CONESTOGA-ROVERS & ASSOCIATES

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Emeryville, California 94608
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www.CRAworld.com

TRANSMITTAL

DATE: June 19, 2013

REFERENCE NO.: 240733

PROJECT NAME: 2120 Montana Street, Oakland

TO: Jerry Wickham
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

RECEIVED
By Alameda County Environmental Health at 4:06 pm, Jun 20, 2013

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

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QUANTITY	DESCRIPTION
1	Closure Request

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

COMMENTS:
If you have any questions regarding the content of this document, please call the CRA project manager Peter Schaefer at (510) 420-3319 or the Shell program manager Perry Pineda at (425) 413-1164.

Copy to: Perry Pineda, Shell Oil Products US (electronic copy)
Bhushan Bansal, Bansal, Inc., (property owner), 2120 Montana Street, Oakland, CA 94602-2218

Completed by: Peter Schaefer Signed: Peter Schaefer

Filing: **Correspondence File**

Shell Oil Products US
Soil and Groundwater Focus Delivery Group
20945 S. Wilmington Avenue
Carson, CA 90810
Tel (425) 413 1164
Fax (425) 413 0988
Email perry.pineda@shell.com
Internet http://www.shell.com

Mr. Jerry Wickham
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: 2120 Montana Street
Oakland, California
SAP Code 135675
Incident No. 98995740
ACEH Case No. RO0000173

Dear Mr. Wickham:

The attached document is provided for your review and comment. Upon information and belief, I declare, under penalty of perjury, that the information contained in the attached document is true and correct.

As always, please feel free to contact me directly at (425) 413-1164 with any questions or concerns.

Sincerely,
Shell Oil Products US

Perry Pineda
Senior Environmental Program Manager

CLOSURE REQUEST

SHELL-BRANDED SERVICE STATION
2120 MONTANA STREET
OAKLAND, CALIFORNIA

SAP CODE	135675
INCIDENT NO.	98995740
AGENCY NO.	RO0000173

Prepared by:
Conestoga-Rovers & Associates

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JUNE 19, 2013
REF. NO. 240733 (18)
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1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) prepared this request on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell).

The subject site is an active Shell-branded service station located at the northwest corner of Montana Street and Fruitvale Avenue in Oakland, California (Figure 1). Commercial properties lie to the north and east of the site, and residential properties lie to the west. Montana Street, a freeway on-ramp, and Interstate 580 are located south of the site. The site layout includes a station kiosk, a dispenser island, and three fuel underground storage tanks (USTs) (Figure 2).

A summary of previous work performed at the site is contained in Appendix A. Historical groundwater data are presented on Tables 1 and 2, historical soil analytical data are presented on Table 3, and historical soil vapor analytical data are presented in Table 4. Groundwater data from first quarter 2013 is shown on Figure 3. Selected constituent of concern (COC) concentration trends in groundwater are presented in Figures 4 through 7.

2.0 LOW-RISK CASE CRITERIA

Site data demonstrate that the site conditions meet the low-risk groundwater case criteria outlined in the San Francisco Bay Regional Water Quality Control Board's (RWQCB's) January 5, 1996 *Regional Board Supplemental Instructions to State Water Board December 8, 1995, Interim Guidance on Required Cleanup at Low-Risk Fuel Sites.* These criteria are addressed below.

Note that the RWQCB Groundwater Committee's June 1999 *East Bay Plain Groundwater Basin Beneficial Use Evaluation Report for Alameda and Contra Costa Counties, CA* states that the City of Oakland (among other cities) "does not have plans to develop local groundwater resources for drinking water purposes, because of existing or potential saltwater intrusion, contamination, or poor or limited quantity." Although groundwater in this area cannot be precluded from being a potential future source of drinking water, it is not currently a source of drinking water, and given the shallow depth, it is unlikely that the first water-bearing zone would be used as a source of drinking water. Thus,

RWQCB non-drinking water environmental screening levels (ESLs)[1] are the appropriate screening levels for this site.

2.1 THE LEAK HAS BEEN STOPPED AND ONGOING SOURCES HAVE BEEN REMOVED OR REMEDIATED

No active leak has been identified. In November 2003, a small crack was found and repaired in the regular-grade UST. Facility upgrades and dispenser modifications were completed in 1997 and 2004; as noted above, a UST was repaired in 2003; and the USTs, piping, and dispensers were replaced in 2012. From April 2003 to March 2007, Cambria Environmental Technology, Inc. (Cambria) conducted groundwater extraction (GWE), initially from wells MW-1 and TBW-N and beginning in April 2006, from EW-1 and EW-2. GWE operation and mass removal data are presented in Appendix B. Total petroleum hydrocarbons as gasoline (TPHg) and benzene concentrations in groundwater are decreasing, and toluene, ethylbenzene, total xylenes, methyl tertiary-butyl alcohol (MTBE), and tertiary-butyl alcohol (TBA) have not been detected in groundwater samples at concentrations exceeding RWQCB ESLs for groundwater where groundwater is not a potential source of drinking water during the last two groundwater monitoring events, indicating that there is no ongoing source.

2.2 THE SITE HAS BEEN ADEQUATELY CHARACTERIZED

2.2.1 GROUNDWATER

Historical data from monitoring wells MW-1 through MW-5, grab groundwater samples from borings SB-1, SB-2, SB-6, and SB-8, and UST excavation grab groundwater sample TW adequately define benzene, toluene, ethylbenzene, and total xylenes (BTEX), MTBE, and TBA impacts horizontally in groundwater to below applicable ESLs, with the exception of benzene in MW-2. It should be noted that the ESL document states that "TPH ESLs must be used in conjunction with ESLs for related chemicals," in this case BTEX, MTBE, and TBA. As shown in Figure 5, benzene concentrations in well MW-2 are declining and are expected to reach the RWQCB ESL by October 2014.

Further delineation of the TPHg and benzene plumes is not possible due to the Interstate 580 on-ramp and freeway located immediately down gradient (south) of the

1 *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater*, California Regional Water Quality Control Board, Interim Final – November 2007 [Revised May 2008] – Updated May 2013

site. Typical TPHg and benzene plumes are less than 250 feet long[2], so additional investigation on the south side of the freeway, likely 450 feet south of the site, is not warranted.

The source area has been adequately characterized by data from monitoring wells MW-1, MW-2, MW-4, and MW-5 (SB-8), tank backfill well TBW-N, and grab groundwater samples from borings SB-3, SB-4, and SB-5. Groundwater samples from monitoring wells and grab groundwater samples collected from the UST complex area have contained concentrations of TPHg, BTEX, and MTBE which exceeded the ESLs. Groundwater monitoring data from the first quarter of 2013 (Figure 3 and Table 1) indicate that only TPHg and benzene in well MW-2 and TPHg in MW-5 currently exceed the ESLs.

2.2.2 SOIL

The source area has been adequately characterized by soil samples collected during 2012 fuel system replacement, 1997 and 2004 fuel system upgrades, and other subsurface investigations.

Analyses of shallow soil samples (less than 10 feet below grade [fbg]) have shown that BTEX and fuel oxygenate detections are below commercial ESLs, with the exceptions listed in the following table.

TABLE A

Sample Location/Year	*Analyte*	*Concentration*	*Commercial ESL*
D-2 at 4 fbg/2004	TPHg	1,900 mg/kg	420 mg/kg
	Benzene	1.7 mg/kg	1.2 mg/kg
	Ethylbenzene	21 mg/kg	4.7 mg/kg
	Total Xylenes	57 mg/kg	11 mg/kg
DP-1 at 4.5 fbg/2012	TPHg	1,300 mg/kg	420 mg/kg
	Total Xylenes	13 mg/kg	11 mg/kg

Note: mg/kg = Milligrams per kilogram

No deeper soil samples contained COC concentrations which exceeded commercial ESLs.

---

2 *Technical Justification for Groundwater Plume Lengths, Indicator Constituents, Concentrations, and Buffer Distances (Separation Distances) to Receptors,* California State Water Resources Control Board, July 12, 2011

2.3 THE DISSOLVED HYDROCARBON PLUME IS NOT MIGRATING

As discussed above, toluene, ethylbenzene, total xylenes, MTBE, and TBA detections are horizontally defined below ESLs and the benzene concentration in the only well (MW-2) that exceeds the ESL is steadily declining, demonstrating that the plume is not migrating. Figures 4 through 7 demonstrate that TPHg and benzene concentrations will reach ESLs in all wells by August 2020.

2.4 MINIMAL GROUNDWATER IMPACT CURRENTLY EXISTS, FEW CONTAMINANTS ARE FOUND AT LEVELS ABOVE ESTABLISHED MCLS OR OTHER APPLICABLE WATER-QUALITY OBJECTIVES

Maximum groundwater concentrations from samples collected during the first quarter of 2013 are compared with drinking water ESLs in the following table.

TABLE B

COCs	*Current Maximum Concentrations in Site Groundwater (2/20/13) Units in µg/L*	*ESLs Where Groundwater is not a Potential Source of Drinking Water (Tables B and D) Units in µg/L*
TPHg	**5,300**	500
Benzene	**34**	27
Toluene	6.7	130
Ethylbenzene	16	43
Total Xylenes	28	100
MTBE	22	1,800
TBA	590	18,000

Note: µg/L = Micrograms per liter

During the first quarter of 2013, all groundwater detections were below applicable ESLs with the exception of TPHg and benzene in well MW-2 and TPHg in MW-5. As stated above, the ESL document states that "TPH ESLs must be used in conjunction with ESLs for related chemicals", in this case BTEX, MTBE, and TBA. Figures 4 through 7 show TPHg concentrations in groundwater versus time for wells MW-1, MW-2, MW-5, and EW-1, and Figure 5 also shows benzene concentrations in groundwater versus time for MW-2.

2.5 NO WATER WELLS, DEEPER DRINKING WATER AQUIFERS, SURFACE WATER, OR OTHER SENSITIVE RECEPTORS ARE LIKELY TO BE IMPACTED

Cambria's September 24, 2001 *Sensitive Receptor Survey, Well Survey, and Conduit Study* did not identify any water-producing wells within one-half mile of the site. The closest surface water body is an engineered channel of Sausal Creek, which is located approximately 240 feet cross gradient to the west-northwest of the site at its closest point and runs approximately 730 feet from the site in the down-gradient direction (southwest).

Since the flow line of the creek is shallower than the typical depth to groundwater at the site, it is unlikely that the creek would be impacted by residual soil and groundwater impacts at the site.

2.6 THE SITE PRESENTS NO SIGNIFICANT RISK TO HUMAN HEALTH OR THE ENVIRONMENT

No formal risk assessment has been performed for the site. A discussion of potential risks associated with COCs in groundwater, soil vapor, and soil is presented below.

2.6.1 GROUNDWATER

During the last two groundwater monitoring events, all groundwater concentrations of toluene, ethylbenzene, total xylenes, MTBE, and TBA were below the ESLs where groundwater is not a current or potential drinking water source, demonstrating that they do not pose a risk to human health or the environment. The only current exceedences of ESLs are for TPHg in wells MW-2 and MW-5 and benzene in MW-2. As noted above, although groundwater in this area cannot be precluded from being a potential future source of drinking water, it is not currently a source of drinking water, and given the shallow depth, it is highly unlikely that the first water-bearing zone on site would be used as a source of drinking water.

2.6.2 SOIL VAPOR

In August 2005, July 2007, and April 2009, Cambria and/or CRA collected soil vapor samples from 5 and 10 fbg in probes SV-D and SV-E located on site near the closest potential soil vapor receptor (the residence at 2110 Montana Avenue, Oakland). As

shown in Table 4, all COC concentrations in soil vapor samples from the probes screened at 5 fbg were below residential and commercial soil vapor ESLs. Soil vapor samples from the probes screened at 10 fbg contained up to 78,000,000 micrograms per cubic meter ($\mu g/m^3$) TPHg and 46,000 $\mu g/m^3$ benzene. The TPHg and benzene concentrations attenuated up to three orders of magnitude from 10 fbg to 5 fbg. In addition, soil vapor concentrations for samples collected at 5 fbg from SV-D and SV-E were below the ESLs for shallow soil gas in a residential setting. No MTBE or TBA was detected in the soil vapor samples. These data and site conditions suggest that soil concentrations are unlikely to present significant risk to human health to on- or off-site receptors.

As stated in California State Water Resources Control Board's *Low-Threat Underground Storage Tank Closure Policy*, "Exposures to petroleum vapors associated with historical fuel system releases are comparatively insignificant relative to exposures from small surface spills and fugitive vapor releases that typically occur at active fueling facilities. Therefore, satisfaction of the media-specific criteria for petroleum vapor intrusion to indoor air is not required at active commercial petroleum fueling facilities, except in cases where release characteristics can be reasonably believed to pose an unacceptable health risk." Because vadose zone soil impacts above ESLs are limited to depths below 5 fbg, there is little potential for soil vapor migration to impact on-site workers and potential future occupants of the site. Since the air-exchange from customers entering and exiting the station building during all business hours would not allow for significant buildup of vapors from subsurface migration, inhalation risk from vapor intrusion is considered to be low. It is anticipated that the site will remain a service station. This station is part of a service station sale with contract provisions for long-term use of the Shell Brand and specific restrictions on site development to commercial uses excluding child day care, elder care, or other similar sensitive uses.

2.6.3 SOIL

As shown in the following table, vadose zone soil concentrations of toluene, MTBE, and TBA (based on 30 samples) do not exceed the commercial land use ESL for shallow soils (less than 10 fbg). Total xylenes detections exceed ESLs in two samples, and single detections of benzene and ethylbenzene exceed the ESLs. These detections are limited to the area of the dispenser island.

TABLE C		
COCs	*Vadose Zone Soil Sample Maximum Concentrations* *Units in mg/kg*	*ESLs for Soils Where Groundwater is Not a Source of Drinking Water, Commercial Land Use (Tables B and D)* *Units in mg/kg*
TPHg	**1,900** D-2-4.0/2004	500
Benzene	**1.7** D-2-4.0/2004	1.2
Toluene	0.14 D-3 at 5 fbg/1997	9.3
Ethylbenzene	**21** D-2-4.0/2004	4.7
Total Xylenes	**57** D-2-4.0/2004	11
MTBE	5.80 D-2-4.0/2004	8.4
TBA	**0.53** SB-5-5/2005	110

The site is paved, so the only direct exposures would likely occur during construction at the station. Any worker doing trenching or excavating at a current or former gasoline station would be properly trained, prepared for encountering potentially impacted soil, and wear personal protective equipment, as necessary. Therefore, the residual impacted soils do not appear to pose a significant threat to construction workers who may occasionally come in contact with the potentially impacted soils on site, and any work at this site would require contractors to have appropriate health and safety training to perform the work.

3.0 CLOSURE REQUEST

The site is likely to remain in use as a service station. This station is part of a service station sale with contract provisions for long-term use of the Shell Brand and specific restrictions on site development to commercial uses excluding child day care, elder care, or other similar sensitive uses. Given the concentrations of COCs in site soil and groundwater compared to the ESLs as presented above, CRA concludes that the residual petroleum and fuel oxygenate impacts at this site pose very little or no risk to human health or the environment.

This site meets the RWQCB criteria for a low-risk fuel site. Therefore, on behalf of Shell, we respectfully request closure of this case. CRA requests that Alameda County

Environmental Health suspend the groundwater monitoring program during the closure review.

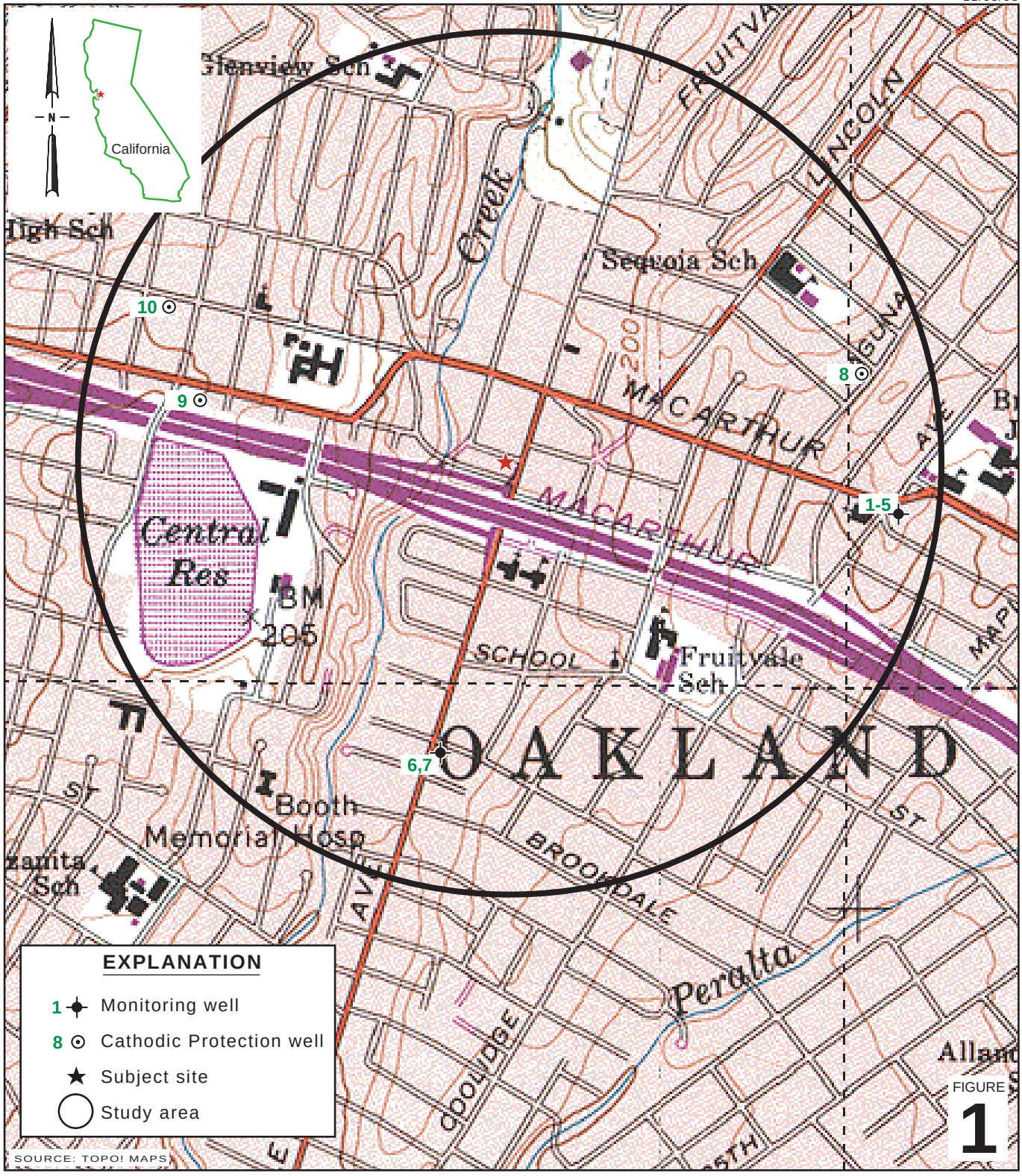
All of Which is Respectfully Submitted,
CONESTOGA-ROVERS & ASSOCIATES

Peter Schaefer, CHG, CEG

Aubrey K. Cool, PG

FIGURES

11/05/08



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0 1/6 1/3 1/2 1

SCALE : 1" = 1/6 MILE

FIGURE 1

Shell-branded Service Station
2120 Montana Street
Oakland, California

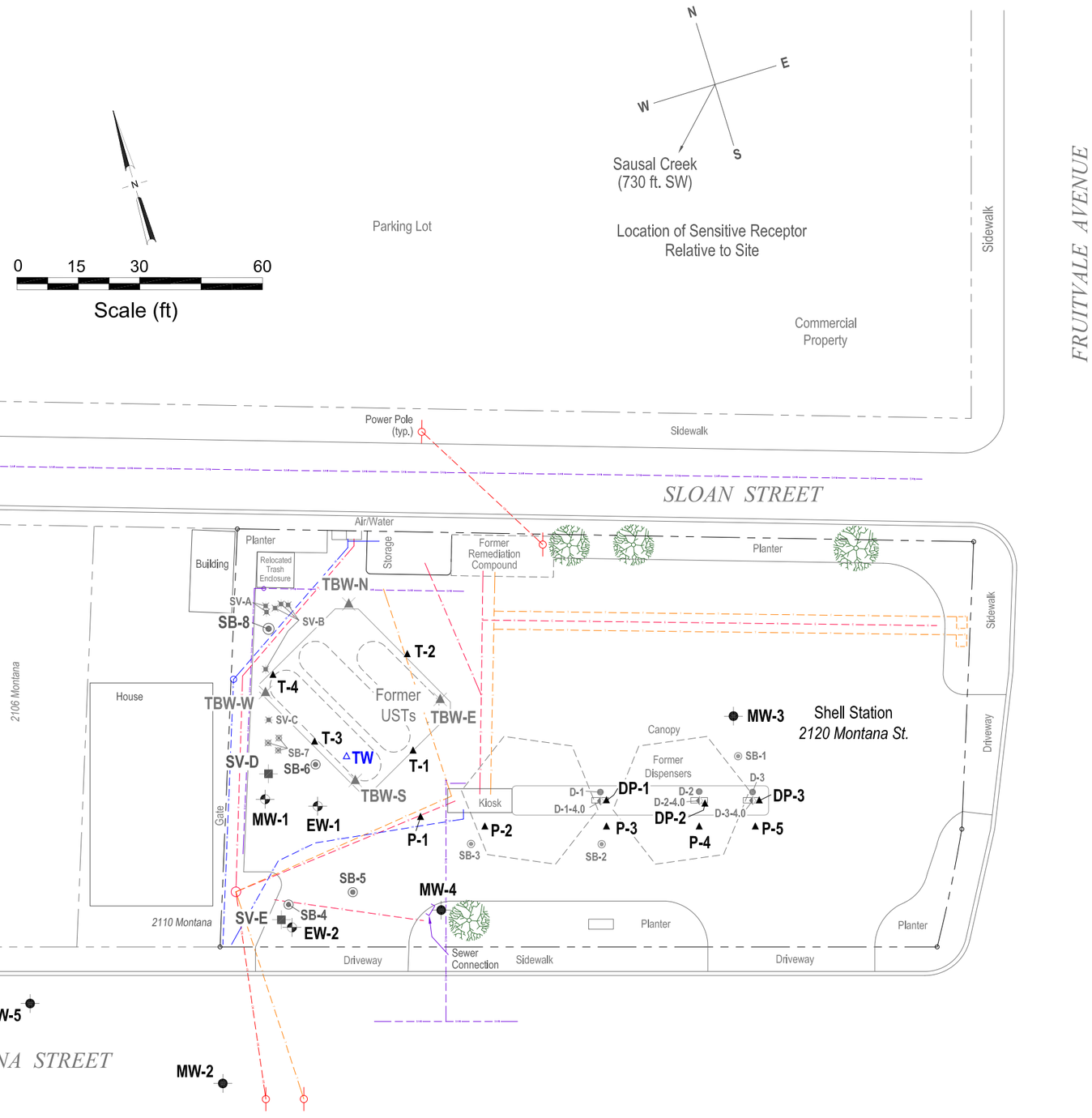
CONESTOGA-ROVERS & ASSOCIATES

Vicinity Map

03/15/2013

EXPLANATION

- DP-1 ▲ Soil sample location (CRA, 2012)
- TW △ Grab groundwater sample location (CRA, 2012)
- EW-1 Extraction well location
- MW-1 Monitoring well formerly used for groundwater extraction
- MW-2 Monitoring well location
- TBW-E Destroyed tank backfill well location
- SB-4 Soil boring location (Cambria, 2005)
- SB-7 Attempted soil boring location (Cambria, 2005)
- SV-D Soil vapor sampling location (Cambria, 2005)
- SV-A Attempted soil vapor sampling location (Cambria, 2005)
- D-1-4.0 Soil sample location (Cambria, 2004)
- SB-1 Soil boring location (Cambria, 1999)
- D-1 Soil sample location (Cambria, 1997)
- Electrical line (E)
- Overhead electric line (OE)
- Sanitary sewer (SS)
- Water line (W)
- Telecommunications line (T)



Site Plan

CONESTOGA-ROVERS & ASSOCIATES

Shell-branded Service Station
2120 Montana Street
Oakland, California

FIGURE
2

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05/28/2013

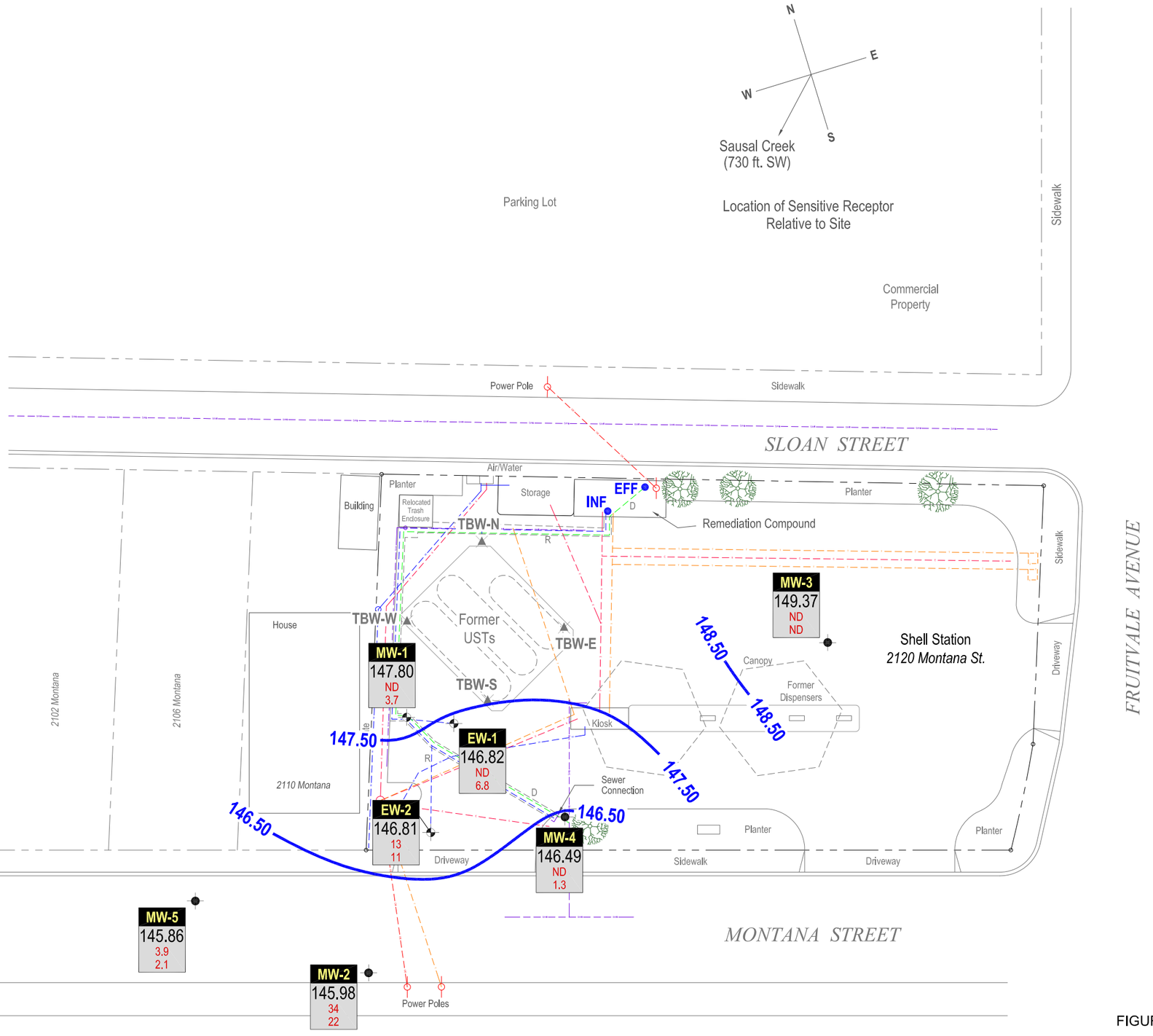
EXPLANATION

- EW-1 — Extraction well location
- MW-1 — Monitoring well formerly used for groundwater extraction
- MW-2 — Monitoring well location
- TBW-E — Destroyed tank backfill well location
- Electrical line (E)
- Overhead electric line (OE)
- Sanitary sewer (SS)
- Water line (W)
- Telecommunications line (T)
- XX.XX — Groundwater elevation contour, in feet above mean sea level (ft MSL)

Well
ELEV
Benzene
MTBE

- Well designation
- Groundwater elevation, in ft MSL
- Benzene and MTBE concentrations are in micrograms per liter

Notes:
ND = Not detected



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Groundwater Contour and Chemical Concentration Map

February 20, 2013

CONESTOGA-ROVERS & ASSOCIATES

Shell-branded Service Station

2120 Montana Street
Oakland, California

FIGURE
3

Predicted Time to Water Quality Objectives in Well MW-1

Shell-Branded Service Station, 2120 Montana Ave, Oakland, California

$y = b\,e^{ax}$ ===> $x = \ln(y/b) / a$

where: y = concentration in µg/L; a = decay constant
b = concentration at time (x); x = time (x) in days

		Consituent: Total Petroleum Hydrocarbons as Gasoline (TPHg)
Given		
Water Quality Objective (WQO):	y	500
Constant:	b	1.75E+13
Constant:	a	-5.91E-04
Starting date for current trend:		6/14/2007
Calculate		
Attenuation Half Life (years):	(-ln(2)/a)/365.25	3.21
Estimated Date to Reach WQO:	(x = ln(y/b) / a)	Jul 2016

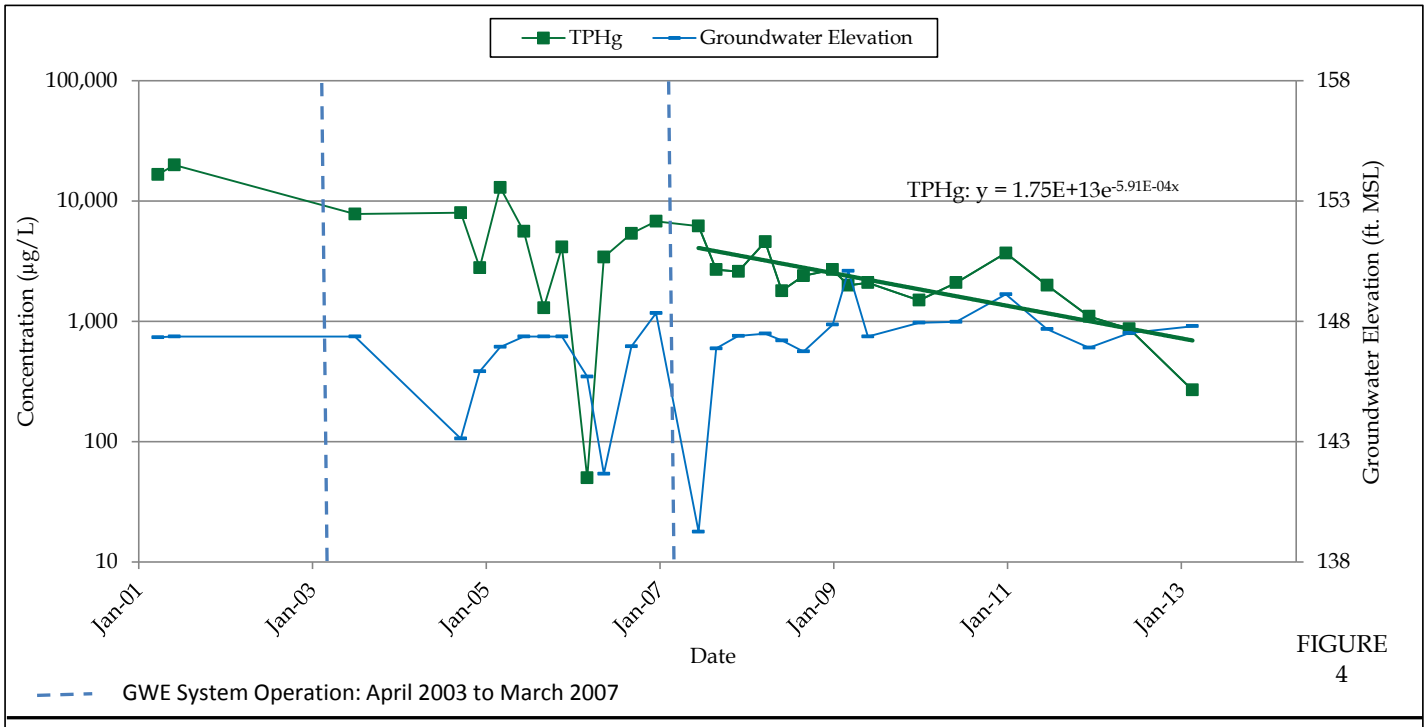

FIGURE 4

SHELL-BRANDED SERVICE STATION
2120 MONTANA AVENUE
OAKLAND, CALIFORNIA

CONESTOGA-ROVERS & ASSOCIATES

MW-1: TPHG CONCENTRATIONS AND GROUNDWATER ELEVATIONS

Predicted Time to Water Quality Objectives in Well MW-2

Shell-Branded Service Station, 2120 Montana Ave, Oakland, California

$y = b\,e^{ax}$ ===> $x = \ln(y/b) / a$

where: y = concentration in µg/L; a = decay constant
b = concentration at time (x); x = time (x) in days

	Consituent	Total Petroleum Hydrocarbons as Gasoline (TPHg)	Benzene
Given			
Water Quality Objective (WQO):	y	500	27
Constant:	b	2.43E+19	4.00E+14
Constant:	a	-9.02E-04	-8.00E-04
Starting date for current trend:		8/27/2007	8/27/2007
Calculate			
Attenuation Half Life (years):	(-ln(2)/a)/365.25	2.10	2.37
Estimated Date to Reach WQO:	(x = ln(y/b) / a)	Aug 2020	Oct 2014

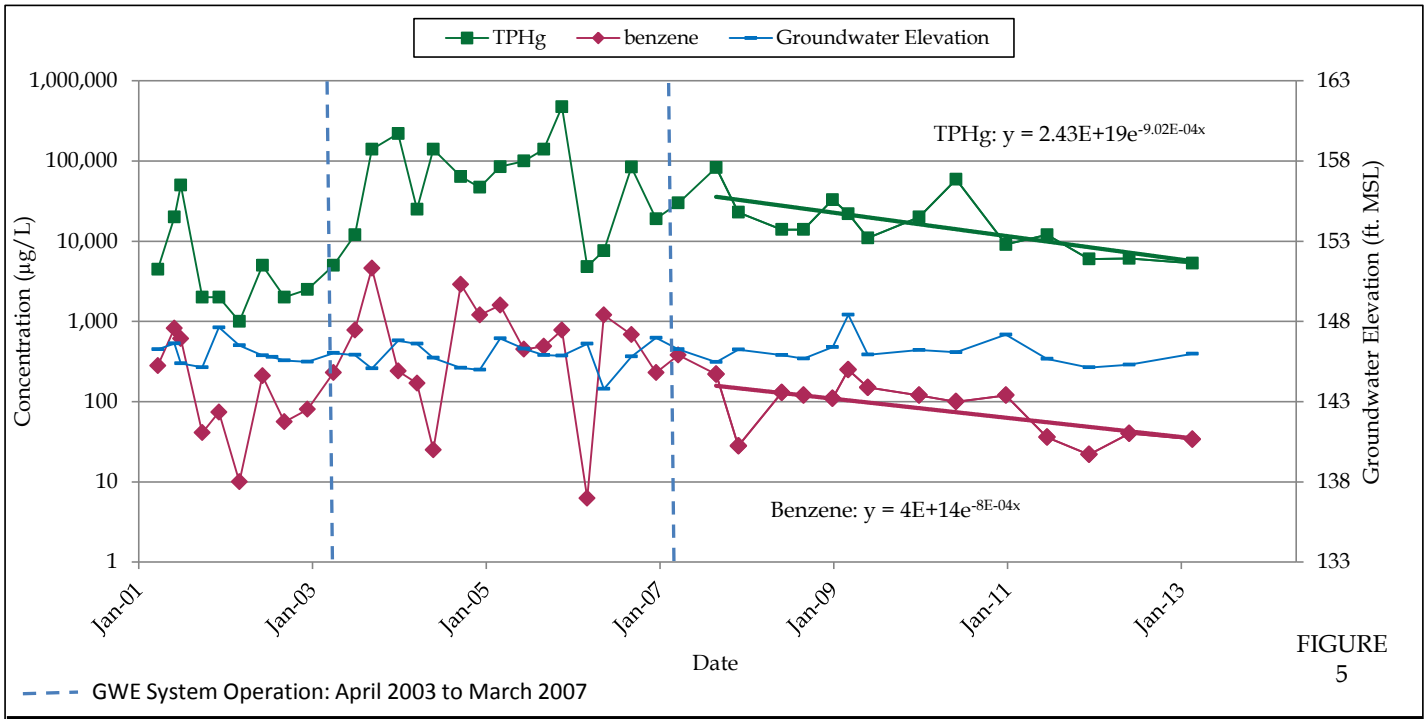

FIGURE 5

SHELL-BRANDED SERVICE STATION
2120 MONTANA AVENUE
OAKLAND, CALIFORNIA

CONESTOGA-ROVERS & ASSOCIATES

MW-2: TPHG AND BENZENE CONCENTRATIONS AND GROUNDWATER ELEVATIONS

Predicted Time to Water Quality Objectives in Well MW-5

Shell-Branded Service Station, 2120 Montana Ave, Oakland, California

$y = b\,e^{ax}$ ===> $x = \ln(y/b) / a$

where: y = concentration in µg/L; a = decay constant
b = concentration at time (x); x = time (x) in days

		Consituent: Total Petroleum Hydrocarbons as Gasoline (TPHg)
Given		
Water Quality Objective (WQO):	y	500
Constant:	b	4.29E+08
Constant:	a	-3.27E-04
Starting date for current trend:		6/14/2007
Calculate		
Attenuation Half Life (years):	(-ln(2)/a)/365.25	5.80
Estimated Date to Reach WQO:	(x = ln(y/b) / a)	Apr 2018

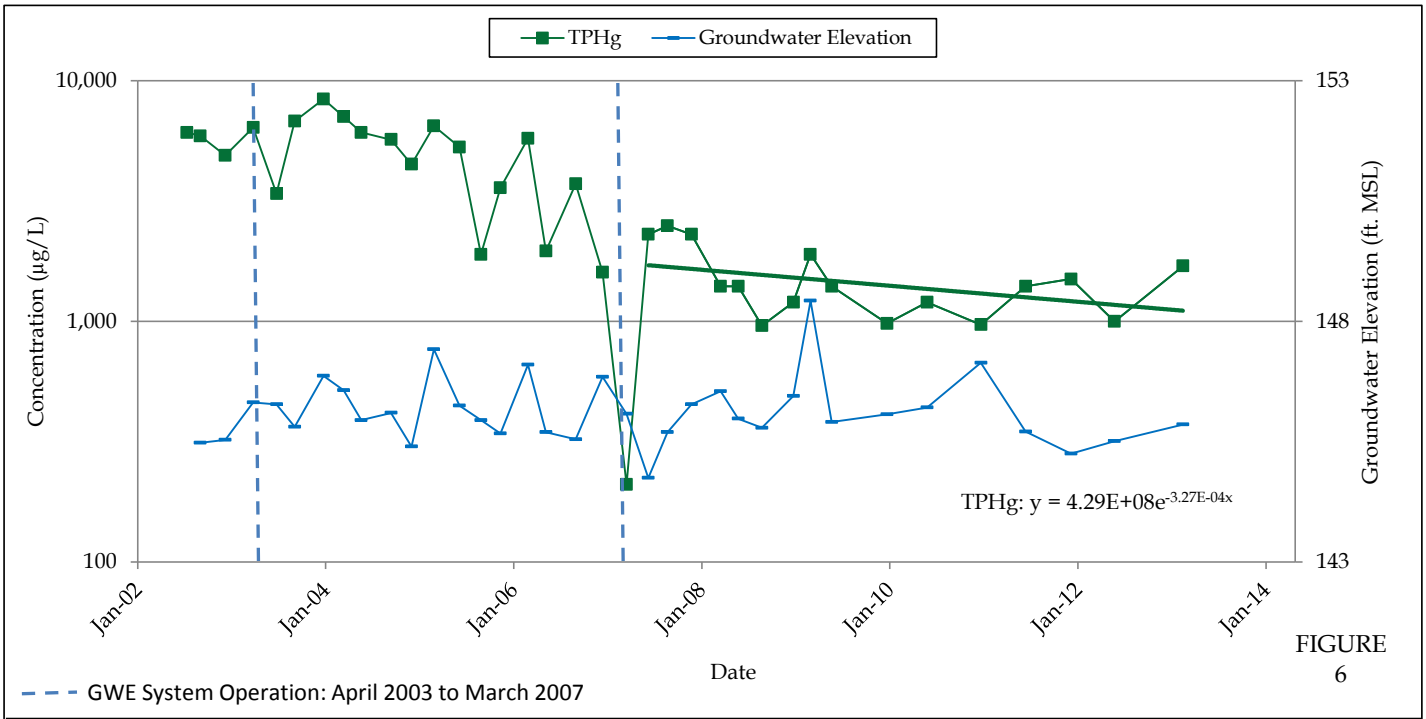

FIGURE 6

SHELL-BRANDED SERVICE STATION
2120 MONTANA AVENUE
OAKLAND, CALIFORNIA

CONESTOGA-ROVERS & ASSOCIATES

MW-5: TPHG CONCENTRATIONS AND GROUNDWATER ELEVATIONS

Predicted Time to Water Quality Objectives in Well EW-1

Shell-Branded Service Station, 2120 Montana Ave, Oakland, California

$y = b\,e^{ax}$ ===> $x = \ln(y/b) / a$

where: y = concentration in µg/L; a = decay constant
b = concentration at time (x); x = time (x) in days

	Consituent	Total Petroleum Hydrocarbons as Gasoline (TPHg)
Given		
Water Quality Objective (WQO):	y	500
Constant:	b	1.11E+21
Constant:	a	-1.05E-03
Starting date for current trend:		11/29/2007
Calculate		
Attenuation Half Life (years):	(-ln(2)/a)/365.25	1.80
Estimated Date to Reach WQO:	(x = ln(y/b) / a)	Sep 2013

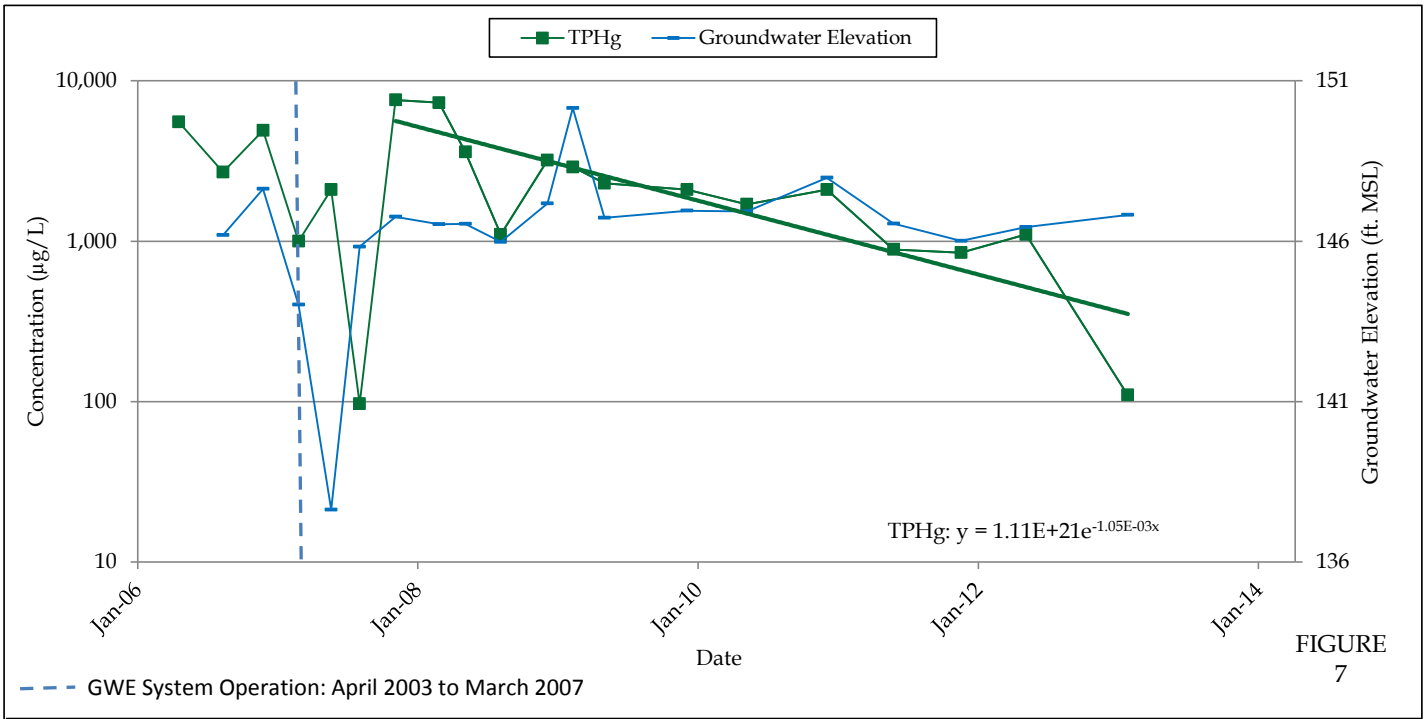

FIGURE 7

SHELL-BRANDED SERVICE STATION
2120 MONTANA AVENUE
OAKLAND, CALIFORNIA

CONESTOGA-ROVERS & ASSOCIATES

EW-1: TPHG CONCENTRATIONS AND GROUNDWATER ELEVATIONS

TABLES

TABLE 1

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
2120 MONTANA STREET, OAKLAND, CALIFORNIA

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	GW Elevation (ft MSL)	SPH Thickness (ft)
MW-1	03/19/2001	---	---	---	---	---	---	---	---	---	---	159.59	12.14	147.45	---
MW-1	03/23/2001	16,600	753	1,720	407	2,330	27,500	---	---	---	---	159.59	12.25	147.34	---
MW-1	05/31/2001	<20,000	1,000	920	490	2,000	54,000	---	---	---	---	159.59	12.22	147.37	---
MW-1	06/27/2001	---	---	---	---	---	---	---	---	---	---	159.59	13.00 a	---	---
MW-1	07/09/2001	---	---	---	---	---	---	---	---	---	---	159.59	13.17	146.67	0.31
MW-1	09/25/2001	---	---	---	---	---	---	---	---	---	---	159.59	14.27	145.66	0.43
MW-1	11/20/2001	---	---	---	---	---	---	---	---	---	---	159.59	13.49	146.14	0.05
MW-1	12/05/2001	---	---	---	---	---	---	---	---	---	---	159.59	11.32	148.31	0.05
MW-1	03/01/2002	---	---	---	---	---	---	---	---	---	---	159.59	13.22	146.56	0.24
MW-1	06/06/2002	---	---	---	---	---	---	---	---	---	---	159.59	12.99	147.00	0.50
MW-1	07/16/2002	---	---	---	---	---	---	---	---	---	---	159.59	13.37	146.22	---
MW-1	09/06/2002	---	---	---	---	---	---	---	---	---	---	159.57	13.30	146.70	0.54
MW-1	12/12/2002	---	---	---	---	---	---	---	---	---	---	159.57	13.78	146.61	1.03
MW-1	03/31/2003	---	---	---	---	---	---	---	---	---	---	159.57	11.21	148.38	0.03
MW-1	06/30/2003	7,800	<25	37	<25	380	2,000	---	---	---	---	159.57	12.20	147.37	---
MW-1	09/09/2003	---	---	---	---	---	---	---	---	---	---	159.08	15.70	145.28	2.38
MW-1	12/29/2003	---	---	---	---	---	---	---	---	---	---	159.08	11.25	147.89	0.07
MW-1	03/17/2004	---	---	---	---	---	---	---	---	---	---	159.08	11.80	147.40	0.15
MW-1	05/24/2004	---	---	---	---	---	---	---	---	---	---	159.08	12.42	146.71	0.06
MW-1	09/17/2004	8,000	530	380	330	960	1,100	4,100	<20	<20	<20	159.08	15.95	143.13	---
MW-1	12/06/2004	2,800	150	<5.0	120	120	300	---	---	---	---	159.08	13.15	145.93	---
MW-1	03/02/2005	13,000	490	710	360	2,200	5,000	---	---	---	---	159.08	12.14	146.94	---
MW-1	06/10/2005	5,600	210	120	120	910	3,100	---	---	---	---	159.08	---	---	<0.01
MW-1	09/01/2005	<1,300	73	<13	30	42	2,400	13,000	<50	<50	<50	159.08	11.71	147.37	---
MW-1	11/16/2005	4,150	62.7	10.9	45.2	98.9	845	---	---	---	---	159.08	11.71	147.37	---
MW-1 c	03/03/2006	<50.0	<0.500	<0.500	<0.500	<0.500	0.790	<10.0	---	---	---	159.08	13.37	145.71	---
MW-1	05/12/2006	3,430	80.0	0.530	26.8	71.9	154	1,040	---	---	---	159.08	17.41	141.67	---
MW-1	09/05/2006	5,390	24.8	2.44	6.69	22.2	106	4,860	<0.500	<0.500	<0.500	159.08	12.12	146.96	---
MW-1	12/18/2006	6,800	120	28	110	840	1,100	5,400	---	---	---	159.08	10.74	148.34	---
MW-1	03/21/2007	Well inaccessible		---	---	---	---	---	---	---	---	159.08	---	---	---

TABLE 1

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
2120 MONTANA STREET, OAKLAND, CALIFORNIA

Well ID	*Date*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE (µg/L)*	*TBA (µg/L)*	*DIPE (µg/L)*	*ETBE (µg/L)*	*TAME (µg/L)*	*TOC (ft MSL)*	*Depth to Water (ft TOC)*	*GW Elevation (ft MSL)*	*SPH Thickness (ft)*
MW-1	06/14/2007	6,200	18	<5.0	11	4.6 e	68	1,800	---	---	---	159.08	19.82	139.26	---
MW-1	08/27/2007	2,700 f	13	<5.0	3.9 e	5.6 e	54	1,200	<10	<10	<10	159.08	12.20	146.88	---
MW-1	11/29/2007	2,600 f	20	1.9 e	8.3	29.4	350	4,100	---	---	---	159.08	11.68	147.40	---
MW-1	03/21/2008	4,600	42	<5.0	120	94	300	3,200	---	---	---	159.08	11.59	147.49	---
MW-1	05/29/2008	1,800	11	<5.0	<5.0	<5.0	150	3,900	---	---	---	159.08	11.87	147.21	---
MW-1	08/29/2008	2,400	42	<5.0	23	<5.0	320	4,700	<10	<10	<10	159.08	12.33	146.75	---
MW-1	12/29/2008	2,700	30	<5.0	28	45	460	3,300	---	---	---	159.08	11.21	147.87	---
MW-1	03/05/2009	2,000	15	<5.0	<5.0	66	83	980	---	---	---	159.08	8.98	150.10	---
MW-1	05/27/2009	2,100	25	<1.0	69	52	220	2,500	---	---	---	159.08	11.71	147.37	---
MW-1	12/28/2009	1,500	8.5	<2.0	8.8	7.4	140	1,800	<4.0	<4.0	<4.0	159.08	11.13	147.95	---
MW-1	06/02/2010	2,100	22	<2.0	73	51	140	2,600	---	---	---	159.08	11.10	147.98	---
MW-1	12/28/2010	3,700	26	<2.0	69	260	100	1,400	<4.0	<4.0	<4.0	159.08	9.95	149.13	---
MW-1	06/20/2011	2,000	11	<0.50	93	120	64	1,400	---	---	---	159.08	11.40	147.68	---
MW-1	12/13/2011	1,100	1.14	<0.500	2.55	3.58	36.0	530	<0.500	<0.500	<0.500	159.08	12.17	146.91	---
MW-1	05/30/2012	870	1.8	<1.0	9.9	5.7	25	810	---	---	---	159.08	11.56	147.52	---
MW-1	**02/20/2013**	**270**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**3.7**	**200**	**<0.50**	**<0.50**	**<0.50**	**159.08**	**11.28**	**147.80**	**---**
MW-2	03/19/2001	---	---	---	---	---	---	---	---	---	---	158.03	11.60	146.43	---
MW-2	03/23/2001	4,450	280	41.0	62.1	63.0	16,600	---	---	---	---	158.03	11.76	146.27	---
MW-2	05/31/2001	<20,000	820	<200	<200	<200	63,000	---	---	---	---	158.03	11.40	146.63	---
MW-2	06/27/2001	<50,000	610	4.0	13	9.2	47,000	---	---	---	---	158.03	12.65	145.38	---
MW-2	09/25/2001	<2,000	41	<20	<20	<20	6,400	---	---	---	---	158.03	12.89	145.14	---
MW-2	12/05/2001	<2,000	74	<20	<20	<20	8,400	---	---	---	---	158.03	10.40	147.63	---
MW-2	03/01/2002	<1,000	<10	<10	<10	<10	2,900	---	---	---	---	158.03	11.52	146.51	---
MW-2	06/06/2002	<5,000	210	<50	<50	<50	23,000	---	---	---	---	158.03	12.15	145.88	---
MW-2	07/16/2002	---	---	---	---	---	---	---	---	---	---	158.03	12.25	145.78	---
MW-2	09/06/2002	<2,000	56	<20	<20	<20	11,000	---	---	---	---	158.01	12.44	145.57	---
MW-2	12/12/2002	<2,500	80	<25	<25	<25	13,000	---	---	---	---	158.01	12.53	145.48	---
MW-2	03/31/2003	<5,000	230	1,200	95	150	13,000	---	---	---	---	158.01	11.98	146.03	---
MW-2	06/30/2003	<12,000	780	<120	170	250	9,000	---	---	---	---	158.01	12.10	145.91	---

TABLE 1

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
2120 MONTANA STREET, OAKLAND, CALIFORNIA

Well ID	*Date*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE (µg/L)*	*TBA (µg/L)*	*DIPE (µg/L)*	*ETBE (µg/L)*	*TAME (µg/L)*	*TOC (ft MSL)*	*Depth to Water (ft TOC)*	*GW Elevation (ft MSL)*	*SPH Thickness (ft)*
MW-2	09/09/2003	140,000	4,600	40,000	4,800	32,000	11,000	---	---	---	---	158.01	12.94	145.07	---
MW-2	12/29/2003	220,000	240	4,800	2,900	19,000	1,000	---	---	---	---	158.01	11.20	146.81	---
MW-2	03/17/2004	25,000	170	390	280	1,400	1,500	---	---	---	---	158.01	11.40	146.61	---
MW-2	05/24/2004	140,000	<25	220	1,200	6,800	320	---	---	---	---	158.01	12.28	145.73	---
MW-2	09/17/2004	64,000	2,900	230	2,300	9,700	6,300	4,100	<100	<100	<100	158.01	12.90	145.11	---
MW-2	12/06/2004	47,000	1,200	46	1,300	6,000	3,900	---	---	---	---	158.01	13.02	144.99	---
MW-2	03/02/2005	85,000	1,600	81	1,900	6,900	2,500	---	---	---	---	158.01	11.06	146.95	---
MW-2	06/10/2005	100,000	450	<25	440	800	300	---	---	---	---	158.01	11.71	146.30	---
MW-2	09/01/2005	140,000 g	490	<25	550	850	110	1,900	<100	<100	<100	158.01	12.11	145.90	---
MW-2	11/16/2005	473,000 d	776	18.7	1,300	2,730	374	---	---	---	---	158.01	12.15	145.86	---
MW-2 c	03/03/2006	4,830	6.25	2.29	14.6	5.45	106	228	---	---	---	158.01	11.40	146.61	---
MW-2	05/12/2006	7,610	1,200	27.9	858	396	688	681	---	---	---	158.01	14.22	143.79	---
MW-2	09/05/2006	84,000	683	10.2	314	300	96.7	1,250	<0.500	<0.500	<0.500	158.01	12.20	145.81	---
MW-2	12/18/2006	19,000	230	6.2	130	64	94	1,600	---	---	---	158.01	11.03	146.98	---
MW-2	03/21/2007	30,000	380	31	460	290	95	1,700	---	---	---	158.01	11.75	146.26	---
MW-2	06/14/2007	Well inaccessible		---	---	---	---	---	---	---	---	158.01	---	---	---
MW-2	08/27/2007	83,000 f	220	8.7 e	99	24.5 e	<10	980	<20	<20	<20	158.01	12.54	145.47	---
MW-2	11/29/2007	23,000 f	28	<10	20	<10	<10	1,200	---	---	---	158.01	11.77	146.24	---
MW-2	03/21/2008	Well inaccessible		---	---	---	---	---	---	---	---	158.01	---	---	---
MW-2	05/29/2008	14,000	130	14	78	6.8	130	1,000	---	---	---	158.01	12.11	145.90	---
MW-2	08/29/2008	14,000	120	10	23	6.6	60	810	<10	<10	<10	158.01	12.32	145.69	---
MW-2	12/29/2008	33,000	110	<10	15	<10	58	890	---	---	---	158.01	11.61	146.40	---
MW-2	03/05/2009	22,000	250	55	130	60	130	1,200	---	---	---	158.01	9.60	148.41	---
MW-2	05/27/2009	11,000	150	20	110	49	110	740	---	---	---	158.01	12.08	145.93	---
MW-2	12/28/2009	20,000	120	9.5	16	11	85	720	<10	<10	<10	158.01	11.79	146.22	---
MW-2	06/02/2010	59,000	100	<20	36	<20	75	600	---	---	---	158.01	11.92	146.09	---
MW-2	12/28/2010	9,100	120	8.9	52	26	50	700	<10	<10	<10	158.01	10.84	147.17	---
MW-2	06/20/2011	12,000	36	8.8	28	21	68	570	---	---	---	158.01	12.34	145.67	---
MW-2	12/13/2011	6,000	21.9	2.15	2.98	4.19	27.6	307	<0.500	<0.500	<0.500	158.01	12.88	145.13	---
MW-2	05/30/2012	6,100	40	13	14	29	<5.0	550	---	---	---	158.01	12.71	145.30	---

TABLE 1

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
2120 MONTANA STREET, OAKLAND, CALIFORNIA

Well ID	*Date*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE (µg/L)*	*TBA (µg/L)*	*DIPE (µg/L)*	*ETBE (µg/L)*	*TAME (µg/L)*	*TOC (ft MSL)*	*Depth to Water (ft TOC)*	*GW Elevation (ft MSL)*	*SPH Thickness (ft)*
MW-2	**02/20/2013**	**5,300**	**34**	**6.7**	**16**	**28**	**22**	**380**	**<1.3**	**<1.3**	**<1.3**	**158.01**	**12.03**	**145.98**	**---**
MW-3	03/19/2001	---	---	---	---	---	---	---	---	---	---	161.13	11.42	149.71	---
MW-3	03/23/2001	<50.0	<0.500	<0.500	<0.500	<0.500	1.26	---	---	---	---	161.13	11.42	149.71	---
MW-3	05/31/2001	<50	<0.50	<0.50	<0.50	<0.50	<5.0	---	---	---	---	161.13	13.00	148.13	---
MW-3	06/27/2001	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---	161.13	12.32	148.81	---
MW-3	09/25/2001	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---	161.13	12.50	148.63	---
MW-3	12/05/2001	<50	<0.50	<0.50	<0.50	<0.50	<5.0	---	---	---	---	161.13	10.13	151.00	---
MW-3	03/01/2002	<50	<0.50	<0.50	<0.50	0.73	<5.0	---	---	---	---	161.13	11.63	149.50	---
MW-3	06/06/2002	<50	<0.50	<0.50	<0.50	<0.50	<5.0	---	---	---	---	161.13	11.55	149.58	---
MW-3	07/16/2002	---	---	---	---	---	---	---	---	---	---	161.13	11.72	149.41	---
MW-3	09/06/2002	<50	<0.50	<0.50	<0.50	<0.50	<5.0	---	---	---	---	161.11	12.24	148.87	---
MW-3	12/12/2002	<50	<0.50	<0.50	<0.50	<0.50	<5.0	---	---	---	---	161.11	12.18	148.93	---
MW-3	03/31/2003	<50	<0.50	<0.50	<0.50	<1.0	0.78	---	---	---	---	161.11	11.94	149.17	---
MW-3	06/30/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	---	---	---	---	161.11	12.50	148.61	---
MW-3	09/09/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	---	---	---	---	161.11	12.55	148.56	---
MW-3	12/29/2003	<50	<0.50	<0.50	<0.50	<1.0	0.70	---	---	---	---	161.11	10.90	150.21	---
MW-3	03/17/2004	<50	<0.50	<0.50	<0.50	<1.0	2.1	---	---	---	---	161.11	11.63	149.48	---
MW-3	05/24/2004	<50	<0.50	<0.50	<0.50	1.0	0.96	---	---	---	---	161.11	11.32	149.79	---
MW-3	09/17/2004	<50	<0.50	<0.50	<0.50	1.0	2.6	<5.0	<2.0	<2.0	<2.0	161.11	12.13	148.98	---
MW-3	12/06/2004	<50	<0.50	<0.50	<0.50	<1.0	6.1	---	---	---	---	161.11	12.28	148.83	---
MW-3	03/02/2005	<50	<0.50	<0.50	<0.50	<1.0	2.4	---	---	---	---	161.11	10.42	150.69	---
MW-3	06/10/2005	<50	<0.50	<0.50	<0.50	<1.0	1.6	---	---	---	---	161.11	11.15	149.96	---
MW-3	09/01/2005	<50	<0.50	<0.50	<0.50	<1.0	0.54	<5.0	<2.0	<2.0	<2.0	161.11	12.55	148.56	---
MW-3	11/16/2005	<50.0	<0.500	<0.500	<0.500	<0.500	0.570	---	---	---	---	161.11	12.04	149.07	---
MW-3 c	03/03/2006	16,000 d	191	107 d	127	997 d	1,090 d	---	---	---	---	161.11	10.36	150.75	---
MW-3	05/12/2006	<50.0	<0.500	<0.500	<0.500	<0.500	1.45	---	---	---	---	161.11	12.24	148.87	---
MW-3	09/05/2006	<50.0	<0.500	<0.500	<0.500	<0.500	1.62	<10.0	<0.500	<0.500	<0.500	161.11	12.52	148.59	---
MW-3	12/18/2006	<50	<0.50	<0.50	<0.50	<1.0	0.88	---	---	---	---	161.11	11.00	150.11	---
MW-3	03/21/2007	<50	<0.50	<0.50	<0.50	<1.0	<1.0	---	---	---	---	161.11	12.10	149.01	---

TABLE 1

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
2120 MONTANA STREET, OAKLAND, CALIFORNIA

Well ID	*Date*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE (µg/L)*	*TBA (µg/L)*	*DIPE (µg/L)*	*ETBE (µg/L)*	*TAME (µg/L)*	*TOC (ft MSL)*	*Depth to Water (ft TOC)*	*GW Elevation (ft MSL)*	*SPH Thickness (ft)*
MW-3	06/14/2007	100	<0.50	<1.0	<1.0	<1.0	2.4	---	---	---	---	161.11	12.08	149.03	---
MW-3	08/27/2007	<50 f	<0.50	<1.0	<1.0	<1.0	1.3	<10	<2.0	<2.0	<2.0	161.11	12.54	148.57	---
MW-3	11/29/2007	<50 f	<0.50	<1.0	<1.0	<1.0	0.52 e	---	---	---	---	161.11	12.09	149.02	---
MW-3	03/21/2008	<50	<0.50	<1.0	<1.0	<1.0	<1.0	---	---	---	---	161.11	12.20	148.91	---
MW-3	05/29/2008	<50	<0.50	<1.0	<1.0	<1.0	<1.0	---	---	---	---	161.11	12.12	148.99	---
MW-3	08/29/2008	<50	<0.50	<1.0	<1.0	<1.0	<1.0	<10	<2.0	<2.0	<2.0	161.11	12.49	148.62	---
MW-3	12/29/2008	<50	<0.50	<1.0	<1.0	<1.0	<1.0	---	---	---	---	161.11	11.40	149.71	---
MW-3	03/05/2009	<50	<0.50	<1.0	<1.0	<1.0	<1.0	---	---	---	---	161.11	9.50	151.61	---
MW-3	05/27/2009	<50	<0.50	<1.0	<1.0	<1.0	<1.0	---	---	---	---	161.11	11.83	149.28	---
MW-3	12/28/2009	<50	<0.50	<1.0	<1.0	<1.0	<1.0	<10	<2.0	<2.0	<2.0	161.11	11.68	149.43	---
MW-3	06/02/2010	<50	<0.50	<1.0	<1.0	<1.0	<1.0	---	---	---	---	161.11	11.71	149.40	---
MW-3	12/28/2010	<50	<0.50	<1.0	<1.0	<1.0	<1.0	<10	<2.0	<2.0	<2.0	161.11	10.80	150.31	---
MW-3	06/20/2011	<50	<0.50	<0.50	<0.50	<1.0	<1.0	---	---	---	---	161.11	11.95	149.16	---
MW-3	12/13/2011	<50	<0.500	<0.500	<0.500	<0.500	<0.500	<10.0	<0.500	<0.500	<0.500	161.11	12.00	149.11	---
MW-3	05/30/2012	<50	<0.50	<0.50	<0.50	<1.0	<0.50	---	---	---	---	161.11	12.22	148.89	---
MW-3	**02/20/2013**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<10**	**<0.50**	**<0.50**	**<0.50**	**161.11**	**11.74**	**149.37**	**---**
MW-4	07/10/2002	---	---	---	---	---	---	---	---	---	---	---	13.19	---	---
MW-4	07/16/2002	800	1.1	1.1	2.6	2.4	450	---	---	---	---	---	13.56	---	---
MW-4	09/06/2002	1,100	3.0	1.8	8.0	4.6	110	---	---	---	---	160.09	13.67	146.42	---
MW-4	12/12/2002	130	<0.50	<0.50	<0.50	<0.50	940	---	---	---	---	160.09	14.06	146.03	---
MW-4	03/31/2003	<250	<2.5	<2.5	<2.5	<5.0	500	---	---	---	---	160.09	13.69	146.40	---
MW-4	06/30/2003	3,100	5.3	<5.0	7.1	<10	420	---	---	---	---	160.09	14.12	145.97	---
MW-4	09/09/2003	1,400	2.4	2.0	2.6	3.2	140	---	---	---	---	160.09	14.92	145.17	---
MW-4	12/29/2003	2,700	10	6.2	20	11	420	---	---	---	---	160.09	12.71	147.38	---
MW-4	03/17/2004	1,900	6.9	3.0	33	22	290	---	---	---	---	160.09	13.24	146.85	---
MW-4	05/24/2004	1,800	<2.5	<2.5	<2.5	11	44	---	---	---	---	160.09	14.03	146.06	---
MW-4	09/17/2004	3,300	57	10	47	32	310	700	<10	<10	<10	160.09	13.58	146.51	---
MW-4	12/06/2004	4,700	9.4	3.8	34	12	150	---	---	---	---	160.09	14.65	145.44	---
MW-4	03/02/2005	<1,300	<13	<13	<13	<25	150	---	---	---	---	160.09	12.67	147.42	---

TABLE 1

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
2120 MONTANA STREET, OAKLAND, CALIFORNIA

Well ID	*Date*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE (µg/L)*	*TBA (µg/L)*	*DIPE (µg/L)*	*ETBE (µg/L)*	*TAME (µg/L)*	*TOC (ft MSL)*	*Depth to Water (ft TOC)*	*GW Elevation (ft MSL)*	*SPH Thickness (ft)*
MW-4	06/10/2005	2,600	4.1	1.9	25	5.6	61	---	---	---	---	160.09	13.11	146.98	---
MW-4	09/01/2005	4,000 g	<13	<13	22	<25	36	<130	<50	<50	<50	160.09	14.00	146.09	---
MW-4	11/16/2005	4,740	3.23	1.75	12.8	6.06	12.2	---	---	---	---	160.09	13.87	146.22	---
MW-4 c	03/03/2006	79,300 d	649 d	37.2	470 d	326	577 d	---	---	---	---	160.09	12.80	147.29	---
MW-4	05/12/2006	2,750	8.03	<0.500	<0.500	<0.500	244	---	---	---	---	160.09	16.26	143.83	---
MW-4	09/05/2006	2,230	2.04	1.24	<0.500	1.50	95.9	239	<0.500	<0.500	<0.500	160.09	13.92	146.17	---
MW-4	12/18/2006	1,400	4.3	1.7	7.3	2.8	140	---	---	---	---	160.09	12.71	147.38	---
MW-4	03/21/2007	540	0.68	0.51	4.0	<1.0	140	---	---	---	---	160.09	13.35	146.74	---
MW-4	06/14/2007	---	---	---	---	---	---	---	---	---	---	160.09	19.02	141.07	---
MW-4	08/27/2007	880 f,g	0.38 e	<1.0	<1.0	<1.0	8.5	98	<2.0	<2.0	<2.0	160.09	13.92	146.17	---
MW-4	11/29/2007	3,200 f	1.9	1.2	1.9	2.55 e	<1.0	---	---	---	---	160.09	13.50	146.59	---
MW-4	03/21/2008	350	<0.50	<1.0	<1.0	<1.0	8.2	---	---	---	---	160.09	13.45	146.64	---
MW-4	05/29/2008	1,800	1.6	<1.0	1.8	1.5	13	---	---	---	---	160.09	13.73	146.36	---
MW-4	08/29/2008	1,300	1.5	<1.0	1.2	1.3	13	54	<2.0	<2.0	<2.0	160.09	14.08	146.01	---
MW-4	12/29/2008	1,700	1.8	1.4	2.3	1.6	8.9	---	---	---	---	160.09	13.13	146.96	---
MW-4	03/05/2009	1,800	1.6	<1.0	<1.0	<1.0	16	---	---	---	---	160.09	11.12	148.97	---
MW-4	05/27/2009	2,000	4.6	1.8	3.5	2.2	28	---	---	---	---	160.09	13.35	146.74	---
MW-4	12/28/2009	1,100	0.66	<1.0	<1.0	<1.0	7.4	72	<2.0	<2.0	<2.0	160.09	13.35	146.74	---
MW-4	06/02/2010	1,400	1.5	<1.0	1.8	1.0	8.6	---	---	---	---	160.09	13.33	146.76	---
MW-4	12/28/2010	1,100	<0.50	<1.0	<1.0	<1.0	5.8	50	<2.0	<2.0	<2.0	160.09	12.38	147.71	---
MW-4	06/20/2011	90	<0.50	<0.50	<0.50	<1.0	2.8	---	---	---	---	160.09	13.87	146.22	---
MW-4	12/13/2011	290	<0.500	<0.500	<0.500	<0.500	<0.500	<10.0	<0.500	<0.500	<0.500	160.09	14.04	146.05	---
MW-4	05/30/2012	110	<0.50	<0.50	<0.50	<1.0	5.0	---	---	---	---	160.09	12.77	147.32	---
MW-4	**02/20/2013**	**86**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**1.3**	**590**	**<0.50**	**<0.50**	**<0.50**	**160.09**	**13.60**	**146.49**	**---**
MW-5	07/10/2002	---	---	---	---	---	---	---	---	---	---	---	12.22	---	---
MW-5	07/16/2002	6,100	65	7.2	100	130	410	---	---	---	---	---	12.50	---	---
MW-5	09/06/2002	5,900	100	8.1	41	32	230	---	---	---	---	158.25	12.77	145.48	---
MW-5	12/12/2002	4,900	70	5.7	25	17	280	---	---	---	---	158.25	12.71	145.54	---
MW-5	03/31/2003	6,400	61	4.9	23	13	330	---	---	---	---	158.25	11.93	146.32	---

TABLE 1

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
2120 MONTANA STREET, OAKLAND, CALIFORNIA

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	GW Elevation (ft MSL)	SPH Thickness (ft)
MW-5	06/30/2003	3,400	18	<2.5	17	5.5	47	---	---	---	---	158.25	11.97	146.28	---
MW-5	09/09/2003	6,800	46	23	39	42	67	---	---	---	---	158.25	12.44	145.81	---
MW-5	12/29/2003	8,400	44	6.2	36	16	60	---	---	---	---	158.25	11.38	146.87	---
MW-5	03/17/2004	7,100	120	22	42	27	300	---	---	---	---	158.25	11.68	146.57	---
MW-5	05/24/2004	6,100	72	17	34	23	110	---	---	---	---	158.25	12.30	145.95	---
MW-5	09/17/2004	5,700	27	5.3	35	<10	28	<50	<20	<20	<20	158.25	12.15	146.10	---
MW-5	12/06/2004	4,500	11	<5.0	22	<10	7.5	---	---	---	---	158.25	12.85	145.40	---
MW-5	03/02/2005	6,500	14	<2.5	18	<5.0	6.0	---	---	---	---	158.25	10.83	147.42	---
MW-5	06/10/2005	5,300	19	2.4	17	4.3	7.2	---	---	---	---	158.25	12.00	146.25	---
MW-5	09/01/2005	1,900 g	5.3	<2.5	6.9	<5.0	<2.5	<25	<10	<10	<10	158.25	12.30	145.95	---
MW-5	11/16/2005	3,590	4.66	0.580	7.69	1.45	1.13	---	---	---	---	158.25	12.58	145.67	---
MW-5	03/03/2006	5,760	7.08	0.960	8.46	2.18	2.65	---	---	---	---	158.25	11.15	147.10	---
MW-5	05/12/2006	1,960	3.66	<0.500	1.03	<0.500	1.45	---	---	---	---	158.25	12.55	145.70	---
MW-5	09/05/2006	3,730	4.23	0.780	3.19	0.790	1.77	32.9	<0.500	<0.500	<0.500	158.25	12.70	145.55	---
MW-5	12/18/2006	1,600	5.1	0.66	6.0	3.3	<0.50	---	---	---	---	158.25	11.40	146.85	---
MW-5	03/21/2007	210	1.7	<0.50	<0.50	<1.0	<1.0	---	---	---	---	158.25	12.17	146.08	---
MW-5	06/14/2007	2,300	1.5	<1.0	0.43 e	<1.0	<1.0	---	---	---	---	158.25	13.50	144.75	---
MW-5	08/27/2007	2,500 f,g	3.2	0.41 e	2.8	2.48 e	<1.0	6.8 e	<2.0	<2.0	<2.0	158.25	12.55	145.70	---
MW-5	11/29/2007	2,300 f	7.8	0.45 e	0.75 e	0.60 e	<1.0	---	---	---	---	158.25	11.97	146.28	---
MW-5	03/21/2008	1,400	24	5.5	1.8	2.2	6.6	---	---	---	---	158.25	11.70	146.55	---
MW-5	05/29/2008	1,400	33	2.9	<1.0	3.2	6.9	---	---	---	---	158.25	12.27	145.98	---
MW-5	08/29/2008	960	14	<1.0	<1.0	1.4	4.3	<10	<2.0	<2.0	<2.0	158.25	12.46	145.79	---
MW-5	12/29/2008	1,200	12	<1.0	<1.0	<1.0	<1.0	---	---	---	---	158.25	11.80	146.45	---
MW-5	03/05/2009	1,900	24	2.9	3.7	7.9	<1.0	---	---	---	---	158.25	9.82	148.43	---
MW-5	05/27/2009	1,400	23	1.7	2.0	4.9	4.4	---	---	---	---	158.25	12.34	145.91	---
MW-5	12/28/2009	980	7.5	<1.0	<1.0	<1.0	2.3	<10	<2.0	<2.0	<2.0	158.25	12.18	146.07	---
MW-5	06/02/2010	1,200	12	<1.0	<1.0	3.1	<1.0	---	---	---	---	158.25	12.04	146.21	---
MW-5	12/28/2010	970	5.5	<1.0	<1.0	<1.0	1.3	<10	<2.0	<2.0	<2.0	158.25	11.11	147.14	---
MW-5	06/20/2011	1,400	9.4	0.90	0.99	3.6	2.6	---	---	---	---	158.25	12.54	145.71	---
MW-5	12/13/2011	1,500	6.41	0.640	0.610	1.76	2.53	<10.0	<0.500	<0.500	<0.500	158.25	13.00	145.25	---

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
2120 MONTANA STREET, OAKLAND, CALIFORNIA

Well ID	*Date*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE (µg/L)*	*TBA (µg/L)*	*DIPE (µg/L)*	*ETBE (µg/L)*	*TAME (µg/L)*	*TOC (ft MSL)*	*Depth to Water (ft TOC)*	*GW Elevation (ft MSL)*	*SPH Thickness (ft)*
MW-5	05/30/2012	1,000	3.5	0.66	0.82	<1.0	2.0	---	---	---	---	158.25	12.74	145.51	---
MW-5	**02/20/2013**	**1,700**	**3.9**	**0.79**	**0.85**	**1.2**	**2.1**	**<10**	**<0.50**	**<0.50**	**<0.50**	**158.25**	**12.39**	**145.86**	**---**
TBW-N	09/25/2001 b	120,000	3,200	2,800	4,000	18,000	31,000	---	---	---	---	---	12.25	---	---
TBW-N	11/20/2001	72,000	2,200	3,600	2,600	14,000	35,000	---	---	---	---	---	12.13	---	---
TBW-N	12/05/2001	76,000	1,600	3,200	2,900	15,000	30,000	---	---	---	---	---	11.51	---	---
TBW-N	03/01/2002	91,000	1,200	4,200	2,800	14,000	29,000	---	---	---	---	---	11.88	---	---
TBW-N	06/06/2002	100,000	2,100	8,200	3,400	17,000	18,000	---	---	---	---	---	12.48	---	---
TBW-N	07/16/2002	---	---	---	---	---	---	---	---	---	---	---	12.39	---	---
TBW-N	09/06/2002	69,000	870	4,800	2,300	11,000	17,000	---	---	---	---	161.26	12.36	148.90	---
TBW-N	12/12/2002	Well inaccessible		---	---	---	---	---	---	---	---	161.26	---	---	---
TBW-N	12/19/2002	110,000	1,900	13,000	3,100	18,000	19,000	---	---	---	---	161.26	10.82	150.44	---
TBW-N	03/31/2003	62,000	1,600	6,500	2,200	11,000	11,000	---	---	---	---	161.26	10.63	150.63	---
TBW-N	06/30/2003	260,000	7,700	<120	5,800	40,000	8,400	---	---	---	---	161.26	11.51	149.75	---
TBW-N	09/09/2003	---	---	---	---	---	---	---	---	---	---	159.92	11.37	148.64	0.11
TBW-N	12/29/2003	130,000	840	8,200	2,400	18,000	5,400	---	---	---	---	159.92	10.40	149.52	---
TBW-N	03/17/2004	32,000	440	1,500	580	4,500	3,700	---	---	---	---	159.92	10.49	149.44	0.01
TBW-N	05/24/2004	110,000	380	2,600	1,600	11,000	3,100	---	---	---	---	159.92	10.72	149.20	---
TBW-N	09/17/2004	25,000	120	490	570	3,900	490	4,500	<200	<200	<200	159.92	10.80	149.12	---
TBW-N	12/06/2004	15,000	33	11	410	1,500	200	---	---	---	---	159.92	11.00	148.92	---
TBW-N	03/02/2005	7,900	15	<10	120	610	460	---	---	---	---	159.92	10.58	149.34	---
TBW-N	06/10/2005	1,200	<5.0	<5.0	13	25	93	---	---	---	---	159.92	10.68	149.24	---
TBW-N	09/01/2005	3,500 g	<10	<10	86	330	47	1,700	<40	<40	<40	159.92	11.05	148.87	---
TBW-N	11/16/2005	8,830	1.53	1.59	86.6	404	35.0	---	---	---	---	159.92	10.95	148.97	---
TBW-N	03/03/2006	955	<0.500	<0.500	1.25	<0.500	70.4	4,930	---	---	---	159.92	10.31	149.61	---
TBW-N	05/12/2006	706	<0.500	<0.500	5.81	<0.500	14.5	488	---	---	---	159.92	10.73	149.19	---
TBW-N	09/05/2006	1,230	<0.500	<0.500	6.05	2.68	15.3	265	<0.500	<0.500	<0.500	159.92	11.46	148.46	---
TBW-N	12/18/2006	290	0.68	<0.50	<0.50	<1.0	37	3,400	---	---	---	159.92	10.12	149.80	---
TBW-N	03/21/2007	300	<0.50	<0.50	<0.50	<1.0	15	820	---	---	---	159.92	10.67	149.25	---
TBW-N	06/14/2007	530	<0.50	<1.0	<1.0	<1.0	7.7	240	---	---	---	159.92	11.22	148.70	---

TABLE 1

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
2120 MONTANA STREET, OAKLAND, CALIFORNIA

Well ID	*Date*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE (µg/L)*	*TBA (µg/L)*	*DIPE (µg/L)*	*ETBE (µg/L)*	*TAME (µg/L)*	*TOC (ft MSL)*	*Depth to Water (ft TOC)*	*GW Elevation (ft MSL)*	*SPH Thickness (ft)*
TBW-N	08/27/2007	100 f	0.52	<1.0	<1.0	<1.0	18	40	<2.0	<2.0	<2.0	159.92	11.44	148.48	---
TBW-N	11/29/2007	130 f	0.19 e	<1.0	<1.0	<1.0	7.8	490	---	---	---	159.92	10.58	149.34	---
TBW-N	03/21/2008	56	<0.50	<1.0	<1.0	<1.0	9.3	300	---	---	---	159.92	10.50	149.42	---
TBW-N	05/29/2008	<50	<0.50	<1.0	<1.0	<1.0	4.1	140	---	---	---	159.92	10.66	149.26	---
TBW-N	08/29/2008	54	<0.50	<1.0	<1.0	<1.0	4.3	89	<2.0	<2.0	<2.0	159.92	10.88	149.04	---
TBW-N	12/29/2008	93	<0.50	<1.0	<1.0	<1.0	4.4	740	---	---	---	159.92	10.17	149.75	---
TBW-N	03/05/2009	93	<0.50	<1.0	<1.0	<1.0	6.7	1,900	---	---	---	159.92	8.62	151.30	---
TBW-N	05/27/2009	<250	<2.5	<5.0	<5.0	<5.0	<5.0	160	---	---	---	159.92	10.44	149.48	---
TBW-N	12/28/2009	<50	<0.50	<1.0	<1.0	<1.0	2.5	170	<2.0	<2.0	<2.0	159.92	9.85	150.07	---
TBW-N	06/02/2010	<50	<0.50	<1.0	<1.0	<1.0	2.5	91	---	---	---	159.92	9.76	150.16	---
TBW-N	12/28/2010	63	<0.50	<1.0	<1.0	<1.0	2.6	720	<2.0	<2.0	<2.0	159.92	9.06	150.86	---
TBW-N	06/20/2011	<50	<0.50	<0.50	<0.50	<1.0	1.7	17	---	---	---	159.92	10.00	149.92	---
TBW-N	12/13/2011	<50	<0.500	<0.500	<0.500	<0.500	2.20	<10.0	<0.500	<0.500	<0.500	159.92	9.93	149.99	---
TBW-N	05/30/2012	56	1.1	<0.50	<0.50	1.1	23	18	---	---	---	159.92	10.46	149.46	---
TBW-N	**11/13/2012**	**Well Destroyed**		---	---	---	---	---	---	---	---	**159.92**	---	---	---
EW-1	05/05/2006	---	---	---	---	---	---	---	---	---	---	---	15.42	---	---
EW-1	05/12/2006	5,550	52.9	30.2	86.9	249	939	3,900	<0.500	<0.500	<0.500	---	17.33	---	---
EW-1	09/05/2006	2,700	28.3	1.64	11.8	7.98	325	1,900	<0.500	<0.500	<0.500	158.63	12.44	146.19	---
EW-1	12/18/2006	4,900	140	63	170	790	640	---	---	---	---	158.63	11.00	147.63	---
EW-1	03/21/2007	1,000	32	<2.5	14	48	420	---	---	---	---	158.63	14.61	144.02	---
EW-1	06/14/2007	2,100	14	1.1	5.0	9.3	46	---	---	---	---	158.63	21.00	137.63	---
EW-1	08/27/2007	97 f	<0.50	<1.0	<1.0	0.19 e	3.6	32	<2.0	<2.0	<2.0	158.63	12.80	145.83	---
EW-1	11/29/2007	7,600 f	110	36	190	1,390	470	---	---	---	---	158.63	11.87	146.76	---
EW-1	03/21/2008	7,300	160	14	400	630	640	---	---	---	---	158.63	12.10	146.53	---
EW-1	05/29/2008	3,600	93	6.0	190	124	340	---	---	---	---	158.63	12.09	146.54	---
EW-1	08/29/2008	1,100	15	1.5	78	36	48	190	<2.0	<2.0	<2.0	158.63	12.65	145.98	---
EW-1	12/29/2008	3,200	48	4.2	100	240	180	---	---	---	---	158.63	11.45	147.18	---
EW-1	03/05/2009	2,900	58	2.4	130	220	280	---	---	---	---	158.63	8.48	150.15	---
EW-1	05/27/2009	2,300	74	2.1	59	96	160	---	---	---	---	158.63	11.90	146.73	---

TABLE 1

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
2120 MONTANA STREET, OAKLAND, CALIFORNIA

Well ID	*Date*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE (µg/L)*	*TBA (µg/L)*	*DIPE (µg/L)*	*ETBE (µg/L)*	*TAME (µg/L)*	*TOC (ft MSL)*	*Depth to Water (ft TOC)*	*GW Elevation (ft MSL)*	*SPH Thickness (ft)*
EW-1	12/28/2009	2,100	23	<1.0	93	96	94	400	<2.0	<2.0	<2.0	158.63	11.68	146.95	---
EW-1	06/02/2010	1,700	13	<1.0	59	66	51	---	---	---	---	158.63	11.70	146.93	---
EW-1	12/28/2010	2,100	20	<1.0	110	170	45	340	<2.0	<2.0	<2.0	158.63	10.65	147.98	---
EW-1	06/20/2011	890	7.5	<0.50	23	24	31	---	---	---	---	158.63	12.08	146.55	---
EW-1	12/13/2011	850	3.25	<0.500	15.4	9.67	22.4	27.8	<0.500	<0.500	<0.500	158.63	12.62	146.01	---
EW-1	05/30/2012	1,100	4.4	<0.50	13	12	22	---	---	---	---	158.63	12.19	146.44	---
EW-1	**02/20/2013**	**110**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**6.8**	**71**	**<0.50**	**<0.50**	**<0.50**	**158.63**	**11.81**	**146.82**	**---**
EW-2	05/05/2006	---	---	---	---	---	---	---	---	---	---	---	16.83	---	---
EW-2	05/12/2006	11,400	377	135	335	313	401	1,220	<0.500	<0.500	<0.500	---	15.91	---	---
EW-2	09/05/2006	1,810	41.1	4.52	17.2	74.0	87.8	606	<0.500	<0.500	<0.500	157.51	11.21	146.30	---
EW-2	12/18/2006	3,200	75	33	90	470	130	---	---	---	---	157.51	9.93	147.58	---
EW-2	03/21/2007	61	<0.50	<0.50	<0.50	1.5	18	---	---	---	---	157.51	10.55	146.96	---
EW-2	06/14/2007	570	3.8	<1.0	<1.0	<1.0	10	---	---	---	---	157.51	12.82	144.69	---
EW-2	08/27/2007	320 f	2.6	0.36 e	1.4	6.31 e	10	230	<2.0	<2.0	<2.0	157.51	10.34	147.17	---
EW-2	11/29/2007	72 f	0.83	0.53 e	0.49 e	1.41 e	12	---	---	---	---	157.51	10.80	146.71	---
EW-2	03/21/2008	250	3.5	<1.0	2.7	15.3	62	---	---	---	---	157.51	10.80	146.71	---
EW-2	05/29/2008	280	8.7	1.5	7.8	29.3	46	---	---	---	---	157.51	10.86	146.65	---
EW-2	08/29/2008	<50	<0.50	<1.0	<1.0	<1.0	<1.0	<10	<2.0	<2.0	<2.0	157.51	9.81	147.70	---
EW-2	12/29/2008	760	21	1.4	17	64	37	---	---	---	---	157.51	10.37	147.14	---
EW-2	03/05/2009	260	5.8	<1.0	8.4	30	38	---	---	---	---	157.51	8.35	149.16	---
EW-2	05/27/2009	580	27	2.4	25	79	71	---	---	---	---	157.51	10.83	146.68	---
EW-2	12/28/2009	780	31	1.6	31	67	51	270	<2.0	<2.0	<2.0	157.51	10.55	146.96	---
EW-2	06/02/2010	1,400	45	3.0	110	160	53	---	---	---	---	157.51	10.63	146.88	---
EW-2	12/28/2010	770	29	1.3	58	82	48	310	<2.0	<2.0	<2.0	157.51	9.57	147.94	---
EW-2	06/20/2011	180	12	<0.50	15	8.3	14	---	---	---	---	157.51	10.98	146.53	---
EW-2	12/13/2011	260	17.4	<0.500	16.3	10.8	12.1	63.3	<0.500	<0.500	<0.500	157.51	11.21	146.30	---
EW-2	05/30/2012	200	8.5	<0.50	9.2	2.3	13	---	---	---	---	157.51	11.23	146.28	---
EW-2	**02/20/2013**	**270**	**13**	**<0.50**	**11**	**2.7**	**11**	**180**	**<0.50**	**<0.50**	**<0.50**	**157.51**	**10.70**	**146.81**	**---**

TABLE 1

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
2120 MONTANA STREET, OAKLAND, CALIFORNIA

Well ID	*Date*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE (µg/L)*	*TBA (µg/L)*	*DIPE (µg/L)*	*ETBE (µg/L)*	*TAME (µg/L)*	*TOC (ft MSL)*	*Depth to Water (ft TOC)*	*GW Elevation (ft MSL)*	*SPH Thickness (ft)*

Notes:
TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method 8260B; prior to May 31, 2001, analyzed by EPA Method 8015 unless otherwise noted.
BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B; prior to May 31, 2001, analyzed by EPA Method 8020.
MTBE = Methyl tertiary-butyl ether analyzed by EPA Method 8260B
TBA = Tertiary-butyl alcohol analyzed by EPA Method 8260B
DIPE = Di-isopropyl ether analyzed by EPA Method 8260B
ETBE = Ethyl tertiary-butyl ether analyzed by EPA Method 8260B
TAME = Tertiary-amyl methyl ether analyzed by EPA Method 8260B
TOC = Top of casing elevation, in feet relative to mean sea level
GW = Groundwater
SPH = Separate-phase hydrocarbon
µg/L = Micrograms per liter
ft = Feet
MSL = Mean sea level
<x = Not detected at reporting limit x
--- = Not analyzed or available

a = SPHs encountered during purge
b = Sample analyzed once within hold time, but the analyte concentrations all exceeded the instrument working ranges. The sample was diluted and re-analyzed out of hold time. The diluted analysis is reported because it more accurately reflects the concentrations present.
c = Several results were above the instrument calibration range and should be considered estimated values. Results from the different VOA vials were not consistent; therefore the highest results were reported.
d = Concentration exceeds the calibration range and therefore result is semi-quantitative.
e = Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
f = Analyzed by EPA Method 8015B (M).
g = The sample chromatographic pattern for TPH does not match the chromatographic pattern of the specified standard. Quantitation of the unknown hydrocarbon(s) in the sample was based upon the specified standard.

When SPHs are present, GW elevation is adjusted using the relation:
Corrected GW elevation = TOC - Depth to water + (0.8 x SPH thickness)

TABLE 1

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
2120 MONTANA STREET, OAKLAND, CALIFORNIA

Well ID	*Date*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE (µg/L)*	*TBA (µg/L)*	*DIPE (µg/L)*	*ETBE (µg/L)*	*TAME (µg/L)*	*TOC (ft MSL)*	*Depth to Water (ft TOC)*	*GW Elevation (ft MSL)*	*SPH Thickness (ft)*

Site wells surveyed February 12, 2002 and June 26, 2002 by Virgil Chavez Land Surveying
Wells MW-1 and TBW-N surveyed September 23, 2003 by Virgil Chavez Land Surveying
Wells EW-1 and EW-2 surveyed July 7, 2006 by Virgil Chavez Land Surveying

TABLE 2

HISTORICAL GRAB GROUNDWATER ANALYTICAL DATA
SHELL-BRANDED SERVICE STATION
2120 MONTANA STREET, OAKLAND, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE (µg/L)*	*TBA (µg/L)*	*DIPE (µg/L)*	*ETBE (µg/L)*	*TAME (µg/L)*	*1,2-DCA (µg/L)*	*EDB (µg/L)*
SB-1-W	10/27/1999	15	446	4.72	1.57	<0.500	4.53	50.3	---	---	---	---	---	---
SB-2-W	10/27/1999	20	**524**	10.6	1.47	2.42	2.18	59.4	---	---	---	---	---	---
SB-3-W	10/27/1999	20	**2,380**	6.75	6.63	**46.4**	75.2	3,210	---	---	---	---	---	---
SB-4-W	6/15/2005	21-25	**6,200**	**34**	**140**	**130**	**520**	74	<25	<10	<10	<10	---	---
SB-5-W	6/15/2005	14-18	**28,000**	**100**	<20	**890**	**2,400**	200	<200	<80	<80	<80	---	---
SB-6-W	6/15/2005	16-20	<2,500	<25	<25	<25	<50	1,100	15,000	<100	<100	<100	---	---
SB-8-W	6/16/2005	14-18	<50	<0.50	<0.50	<0.50	<1.0	59	66	<2.0	<2.0	<2.0	---	---
TW	11/13/2012	12	210	20	<0.50	<0.50	3.0	4.6	160	---	---	---	<0.50	<0.50
Groundwater ESL[a]:			500	27	130	43	100	1,800	18,000	NA	NA	NA	100	77

Notes:
TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method 8260B; before June 15, 2005 analyzed by EPA Method 8015M.
BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B; before June 15, 2005 analyzed by EPA Method 8020.
MTBE = Methyl tertiary-butyl ether analyzed by EPA Method 8260B
TBA = Tertiary-butyl alcohol analyzed by EPA Method 8260B
DIPE = Di-isopropyl ether analyzed by EPA Method 8260B
ETBE = Ethyl tertiary-butyl ether analyzed by EPA Method 8260B
TAME = Tertiary-amyl methyl ether analyzed by EPA Method 8260B
1,2-DCA = 1,2-Dichloroethane analyzed by EPA Method 8260B
EDB = 1,2-Dibromoethane analyzed by EPA Method 8260B
fbg = Feet below grade
µg/L = Micrograms per liter
<x = Not detected at reporting limit x
--- = Not analyzed
ESL = Environmental screening level
NA = No applicable ESL
Results in **bold** equal or exceed applicable ESL

a = San Francisco Bay Regional Water Quality Control Board ESL for groundwater where groundwater is not a potential source of drinking water (Tables B and D of *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater*, California Regional Water Quality Control Board, Interim Final - November 2007 [Revised May 2008] - Updated May 2013).

TABLE 3

HISTORICAL SOIL ANALYTICAL DATA
SHELL-BRANDED SERVICE STATION
2120 MONTANA STREET, OAKLAND, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*TPHg (mg/kg)*	*B (mg/kg)*	*T (mg/kg)*	*E (mg/kg)*	*X (mg/kg)*	*MTBE (mg/kg)*	*TBA (mg/kg)*	*DIPE (mg/kg)*	*ETBE (mg/kg)*	*TAME (mg/kg)*	*1,2-DCA (mg/kg)*	*EDB (mg/kg)*	*Lead (mg/kg)*
D-1	11/11/1997	5	1.8	<0.0050	<0.0050	<0.0050	0.0059	0.16	---	---	---	---	---	---	9.2 a
D-2	11/11/1997	5	9.5	0.024	0.016	<0.0050	0.088	0.37	---	---	---	---	---	---	9.2 a
D-3	11/11/1997	5	59	0.76	0.14	<0.050	0.095	1.1	---	---	---	---	---	---	9.2 a
SB-1-5	10/27/1999	5	54	<0.050	<0.050	0.091	0.099	<0.50	---	---	---	---	---	---	---
SB-1-10	10/27/1999	10	12	<0.0050	<0.0050	0.0093	0.030	<0.05	---	---	---	---	---	---	---
SB-2-5	10/27/1999	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.05	---	---	---	---	---	---	---
SB-2-10	10/27/1999	10	2.0	0.0050	0.0063	<0.0050	<0.0050	0.27/0.24 b	---	---	---	---	---	---	---
SB-2-15	10/27/1999	15	14	0.019	0.032	0.064	0.072	<0.05	---	---	---	---	---	---	---
SB-2-20	10/27/1999	20	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.05	---	---	---	---	---	---	---
SB-3-5	10/27/1999	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.05	---	---	---	---	---	---	---
SB-3-10	10/27/1999	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	0.11	---	---	---	---	---	---	---
SB-3-15	10/27/1999	15	17	0.013	0.018	0.054	0.16	0.19	---	---	---	---	---	---	---
MW-1-5.5	2/20/2001	5.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	0.12	---	---	---	---	---	---	---
MW-1-10.0	2/20/2001	10	4.7	0.066	<0.0050	0.12	0.14	2.4	---	---	---	---	---	---	---
MW-1-15.5	2/20/2001	15.5	1.0	0.014	0.041	0.024	0.098	5.0	---	---	---	---	---	---	---
MW-1-20.5	2/20/2001	20.5	1.5	0.023	0.16	0.037	0.17	2.0	---	---	---	---	---	---	---
MW-1-24.0	2/20/2001	24	4.4	0.024	0.14	0.050	0.27	0.51	---	---	---	---	---	---	---
MW-2-5.5	2/21/2001	5.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---
MW-2-10.5	2/21/2001	10.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---
MW-2-15.5	2/21/2001	15.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	5.2	---	---	---	---	---	---	---
MW-2-21.0	2/21/2001	21	10	0.028	0.012	0.080	0.021	1.3	---	---	---	---	---	---	---
MW-3-5.5	2/21/2001	5.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---
MW-3-10.5	2/21/2001	10.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---
MW-3-15.5	2/21/2001	15.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---
MW-3-20.5	2/21/2001	20.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---	---

HISTORICAL SOIL ANALYTICAL DATA
SHELL-BRANDED SERVICE STATION
2120 MONTANA STREET, OAKLAND, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*TPHg (mg/kg)*	*B (mg/kg)*	*T (mg/kg)*	*E (mg/kg)*	*X (mg/kg)*	*MTBE (mg/kg)*	*TBA (mg/kg)*	*DIPE (mg/kg)*	*ETBE (mg/kg)*	*TAME (mg/kg)*	*1,2-DCA (mg/kg)*	*EDB (mg/kg)*	*Lead (mg/kg)*
MW-4-5.5	6/21/2002	5.5	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	---	---	---	---	---	---	---
MW-4-9.0	6/21/2002	9	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	---	---	---	---	---	---	---
MW-4-13.5	6/21/2002	13.5	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	---	---	---	---	---	---	---
MW-5-5.5	6/21/2002	5.5	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	---	---	---	---	---	---	---
MW-5-9.0	6/21/2002	9	1.3	0.0083	<0.005	<0.005	<0.005	<0.5	---	---	---	---	---	---	---
MW-5-19.0	6/21/2002	19	18	0.0071	<0.005	0.014	0.019	<0.5	---	---	---	---	---	---	---
D-1-4.0	5/6/2004	4	<4.8	<0.024	<0.024	<0.024	0.17	0.77	---	---	---	---	---	---	7.5
D-2-4.0	5/6/2004	4	**1,900**	**1.7**	<1.0	**21**	**57**	5.80	---	---	---	---	---	---	7.3
D-3-4.0	5/6/2004	4	110	<0.50	<0.50	3.1	<0.50	0.65	---	---	---	---	---	---	8.7
SB-4-5	6/15/2005	5	<1.0	0.0072	<0.0050	<0.0050	<0.0050	0.13	0.53	<0.010	<0.0050	<0.0050	---	---	---
SB-4-10	6/15/2005	10	2.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.020	<0.010	<0.0050	<0.0050	---	---	---
SB-4-15	6/15/2005	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	---	---	---
SB-4-20	6/15/2005	20	23	<0.025	<0.025	0.056	0.10	0.061	0.25	<0.050	<0.025	<0.025	---	---	---
SB-5-5	6/15/2005	5	<5.0	<0.025	<0.025	<0.025	<0.025	<0.025	2.3	<0.050	<0.025	<0.025	---	---	---
SB-5-10	6/15/2005	10	<4.9	<0.024	<0.024	<0.024	<0.024	<0.024	3.3	<0.049	<0.024	<0.024	---	---	---
SB-5-13	6/15/2005	13	9.3	<0.024	<0.024	0.030	0.040	<0.024	0.14	<0.049	<0.024	<0.024	---	---	---
SB-5-15	6/15/2005	15	8.6	<0.0050	<0.0050	0.20	<0.0050	0.065	0.50	<0.010	<0.0050	<0.0050	---	---	---
SB-6-5	6/15/2005	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	0.030	0.13	<0.010	<0.0050	<0.0050	---	---	---
SB-6-10	6/15/2005	10	<1.0	<0.0050	<0.0050	<0.0050	0.0064	0.0068	0.49	<0.010	<0.0050	<0.0050	---	---	---
SB-6-15	6/15/2005	15	<4.8	<0.024	<0.024	<0.024	<0.024	0.13	9.3	<0.048	<0.024	<0.024	---	---	---
SB-6-17	6/15/2005	17	<4.9	<0.025	<0.025	<0.025	<0.025	<0.025	3.1	<0.049	<0.025	<0.025	---	---	---
SB-8-5	6/16/2005	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	0.011	<0.010	<0.0050	<0.0050	---	---	---
SB-8-10	6/16/2005	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	1.6	<0.010	<0.0050	<0.0050	---	---	---
SB-8-12	6/16/2005	12	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	0.014	0.30	<0.010	<0.0050	<0.0050	---	---	---
SB-8-15	6/16/2005	15	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	0.23	0.38	<0.010	<0.0050	<0.0050	---	---	---

TABLE 3

HISTORICAL SOIL ANALYTICAL DATA
SHELL-BRANDED SERVICE STATION
2120 MONTANA STREET, OAKLAND, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*TPHg (mg/kg)*	*B (mg/kg)*	*T (mg/kg)*	*E (mg/kg)*	*X (mg/kg)*	*MTBE (mg/kg)*	*TBA (mg/kg)*	*DIPE (mg/kg)*	*ETBE (mg/kg)*	*TAME (mg/kg)*	*1,2-DCA (mg/kg)*	*EDB (mg/kg)*	*Lead (mg/kg)*
EW-1-5	4/5/2006	5	0.232	<0.00200	<0.00200	<0.00200	<0.00500	0.0497	0.848	<0.00200	<0.00500	<0.00200	---	---	---
EW-1-10	4/5/2006	10	0.803	0.00603	<0.00200	0.00581	<0.00500	0.320	0.376	<0.00200	<0.00500	<0.00200	---	---	---
EW-1-12	4/5/2006	12	0.920	0.00496	<0.00200	0.00637	0.0270	0.172	0.502	<0.00200	<0.00500	<0.00200	---	---	---
EW-2-5	4/6/2006	5	0.158	<0.00200	<0.00200	<0.00200	<0.00500	<0.00200	<0.0500	<0.00200	<0.00500	<0.00200	---	---	---
EW-2-10	4/6/2006	10	0.488	<0.00200	<0.00200	<0.00200	<0.00500	<0.00200	<0.0500	<0.00200	<0.00500	<0.00200	---	---	---
EW-2-12	4/6/2006	12	0.715	0.00532	<0.00240	<0.00200	<0.00500	<0.00300	<0.0500	<0.00200	<0.00500	<0.00200	---	---	---
T-1	11/13/2012	12	<0.098	<0.0020	<0.0020	<0.0020	<0.0039	<0.0049	1.2	---	---	---	<0.0020	<0.0020	---
T-2	11/13/2012	12	<0.10	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	0.16	---	---	---	<0.0020	<0.0020	---
T-3	11/13/2012	12	<0.099	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.099	---	---	---	<0.0020	<0.0020	---
T-4	11/13/2012	12	<0.096	<0.0019	<0.0019	<0.0019	<0.0038	<0.0048	<0.096	---	---	---	<0.0019	<0.0019	---
DP-1	11/13/2012	4.5	**1,300**	<2.0	<2.0	<2.0	**13**	<5.0	<100	---	---	---	<2.0	<2.0	---
DP-2	11/13/2012	4	0.89	0.020	<0.0085	0.10	0.053	0.42	<0.43	---	---	---	<0.0085	<0.0085	---
DP-3	11/13/2012	4.5	0.27	<0.0020	<0.0020	<0.0020	<0.0040	0.032	<0.099	---	---	---	<0.0020	<0.0020	---
P-1	11/13/2012	4	<0.099	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.099	---	---	---	<0.0020	<0.0020	---
P-2	11/13/2012	4	<0.096	<0.0019	<0.0019	<0.0019	<0.0039	<0.0048	<0.096	---	---	---	<0.0019	<0.0019	---
P-3	11/13/2012	4.5	<0.10	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.10	---	---	---	<0.0020	<0.0020	---
P-4	11/13/2012	4.5	0.47	<0.0020	<0.0020	0.0025	<0.0039	0.032	0.18	---	---	---	<0.0020	<0.0020	---
P-5	11/13/2012	4	0.33	<0.0020	<0.0020	<0.0020	<0.0040	0.10	<0.10	---	---	---	<0.0020	<0.0020	---
Shallow Soil (≤10 fbg) [c]*:*			500	1.2	9.3	4.7	11	8.4	110	NA	NA	NA	0.91	0.51	320
Deep Soil (>10 fbg) ESL [c]*:*			2,400	1.2	9.3	4.7	11	8.4	110	NA	NA	NA	0.91	0.51	320

Notes:
TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method 8260B; before February 20, 2001, analyzed by EPA Method 8015.
BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B; before February 20, 2001, analyzed by EPA Method 8020.
MTBE = Methyl tertiary-butyl ether analyzed by EPA Method 8260B; before February 20, 2001, analyzed by EPA Method 8020 unless otherwise noted.
TBA = Tertiary-butyl alcohol analyzed by EPA Method 8260B
DIPE = Di-isopropyl ether analyzed by EPA Method 8260B
ETBE = Ethyl tertiary-butyl ether analyzed by EPA Method 8260B
TAME = Tertiary-amyl methyl ether analyzed by EPA Method 8260B

TABLE 3

HISTORICAL SOIL ANALYTICAL DATA
SHELL-BRANDED SERVICE STATION
2120 MONTANA STREET, OAKLAND, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*TPHg (mg/kg)*	*B (mg/kg)*	*T (mg/kg)*	*E (mg/kg)*	*X (mg/kg)*	*MTBE (mg/kg)*	*TBA (mg/kg)*	*DIPE (mg/kg)*	*ETBE (mg/kg)*	*TAME (mg/kg)*	*1,2-DCA (mg/kg)*	*EDB (mg/kg)*	*Lead (mg/kg)*

1,2-DCA = 1,2-Dichloroethane analyzed by EPA Method 8260B
EDB = 1,2-Dibromoethane analyzed by EPA Method 8260B
Lead analyzed by EPA Method 6010B; before May 6, 2004 analyzed according to Title 22
fbg = Feet below grade
mg/kg = Milligrams per kilogram
--- = Not analyzed
<x = Not detected at reporting limit x
ESL = Environmental screening level
NA = No applicable ESL
Results in bold exceed ESL

a = Lead results reported are based on a composite sample of D-1, D-2, and D-3
b = Analyzed by EPA Method 8260B
c = San Francisco Bay Regional Water Quality Control Board commercial/industrial ESL for soil where groundwater is not a current or potential source of drinking water. Commercial land use. Ref: Tables B and D of *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater* , Interim Final - November 2007 (Revised May 2008) - Updated May 2013.

TABLE 4
HISTORICAL SOIL VAPOR ANALYTICAL DATA
SHELL-BRANDED SERVICE STATION
2120 MONTANA STREET, OAKLAND, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*TPHg (µg/m3)*	*B (µg/m3)*	*T (µg/m3)*	*E (µg/m3)*	*X (µg/m3)*	*MTBE (µg/m3)*	*TBA (µg/m3)*	*Naph-thalene (µg/m3)*	*Helium (%v)*	*Isobutane (TIC) (µg/m3)*	*Propane (µg/m3)*	*Butane (µg/m3)*
SV-D-5.0	8/24/2005	5	22,000	<130	<150	<170	<170	<140	<600	---	---	---	---	---
SV-D-5.0	7/30/2007	5	<21,000	<2.4	310	25	106	<11	<9.3	<20	---	6.5	<2,800	<3,600
SV-D-5'	4/22/2009	5	<9,800	<2.7	<3.2	<3.7	<15	<12	<10	---	0.0553	---	---	---
SV-D-10.0	8/24/2005	10	**16,000,000**	**480**	<510	<590	<590	<490	<2,000	---	---	---	---	---
SV-D-10.0	7/30/2007	10	27,000	7.5	1,900	33	109	<12	<9.7	<21	---	ND	<2,900	<3,800
SV-D-10'	4/22/2009	10	<9,500	<2.7	<3.1	<3.6	<14	<12	<10	---	0.409	---	---	---
SV-D-10'- DUP [a]	4/22/2009	10	<9,300	<2.6	<3.1	<3.5	<14	<12	<9.8	---	0.0843	---	---	---
SV-E-5.0	8/24/2005	5	25,000	<6.4	25	<8.7	<8.7	<7.2	<30	---	---	---	---	---
SV-E-5.0 DUP [a]	8/24/2005	5	10,000	<6.4	<7.5	<8.7	<8.7	<7.2	<30	---	---	---	---	---
SV-E-5.0	7/30/2007	5	<20,000	4.4	1,100	32	115	<11	<9	<19	---	ND	<2,700	<3,500
SV-E-5.0 DUP [a]	7/30/2007	5	<23,000	4.4	1,200	37	137	<12	<10	<22	---	26	<3,000	<4,000
SV-E-5'	4/22/2009	5	<10,000	<2.8	<3.4	<3.9	<15	<13	<11	---	0.150	---	---	---
SV-E-10.0	8/24/2005	10	**78,000,000**	**46,000**	<7,800	<9,000	<9,000	<7,500	<31,000	---	---	---	---	---
SV-E-10.0	7/30/2007	10	**8,700,000**	**1,200**	2,500	<1,100	3,600	<3,700	<3,100	<6,800	---	ND	<3,100	<4,100
SV-E-10'	4/22/2009	10	**60,000,000**	<6,700	41,000	<9,100	<36,000	<30,000	<25,000	---	0.0506	---	---	---
Trip Blank	8/24/2005		<4.1	<6.4	<7.5	<8.7	<8.7	<7.2	<30	---	---	---	---	---
Trip Blank	7/30/2007		<14,000	<1.6	<1.9	<2.2	<6.5	<7.2	<6.1	<13	---	ND	<1,800	<2,400
Trip Blank	4/22/2009		<5,700	<1.6	<1.9	<2.2	<8.7	<7.2	<6.1	---	---	---	---	---
Residential Land Use ESL [b]:			***150,000***	***42***	***160,000***	***490***	***52,000***	***4,700***	***NA***	***36***	***NA***	***Concentration in the tracer gas [c]***		
Commercial/Industrial Land Use ESL [b]:			***1,200,000***	***420***	***1,300,000***	***4,900***	***440,000***	***47,000***	***NA***	***360***	***NA***	***356,000***	***72,130***	***11,410***

Notes:

TPHg = Total petroleum hydrocarbons as gasoline analyzed by modified EPA Method TO-3 GC/FID; before 4/22/09, analyzed by EPA Method TO-3 (M) GC-13.

BTEX = Benzene, toluene, ethylbenzene and total xylenes analyzed by modified EPA Method TO-15 GC/FID Full Scan; before 4/22/09, analyzed by EPA Method TO-15 GC/MS K.

MTBE = Methyl tertiary-butyl ether analyzed by modified EPA Method TO-15 GC/FID Full Scan; before 4/22/09, analyzed by EPA Method TO-15 GC/MS K.

TBA = Tertiary-butyl alcohol analyzed by modified EPA Method TO-15 GC/FID Full Scan; before 4/22/09, analyzed by EPA Method TO-15 GC/MS K.

Naphthalene analyzed by EPA Method TO-15 GC/MS K

TABLE 4
HISTORICAL SOIL VAPOR ANALYTICAL DATA
SHELL-BRANDED SERVICE STATION
2120 MONTANA STREET, OAKLAND, CALIFORNIA

Isobutane (TIC) = Tentatively identified compound via EPA Method TO-15 GC/MS
Propane and butane analyzed by ASTM Method D-2820.
Helium analyzed by modified EPA Method ASTM D-1946 GC
fbg = feet below grade
µg/m3 = Micrograms per cubic meter
%v = Percentage by volume
<x = Not detected at or above reporting limit x
--- = Not analyzed
ND = Not detected during GC/MS library search for tentatively identified compound.
ESL = Environmental screening level
NA = No applicable ESL

a = Field duplicate
b = San Francisco Bay Regional Water Quality Control Board ESLs for shallow soil gas (Table E of *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater*, Interim Final - November 2007 [Revised May 2008] - Updated May 2013).
c = Tracer gas compound (shaving cream) previously sampled for trace compounds.

APPENDIX A

SITE HISTORY

SITE HISTORY

1997 Dispenser and Turbine Sump Upgrades: In November 1997, Paradiso Mechanical (Paradiso) of San Leandro, California added secondary containment to the three existing dispensers and to the turbine sumps above the underground storage tanks (USTs). Cambria Environmental Technology, Inc. (Cambria) collected three soil samples (D-1, D-2, and D-3) from beneath the dispensers at a depth of approximately 5 feet below grade (fbg). The soil samples contained up to 59 milligrams per kilogram (mg/kg) total petroleum hydrocarbons as gasoline (TPHg), 0.76 mg/kg benzene, and 1.1 mg/kg methyl tertiary-butyl ether (MTBE). Cambria's February 3, 1998 *Dispenser Soil Sampling Report* presents soil sampling results.

1999 Subsurface Investigation: In October 1999, Cambria drilled three soil borings (SB-1 through SB-3). SB-1 was advanced to 16 fbg, and SB-2 and SB-3 were advanced to 20 fbg. Soil samples collected from the borings contained up to 54 mg/kg TPHg, 0.019 mg/kg benzene, and 0.24 mg/kg MTBE. Grab groundwater samples collected from the borings contained up to 2,380 micrograms per liter (µg/L) TPHg, 10.6 µg/L benzene, and 3,210 µg/L MTBE. Cambria's June 7, 2000 *Subsurface Investigation Report and Work Plan for Installation of Groundwater Monitoring Wells* details investigation results.

2001 Subsurface Investigation: In February 2001, Cambria installed three groundwater monitoring wells (MW-1, MW-2, and MW-3). Soil samples collected from the well borings contained up to 10 mg/kg TPHg, 0.066 mg/kg benzene, and 5.0 mg/kg MTBE. Cambria's May 22, 2001 *Groundwater Monitoring Well Installation Report* summarizes the well installations.

2001 Sensitive Receptor Survey, Well Survey, and Conduit Study: In August 2001, Cambria conducted a sensitive receptor survey, well survey, and conduit study. No water-producing wells were identified within a one-half mile radius of the site. The nearest surface water body is Sausal Creek, located approximately 240 feet west-northwest of the site. Sausal Creek is diverted into a 10-foot by 10-foot culvert, located approximately 420 feet west-northwest of the site, with a flow line depth shallower than the typical water table at the site. Sausal Creek resurfaces approximately 730 feet southwest of the site. The conduit study determined that utility conduits in the area do not typically encounter groundwater and likely do not act as preferential pathways for contaminant migration. Cambria's September 24, 2001 *Sensitive Receptor Survey, Well Survey, and Conduit Study Report* details survey and study results.

2001-2004 Mobile Groundwater Extraction (GWE): Beginning in August 2001, Cambria conducted mobile GWE from wells MW-1 and TBW-N using a vacuum truck. Mobile GWE was conducted on a weekly basis through November 2001, on a bi-weekly basis through December 2001, on a monthly basis through March 2003, and then again on a weekly basis between August 2003 and January 2004. Mobile GWE removed approximately 2.68 pounds of separate-phase hydrocarbons (SPHs) and an estimated 25.27 pounds of TPHg and 8.13 pounds of MTBE. In addition, approximately 2.68 pounds of SPHs were removed from wells MW-1 and TBW-N through manual bailing and mobile GWE.

2002 Soil Vapor Extraction (SVE) Pilot Test: In June 2002, Cambria performed a 5-day SVE pilot test from tank backfill well TBW-E to remove petroleum hydrocarbon mass and to determine whether extracted vapor concentrations would be sustained over a long period of time. High initial vapor concentrations indicated the presence of source material available for recovery within the UST complex. TPHg and MTBE vapor concentrations decreased by an order of magnitude during the test. The SVE test removed an estimated at 176 pounds of TPHg, 0.998 pound of benzene, and 1.92 pounds of MTBE. Cambria's September 4, 2002 *Subsurface Investigation, Soil Vapor Extraction Pilot Test Report, and Interim Remediation Work Plan* details pilot test results.

2002 Subsurface Investigation: In June 2002, Cambria installed two groundwater monitoring wells (MW-4 and MW-5). No MTBE was detected in soil samples collected during this investigation, and no TPHg or benzene was detected in soil samples collected from well boring MW-4. Soil samples collected from well boring MW-5 contained up to 18 mg/kg TPHg and 0.0083 mg/kg benzene. Cambria's September 4, 2002 *Subsurface Investigation, Soil Vapor Extraction Pilot Test Report, and Interim Remediation Work Plan* summarizes the well installations.

2003 - 2007 GWE System: From April 2003 to March 2007, Cambria conducted GWE, initially from monitoring well MW-1 and tank backfill well TBW-N, and beginning in April 2006, from extraction wells EW-1 and EW-2. Due to the presence of SPH between July 2003 and April 2004, Cambria temporarily shut down the GWE system. Cambria re-designed the GWE system to include an oil-water separator and restarted the system. Treated groundwater was discharged to the sanitary sewer under an East Bay Municipal Utilities District wastewater discharge permit. The GWE system removed approximately 767,943 gallons of groundwater containing an estimated 21.8 pounds of TPHg, 0.826 pound of benzene, and 4.87 pounds of MTBE.

2003 Tank Repair: In November 2003, Able Maintenance of Santa Rosa, California exposed the regular-grade UST for inspection by the tank manufacturer (Xerxes

Company). Xerxes Company found a small crack on the bottom of the tank. The crack was investigated, repaired with fiberglass resin, and air tested for the City of Oakland Fire Department. After the Xerxes Company completed their air test, Able Maintenance called in a third-party tank tester to precision test the tank. Afford-a-Test completed that test, and the tank was certified as tight. Able Maintenance monitored the tank through Shell's Veeder-Root monitoring system following the repair, and it passed the associated pressure tests.

2004 Fuel System Upgrades: In May 2004, Paradiso upgraded the station's fuel dispensers and UST sumps. Cambria collected three soil samples (D-1 through D-3) from beneath the dispensers at 4 fbg. The soil samples contained up to 1,900 mg/kg TPHg, 1.7 mg/kg benzene, and 5.80 mg/kg MTBE. Cambria's November 1, 2004 *Dispenser Upgrade Sampling Report* provides soil sampling results.

2004 SVE Pilot Test: In July 2004, Cambria performed a 5-day SVE pilot test from monitoring well MW-1 to evaluate enhanced removal of petroleum hydrocarbons and MTBE from the source area. Cambria initially used the GWE system's submersible pneumatic pump in MW-1 to dewater the soils, but switched to an electric pump to achieve greater drawdown. Data from MW-1 suggested that SVE was effective as interim remediation. An average flow rate of 30.3 standard cubic feet per minute was obtained with a measured wellhead vacuum ranging from 249.8 to 382.9 inches water column. Elevated TPHg, benzene, toluene, ethylbenzene, and total xylenes (BTEX), and MTBE vapor concentrations (up to 10,240 parts per million by volume total volatile organic compounds) were sustained over the duration of the SVE pilot test. Cambria measured up to 0.8 foot of SPHs in off-site monitoring well MW-2 during dewatering and SVE from on-site well MW-1. The pilot test removed an estimated 257 pounds of TPHg, 0.822 pound of benzene, and 1.22 pounds of MTBE. Cambria's January 18, 2005 *Interim Remediation Report* presents pilot test results.

2005 Subsurface Investigation: In June 2005, Cambria drilled four cone penetrometer test (CPT) borings (SB-4, SB-5, SB-6, and SB-8) and installed two soil vapor probes (SV-D and SV-E). At each CPT location, an ultraviolet induced fluorescence module was used to identify SPHs in the subsurface; however, no evidence of an SPH plume was found during this investigation. Soil samples contained up to 23 mg/kg TPHg, 0.0072 mg/kg benzene, and 0.23 mg/kg MTBE. Grab groundwater samples collected from the CPT borings contained up to 28,000 µg/L TPHg, 100 µg/L benzene, 1,100 µg/L MTBE, and 15,000 µg/L tertiary-butyl alcohol (TBA). Cambria's October 24, 2005 *Subsurface Investigation and Vapor Sampling Report* presents CPT boring results and vapor probe installation details.

2005 – 2009 Soil Vapor Sampling: In August 2005, July 2007, and April 2009, Cambria and later Conestoga-Rovers & Associates (CRA) collected soil vapor samples from 5 and 10 fbg in probes SV-D and SV-E. Soil vapor samples from the probes screened at 5 fbg contained up to 25,000 micrograms per cubic meter ($\mu g/m^3$) TPHg and 4.4 $\mu g/m^3$ benzene. Soil vapor samples from the probes screened at 10 fbg contained up to 78,000,000 $\mu g/m^3$ TPHg and 46,000 $\mu g/m^3$ benzene. These results demonstrate up to three orders of magnitude of attenuation in soil vapor concentrations from 10 fbg to 5 fbg. In addition, soil vapor concentrations for samples collected at 5 fbg from SV-D and SV-E were below the San Francisco Bay Regional Water Quality Control Board (RWQCB) environmental screening levels (ESLs)[1] for shallow soil gas in a residential setting. No MTBE or TBA was detected in the soil vapor samples. CRA's May 29, 2009 *Soil Vapor Sampling Report* presents historical soil vapor sampling results.

2005 Door-to-Door Survey: In August 2005, Cambria staff conducted a survey of businesses and residences within approximately 200 feet of the subject site to determine the building foundation type and the presence of any wells (existing or abandoned), sump pumps, basements or crawl spaces on the surrounding properties. Cambria received responses for four of the nine properties within the survey area. No wells (existing or abandoned) or sump pumps were identified. As reported by the tenant and/or owner, the property west of and adjacent to the subject site, 2110 Montana Street, contains a concrete basement approximately one-fourth the size of the total structure and an earthen crawl space. The property four doors down in the west direction, 2026 Montana Street, contains an earthen crawl space but no basement, as reported by the property owner. Although we did not receive a response regarding the two other properties on this street (2106 and 2102 Montana Street), the buildings appear to be similarly constructed, and may contain basements and/or crawl spaces. Cambria's October 24, 2005 *Subsurface Investigation and Vapor Sampling Report* presents door-to-door survey information.

2007 Step Drawdown Test: In March 2007, Cambria performed a drawdown test from wells EW-1 and EW-2 in an effort to observe and recover any SPHs that may still have been present near MW-2. The objective of the test was to pump groundwater from on site in an effort to draw down the water level in off-site well MW-2 to try to expose the sandy unit between 15 and 20 fbg in the well. It is believed that this permeable lens was the pathway by which free product entered MW-2 when the enhanced pumping was performed in July 2004. In order to repeat the conditions present during the July 2004 test, Cambria planned to pump groundwater at a minimum of approximately 4 gallons

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1 *Screening for Environmental Concerns at Site With Contaminated Soil and Groundwater,* California Regional Water Quality Control Board, Interim Final – November 2007 [Revised May 2008] – Updated May 2013

per minute during the test, which was the rate groundwater was extracted from MW-1 during the previous test.

Pumping from extraction well EW-2 was conducted over the entire course of the test, and from extraction well EW-1 for a shorter period of the test in an effort to draw the water table down to the target level in MW-2. On March 7, 2007 after approximately 50 hours of GWE, the target drawdown level in MW-2 was achieved. The prescribed drawdown was maintained in MW-2 for an additional 24 hours. Since SPHs were not observed in MW-2, CRA determined that no additional mobile SPHs exist at or near the site. CRA's May 8, 2007 *Results of Drawdown Pilot Test* report provides pilot test results.

2012 UST Replacement: In November 2012, Paradiso removed three 10,000-gallon gasoline USTs, product dispensers, and piping. CRA observed no cracks, holes, or corrosion in the USTs upon removal. CRA collected four soil samples (T-1 through T-4) from the side walls of the UST excavation at a depth of 12 fbg, three samples (DP-1 through DP-3) beneath the dispenser locations at depths of 4 to 4.5 fbg, and five samples (P-1 through P-5) below product piping at 4 to 4.5 fbg. In addition, a grab groundwater sample (TW) was collected from the UST excavation. Only TPHg (1,300 mg/kg) and total xylenes (13 mg/kg) in one dispenser soil sample (D-2) and TPHg (210 µg/L) in the grab groundwater sample from the UST excavation exceeded ESLs. It should be noted that the RWQCB advises that ESLs must be used in conjunction with ESLs for related chemicals (e.g. BTEX, polynuclear aromatic hydrocarbons, oxidizers, etc.)." In this case, benzene, toluene, ethylbenzene, total xylenes, MTBE, and TBA are the appropriate related chemicals. All concentrations of these constituents of concern are below ESLs with the exception of the total xylenes concentration in soil sample D-2, which was only slightly higher than the ESL (11 mg/kg). CRA's April 1, 2013 *Underground Storage Tank Removal Report* presents UST removal details.

Groundwater Monitoring: Groundwater monitoring has been conducted at the site since March 2001. Up to 2.38 feet of SPHs have been detected in wells MW-1 and TBW-N; however, no SPHs have been measured since June 2005. The depth to groundwater at the site has ranged from 8.35 and 21.00 fbg. Groundwater flow direction is variable but generally toward the southwest.

APPENDIX B

GROUNDWATER EXTRACTION – OPERATION AND MASS REMOVAL DATA

Table 2: Groundwater Extraction - Operation and Mass Removal Data
Shell-branded Service Station, Incident #98995740, 2120 Montana Street, Oakland, California

Site Visit (mm/dd/yy)	Hour Meter hours	Flow Meter Reading (gal)	Period Volume (gal)	Period Operational Flow Rate (gpm)	Cumulative Volume (gal)	TPHg Conc. (ppb)	TPHg Period Removal (pounds)	TPHg Cumulative Removal (pounds)	Benzene Conc. (ppb)	Benzene Period Removal (pounds)	Benzene Cumulative Removal (pounds)	MTBE Conc. (ppb)	MTBE Period Removal (pounds)	MTBE Cumulative Removal (pounds)
04/02/2003	0.0	393	0	0	0		0.000	0.000		0.000	0.000		0.000	0.000
04/02/2003	5.3	1,006	613	1.93	613	51,000	0.261	0.261	1,300	0.007	0.007	7,100	0.036	0.036
04/08/2003	11.4	2,010	1,004	2.74	1,617	45,000	0.377	0.638	1,200	0.010	0.017	8,600	0.072	0.108
04/22/2003	303.0	15,640	13,630	0.78	15,247	<50	0.003	0.641	<25	0.001	0.018	1,700	0.193	0.302
05/01/2003	399.0	17,840	2,200	0.38	17,447	45,000	0.826	1.47	1,600	0.029	0.047	8,300	0.152	0.454
05/20/2003	784.0	43,320	25,480	1.10	42,927		9.568	11.0		0.340	0.388		1.765	2.22
05/21/2003	808.5	44,639	1,319	0.90	44,246	12,000	0.132	11.2	370	0.004	0.392	1,500	0.017	2.24
06/03/2003	1116.9	59,813	15,174	0.82	59,420	10,000	1.266	12.4	470	0.060	0.451	1,900	0.241	2.48
06/17/2003	1455.5	64,741	4,928	0.24	64,348	1,200	0.049	12.5	42	0.002	0.453	29	0.001	2.48
07/01/2003	1697.4	68,668	3,927	0.27	68,275		0.039	12.5		0.001	0.454		0.001	2.48
07/18/2003	1867.0	69,099	431	0.04	68,706		0.004	12.5		0.000	0.455		0.000	2.48
	System Shutdown due to presence of SPH													
04/21/2004	1984.4	1,516.3	0	0.00	68,706	10,000	0.000	12.5	540	0.000	0.455	950	0.000	2.48
05/25/2004	1984.4	1,516.3	0	0.00	68,706		0.000	12.5		0.000	0.455		0.000	2.48
06/08/2004	2,107.5	4,798.2	3,282	0.44	71,988	970	0.027	12.6	26	0.001	0.455	290	0.008	2.49
06/22/2004	2280.6	10,108	5,310	0.51	77,298		0.043	12.6		0.001	0.456		0.013	2.50
06/30/2004	2475.2	18,527.5	8,420	0.72	85,717		0.068	12.7		0.002	0.458		0.020	2.52
07/07/2004	2494.5	19,377	850	0.73	86,567	1,700	0.012	12.7	71	0.001	0.459	500	0.004	2.52
07/22/2004	2861.5	34,214	14,837	0.67	101,404		0.210	12.9		0.009	0.468		0.062	2.58
08/03/2004	3142.1	59,767	25,553	1.52	126,957	1,000	0.213	13.1	52	0.011	0.479	390	0.083	2.67
08/17/2004	3501.3	81,350	21,583	1.00	148,540		0.180	13.3		0.009	0.488		0.070	2.74
08/31/2004	3813.2	81,571	221	0.01	148,761		0.002	13.3		0.000	0.488		0.001	2.74
09/14/2004	4153.4	101,123	19,552	0.96	168,313	4,100	0.669	13.9	230	0.038	0.526	1,100	0.179	2.92
09/29/2004	4513.1	120,885	19,762	0.92	188,075		0.676	14.6		0.038	0.564		0.181	3.10
10/12/2004	4824.1	134,612	13,727	0.74	201,802	140	0.016	14.6	3.9	0.000	0.564	140	0.016	3.12
10/22/2004	4990.6	145,220	10,608	1.06	212,410		0.012	14.7		0.000	0.564		0.012	3.13
11/02/2004	5021.0	147,500	2,280	1.25	214,690		0.003	14.7		0.000	0.564		0.003	3.13
11/12/2004	5263.0	163,212	15,712	1.08	230,402	2,600	0.341	15.0	180	0.024	0.588	680	0.089	3.22
11/22/2004	5498.2	164,899	1,687	0.12	232,089		0.037	15.0		0.003	0.590		0.010	3.23
12/02/2004	5734.9	172,940	8,041	0.57	240,130	690	0.046	15.1	41	0.003	0.593	340	0.023	3.25
12/13/2004	6001.6	178,400	5,460	0.34	245,590		0.031	15.1		0.002	0.595		0.015	3.27
12/27/2004	6338.4	180,207	1,807	0.09	247,397		0.010	15.1		0.001	0.596		0.005	3.27
01/03/2005	6501.9	182,474	2,267	0.23	249,664	<500	0.005	15.1	17	0.000	0.596	1,500	0.028	3.30

Table 2: Groundwater Extraction - Operation and Mass Removal Data

Shell-branded Service Station, Incident #98995740, 2120 Montana Street, Oakland, California

Site Visit (mm/dd/yy)	Hour Meter hours	Flow Meter Reading (gal)	Period Volume (gal)	Period Operational Flow Rate (gpm)	Cumulative Volume (gal)	TPHg			Benzene			MTBE		
						TPHg Conc. (ppb)	Period Removal (pounds)	Cumulative Removal (pounds)	Benzene Conc. (ppb)	Period Removal (pounds)	Cumulative Removal (pounds)	MTBE Conc. (ppb)	Period Removal (pounds)	Cumulative Removal (pounds)
01/21/2005	6941.6	197,770	15,296	0.58	264,960		0.032	15.2		0.002	0.598		0.191	3.49
01/31/2005	7172.4	209,951	12,181	0.88	277,141		0.025	15.2		0.002	0.600		0.152	3.65
02/14/2005	7512.9	210,719	768	0.04	277,909	<100	0.000	15.2	<1.0	0.000	0.600	120	0.001	3.65
03/02/2005	7897.9	231,103	20,384	0.88	298,293	4,900	0.833	16.0	190	0.032	0.632	1,000	0.170	3.82
03/17/2005	7901.2	231,419	316	1.60	298,609		0.013	16.0		0.001	0.633		0.003	3.82
03/29/2005	8042.9	241,058	9,639	1.13	308,248		0.394	16.4		0.015	0.648		0.080	3.90
04/11/2005	8168.4	249,172	8,114	1.08	316,362	440	0.030	16.5	6.7	0.000	0.649	320	0.022	3.92
04/25/2005	8503.2	269,805	20,633	1.03	336,995		0.076	16.5		0.001	0.650		0.055	3.98
05/09/2005	8841.9	283,739	13,934	0.69	350,929	120	0.014	16.5	<0.50	0.000	0.650	79	0.009	3.99
05/27/2005	9271.3	290,449	6,710	0.26	357,639		0.007	16.6		0.000	0.650		0.004	3.99
06/09/2005	9581.5	290,688	239	0.01	357,878	<500	0.000	16.6	<0.50	0.000	0.650	<0.50	0.000	3.99
06/20/2005	9682.4	291,021	333	0.06	358,211		0.001	16.6		0.000	0.650		0.000	3.99
07/15/2005	10283.3	306,225	15,204	0.42	373,415	480	0.061	16.6	18	0.002	0.652	220	0.028	4.02
07/29/2005	10621.9	313,437	7,212	0.35	380,627		0.029	16.6		0.001	0.653		0.013	4.03
08/04/2005	10762.1	315,854	2,417	0.29	383,044	290	0.006	16.6	18	0.000	0.653	130	0.003	4.03
08/23/2005	11213.3	319,640	3,786	0.14	386,830		0.009	16.7		0.001	0.654		0.004	4.04
09/02/2005	11452.0	319,642	2	0.00	386,832		0.000	16.7		0.000	0.654		0.000	4.04
09/20/2005	11452.0	319,642	0	0.00	386,832		0.000	16.7		0.000	0.654		0.000	4.04
09/30/2005	11693.8	320,701	1,059	0.07	387,891	<50	0.000	16.7	<0.50	0.000	0.654	52	0.000	4.04
10/14/2005	11810.0	324,654	3,953	0.57	391,844	160	0.005	16.7	1.9	0.000	0.654	150	0.005	4.04
10/28/2005	*12146.0*	338,868	14,214	0.71	406,058		0.019	16.7		0.000	0.654		0.018	4.06
11/11/2005	*12482.0*	345,193	6,325	0.31	412,383	240	0.013	16.7	4.8	0.000	0.655	140	0.007	4.07
11/23/2005	*12482.0*	345,259	66	0.00	412,449		0.000	16.7		0.000	0.655		0.000	4.07
12/05/2005	0.5	348,540	3,281	0.19	415,730	770	0.021	16.7	12	0.000	0.655	1,100	0.030	4.10
12/19/2005	26.1	350,253	1,713	1.12	417,443		0.011	16.7		0.000	0.655		0.016	4.11
12/30/2005	286.3	364,949	14,696	0.94	432,139		0.094	16.8		0.001	0.657		0.135	4.25
01/05/2006	427.8	372,368	7,419	0.87	439,558	5,700	0.353	17.2	140	0.009	0.665	740	0.046	4.29
01/20/2006	791.4	390,500	18,132	0.83	457,690		0.862	18.0		0.021	0.686		0.112	4.41
01/30/2006	912.5	398,790	8,290	1.14	465,980		0.394	18.4		0.010	0.696		0.051	4.46
02/17/2006	956.6	401,816	3,026	1.14	469,006	4,300	0.109	18.5	43	0.001	0.697	330	0.008	4.47
03/03/2006	1049.2	408,675	6,859	1.23	475,865	1,900	0.109	18.6	29	0.002	0.699	320	0.018	4.48
03/17/2006	1384.9	433,900	25,225	1.25	501,090		0.400	19.0		0.006	0.705		0.067	4.55

Table 2: Groundwater Extraction - Operation and Mass Removal Data

Shell-branded Service Station, Incident #98995740, 2120 Montana Street, Oakland, California

Site Visit (mm/dd/yy)	Hour Meter hours	Flow Meter Reading (gal)	Period Volume (gal)	Period Operational Flow Rate (gpm)	Cumulative Volume (gal)	TPHg Conc. (ppb)	TPHg Period Removal (pounds)	TPHg Cumulative Removal (pounds)	Benzene Conc. (ppb)	Benzene Period Removal (pounds)	Benzene Cumulative Removal (pounds)	MTBE Conc. (ppb)	MTBE Period Removal (pounds)	MTBE Cumulative Removal (pounds)
							TPHg			Benzene			MTBE	
03/31/2006	1721.2	458,770	24,870	1.23	525,960		0.394	19.4		0.006	0.711		0.066	4.62
04/13/2006	2030.3	481,365	22,595	1.22	548,555	3,900	0.735	20.2	180	0.034	0.745	450	0.085	4.70
04/27/2006	2063.1	483,653	2,288	1.16	550,843		0.074	20.3		0.003	0.748		0.009	4.71
05/11/2006	2397.6	506,301	22,648	1.13	573,491	1,700	0.321	20.6	55	0.010	0.759	140	0.026	4.74
05/22/2006	2661.1	519,010	12,709	0.80	586,200		0.180	20.8		0.006	0.765		0.015	4.75
06/08/2006	2664.4	519,447	437	2.21	586,637	6,500	0.024	20.8	450	0.002	0.766	420	0.002	4.75
06/22/2006	2666.4	519,670	223	0.00	586,860		0.012	20.8		0.001	0.767		0.001	4.76
06/23/2006	2689.2	522,566	2,896	2.12	589,756		0.157	20.9		0.011	0.778		0.010	4.77
06/26/2006	2763.5	533,562	10,996	2.47	600,752		0.596	21.5		0.041	0.819		0.039	4.80
07/07/2006	3025.9	564,498	30,936	1.96	631,688	270	0.070	21.6	5.6	0.001	0.821	82	0.021	4.83
07/18/2006	3289.3	586,303	21,805	1.38	653,493		0.049	21.7		0.001	0.822		0.015	4.84
08/02/2006	3647.0	613,860	27,557	1.28	681,050	140	0.032	21.7	7.9	0.002	0.823	31	0.007	4.85
08/09/2006	3745.5	620,674	6,814	1.15	687,864		0.008	21.7		0.000	0.824		0.002	4.85
08/11/2006	3772.3	622,160	1,486	0.92	689,350		0.002	21.7		0.000	0.824		0.000	4.85
08/16/2006	3890.2	628,629	6,469	0.91	695,819		0.008	21.7		0.000	0.824		0.002	4.85
09/05/2006	3963.9	636,466	7,837	1.77	703,656	160	0.010	21.7	0.53	0.000	0.824	10	0.001	4.85
09/19/2006	4042.2	643,630	7,164	1.52	710,820		0.010	21.7		0.000	0.824		0.001	4.85
10/2/2006	4048.6	644,290	660	1.72	711,480	<50	0.000	21.7	2.58	0.000	0.825	12.6	0.000	4.85
10/16/2006	4113.2	649,940	5,650	1.46	717,130		0.001	21.7		0.000	0.825		0.001	4.85
10/30/2006	4448.5	650,247	307	0.02	717,437		0.000	21.7		0.000	0.825		0.000	4.85
11/13/2006	4785.0	656,368	6,121	0.30	723,558	360	0.018	21.8	11	0.001	0.825	37	0.002	4.85
11/27/2006	4830.1	660,792	4,424	1.63	727,982		0.013	21.8		0.000	0.826		0.001	4.86
12/11/2006	4955.3	673,911	13,119	1.75	741,101	<50	0.003	21.8	0.59	0.000	0.826	20	0.002	4.86
12/27/2006	4970.5	675,617	1,706	1.87	742,807		0.000	21.8		0.000	0.826		0.000	4.86
1/8/2007	5259.1	676,894	1,277	0.07	744,084	<50	0.000	21.8	<0.50	0.000	0.826	69	0.001	4.86
1/22/2007	5332.5	679,910	3,016	0.68	747,100		0.001	21.8		0.000	0.826		0.001	4.86
2/6/2007	5694.6	680,468	558	0.03	747,658	100	0.000	21.8	<0.50	0.000	0.826	64	0.000	4.86
2/20/2007	6024.9	680,875	407	0.02	748,065		0.000	21.8		0.000	0.826		0.000	4.86
3/9/2007	6167.2	700,260	19,385	2.27	767,450	76	0.012	21.8	<0.50	0.000	0.826	48	0.008	4.87
3/19/2007	6409.2	700,753	493	0.03	767,943		0.000	21.8		0.000	0.826		0.000	4.87
			Total Extracted Volume =		**767,943**	**Total Pounds Removed:**		**21.8**	**Total Pounds Removed:**		**0.826**	**Total Pounds Removed:**		**4.87**
			Average Operational Flow Rate =		**0.733**	**Total Gallons Removed:**		**3.58**	**Total Gallons Removed:**		**0.112**	**Total Gallons Removed:**		**0.788**

Abbreviations & Notes:

Table 2: Groundwater Extraction - Operation and Mass Removal Data
Shell-branded Service Station, Incident #98995740, 2120 Montana Street, Oakland, California

						TPHg			Benzene			MTBE		
Site Visit (mm/dd/yy)	Hour Meter hours	Flow Meter Reading (gal)	Period Volume (gal)	Period Operational Flow Rate (gpm)	Cumulative Volume (gal)	TPHg Conc. (ppb)	Period Removal (pounds)	Cumulative Removal (pounds)	Benzene Conc. (ppb)	Period Removal (pounds)	Cumulative Removal (pounds)	MTBE Conc. (ppb)	Period Removal (pounds)	Cumulative Removal (pounds)

TPHg = Total purgeable hydrocarbons as gasoline
MTBE = Methyl tertiary butyl ether
Conc. = Concentration
ppb = Parts per billion, equivalent to µg/L
mg/L = Micrograms per liter
L = Liter
gal = Gallon
gpm = Gallons per minute
g = Gram
Mass removed based on the formula: volume extracted (gal) x Concentration (µg/L) x ($g/10^6 \mu g$) x (pound/453.6g) x (3.785 L/gal)
When constituents are not detected, the concentration is assumed to be equal to half the detection limit in subsequent calculations.
Volume removal data based on the formula: mass (pounds) x $(density)^{-1}$ (cc/g) x 453.6 (g/pound) x (L/1000 cc) * (gal/3.785 L)
Density inputs: TPHg = 0.73 g/cc, benzene = 0.88 g/cc, MTBE = 0.74 g/cc
TPHg, BTEX, and MTBE analyzed by EPA Method 8260B
Italicized hour meter reading is calculated value.
constituents.