	<0.5	25	---
MW3	06/06/94		---	196.90	32.40	164.50	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3	---
MW3	08/18/94		---	196.90	35.07	161.83	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3.0	---
MW3	11/15/94		---	196.90	35.97	160.93	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3.0	<100
MW3	02/06/95		---	196.90	28.39	168.51	No	<50	---	<0.5	<0.5	<0.5	<0.5	---	---
MW3	05/10/95		---	196.90	28.90	168.00	No	<50	---	<0.5	<0.5	<0.5	<0.5	---	---
MW3	09/20/99		---	196.90	34.68	162.22	No	75.0	1.87	<0.5	11.5	1.8	18.0	<75	<0.5
MW3			---	Well destroyed in June 2000.											
MW4	03/02/09		---	---	Well installed.										
MW4	03/30/09		---	197.62	30.94	166.68	No	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW4	04/02/09		---	197.62	Well surveyed.										
MW4	05/28/09		---	197.62	32.00	165.62	No	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW4	08/31/09		---	197.62	35.43	162.19	No	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW4	12/11/09		---	197.62	35.01	162.61	No	<50	<0.50	<0.50	0.83	<0.50	1.1	---	---
MW4	05/07/10		---	197.62	29.11	168.51	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW4	11/01/10		---	197.62	34.95	162.67	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW4	05/27/11	d	---	197.62	30.65	166.97	No	---	---	---	---	---	---	---	---
MW4	11/23/11		---	197.62	33.49	164.13	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW4	05/24/12		---	197.62	30.02	167.60	No	58	<0.50	0.84	4.4	0.64c	3.5	---	---
MW4	10/31/12		---	197.62	35.14	162.48	No	110	<0.50	5.3	45	4.2	21	---	---
MW5	03/06/09		---	---	Well installed.										
MW5	03/30/09		---	196.35	30.05	166.30	No	4,200	1,900	540	140	<12	310	---	---
MW5	04/02/09		---	196.35	Well surveyed.										
MW5	05/28/09		---	196.35	31.45	164.90	No	5,300	3,600	890	150	<25	140	---	---
MW5	08/31/09		---	196.35	34.70	161.65	No	5,800	3,500	550	<100	<100	<100	---	---

TABLE 4 GROUNDWATER MONITORING DATA, FORMER EXXON SERVICE STATION 70234, 3450 35TH AVENUE, OAKLAND, CALIFORNIA

Well Number	Date		Depth (feet)	TOC Elev. (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	NAPL (feet)	Concentration (µg/L) TPH-g	MTBE 8260B	B	T	E	X	Total Pb (µg/L)	Organic Pb (mg/L)
MW5	12/11/09		---	196.35	34.52	161.83	No	4,000b	3,800	230	<100	<100	<100	---	---
MW5	05/07/10		---	196.35	30.84	165.51	No	2,700b	1,700	73	5.3	3.6	6.5	---	---
MW5	11/01/10		---	196.35	33.93	162.42	No	2,400b	3,400	320	71	21	40	---	---
MW5	05/27/11	d	---	196.35	31.65	164.70	No	---	---	---	---	---	---	---	---
MW5	11/23/11		---	196.35	32.58	163.77	No	1,900b	3,200	72	2.7	3.1	8.1	---	---
MW5	05/24/12		---	196.35	30.26	166.09	No	2,900b	1,700	54	31	5.2	17	---	---
MW5	10/31/12		---	196.35	33.94	162.41	No	2,200b	2,700	220	72	8.7	47	---	---
MW6	03/09/09		---	---	Well installed.										
MW6	03/30/09		---	192.41	26.94	165.47	No	2,800	4,800	0.91	<0.50	<0.50	<0.50	---	---
MW6	04/02/09		---	192.41	Well surveyed.										
MW6	05/28/09		---	192.41	28.04	164.37	No	2,800	6,000	<100	<100	<100	<100	---	---
MW6	08/31/09		---	192.41	30.57	161.84	No	4,900	6,600	<100	<100	<100	<100	---	---
MW6	12/11/09		---	192.41	30.78	161.63	No	4,900b	6,200	<100	<100	<100	<100	---	---
MW6	05/07/10		---	192.41	25.42	166.99	No	2,900b	3,700	2.7	<0.50	0.74c	<1.0	---	---
MW6	11/01/10		---	192.41	30.68	161.73	No	850b	6,100	2.1	<0.50	<0.50	<1.0	---	---
MW6	05/27/11	d	---	192.41	27.07	165.34	No	---	---	---	---	---	---	---	---
MW6	11/23/11		---	192.41	29.25	163.16	No	1,600b	6,400	<0.50	<0.50	<0.50	<1.0	---	---
MW6	05/24/12		---	192.41	26.36	166.05	No	2,000b	3,400	1.3c	9.7	0.97c	5.5	---	---
MW6	10/31/12		---	192.41	30.74	161.67	No	1,400b	5,400	3.8	28	2.2	11	---	---
MW7	03/09/09		---	---	Well installed.										
MW7	03/30/09		---	194.34	29.15	165.19	No	55	66	<0.50	<0.50	<0.50	<0.50	---	---
MW7	04/02/09		---	194.34	Well surveyed.										
MW7	05/28/09		---	194.34	30.16	164.18	No	50	67	<1.0	<1.0	<1.0	<1.0	---	---
MW7	08/31/09		---	194.34	33.31	161.03	No	<50	12	<0.50	0.60	<0.50	<0.50	---	---
MW7	12/11/09		---	194.34	32.71	161.63	No	<50	31	0.78	1.7	0.62	2.4	---	---
MW7	05/07/10		---	194.34	27.54	166.80	No	510b	700	<0.50	<0.50	<0.50	<1.0	---	---
MW7	11/01/10		---	194.34	32.82	161.52	No	68b	140	<0.50	<0.50	<0.50	<1.0	---	---
MW7	05/27/11	d	---	194.34	28.85	165.49	No	---	---	---	---	---	---	---	---
MW7	11/23/11		---	194.34	31.39	162.95	No	190b	300	<0.50	<0.50	<0.50	<1.0	---	---
MW7	05/24/12	d	---	194.34	28.31	166.03	No	---	---	---	---	---	---	---	---
MW7	10/31/12		---	194.34	32.86	161.48	No	230b	290	2.9	21	1.8	9.2	---	---

TABLE 4 GROUNDWATER MONITORING DATA, FORMER EXXON SERVICE STATION 70234, 3450 35TH AVENUE, OAKLAND, CALIFORNIA

Well Number	Date	Depth (feet)	TOC Elev. (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	NAPL (feet)	Concentration (µg/L) TPH-g	MTBE 8260B	B	T	E	X	Total Pb (µg/L)	Organic Pb (mg/L)
MW8	03/04/09	---	---	Well installed.										
MW8	03/30/09	---	192.96	27.35	165.61	No	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW8	04/02/09	---	192.96	Well surveyed.										
MW8	05/28/09	---	192.96	28.72	164.24	No	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW8	08/31/09	---	192.96	31.93	161.03	No	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW8	12/11/09	---	192.96	31.24	161.72	No	<50	<0.50	0.74	1.6	0.59	2.3	---	---
MW8	05/07/10	---	192.96	25.68	167.28	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW8	11/01/10	---	192.96	31.18	161.78	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW8	05/27/11	---	192.96	27.55	165.41	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW8	11/23/11	---	192.96	29.74	163.22	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW8	05/24/12	---	192.96	26.93	166.03	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW8	10/31/12	---	192.96	31.35	161.61	No	75	<0.50	2.5	19	1.7	8.7	---	---
MW9	03/05/09	---	---	Well installed.										
MW9	03/30/09	---	195.16	28.31	166.85	No	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW9	04/02/09	---	195.16	Well surveyed.										
MW9	05/28/09	---	195.16	29.69	165.47	No	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW9	08/31/09	---	195.16	33.20	161.96	No	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW9	12/11/09	---	195.16	32.62	162.54	No	<50	<0.50	0.73	1.7	0.54	2.2	---	---
MW9	05/07/10	---	195.16	26.59	168.57	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW9	11/01/10	---	195.16	32.45	162.71	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW9	05/27/11	---	195.16	29.62	165.54	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW9	11/23/11	---	195.16	30.56	164.60	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW9	05/24/12	---	195.16	27.94	167.22	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW9	10/31/12	---	195.16	32.66	162.50	No	140	<0.50	6.9	38	2.7	13	---	---
RW1	12/22/11	---	---	Well installed.										
RW1	12/30/11	---	195.15	Well surveyed.										
RW1	05/24/12	---	195.15	28.55	166.60	No	5,500b	2,500	920	5.9c	51	14	---	---
RW1	10/31/12 d	---	195.15	---	---	---	---	---	---	---	---	---	---	---
Grab Groundwater Samples														
Pit Water	06/14/02	11.5a	---	---	---	---	5,600	12,000	140	840	100	530	---	---

TABLE 4 GROUNDWATER MONITORING DATA, FORMER EXXON SERVICE STATION 70234, 3450 35TH AVENUE, OAKLAND, CALIFORNIA

Well Number	Date	Depth (feet)	TOC Elev. (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	NAPL (feet)	Concentration (µg/L) TPH-g	MTBE 8260B	B	T	E	X	Total Pb (µg/L)	Organic Pb (mg/L)
UST Pit	06/19/02	13.5a	---	---	---	---	680	640	2.7	36	18	130	---	---
W-38-B11	11/14/07	38	---	---	---	---	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
W-15-B12	11/13/07	15	---	---	---	---	8,400	78	67	<5.0	140	150	---	---
W-40-B13	11/12/07	40	---	---	---	---	<50	0.53	<0.50	<0.50	<0.50	<0.50	---	---
W-15-B14	11/13/07	15	---	---	---	---	2,500	16	1.7	3.0	26	13	---	---
W-38-B15	11/15/07	38	---	---	---	---	18,000	12,000	3,400	2,500	330	2,000	---	---
W-40-B16	11/15/07	40	---	---	---	---	<50	7.7	<0.50	<0.50	<0.50	<0.50	---	---
W-37-B17	11/13/07	37	---	---	---	---	630	2,200	1.8	<0.50	4.1	1.4	---	---
W-38-B18	11/12/07	38	---	---	---	---	4,300	1,400	52	<12	56	96	---	---
W-35-B19	03/03/09	35	---	---	---	---	4,400	7,100	<0.50	<0.50	<0.50	<1.0	---	---
W-35-B20	03/03/09	35	---	---	---	---	640	440	<0.50	<0.50	<0.50	<1.0	---	---
W-35-B21	03/03/09	35	---	---	---	---	<50	1.4	<0.50	<0.50	<0.50	<1.0	---	---

Notes: Data prior to 1999 provided by EA Engineering, Science, and Technology. Data prior to 2013 provided by Cardno ERI.
TOC Elev. Top of well casing elevation; datum is NAVD88.
DTW Depth to water.
GW Elev. Groundwater elevation; datum is NAVD88.
NAPL Non-aqueous phase liquid.
TPH-g Total Petroleum Hydrocarbons as gasoline analyzed using EPA Method 8015B.
MTBE Methyl tertiary butyl ether analyzed using EPA Method 8260B.
BTEX Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8021B; from April 2009 to October 2010, analyzed using EPA Method 8260B.
Total Pb Total lead analyzed using EPA Method 6010.
Organic Pb Organic lead analyzed using CA DHS LUFT method.
EDB 1,2-dibromoethane analyzed using EPA Method 8260B.
1,2-DCA 1,2-dicloroethane analyzed using EPA Method 8260B.
TBA Tertiary butyl alcohol analyzed using EPA Method 8260B.
TAME Tertiary amyl methyl ether analyzed using EPA Method 8260B.
ETBE Ethyl tertiary butyl ether analyzed using EPA Method 8260B.
DIPE Di-isopropyl ether analyzed using EPA Method 8260B.
Ethanol Ethanol analyzed using EPA Method 8260B.
µg/L Micrograms per liter.

TABLE 4 GROUNDWATER MONITORING DATA, FORMER EXXON SERVICE STATION 70234, 3450 35TH AVENUE, OAKLAND, CALIFORNIA

Well Number	Date	Depth (feet)	TOC Elev. (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	NAPL (feet)	Concentration (µg/L) TPH-g	MTBE 8260B	B	T	E	X	Total Pb (µg/L)	Organic Pb (mg/L)

mg/L Milligrams per liter.
< Less than the stated laboratory reporting limit.
--- Not sampled/Not analyzed/Not measured/Not applicable.
a Approximate depth to groundwater surface at time of sampling.
b Hydrocarbon pattern does not match that of the specified standard.
c Analyte presence was not confirmed by second column or GC/MS analysis.
d Well inaccessible.

TABLE 5 ADDITIONAL GROUNDWATER MONITORING DATA,
FORMER EXXON SERVICE STATION 70234, 3450 35TH AVENUE, OAKLAND, CALIFORNIA

Well Number	Date	Depth (feet)	Concentration (µg/L) EDB	1,2-DCA	TAME	TBA	ETBE	DIPE	Ethanol
MW1	07/17/92 - 09/20/99		Not analyzed for these analytes.						
MW1	Well destroyed in June 2000.								
MW2	07/17/92 - 09/20/99		Not analyzed for these analytes.						
MW2	Well destroyed in June 2000.								
MW3	07/17/92 - 09/20/99		Not analyzed for these analytes.						
MW3	Well destroyed in June 2000.								
MW4	03/30/09	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW4	05/28/09	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW4	08/31/09	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW4	12/11/09	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW4	05/07/10	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW4	11/01/10	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW4	05/27/11 d	---	---	---	---	---	---	---	---
MW4	11/23/11	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW4	05/24/12	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW4	10/31/12	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW5	03/30/09	---	<12	17	<12	450	<12	<12	---
MW5	05/28/09	---	<25	<25	<25	530	<25	<25	---
MW5	08/31/09	---	<100	<100	<100	<1,000	<100	<100	---
MW5	12/11/09	---	<100	<100	<100	2,000	<100	<100	---
MW5	05/07/10	---	<25	<25	<25	400	<25	<25	---
MW5	11/01/10	---	<50	<50	<50	1,500	<50	<50	---
MW5	05/27/11 d	---	---	---	---	---	---	---	---
MW5	11/23/11	---	<50	<50	<50	<500	<50	<50	---
MW5	05/24/12	---	<50	<50	<50	1,400	<50	<50	---
MW5	10/31/12	---	<50	<50	<50	730	<50	<50	---
MW6	03/30/09	---	<0.50	<0.50	1.3	410	<0.50	0.82	---
MW6	05/28/09	---	<100	<100	<100	<1,000	<100	<100	---
MW6	08/31/09	---	<100	<100	<100	1,100	<100	<100	---
MW6	12/11/09	---	<100	<100	<100	2,600	<100	<100	---
MW6	05/07/10	---	<100	<100	<100	<1,000	<100	<100	---
MW6	11/01/10	---	<50	<50	<50	2,400	<50	<50	---
MW6	05/27/11 d	---	---	---	---	---	---	---	---
MW6	11/23/11	---	<100	<100	<100	<1,000	<100	<100	---
MW6	05/24/12	---	<100	<100	<100	2,700	<100	<100	---
MW6	10/31/12	---	<100	<100	<100	<1,000	<100	<100	---
MW7	03/30/09	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW7	05/28/09	---	<1.0	<1.0	<1.0	<10	<1.0	<1.0	---
MW7	08/31/09	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---

TABLE 5 ADDITIONAL GROUNDWATER MONITORING DATA,
FORMER EXXON SERVICE STATION 70234, 3450 35TH AVENUE, OAKLAND, CALIFORNIA

Well Number	Date		Depth (feet)	Concentration (µg/L) EDB	1,2-DCA	TAME	TBA	ETBE	DIPE	Ethanol
MW7	12/11/09		---	<0.50	<0.50	<0.50	12	<0.50	<0.50	---
MW7	05/07/10		---	<0.50	<0.50	<0.50	130	<0.50	<0.50	---
MW7	11/01/10		---	<2.5	<2.5	<2.5	27	<2.5	<2.5	---
MW7	05/27/11	d	---	---	---	---	---	---	---	---
MW7	11/23/11		---	<5.0	<5.0	<5.0	<50	<5.0	<5.0	---
MW7	05/24/12	d	---	---	---	---	---	---	---	---
MW7	10/31/12		---	<5.0	<5.0	<5.0	<50	<5.0	<5.0	---
MW8	03/30/09		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW8	05/28/09		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW8	08/31/09		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW8	12/11/09		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW8	05/07/10		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW8	11/01/10		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW8	05/27/11		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW8	11/23/11		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW8	05/24/12		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW8	10/31/12		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW9	03/30/09		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW9	05/28/09		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW9	08/31/09		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW9	12/11/09		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW9	05/07/10		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW9	11/01/10		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW9	05/27/11		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW9	11/23/11		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW9	05/24/12		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW9	10/31/12		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
RW1	05/24/12		---	<50	<50	<50	1,900	<50	<50	---
RW1	10/31/12	d	---	---	---	---	---	---	---	---
Grab Groundwater Samples										
Pit Water	06/14/02		11.5a	---	---	---	---	---	---	---
UST Pit	06/19/02		13.5a	---	---	---	---	---	---	---
W-38-B11	11/14/07		38	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<50
W-15-B12	11/13/07		15	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<500
W-40-B13	11/12/07		40	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<50
W-15-B14	11/13/07		15	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<100
W-38-B15	11/15/07		38	<25	<25	<25	1,900	<25	<25	<2,500
W-40-B16	11/15/07		40	<0.50	<0.50	<0.50	<10	<0.50	<0.50	85
W-37-B17	11/13/07		37	<0.50	<0.50	<0.50	58	<0.50	<0.50	<50

TABLE 5 ADDITIONAL GROUNDWATER MONITORING DATA,
FORMER EXXON SERVICE STATION 70234, 3450 35TH AVENUE, OAKLAND, CALIFORNIA

Well Number	Date	Depth (feet)	Concentration (µg/L) EDB	1,2-DCA	TAME	TBA	ETBE	DIPE	Ethanol
W-38-B18	11/12/07	38	<12	<12	<12	<250	<12	<12	<1,200
W-35-B19	03/03/09	35	<50	<50	<50	<500	<50	<50	<5,000
W-35-B20	03/03/09	35	<0.50	<0.50	<0.50	12	<0.50	<0.50	<50
W-35-B21	03/03/09	35	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<50

Notes: Data prior to 1999 provided by EA Engineering, Science, and Technology.
Data prior to 2013 provided by Cardno ERI.
TOC Elev. Top of well casing elevation; datum is NAVD88.
DTW Depth to water.
GW Elev. Groundwater elevation; datum is NAVD88.
NAPL Non-aqueous phase liquid.
TPH-g Total Petroleum Hydrocarbons as gasoline analyzed using EPA Method 8015B.
MTBE Methyl tertiary butyl ether analyzed using EPA Method 8260B.
BTEX Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8021B; from April 2009 to October 2010, analyzed using EPA Method 8260B.
Total Pb Total lead analyzed using EPA Method 6010.
Organic Pb Organic lead analyzed using CA DHS LUFT method.
EDB 1,2-dibromoethane analyzed using EPA Method 8260B.
1,2-DCA 1,2-dicloroethane analyzed using EPA Method 8260B.
TBA Tertiary butyl alcohol analyzed using EPA Method 8260B.
TAME Tertiary amyl methyl ether analyzed using EPA Method 8260B.
ETBE Ethyl tertiary butyl ether analyzed using EPA Method 8260B.
DIPE Di-isopropyl ether analyzed using EPA Method 8260B.
Ethanol Ethanol analyzed using EPA Method 8260B.
µg/L Micrograms per liter.
mg/L Milligrams per liter.
< Less than the stated laboratory reporting limit.
--- Not sampled/not analyzed/not measured/not applicable.
a Approximate depth to groundwater surface at time of sampling.
b Hydrocarbon pattern does not match that of the specified standard.
c Analyte presence was not confirmed by second column or GC/MS analysis.
d Well inaccessible.

Appendix A

Regulatory Correspondence

From:	Thomas Neely
To:	Karina Gillette
Subject:	RO2515, ExxonMobil 7-0234
Date:	Monday, May 13, 2013 9:06:59 AM

From: Jakub, Barbara, Env. Health [mailto:barbara.jakub@acgov.org]
Sent: Tuesday, March 05, 2013 4:04 PM
To: jennifer.c.sedlachek@exxonmobil.com
Cc: Thomas Neely; Douglas Oram
Subject: RO2515, ExxonMobil 7-0234

Dear Ms. Sedlachek,

Please prepare a conceptual site model (CSM) for the site to comply with the Low-Threat Closure Policy. Prepare The CSM in accordance with the State Water Resources Control Board's Leaking Underground Fuel Tank Guidance Manual dated September 2012. Please identify any remaining data gaps and present a work plan to assess the data gaps that are identified.

Present your CSM with data gap work plan by April 15, 2013 (File to be named: SCM_WP_R_yyyy-mm-dd).

Regards,

Barbara Jakub, P.G.
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Pky.
Alameda, CA 94502
Direct: 510-639-1287
Fax: 510-337-9335

PDF copies of case files can be downloaded at:

http://ehgis.acgov.org/dehpublic/dehpublic.jsp

From: Thomas Neely
To: Karina Gillette
Subject: RO2515, ExxonMobil 70234
Date: Monday, May 13, 2013 9:06:18 AM

From: Jakub, Barbara, Env. Health [mailto:barbara.jakub@acgov.org]
Sent: Friday, March 22, 2013 10:21 AM
To: Thomas Neely; jennifer.c.sedlachek@exxonmobil.com
Cc: Douglas Oram; Christa Marting; Hamidou Barry; Deborah Hensley
Subject: RE: RO2515, ExxonMobil 70234

Dear Ms. Sedlachek,

Your request for an extension is approved. However, please also submit a project plan for the site with the work plan. This baseline environmental project schedule should be prepared as described below.

1. **Baseline Environmental Project Schedule** – The State Water Resources Control Board passed Resolution No. 2012-0062 on November 6, 2012 which requires development of a Path to Closure Plan by December 31, 2013 that addresses the impediments to closure for the site. The Path to Closure must have milestone dates by calendar quarter which will achieve site cleanup and case closure in a timely and efficient manner that minimizes the cost of corrective action. The Project Schedule should include, but not be limited to, the following key environmental elements and milestones as appropriate:

    - Preferential Pathway Study
    - Soil, Groundwater, and Soil Vapor Investigations
    - Initial, Updated, and Final/Validated SCMs
    - Interim Remedial Actions
    - Feasibility Study/Corrective Action Plan
    - Pilot Tests
    - Remedial Actions
    - Soil Vapor and Groundwater Monitoring Well Installation and Monitoring
    - Public Participation Program (Fact Sheet Preparation/Distribution/Public Comment Period, Community Meetings, etc.)
    - Case Closure Tasks (Request for closure documents, ACEH Case Closure Summary Preparation and Review, Site Management Plan, Institutional Controls, Public Participation, Landowner Notification, Well Decommissioning, Waste Removal, and Reporting.)

    Please include time for regulatory and RP in house review, permitting, off-site access agreements, and utility connections, etc.

    Please use a critical path methodology/tool to construct a schedule with sufficient detail to support a realistic and achievable Path to Closure Schedule. The schedule is to include at a minimum:

    - Defined work breakdown structure including summary tasks required to accomplish the project objectives and required deliverables
    - Summary task decomposition into smaller more manageable components that can be

scheduled, monitored, and controlled

- Sequencing of activities to identify and document relationships among the project activities using logical relationships
- Identification of critical paths, linkages, predecessor and successor activities, leads and lags, and key milestones
- Identification of entity responsible for executing work
- Estimated activity durations (60-day ACEH review times are based on calendar days)

Please submit an electronic copy of the Path to Closure Schedule with the work plan.. ACEH will review the schedule to ensure that all key elements are included.

Sincerely,
Barb Jakub

From: Thomas Neely [mailto:tneely@eticeng.com]
Sent: Tuesday, March 19, 2013 4:26 PM
To: Jakub, Barbara, Env. Health
Cc: Douglas Oram; Christa Marting; jennifer.c.sedlachek@exxonmobil.com; Hamidou Barry; Deborah Hensley
Subject: RO2515, ExxonMobil 70234

Hi Barbara:

Thank you for taking the time to discuss this site with me last Friday. During our conversation, you confirmed that the current required submittal is a conceptual site model (CSM) with a work plan, superseding your previous directive for submittal of the DGIT and project plan. As noted below, you requested that the CSM and work plan be submitted by April 15, 2013.

We respectfully request that the deadline for the CSM be extended to Friday, May 10, 2013, and the deadline for the work plan to assess data gaps be extended to Friday, May 24, 2013.
Thank you for your consideration of this request.
Tom

Thomas Neely, PG, CHG, QSD
Senior Project Manager
tneely@eticeng.com
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ETIC Engineering, Inc.
2285 Morello Ave.
Pleasant Hill, CA 94523
Tel: 925-602-4710 x2161
Fax: 925-602-4720
Mobile: 925-301-7125

From: Jakub, Barbara, Env. Health [mailto:barbara.jakub@acgov.org]
Sent: Tuesday, March 05, 2013 4:04 PM
To: jennifer.c.sedlachek@exxonmobil.com
Cc: Thomas Neely; Douglas Oram
Subject: RO2515, ExxonMobil 7-0234

Dear Ms. Sedlachek,

Please prepare a conceptual site model (CSM) for the site to comply with the Low-Threat Closure Policy. Prepare The CSM in accordance with the State Water Resources Control Board's Leaking Underground Fuel Tank Guidance Manual dated September 2012. Please identify any remaining data gaps and present a work plan to assess the data gaps that are identified.

Present your CSM with data gap work plan by April 15, 2013 (File to be named: SCM_WP_R_yyyy-mm-dd).

Regards,

Barbara Jakub, P.G.
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Pky.
Alameda, CA 94502
Direct: 510-639-1287
Fax: 510-337-9335

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Appendix B

Field Protocols

PROTOCOLS FOR INSTALLATION AND SAMPLING OF SOIL VAPOR WELLS

SUBSURFACE CLEARANCE SURVEY PROCEDURES

Prior to drilling, the proposed locations of borings will be marked with white paint. Underground Service Alert (USA) will be contacted prior to subsurface activities and a "ticket" will be issued for this investigation. USA members will mark underground utilities in the delineated areas using standard color code identifiers.

Once USA has marked the site, all proposed borehole locations will be investigated by subsurface clearance surveys to identify possible buried hazards (pipelines, drums, tanks). Subsurface clearance surveys use several geophysical methods to locate shallow buried man-made objects. The geophysical methods include electromagnetic induction (EMI) profiling, ground penetrating radar (GPR), and/or magnetic surveying. The choice of methods depends on the target object and potential interference from surrounding features.

Prior to drilling, all boreholes will be cleared of underground utilities to a depth of at least 4 feet below ground surface (bgs) in "non-critical zones" and to 8 feet bgs in "critical zones." Critical zones are defined as locations that are within 10 feet from the farthest edge of any underground storage tank (UST), within 10 feet of the product dispenser islands, the entire area between the UST field and the product dispenser islands, and within 10 feet of any suspected underground line. An 8- to 12-inch-diameter circle will be cut in the pavement at each boring location. A hole will then be cleared at each boring location using a hand auger with minimum diameter of 4.5 inches.

SOIL SAMPLING

Shallow soil samples will be collected using a 6-inch-long sample barrel connected to a slide hammer containing a 6-inch-long stainless steel sample liner. After driving the hammer 6 inches into the soil at the desired depth, the rods and sample barrel are withdrawn from the borehole and the sample liner is removed. Soil from the hand auger will be removed and placed in a sealed plastic bag. Headspace vapors from the soil will be scanned with an organic vapor analyzer (OVA) equipped with a flame ionization detector (FID) or photoionization detector (PID) and the readings will be noted on the soil boring logs. The remaining soil from the hand auger will be examined and logged according to the Unified Soil Classification System (USCS). Soil samples will be delivered, under chain of custody, to a laboratory certified by the California Department of Health Services (DHS) for analysis.

SOIL VAPOR WELL INSTALLATION PROCEDURES

The vapor wells will be constructed with 0.25-inch-outer-diameter stainless steel tubing connected to a 0.4-inch-outer-diameter stainless steel screen with a 0.0057-inch mesh size and bottom implant anchor. All connections will be sealed with Swagelok® type fittings. A filter pack consisting of 1 foot of Lonestar #2/12 sand will be placed adjacent to the screened interval and extends approximately 3 inches above and below the screen for each well. The annular space in the wells will then be sealed with 1 foot of dry granular bentonite followed by hydrated bentonite slurry to just below ground surface. The tubing is sealed at the surface with a stainless steel Swagelok® valve and a stainless steel cap.

The wells are finished at the surface with a slightly raised, traffic-rated vault box set in concrete.

SOIL VAPOR SAMPLING PROCEDURES

To allow for subsurface conditions to equilibrate, the wells will not be disturbed for a period of at least 48 hours.

To ensure air-tight connections between the tubing, sampling port, valves, and other connections, a vacuum tightness test will be performed on each well. The test consists of the application of a vacuum and monitoring of tightness using vacuum gauges and/or a flow meter for 5 to 10 minutes. A leak would be evident if the gauges registered a decrease in the vacuum or measurement of vapor flow.

A purge test will be conducted for one well. The selected well will generally be the one with the highest expected concentrations. The test consists of the collection of vapor samples using Tedlar bags after purging the well of one (1), three (3), and ten (10) purge volumes by drawing vapor into the Tedlar bag using a vacuum chamber and vacuum pump. The purge volume will be estimated based on the internal volume of the tubing used, the volume of the screen, and the air filled void space in the sand pack within the annular space around the screen. The samples will be collected through a particulate filter and controller which regulates the flow of soil vapor to no more than 200 milliliters per minute. The purge test samples will be analyzed in the field using a photoionization detector. The results of the purge test will be used to establish the purge volume to be used prior to the sampling of subsequent wells.

The vapor samples will be collected in 1-liter stainless steel SUMMA canisters. The samples will be collected through a particulate filter and controller which regulates the flow of soil vapor to no more than 200 milliliters per minute. To ensure an air-tight connection at the well head and that ambient air does not enter the sampling apparatus, a tracer gas such as helium will be applied. To apply the tracer, a shroud will be placed over the well head and the tracer gas will be allowed to fill the shroud at a constant rate. A hand-held helium detector will be used in the field to measure the tracer within the shroud. Vapor will then be drawn into a Tedlar bag from the well using a vacuum chamber and vacuum pump. A leak will be suspected if the concentration of the tracer in the sample exceeds 5% of the concentration of the tracer in the shroud.

The 1-liter SUMMA canisters will be labeled and packaged for delivery to a state-certified laboratory for chemical analysis. The initial vacuum and the final vacuum readings taken from the gauges on the SUMMA canisters will be recorded. A vacuum of about 5 inches of mercury will be left inside the sample canister and will be recorded on the chain-of-custody. Upon receipt, the laboratory will check the vacuum in the sample canister and compare it to the vacuum recorded on the chain-of-custody for quality control purposes.