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By Alameda County Environmental Health at 3:29 pm, Oct 02, 2013



**Catalina Espino
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Project Manager
Marketing Business Unit

**Chevron Environmental
Management Company**
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Tel (925) 790-3949
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Alameda County Health Care Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

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

I have reviewed the attached *Site Conceptual Model and Gap Analysis Table*.

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

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

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

Sincerely,

A handwritten signature in blue ink, appearing to read "Catalina Espino Devine".

Catalina Espino Devine
Project Manager

Attachment: Site Conceptual Model and Gap Analysis Table



**CONESTOGA-ROVERS
& ASSOCIATES**

5900 Hollis Street, Suite A
Emeryville, California 94608
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September 30, 2013

Reference No. 062086

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

Re: Site Conceptual Model and Data Gap Analysis Table
Former Texaco Service Station 359766
2700 23rd Street
Oakland, California
ACEH Case No. RO0003098

Dear Ms. Detterman:

Conestoga-Rovers & Associates (CRA) is submitting this *Site Conceptual Model and Data Gap Analysis Table* (Table 1-1) on behalf of Chevron Environmental Management Company (Chevron) for former Texaco service station located at 2700 23rd Street, Oakland, California requested by Alameda County Environmental Health (ACEH) in a meeting with ACEH, Chevron and CRA of June 21, 2013.

If you have any questions or concerns, please contact Nathan Lee at (925) 849-1003 or nlee@craworld.com.

Regards,

CONESTOGA-ROVERS & ASSOCIATES



Brandon Wilken
OY/aa/2

Equal
Employment Opportunity
Employer



**CONESTOGA-ROVERS
& ASSOCIATES**

September 30, 2013

Reference No. 062086

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Figure 1 Site Plan and Proposed Boring Locations

Table 1-1 Site Conceptual Model

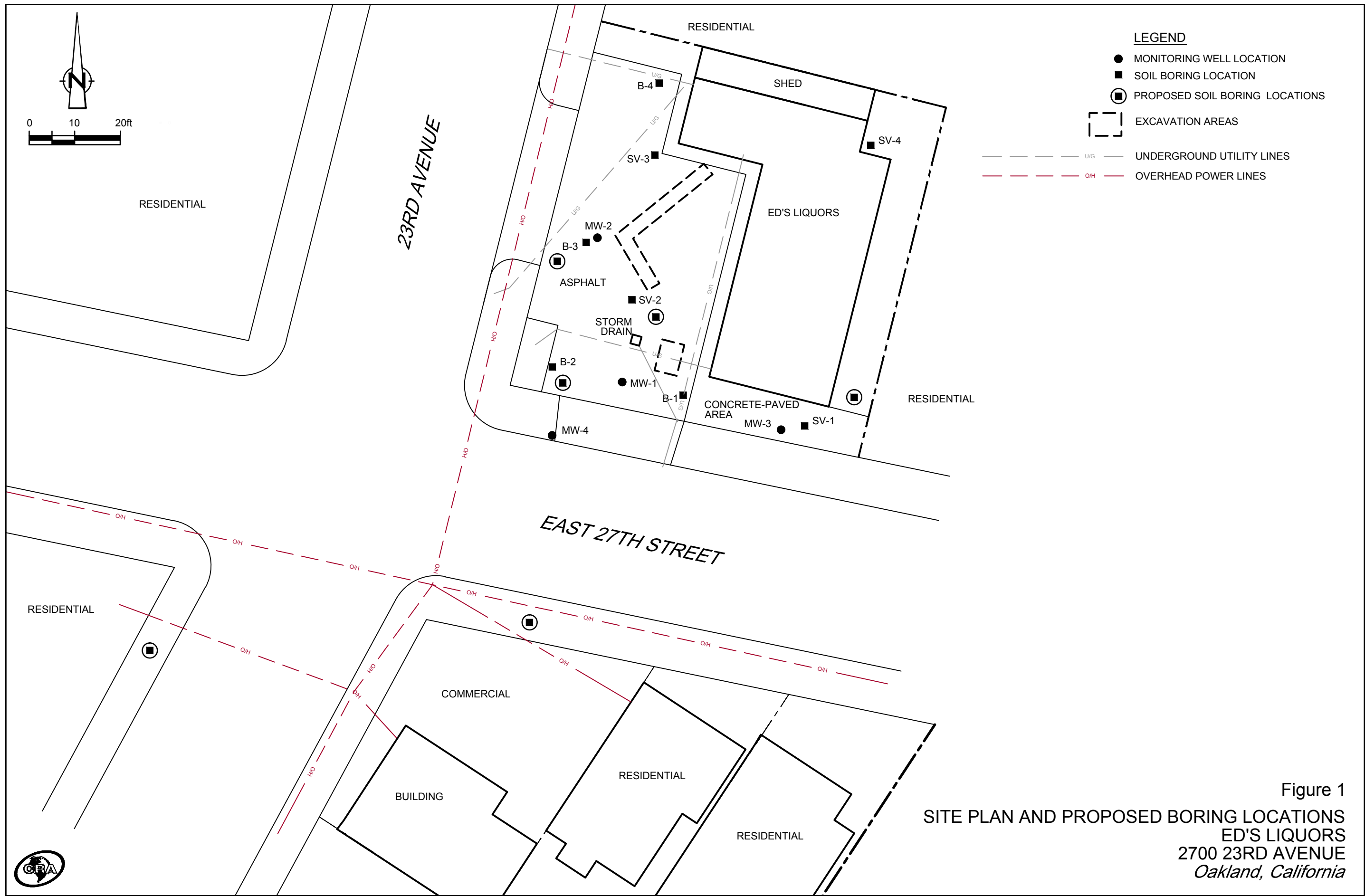
Table 1 Soil Analytical Data

Table 2 Polynuclear Aromatic Hydrocarbons Soil Analytical Data

Table 3 Groundwater Analytical Data

cc: Ms. Catalina Espino Devine, Chevron (*electronic copy*)
Pedro and Maria Pulildo, Property Owner

FIGURE



TABLES

**Table 1-1
Site Conceptual Model**

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
Geology and Hydrogeology	Regional	The site is relatively flat lying at an approximate elevation of 165 feet above mean sea level with a gradual slope toward the south and is located in the Santa Clara Valley Groundwater Basin, East Bay Plain Subbasin. ¹ Groundwater in the East Bay Plain basin is designated as a potential drinking water source; however, groundwater in the basin is not currently used as a municipal drinking water supply, due to readily available imported surface water. ²		

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

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

**Table 4-1
Site Conceptual Model (Continued)**

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
Geology and Hydrogeology	Site	Based on the previous investigations, sediments underlying the site consist primarily of fill material near the surface to approximately 2.5 feet below grade (fbg) and clay to approximately 22 fbg, which is the maximum depth explored. ³ Groundwater has been measured at a depths ranging from approximately 5 to 7 fbg during groundwater monitoring with a flow direction to the southwest with a gradient of 0.125. ³		
Surface Water Bodies		The closest surface water body is the Central Reservoir, located 1,000 feet to the northeast (upgradient).		
Nearby Wells		The State Water Resource Control Board (SWRCB) GeoTracker Groundwater Ambient Monitoring and Assessment (GAMA) website provides the locations of water supply wells proximal to the site. The nearest cluster of wells are monitoring wells located near the Allendale Elementary School that is approximately 6,450 feet east-southeast of the site (upgradient).	1 & 2	Well survey and preferential pathway study
Release Source and Volume		Based on Schutze and Associates' (SA) file review of the subject site, the site operated as a gasoline service station from 1928 to 1964. The former dispenser island was located at the southwest corner onsite and the former station's kiosk was located at the northeastern corner of the property. Location of the former underground storage tanks (USTs) are unknown and file records did not include confirmation that UST(s) were removed. In 2010, SA performed a geophysical survey site and a metal detector anomaly was detected along the center of the southern property boundary, near boring SB-1. However, SA's 2010 excavation in the anomaly area indicated that the anomaly appears to be a portion of a former dispenser island. Based on the geophysical survey, SA concluded that the former USTs	3	Complete additional assessment.

³ Schutze & Associates, Inc., Summary of Previous Investigations, Installation and Sampling of Four Monitoring Wells, and Excavation of Test Pits, Soil Testing and Limited Soil Removal, March 16, 2011.

**Table 4-1
Site Conceptual Model (Continued)**

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
		appear to have been located on the southwest corner and have been removed. The release volume is unknown. SA's 2010 site investigation suggests that the southwest corner could be a potential source area.		
LNAPL		No light non-aqueous phase liquid (LNAPL) was observed in the monitoring wells during the November 2010 sampling event, which is the only groundwater monitoring and sampling event that has occurred. Well screens for wells MW-1 through MW-4 appear to be submerged based on the groundwater elevations present during the only sampling event conducted and submerged screens may not detect the presence of LNAPL.	4	Complete additional assessment.
Source Removal Activities		Based on records from SA, the service station was demolished between 1964 and 1968. SA performed a limited soil excavation in 2010, removing approximately 15 cubic yards of soil. Low concentrations of petroleum hydrocarbons were detected in confirmation soil samples collected from the test pit's bottom and sidewalls. The highest concentrations detected were 53 mg/kg total petroleum hydrocarbon as motor oil (TPHmo), 6.4 mg/kg TPH as diesel (TPHd), and 4.5 mg/kg TPH as gasoline (TPHg). Based on geophysical survey results, the former USTs appear to have been removed.	3	Complete additional assessment.
Contaminants of Concern		Based on the historical investigations conducted TPHmo, TPHd, TPHg, benzene, toluene, ethylbenzene, xylenes, and naphthalene are present in soil and/or groundwater.		
Petroleum Hydrocarbons in Soil		Of the 36 samples analyzed to date, no soil samples exceeded the Low-Threat Closure policy for direct contact and outdoor air exposure criteria for benzene, ethylbenzene, naphthalene, and polynuclear aromatic hydrocarbons. TPHmo, TPHd, and TPHg concentrations that exceeded 100 mg/kg were detected in soil samples collected from borings MW-3, MW-4, B-1, and SV-2. These samples were collected between 3.5 to 14.0 fbg. No petroleum hydrocarbon concentrations were detected below 14.0 fbg in soil samples, except 1.2 mg/kg TPHd	3	Complete additional assessment.

**Table 4-1
Site Conceptual Model (Continued)**

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
		<p>in MW-2 at 18.5 fbg. Therefore, petroleum hydrocarbon concentrations in soil are vertically delineated.</p> <p>Petroleum hydrocarbons in soil are primarily located along the psouthern boundary. The petroleum hydrocarbons in soil horizontal extent is adequately delineated, except east of MW-3, and offsite toward the south and southwest. Soil analytical results are summarized in Table 1 and Table 2.</p>		
Petroleum Hydrocarbons in Groundwater		<p>During the July 2010 site investigation conducted by SA, two grab groundwater samples were collected from borings B-1 and B-3 and analyzed for petroleum hydrocarbon constituents. The results of the analyses are summarized in Table 3. Monitoring wells MW-1 through MW-4 were installed in October 2010 and the groundwater flow direction was calculated to flow southwest. No petroleum hydrocarbon constituents were detected in wells MW-1 and MW-2, except 1.3 micrograms per liter (µg/L) methyl tertiary-butyl ether (MTBE). The groundwater sample from well MW-3 contained 3,700 µg/L TPHg, 2,100 µg/L TPHd, and 0.84 µg/L xylenes. Elevated petroleum hydrocarbon concentrations were detected in well MW-4.</p> <p>Petroleum hydrocarbons in groundwater are primarily located along the southern boundary. The petroleum hydrocarbons in groundwater horizontal extent is adequately delineated, except east of MW-3, and offsite toward the south and southwest.</p>	3 & 4	Complete additional assessment.
Risk Evaluation		<p>The Site is a former service station and is currently a liquor store. Additional assessment is needed to delineate the extent of petroleum hydrocarbons in soil and groundwater on and offsite. Considering that on and offsite delineation is not complete, it is not possible to provide a complete risk evaluation. Additionally soil vapor samples were collected in 2010 from soil vapor borings SV-1 through SV-4. The soil vapor samples collected did not use the current Department of Toxic Substance Control (DTSC) guidance and may not be valid results, as samples were collected from soil borings and no leak detection methods were used.</p>	1, 2, 3, & 4	Complete additional assessment.

**Table 5-1
Data Gaps Summary and Proposed Investigation**

Item	Data Gap Item #	Proposed Investigation	Rationale	Analyses
1	No formal well survey and sensitive receptor has been completed .	Obtain well records from the California Department of Water Resources and Alameda County Public Works. Complete a search of sensitive receptors in the vicinity.	Identify potential water supply wells and sensitive receptors in the vicinity. .	NA
2	No preferential pathway study has been conducted.	Perform geophysical survey to identify utility conduits, contact utility agencies, both government and private agencies to determine utility corridors	Utility corridors need to be confirmed in the potential source areas vicinity. The geophysical survey and review of governmental files will help determine if there are any utility conduits that are acting as preferential pathways from the suspected source area to offsite sensitive receptors.	NA

3	Additional soil and groundwater data are required to further delineate the source area and horizontal extent of petroleum hydrocarbons in the subsurface.	Advanced 4 borings onsite and 2 borings offsite to define lateral extent of soil hydrocarbon plume. Soil borings will be advanced to 20 fbg and soil samples will be collected at 5 foot intervals. Additional samples may be collected based on professional judgment. Borings will be logged using the Unified Soil Classification System.	Advance 1 boring in the vicinity of B-2 to confirm results that there are no elevated concentrations in the suspected source area. Elevated hydrocarbon concentrations were detected in SV-2; need to define the western and eastern extent. In addition, elevated dissolved hydrocarbon concentration were detected in the grab-groundwater sample from B-3, these 2 borings can confirm those results. Extent of hydrocarbon plume is undefined south and east of MW-3 and MW-4, the 2 off site borings proposed should be able to define lateral extent of the plume/source area. Proposed soil borings are shown on the attached Figure 1.	Soil and groundwater - TPHmo, TPHd, TPHg, BTEX, MTBE, VOCs, and PAHs.
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4	<p>Only one groundwater monitoring and sampling event has been completed to date. Additional groundwater flow direction and gradient data needs to be collected. Need to collect additional depth to groundwater data to determine if wells are submerged.</p>	<p>Monitor existing wells for at least one annual cycle to determine flow direction, gradient, and if they have submerged screen intervals.</p> <p>If wells are submerged, the wells may need to be destroyed and new properly screened wells installed.</p>	<p>Additional flow and gradient data is needed to finalize assessment and evaluating risk to human health and the environment. Submerged wells may not detect the presence of LNAPL on the water table and may produce non-representative groundwater data. Need to collect accurate data to better assess any potential risks and remedial actions.</p>	

TABLE 1

SOIL ANALYTICAL DATA
ED'S LIQUORS
2700 23RD AVENUE
OAKLAND, CALIFORNIA

Location	Date	Depth feet	TPHmo	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	TBA	DIPE	ETBE	TAME	1,2-DCA	EDB	Other VOCs	Cadmium	Chromium	Lead	Nickel	Zinc
Concentrations in milligrams per kilogram (mg/kg)																							
<i>Low-Threat Underground Storage Tank Case Closure Policy - Table 1^a - Commerical/Industrial (0 to 5 fbg)</i>			NE	NE	NE	8.2	NE	89	NE	NE	45	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
<i>Low-Threat Underground Storage Tank Case Closure Policy - Table 1^a - Commerical/Industrial - Volatization to Outdoor Air (5 to 10 fbg)</i>			NE	NE	NE	12	NE	134	NE	NE	45	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
<i>Low-Threat Underground Storage Tank Case Closure Policy - Table 1^a - Utility Worker (0 to 10 fbg)</i>			NE	NE	NE	14	NE	314	NE	NE	219	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
<i>Wells and Soil Borings</i>																							
MW-1	10/27/10	3.5	<5.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	ND	<1.5	34	15	50	28
MW-1	10/27/10	8.5	<5.0	<1.0	<1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.5	63	7.2	110	66
MW-1	10/27/10	13.5	<5.0	<1.0	<1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.5	48	7.7	81	54
MW-1	10/27/10	18.5	<5.0	<1.0	<1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.5	57	5.7	65	56
MW-2	10/27/10	3.5	5.5	5.1	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	ND	<1.5	80	6.1	60	62
MW-2	10/27/10	8.5	<5.0	<1.0	<1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.5	43	6.7	66	43
MW-2	10/27/10	13.5	<5.0	<1.0	<1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.5	45	<5.0	64	47
MW-2	10/27/10	18.5	<5.0	1.2	<1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.5	60	7.2	64	64
MW-3	10/27/10	3.5	<5.0	<1.0	<1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.5	34	<5.0	35	31
MW-3	10/27/10	8.5	<5.0	27	200	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<1.0	<0.10	<0.10	<0.10	<0.080	<0.080	0.14 ^b 0.17 ^c 0.62 ^d	<1.5	40	9.8	31	26
MW-3	10/27/10	13.5	<5.0	<1.0	<1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.5	36	<5.0	23	83
MW-3	10/27/10	18.5	<5.0	<1.0	<1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.5	55	11	93	67
MW-4	10/27/10	3.5	16	220	1,400	<0.50	<0.50	1.1	0.96	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.40	<0.40	1.8 ^b 0.81 ^e 0.60 ^f 1.2 ^c 2.8 ^d	2.0	55	18	46	1,200
MW-4	10/27/10	8.5	<5.0	18	270	<0.20	<0.20	0.61	1.4	<0.2	0.27	<2.0	<0.20	<0.20	<0.20	<0.16	<0.16	1.3 ^g 0.25 ^d 0.23 ^h	<1.5	69	6.6	110	68
MW-4	10/27/10	13.5	<5.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	ND	<1.5	47	6.6	55	53
MW-4	10/27/10	18.5	<5.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	0.0051	<0.004	ND	<1.5	71	6.4	61	59
B-1	07/29/10	8	<5.0	33	43	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.10	<0.010	<0.010	<0.010	<0.0080	<0.0080	0.028 ^b 0.021 ^f 0.021 ^d	--	--	--	--	--
B-1	07/29/10	14	5.1	710	420	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<0.80	<0.80	2.5 ^f 2.8 ^c 4.2 ^d	--	--	--	--	--
B-1	07/29/10	20	<5.0	<1.0	<1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-2	07/29/10	8	<5.0	<1.0	<1.0	<0.023	<0.023	0.043	<0.023	<0.023	--	--	--	--	--	--	--	--	--	--	--	--	--
B-3	07/29/10	7	<5.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--
B-4	07/29/10	7	<5.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--
SV-2	07/29/10	5	1,500	370	420	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<2.0	<0.20	<0.20	<0.20	<0.16	<0.16	4.9 ^d 0.27 ^e 0.25 ^g 0.86 ^f 0.35 ^c 1.8 ^d	--	--	--	--	--
<i>Test Pit Excavation</i>																							
A	11/29/10	5.5	<5.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	ND	<1.5	34	8.3	28	26
A-W	12/01/10	4	<5.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	ND	<1.5	40	10	38	30
A-S	12/01/10	4	<5.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	ND	<1.5	49	11	39	32
A-E	12/01/10	4	<5.0	1.2	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	ND	<1.5	50	36	58	50

TABLE 1

SOIL ANALYTICAL DATA
ED'S LIQUORS
2700 23RD AVENUE
OAKLAND, CALIFORNIA

Location	Date	Depth feet	TPHmo	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	TBA	DIPE	ETBE	TAME	1,2-DCA	EDB	Other VOCs	Cadmium	Chromium	Lead	Nickel	Zinc
Concentrations in milligrams per kilogram (mg/kg)																							
<i>Low-Threat Underground Storage Tank Case Closure Policy - Table 1^a - Commerical/Industrial (0 to 5 fbg)</i>			NE	NE	NE	8.2	NE	89	NE	NE	45	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
<i>Low-Threat Underground Storage Tank Case Closure Policy - Table 1^a - Commerical/Industrial - Volatization to Outdoor Air (5 to 10 fbg)</i>			NE	NE	NE	12	NE	134	NE	NE	45	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
<i>Low-Threat Underground Storage Tank Case Closure Policy - Table 1^a - Utility Worker (0 to 10 fbg)</i>			NE	NE	NE	14	NE	314	NE	NE	219	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
<i>Test Pit Excavation</i>																							
B	11/29/10	5	<5.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	0.085 ⁱ	<1.5	45	160	33	35
B-W	11/29/10	3.5	<5.0	1.9	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	0.066 ⁱ	<1.5	38	7.7	43	38
B-E	11/29/10	3.5	53	3.6	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	0.080 ⁱ	<1.5	49.93	28	53	83
B-N	11/29/10	3.5	<5.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	0.068 ⁱ	<1.5	48	6.7	59	50
P-A	11/30/10	2.5	<5.0	6.4	4.5	<0.005	<0.005	<0.005	<0.005	<0.005	0.068	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	0.0091 ⁱ 0.061 ^b 0.016 ^f 0.0056 ^c 0.035 ^d	<1.5	45	16	42	45
P-B	11/30/10	1	<5.0	3.1	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	0.083 ⁱ	<1.5	35	64	49	1,800
P-C	11/30/10	2	<5.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	ND	<1.5	37	<5.0	35	26
P-D	11/30/10	2	<5.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	ND	<1.5	40	<5.0	42	27
P-E	11/30/10	2.5	22	2.2	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	ND	<1.5	36	8.0	41	530

Abbreviations and Notes:

Bold = Concentration exceeds ESL

NE = Not established

-- = Not analyzed

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

fbg = Feet below grade

Total petroleum hydrocarbons as motor oil (TPHmo) by EPA Method 8015B

Total petroleum hydrocarbons as diesel (TPHd) analyzed by EPA Method 8015B

Total petroleum hydrocarbons as gasoline (TPHg) analyzed by EPA Method 8015B

Benzene, toluene, ethylbenzene and xylenes (BTEX) analyzed by EPA Method 8260B

Methyl tertiary butyl ether (MTBE), di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), 1,2 dichloroethane (1,2-DCA), tertiary butyl alcohol (TBA), naphthalene by EPA Method 8260B

Volatile Organic Compounds (VOCs) by EPA Method 8260B

Cadmium, chromium, lead, nickel, zinc by EPA Method 6010B

a = Table 1 - Concentration of Petroleum Constituents in Soil That Will Have No Significant Risk of Adversely Affecting Human Health,

Low-Threat Underground Storage Tank Case Closure Policy, California State Water Resource Control Board, August 17, 2012

b = n-butyl benzene

c = isopropylbenzene

d = n-propyl benzene

e = 4-isopropyl toluene

f = sec-butyl benzene

g = 1,2,4-trimethylbenzene

h = 1,3,5-trimethylbenzene

i = Acetone

TABLE 2

POLYNUCLEAR AROMATIC HYDROCARBONS
 SOIL ANALYTICAL DATA
 ED'S LIQUORS
 2700 23RD AVENUE
 OAKLAND, CALIFORNIA

Location	Date	Depth feet	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,b)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene
Concentrations in milligrams per kilogram (mg/kg)																				
<i>Low-Threat Underground Storage Tank Case Closure Policy - Table 1^a - Commercial/Industrial (0 to 5 fbg)</i>			NE	NE	NE	NE	0.68	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
<i>Low-Threat Underground Storage Tank Case Closure Policy - Table 1^a - Commercial/Industrial - Volatization to Outdoor Air (5 to 10 fbg)</i>			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
<i>Low-Threat Underground Storage Tank Case Closure Policy - Table 1^a - Utility Worker (0 to 10 fbg)</i>			NE	NE	NE	NE	4.5	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
MW-4	10/27/10	3.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0057	0.0056	<0.005	0.30	0.75	<0.005	0.0063	0.0059

Abbreviations and Notes:

Bold = Concentration exceeds ESL

NE = Not established

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

fbg = Feet below grade

Polynuclear Aromatic Hydrocarbons analyzed by EPA Method SW8270C SIM

a = Table 1 - Concentration of Petroleum Constituents in Soil That Will Have No Significant Risk of Adversely Affecting Human Health,

Low-Threat Underground Storage Tank Case Closure Policy, California State Water Resource Control Board, August 17, 2012

TABLE 3

GROUNDWATER ANALYTICAL DATA
ED'S LIQUOR
2700 23RD AVENUE
OAKLAND, CALIFORNIA

Sample ID	Date	TOC	DTW	GWE	TPH _{mo}	TPH _d	TPH _g	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	Naphthalene	TBA	DIPE	ETBE	TAME	1,2-DCA	EDB	VOCs
Reported in micrograms per liter (µg/L)																				
B-1	7/29/10	--	--	--	21,000	36,000	61,000	<5.0	<5.0	<5.0	<5.0	<5.0	200	<20	<5.0	<5.0	<5.0	<5.0	<5.0	12 ^b 11 ^b 30 ^d 80 ^e 110 ^f
B-3	7/29/10	--	--	--	60,000	4,000	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	ND
MW-1	11/18/10	168.84	7.93	160.91	<250	<50	<50	<0.5	<0.5	<0.5	<0.5	1.3	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	ND
MW-2	11/18/10	170.33	7.52	162.81	<250	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	ND
MW-3	11/18/10	168.67	5.14	161.15	<250	2,100	3,700	<0.5	<0.5	<0.5	0.84	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	3.0 ^g 0.68 ^d 2.0 ^e 2.2 ^h 6.6 ^f
MW-4	11/18/10	168.40	--	--	<250	2,800	26,000	2,800	1,500	550	3,100	<50	210	<200	<50	<50	<50	<50	<50	790 ⁱ 210 ^j

Abbreviations and Notes:

-- = Not analyzed

<x = Not detected above the method detection limit x.

Total purgeable petroleum hydrocarbons (TPPH) by EPA Method 8260B

Total petroleum hydrocarbons as motor oil (TPH_{mo}), TPH as diesel (TPH_d), and TPH as gasoline (TPH_g) by modified EPA Method 8015B

Benzene, Toluene, Ethylbenzene, Xylenes by EPA Method 8260B

Methyl tertiary butyl ether (MTBE), di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), 1,2 dichloroethane (1,2-DCA), tertiary butyl alcohol (TBA), naphthalene by EPA Method 8260B

Volatile organic compounds (VOCs) by EPA Method 8260B

a =

b = n-butyl benzene

c = 4-isopropyl toluene

d = Sec-butyl benzene

e = Isopropylbenzene

f = n-propyl benzene

g = 2-butanone

h = 4-methyl-2-pentanone

i = 1,2,4-trimethylbenzene

j = 1,3,5-trimethylbenzene

* = Laboratory reported that the total purgeable petroleum hydrocarbons detected did not appear to be gasoline and an unidentified peak in chromatogram refers to the MTBE range.