CONESTOGA-ROVERS & ASSOCIATES

5900 Hollis Street, Suite A
Emeryville, California 94608
Telephone: (510) 420-0700 Fax: (510) 420-9170
www.CRAworld.com

TRANSMITTAL

DATE: November 14, 2012

REFERENCE NO.: 240594

PROJECT NAME: 610 Market Street, Oakland

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

RECEIVED
4:00 pm, Nov 20, 2012
Alameda County
Environmental Health

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

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

QUANTITY	DESCRIPTION
1	Updated Site Conceptual Model and Closure Request

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

COMMENTS:
If you have any questions regarding the contents of this document, please call Peter Schaefer at (510) 420-3319.

Copy to: Denis Brown, Shell Oil Products US (electronic copy)
Roger Schmidt (adjacent property owner), 1224 Contra Costa Drive, El Cerrito, CA 94530
SF Data Room (electronic copy)

Completed by: Peter Schaefer Signed: Peter Schaefer

Filing: **Correspondence File**

Denis L. Brown
Shell Oil Products US
HSE – Environmental Services
20945 S. Wilmington Ave.
Carson, CA 90810-1039
Tel (707) 865 0251
Fax (707) 865 2542
Email denis.l.brown@shell.com

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

Re: Shell-branded Service Station
610 Market Street
Oakland, California
SAP Code 135692
Incident No. 98995750
ACEH Case No. RO0000493

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.

If you have any questions or concerns, please call me at (707) 865-0251.

Sincerely,

Denis L. Brown
Senior Program Manager

UPDATED SITE CONCEPTUAL MODEL AND CLOSURE REQUEST

SHELL-BRANDED SERVICE STATION
610 MARKET STREET
OAKLAND, CALIFORNIA

SAP CODE	135692
INCIDENT NO.	98995750
AGENCY NO.	RO0000493

Prepared by:
Conestoga-Rovers & Associates

5900 Hollis Street, Suite A
Emeryville, California
U.S.A. 94608

Office: (510) 420-0700
Fax: (510) 420-9170

web: http://www.CRAworld.com

NOVEMBER 14, 2012
REF. NO. 240594 (11)
This report is printed on recycled paper.

TABLE OF CONTENTS

LIST OF FIGURES
(Following Text)

LIST OF TABLES
(Following Text)

LIST OF APPENDICES

EXECUTIVE SUMMARY

- This evaluation and other information included in this report are intended to demonstrate that this site meets the requirements of the SWRCB's *Low-Threat Underground Storage Tank Case Closure Policy*.
- Historical groundwater monitoring data adequately define TPHg, BTEX, MTBE, and TBA impacts horizontally and vertically in groundwater to below applicable RWQCB ESLs and demonstrate that the plume is not migrating.
- Vadose zone soil analytical results are all below ESLs, with the exception of three soil samples collected from beneath the dispensers in 1995. Since no vadose zone soil concentrations exceeded ESLs in other borings, soil impacts have been adequately delineated.
- The site is likely to remain in use as a service station.
- This site meets SWRCB criteria for a low-threat fuel site. Therefore, on behalf of Shell, we respectfully request closure of this case. CRA requests that ACEH suspend the groundwater monitoring program during the closure review.

1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) prepared this report on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell). This evaluation and other information included in this report are intended to a demonstrate that this site meets the requirements of the State Water Resources Control Board's (SWRCB's) *Low-Threat Underground Storage Tank Case Closure Policy*.

The site is an active Shell-branded service station located on the east side of Market Street between 6th and 7th Streets in a mixed commercial and residential area of Oakland, California (Figure 1). The site layout includes a station kiosk, three gasoline underground storage tanks (USTs), two dispenser islands, and a car wash (Figure 2).

A summary of previous work performed at the site is contained in Appendix A.

2.0 UPDATED SITE CONCEPTUAL MODEL (SCM)

ITEM	*EVALUATION CRITERIA*	*COMMENTS/DISCUSSION*
2.1	**Hydrocarbon Source**	
2.1.1	Identify/Describe Release Source and Volume (if known)	Unknown.
2.1.2	Discuss Steps Taken to Stop Release	The dispensers and product piping were upgraded in August 1995, and secondary containment was added to the turbine sumps in March 1998.
2.2	**Site Characterization**	
2.2.1	Current Site Use/Status	The site is a Shell-branded service station.
2.2.2	Soil Definition Status	All detections of total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene, and total xylenes (BTEX), and methyl tertiary-butyl ether (MTBE) in the 36 vadose zone (less than 10 feet below grade [fbg]) soil samples analyzed from the site are below the San Francisco Bay Regional Water Quality Control Board (RWQCB) environmental screening levels (ESLs)[1] for soils at sites with commercial land use, where groundwater is

[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]

ITEM	EVALUATION CRITERIA	COMMENTS/DISCUSSION
		not a potential source of drinking water, with the exceptions of: • 2,700 milligrams per kilogram (mg/kg) TPHg, 130 mg/kg toluene, 46 mg/kg ethylbenzene, and 320 mg/kg total xylenes in soil sample D-1 at 2.5 fbg; • 1,400 mg/kg TPHg in soil sample D-6 at 2.5 fbg; and • 1,600 mg/kg TPHg in soil sample D-7 at 2.5 fbg. 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, BTEX and MTBE are the appropriate related chemicals. Since the detections of toluene, ethylbenzene, and total xylenes which exceed the ESLs are in the area of the dispensers and no vadose zone soil concentrations exceeded ESLs in other borings, soil impacts have been adequately delineated. In addition, these samples were collected in August 1995, so these concentrations have likely attenuated in the 17 years since the samples were collected. Table 1 presents historical soil data.
2.2.3	SPH Definition Status	Separate-phase hydrocarbons (SPHs) have not been observed at the site.
2.2.4	Groundwater Definition Status (TPHg/BTEX)	Groundwater has been monitored at the site since the fourth quarter of 1998. During the first quarter 2012 groundwater monitoring event, TPHg and BTEX concentrations were below ESLs for groundwater where groundwater is not a potential source of drinking water with the exception of up to 700 micrograms per liter (µg/L) TPHg and 160 µg/L benzene detected in well MW-8. As noted above, the RWQCB advises that TPH ESLs must be used in conjunction with ESLs for related chemicals.

ITEM	EVALUATION CRITERIA	COMMENTS/DISCUSSION
		BTEX concentrations in the shallow zone are defined to below ESLs down gradient by wells MW-2 through MW-7. Historical monitoring well groundwater data are included in Table 2, and grab groundwater sampling data are presented in Table 3. The first quarter 2012 groundwater chemical concentration and contour map is included as Figure 3.
2.2.5	TPHg/BTEX Plume Stability and Concentration Trends	Quarterly groundwater monitoring data indicate that TPHg and BTEX concentrations are declining. Figure 4 shows TPHg and benzene concentrations in well MW-8, the only well where any TPHg or BTEX detections exceed ESLs.
2.2.6	Groundwater Definition Status (Oxygenates)	Fuel oxygenate concentrations in all wells are below ESLs, with the exception of 39,000 µg/L tertiary-butyl alcohol (TBA) detected in well MW-7 during the second quarter of 2012, so the extent of fuel oxygenates in groundwater is adequately defined. Historical monitoring-well groundwater data are included in Table 2, and grab groundwater sampling data are presented in Table 3.
2.2.7	Oxygenate Plume Stability and Concentration Trends	All MTBE concentrations were below ESLs during the first quarter 2012 groundwater monitoring event. TBA concentrations in MW-7 are stable. It should be noted that TBA is a degradation product of MTBE. As seen in historical data from well MW-6, TBA concentrations will likely decline as MTBE concentrations continue to decline.
2.2.8	Groundwater Flow Direction, Depth Trends and Gradient	Static groundwater depth has ranged from 9.20 to 15.61 fbg. Groundwater flow direction is generally southwesterly with a variable but generally shallow groundwater gradient. Groundwater depths are presented in the historical groundwater monitoring table (Table 2). The first quarter 2012 groundwater contour map is included as

ITEM	EVALUATION CRITERIA	COMMENTS/DISCUSSION
		Figure 3.
2.2.9	Stratigraphy and Hydrogeology	Based on 15 site borings, the site is underlain by sand and silty sand to the total depth explored of approximately 26 fbg. Boring logs are presented in Appendix B.
2.2.10	Preferential Pathways Analysis	Cambria Environmental Technology, Inc.'s (Cambria's) August 29, 2001 *Site Conceptual Model and Pilot Test Report* identified one utility trench down gradient of the site, which typically encounters groundwater, a southwestward-flowing, 10-inch-diameter sanitary sewer line. Cambria concluded that, due to the range of historical groundwater depths, the potential exists for the water table to rise into the sanitary sewer trench and stated that there is a potential that the identified utility may act occasionally as preferential pathways for groundwater flow; however, Cambria did not identify any significant sensitive receptors in the vicinity of the site.
2.2.11	Other Pertinent Issues	None.
2.3	**Remediation Status**	
2.3.1	Remedial Actions Taken	From March 2000 to January 2003, Cambria coordinated mobile dual-phase extraction (DPE) and groundwater extraction (GWE) from wells MW-2, MW-3, and T-1. Approximately 45,421 gallons of water were removed containing an estimated 3.4 pounds of TPHg, 0.087 pounds of benzene, and 71 pounds of MTBE. Vapor extraction removed an estimated 53 pounds of TPHg, 1.5 pounds of benzene, and 43 pounds of MTBE. In March 2001, Cambria performed a short-term (1 day) DPE test on well MW-3 and a short-term (1 day) soil vapor extraction (SVE) test on tank backfill well T-1. The tests were conducted using an internal combustion engine for vapor abatement. The cumulative mass removal (liquid and vapor) during the pilot tests was approximately 2.0 pounds of TPHg and 3.3 pounds of

ITEM	EVALUATION CRITERIA	COMMENTS/DISCUSSION
		MTBE. In October 2001, Cambria conducted a long-term (5 day) SVE pilot test on tank backfill well T-1. Based on the pilot test data, Cambria calculated a radius of influence of 15.0 to 30.3 feet. Approximately 16 pounds of TPHg, 1.3 pounds of benzene, and 36 pounds of MTBE were removed during the pilot test. From February 2003 to November 2006, Cambria operated a GWE system which extracted groundwater from wells MW-2, MW-3, MW-6 through MW-8, and tank backfill well T-1. The GWE system removed approximately 2,228,010 gallons of water containing an estimated 48 pounds of TPHg, 0.38 pounds of benzene, and 140 pounds of MTBE. In addition, dispensers and product piping were upgraded in August 1995, and secondary containment was added to the turbine sumps in March 1998. Appendix C presents mass removal data.
2.3.2	Area Remediated	The area down gradient from the dispensers and the UST.
2.3.3	Remediation Effectiveness	The plume is stable to declining following remedial activities.
2.4	**Well and Sensitive Receptor Survey**	
2.4.1	Designated Beneficial Water Use	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 and proximity to

ITEM	*EVALUATION CRITERIA*	*COMMENTS/DISCUSSION*
		San Francisco Bay, it is unlikely that shallow groundwater would be used as a source of drinking water. Thus, RWQCB non-drinking water ESLs are the appropriate screening levels for this site.
2.4.2	Well Survey Results	In August 2001, Cambria performed a search of California Department of Water Resources (DWR) records for water-producing wells within one-half mile of the site. No public water supply wells were identified from DWR records. Cambria identified one well of unknown use located approximately 2,600 feet southeast of the site and one destroyed well located approximately 1,700 feet northeast of the site. The locations of the identified wells are shown on Figure 1, and well details are presented in Appendix D.
2.4.3	Likelihood of Impact to Wells	Due to the distance and direction to the possible water-producing well and declining trends observed for constituents of concern (COCs), it is unlikely it would be impacted.
2.4.4	Likelihood of Impact to Surface Water	The Oakland inner harbor of San Francisco Bay is located approximately 2,400 feet south. Due to the distance to the bay, it is unlikely that surface water would be impacted.
2.5	**Risk Assessment**	
2.5.1	Site Conceptual Exposure Model (current and future uses)	The site is an active Shell-branded service station and is likely to remain in use as a service station. The site is surrounded by mixed residential and commercial properties. There is no indication that the land use in the site vicinity will change from commercial and residential land use in the near future.
2.5.2	Exposure Pathways	Potential exposure pathways include ingestion of impacted groundwater, exposure of on-site workers to impacted shallow soils, and intrusion of vapor to indoor air. Groundwater ingestion does not appear to be a complete pathway because there are no down-gradient water-producing wells or surface water in close proximity to the site.

ITEM	*EVALUATION CRITERIA*	*COMMENTS/DISCUSSION*
		As discussed above, impacted soil is limited on site. Any worker doing trenching or excavating at an active gasoline station would be properly trained and prepared for encountering potentially impacted soil, and would 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. At this time, no further investigation associated with the residual soil impact is recommended. Furthermore, the site is an active fueling facility, and there is no reasonable concern that subsurface contamination poses unacceptable indoor inhalation health risk.
2.5.3	Risk Assessment Status	No formal risk assessment has been completed.
2.5.4	Identified Human Exceedances	NA
2.5.5	Identified Ecological Exceedances	NA
2.6	**Additional Recommended Data or Tasks**	
2.6.1	Well Destructions Following Case Closure	

3.0 LOW-THREAT CLOSURE EVALUATION

Site data demonstrate that the site conditions meet the low-threat UST case closure criteria outlined in the SWRCB's *Low-Threat Underground Storage Tank Case Closure Policy*. These criteria are addressed below.

3.1 GENERAL CRITERIA

3.1.1 THE UNAUTHORIZED RELEASE IS LOCATED WITHIN THE SERVICE AREA OF A PUBLIC WATER SYSTEM

East Bay Municipal Utility District is the public water system for the site and the surrounding area.

3.1.2 THE UNAUTHORIZED RELEASE CONSISTS ONLY OF PETROLEUM

The site is Shell-branded service station. Soil and groundwater impacts identified in site investigations since 1998 consist only of petroleum hydrocarbons and fuel additives.

3.1.3 THE UNAUTHORIZED ("PRIMARY") RELEASE FROM THE UST SYSTEM HAS BEEN STOPPED

No specific releases have been identified. The dispensers and product piping were upgraded in August 1995, and secondary containment was added to the turbine sumps in March 1998.

3.1.4 FREE PRODUCT HAS BEEN REMOVED TO THE MAXIMUM EXTENT PRACTICABLE

No free product has been measured in site groundwater monitoring wells.

3.1.5 A CONCEPTUAL SITE MODEL THAT ASSESSES THE NATURE, EXTENT, AND MOBILITY OF THE RELEASE HAS BEEN DEVELOPED

An updated SCM is presented in Section 2 above.

3.1.6 SECONDARY SOURCE HAS BEEN REMOVED TO THE EXTENT PRACTICABLE

As stated above, from March 2000 to January 2003, Cambria coordinated mobile DPE and GWE from wells MW-2, MW-3, and T-1. Approximately 45,421 gallons of water were removed containing an estimated 3.4 pounds of TPHg, 0.087 pounds of benzene,

and 71 pounds of MTBE. Vapor extraction removed an estimated 53 pounds of TPHg, 1.5 pounds of benzene, and 43 pounds of MTBE.

In March 2001, Cambria performed a short-term (1 day) DPE test on well MW-3 and a short-term (1 day) SVE test on tank backfill well T-1. The tests were conducted using an internal combustion engine for vapor abatement. The cumulative mass removal (liquid and vapor) during the pilot tests was approximately 2.0 pounds of TPHg and 3.3 pounds of MTBE.

In October 2001, Cambria conducted a long-term (5 day) SVE pilot test on tank backfill well T-1. Based on the pilot test data, Cambria calculated a radius of influence of 15.0 to 30.3 feet. Approximately 16 pounds of TPHg, 1.3 pounds of benzene, and 36 pounds of MTBE were removed during the pilot test.

From February 2003 to November 2006, Cambria operated a GWE system which extracted groundwater from wells MW-2, MW-3, MW-6 through MW-8, and tank backfill well T-1. The GWE system removed approximately 2,228,010 gallons of water containing an estimated 48 pounds of TPHg, 0.38 pounds of benzene, and 140 pounds of MTBE.

Appendix C presents mass removal data.

3.1.7 SOIL OR GROUNDWATER HAS BEEN TESTED FOR MTBE

Soil samples have been analyzed for MTBE in all investigations from March 1998 to the present. Groundwater samples have been analyzed for MTBE since December 1998. Analytical data has been reported to Alameda County Environmental Health (ACEH) in investigation reports and periodic groundwater monitoring reports.

3.1.8 NUISANCE AS DEFINED BY WATER CODE SECTION 13050 DOES NOT EXIST AT THE SITE

Site conditions do not interfere with enjoyment of life or property, affect an entire community or neighborhood, or present a nuisance during or as a result of, the treatment or disposal of wastes.

3.2 MEDIA-SPECIFIC CRITERIA

3.2.1 GROUNDWATER

The contaminant plume that exceeds water quality objectives is stable or decreasing in aerial extent, and this site meets the groundwater requirements specified for class 1 in the low-threat document:

- *The plume is less than 100 feet long:* The length of the plume exceeding ESLs is less than 70 feet.
- *There is no free product:* As stated above, no free product has been detected in site groundwater monitoring wells.
- *The nearest existing water supply well or surface water body is greater than 250 feet from the defined plume boundary:* As stated above, the nearest potential water supply well is approximately 2,600 feet southeast of the site. The Oakland inner harbor of San Francisco Bay is located approximately 2,400 feet south.

3.2.2 VAPOR

The site is an active fueling facility, and there is no reasonable concern that subsurface contamination poses unacceptable indoor inhalation health risk.

3.2.3 DIRECT CONTACT AND OUTDOOR AIR EXPOSURE

This site meets the residential direct contact and outdoor air requirements for benzene and ethylbenzene in commercial soil specified in scenario 1 in the low-threat document:

- *Benzene and ethylbenzene concentrations at 0 to 5 fbg are less than 8.2 mg/kg and 89 mg/kg, respectively:* Soil samples collected from 0 to 5 fbg have contained up to 0.70 mg/kg benzene and 46 mg/kg ethylbenzene.
- *Benzene and ethylbenzene concentrations at 5 to 10 fbg are less than 12 mg/kg kg and 134 mg/kg, respectively:* Soil samples collected from 5 to 10 fbg have contained up to 0.034 mg/kg ethylbenzene, and benzene has not been detected in soil samples collected from 5 to 10 fbg.

4.0 CLOSURE REQUEST

The site is likely to remain in use as a service station. 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 SWRCB's low-threat UST closure policy requirements. Therefore, on behalf of Shell, we respectfully request closure of this case. CRA requests that ACEH suspend the groundwater monitoring program during the closure review.

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

Peter Schaefer, CEG, CHG

Aubrey K. Cool, PG

FIGURES

05/01/09

0 1/8 1/4 1/2 1

SCALE : 1" = 1/4 MILE

FIGURE 1

I:\Shell\6-chars\2405-\240594 - Oakland 610 Market\240594-FIGURES\240594 VICINITY.AI

Shell-branded Service Station
610 Market Street
Oakland, California

CONESTOGA-ROVERS & ASSOCIATES

Vicinity Map

EXPLANATION

- MW-1 — Monitoring well
- MW-2 — Monitoring well formerly used for groundwater extraction
- T1 — Tank observation well
- SB-D — Soil boring location (2002)
- SB-A — Geoprobe boring location (1998)
- D-1 — Soil sample location (1995)
- D-4 — Confirmation soil sample location (1995)
- Electrical line (E)
- Telecommunication line (T)
- Gas line (G)
- Storm drain line (STM)
- Sanitary sewer line (SAN)
- Water line (W)
- Manhole
- Flow direction
- FL = 2,8 — Flow line elevation, in feet above mean sea level (ft MSL)
- Groundwater extraction system piping
- INF — GWE system sampling location

MARKET STREET

7th STREET

6th STREET

INTERSTATE 880 OFF-RAMP

FL = 8.0

FL = 5.8

FL = 8.9

FL = 2.8

FL = 3.3

FL = 8.2

FL = 6.5

FL = 12.1

STM 30"Ø

STM 15"Ø

10.0

SB-D

MW-8

MW-2

SB-B

D-5 D-6 D-7 D-8

Dispensers

Planter

MW-7

SB-E

SS2 D-3 D-2 D-1

Kiosk

Dispensers

D-4 SS1

MW-5

MW-6

SS3 SS5 L-1

SS4 L-3 L-2

L-4 SS6

Former Dispenser Island

MW-1

SB-C

SB-A

T2

USTs

T1

MW-3

Car Wash

MW-4

SB-F

EFF

INF

Remediation Enclosure

MW-9

0 10 30ft

Figure 2

Site Plan
Shell-branded Service Station
610 Market Street
Oakland, California

I:\Shell\6-chars\2405--\240594-Oakland 610 Market\240594-FIGURES\240594 SITE PLAN.DWG (09/21/2012)

09/20/2012

MW-1 Monitoring well
MW-2 Monitoring well formerly used for groundwater extraction
T1 Tank observation well
Electrical line (E)
Telecommunication line (T)
Gas line (G)
Storm drain line (STM)
Sanitary sewer line (SAN)
Water line (W)
Manhole
Flow direction
FL = 2.8 Flow line elevation, in feet above mean sea level (msl)
Groundwater extraction system piping

EXPLANATION

INF GWE system sampling location

XX.XX Groundwater elevation contour, in feet above mean sea level (msl), approximately located

Well
ELEV
Benzene
MTBE
TBA

Well designation
Groundwater elevation, in feet above msl
Benzene, MTBE, TBA concentrations are in micrograms per liter

Notes:
NA = Not analyzed
ND = Not detected
NDa = Elevated reporting limit; see laboratory report for details

MARKET STREET
7th STREET
6th STREET
INTERSTATE 880 OFF-RAMP
Planter
Kiosk
Dispensers
Former Dispenser Island
USTs
Car Wash
Remediation Enclosure
SS 10"Ø
SS 8"Ø
STM 15"Ø
FL = 6.5
FL = 12.1
FL = 10.0
FL = 8.0
FL = 5.6
FL = 3.3
FL = 8.2

MW-2
6.55
ND
1.2
NA

MW-8
6.09
160
23
2,800

MW-6
6.03
NDa
NDa
9,600

MW-7
5.91
NDa
NDa
42,000

MW-1
6.38
22
29
NA

MW-5
5.69
ND
0.68
120

MW-3
5.96
ND
1.6
340

MW-4
5.53
ND
ND
ND

MW-9

T1
T2

EFF
INF

6.30
6.00
5.70

0 15 30 60
Scale (ft)

Groundwater Contour and Chemical Concentration Map

March 5, 2012

CONESTOGA-ROVERS & ASSOCIATES

Shell-branded Service Station

610 Market Sreet
Oakland, California

FIGURE
3

N:\Shell\6~chars\2405~2\240594-Oakland 610 Market\240594-REPORTS\240594-RPT10-1Q12\240594 1QM12-GW.DWG

Predicted Time to Reach Water Quality Objectives (WQO) in Well MW-8

Shell-Branded Service Station, 610 Market Street, Oakland, California

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

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

	Constituent	Total Petroleum Hydrocarbons as Gasoline (TPHg)	Benzene
Given			
WQO:	y	210	46
Constant:	b	4.32E+13	4.41E+14
Constant:	a	-6.35E-04	-7.58E-04
Starting date for current trend:		12/29/2004	12/29/2004
Calculate			
Attenuation Half Life (years):	(-ln(2)/a)/365.25	2.99	2.50
Estimated Date to Reach WQO:	(x = ln(y/b) / a)	Apr 2012	Dec 2007

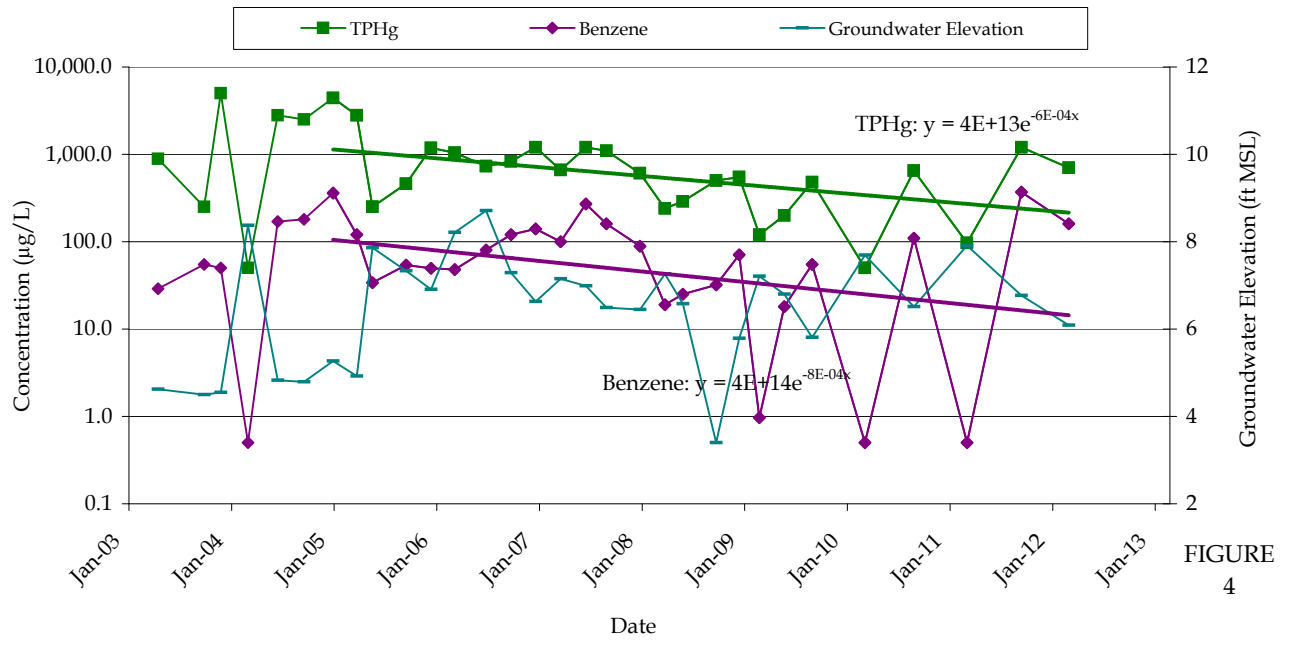


FIGURE 4

Shell-branded Service Station
610 Market Street
Oakland, California

CONESTOGA-ROVERS & ASSOCIATES

MW-8:
TPHg and Benzene Concentrations and Groundwater Elevations versus Time

TABLES

TABLE 1

HISTORICAL SOIL ANALYTICAL DATA
SHELL-BRANDED SERVICE STATION
610 MARKET STREET, OAKLAND, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*POG (mg/kg)*	*TPHg (mg/kg)*	*B (mg/kg)*	*T (mg/kg)*	*E (mg/kg)*	*X (mg/kg)*	*MTBE (mg/kg)*	*VOCs (mg/kg)*	*SVOCs (mg/kg)*	*Cd (mg/kg)*	*Cr (mg/kg)*	*Pb (mg/kg)*	*Ni (mg/kg)*	*Zn (mg/kg)*
D-1	8/3/1995	2.5	---	**2,700**	<5.0	**130**	**46**	**320**	---	---	---	---	---	---	---	---
D-2	8/3/1995	2.5	---	66	<0.050	0.11	0.36	1.9	---	---	---	---	---	---	---	---
D-3	8/3/1995	2.5	---	76	0.70	4.7	0.79	8.7	---	---	---	---	---	---	---	---
D-4	8/3/1995	2.5	---	7.7	<0.010	0.017	0.043	0.082	---	---	---	---	---	---	---	---
D-5	8/3/1995	2.5	---	33	<0.025	0.16	0.10	3.0	---	---	---	---	---	---	---	---
D-6	8/3/1995	2.5	---	**1,400**	<5.0	<5.0	<5.0	4.2	---	---	---	---	---	---	---	---
D-7	8/3/1995	2.5	---	**1,600**	<2.0	<2.0	3.4	**25**	---	---	---	---	---	---	---	---
D-8	8/3/1995	2.5	---	<1.0	<0.005	<0.0072	<0.005	<0.025	---	---	---	---	---	---	---	---
L-1	8/3/1995	2.5	---	<1.0	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	---	---	---
L-2	8/3/1995	2.5	---	2.2	<0.005	0.036	0.0068	0.064	---	---	---	---	---	---	---	---
L-3	8/3/1995	2.5	---	<1.0	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	---	---	---
L-4	8/3/1995	2.5	---	<1.0	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	---	---	---
SS-1	8/7/1995	5	<50	<1.0	<0.005	<0.005	<0.005	<0.005	---	ND	ND	<0.050	52	<5.0	39	26
SS-2	8/7/1995	4	<50	<1.0	<0.005	<0.005	<0.005	<0.005	---	ND	ND	<0.050	36	<5.0	16	11
SS-3	8/7/1995	4	<50	<1.0	<0.005	<0.005	<0.005	<0.005	---	ND	ND	<0.050	36	10	24	31
SS-4	8/7/1995	5	220	2.0	<0.005	0.0057	0.0076	0.019	---	ND	ND	<0.050	34	110	21	110
SS-5	8/7/1995	5	260	10	<0.005	<0.005	0.034	0.086	---	ND	ND	2.9	38	290	25	320
SS-6	8/7/1995	4	170	28	<0.012	<0.012	<0.029	<0.084	---	ND	ND	0.86	35	400	22	260
SB-A-5.0'	3/31/1998	5	---	<1.0	---	---	---	---	---	---	---	---	---	---	---	---
SB-A-10.0'	3/31/1998	10	---	<1.0	---	---	---	---	---	---	---	---	---	---	---	---
SB-A-13.5'	3/31/1998	13.5	---	1.3	0.063	<0.0050	<0.0050	<0.0050	1.8	---	---	---	---	---	---	---
SB-B-5.0'	3/31/1998	5	---	<1.0	---	---	---	---	---	---	---	---	---	---	---	---
SB-B-10.0'	3/31/1998	10	---	<1.0	<0.0050	0.0051	<0.0050	<0.0050	1.3	---	---	---	---	---	---	---
										---	---	---	---	---	---	---
SB-C-5.0'	3/31/1998	5	---	<1.0	---	---	---	---	---	---	---	---	---	---	---	---
SB-C-6.5'	3/31/1998	6.5	---	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---
SB-C-10.0'	3/31/1998	10	---	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025							

TABLE 1

HISTORICAL SOIL ANALYTICAL DATA
SHELL-BRANDED SERVICE STATION
610 MARKET STREET, OAKLAND, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*POG (mg/kg)*	*TPHg (mg/kg)*	*B (mg/kg)*	*T (mg/kg)*	*E (mg/kg)*	*X (mg/kg)*	*MTBE (mg/kg)*	*VOCs (mg/kg)*	*SVOCs (mg/kg)*	*Cd (mg/kg)*	*Cr (mg/kg)*	*Pb (mg/kg)*	*Ni (mg/kg)*	*Zn (mg/kg)*
										---	---	---	---	---	---	---
MW-1 5.5	11/17/1998	5.5	---	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025							
MW-1 9.5	11/17/1998	9.5	---	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---
										---	---					
MW-2 5.5	11/17/1998	5.5	---	8.3	<0.0050	0.016	0.010	0.14	2.9	---	---	---	---	---	---	---
MW-2 10.5	11/17/1998	10.5	---	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	2.0	---	---	---	---	---	---	---
MW-3 5.5	11/17/1998	5.5	---	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	0.032							
MW-3 10.5	11/17/1998	10.5	---	**1,700**	**8.3**	**11**	<1.2	**19**	**16**	---	---	---	---	---	---	---
										---	---	---	---	---	---	---
SB-D-5.0	4/16/2002	5	---	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5							
SB-D-10.0	4/16/2002	10	---	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	---	---	---	---	---	---	---
SB-D-11.5	4/16/2002	11.5	---	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	---	---	---	---	---	---	---
SB-E-5.0	4/16/2002	5	---	<5.0	<0.025	<0.025	<0.025	<0.025	6.1	---	---	---	---	---	---	---
SB-E-10.0	4/16/2002	10	---	<1.0	<0.005	<0.005	<0.005	<0.010	2.7	---	---	---	---	---	---	---
SB-E-12.5	4/16/2002	12.5	---	<1.0	<0.005	<0.005	<0.005	<0.010	4.8							
SB-F-5.0	4/16/2002	5	---	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	---	---	---	---	---	---	---
SB-F-10.0	4/16/2002	10	---	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	---	---	---	---	---	---	---
SB-F-11.2	4/16/2002	11.2	---	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	---	---	---	---	---	---	---
MW4-6.5	4/17/2002	6.5	---	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	---	---	---	---	---	---	---
MW-4-9.5	4/17/2002	9.5	---	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	---	---	---	---	---	---	---
MW-4-14.5	4/17/2002	14.5	---	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	---	---	---	---	---	---	---
MW-4-19.0	4/17/2002	19	---	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	---	---	---	---	---	---	---
MW-5-6.5	4/17/2002	6.5	---	<1.0	<0.005	<0.005	<0.005	<0.025	<0.5	---	---	---	---	---	---	---
MW-5-9.5	4/17/2002	9.5	---	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	---	---	---	---	---	---	---
MW-5-14.5	4/17/2002	14.5	---	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	---	---	---	---	---	---	---
MW-5-19.5	4/17/2002	19.5	---	<1.0	<0.005	<0.005	<0.005	<0.005	3.0	---	---	---	---	---	---	---

TABLE 1

HISTORICAL SOIL ANALYTICAL DATA
SHELL-BRANDED SERVICE STATION
610 MARKET STREET, OAKLAND, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*POG (mg/kg)*	*TPHg (mg/kg)*	*B (mg/kg)*	*T (mg/kg)*	*E (mg/kg)*	*X (mg/kg)*	*MTBE (mg/kg)*	*VOCs (mg/kg)*	*SVOCs (mg/kg)*	*Cd (mg/kg)*	*Cr (mg/kg)*	*Pb (mg/kg)*	*Ni (mg/kg)*	*Zn (mg/kg)*
MW-5-24.5	4/17/2002	24.5	---	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	---	---	---	---	---	---	---
MW-6-5.5	11/15/2002	5.5	---	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	---	---	---	---	---	---	---
MW-6-10.5	11/15/2002	10.5	---	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	---	---	---	---	---	---	---
MW-6-15.5	11/15/2002	15.5	---	**6,000**	**7.4**	**180**	**88**	**520**	<1.0	---	---	---	---	---	---	---
MW-6-19.0	11/15/2002	19	---	<1.0	0.017	<0.005	<0.005	0.0079	<0.5	---	---	---	---	---	---	---
MW-7-10.5	11/15/2002	10.5	---	<1.0	<0.005	<0.005	<0.005	<0.005	0.7	---	---	---	---	---	---	---
MW-7-15.5	11/15/2002	15.5	---	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	---	---	---	---	---	---	---
MW-7-19.0	11/15/2002	19	---	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	---	---	---	---	---	---	---
MW-8-6	11/14/2002	6	---	<1.0	<0.005	<0.005	<0.005	<0.005	4.1	---	---	---	---	---	---	---
MW-8-11	11/14/2002	11	---	<1.0	<0.005	<0.005	<0.005	<0.005	4.3	---	---	---	---	---	---	---
MW-8-16	11/14/2002	16	---	<1.0	<0.005	<0.005	<0.005	<0.005	**10**	---	---	---	---	---	---	---
MW-8-19.5	11/14/2002	19.5	---	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	---	---	---	---	---	---	---
MW-9-5.5	01/28/2003	5.5	---	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	---	---	---	---	---	---	---
MW-9-10.5	01/28/2003	10.5	---	<1.0	<0.005	<0.005	<0.005	<0.025	<0.5	---	---	---	---	---	---	---
MW-9-15.5	01/28/2003	15.5	---	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	---	---	---	---	---	---	---
MW-9-19.0	01/28/2003	19	---	<1.0	<0.005	<0.005	<0.005	<0.005	<0.5	---	---	---	---	---	---	---
Shallow Soil (≤10 fbg) ESL [a]:			NA	180	0.27	9.3	4.7	11	8.4	Various	Various	7.4	750	750	150	600
Deep Soil (>10 fbg) ESL [a]:			NA	180	2.0	9.3	4.7	11	8.4	Various	Various	39	5,000	750	260	1,500

Notes:
POG = Non-polar petroleum oil and grease analyzed by EPA Method 5520 E&F
TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method 8260B; before April 16, 2002, analyzed by EPA Method 8015.
Benzene, toluene, ethylbenzene, and xylenes analyzed by EPA Method 8260B; before April 16, 2002, analyzed by EPA Method 8020.
MTBE = Methyl tertiary-butyl ether analyzed by EPA Method 8260B; before April 16, 2002, analyzed by EPA Method 8020
VOCs = Volatile organic compounds analyzed by EPA Method 8240
SVOCs = Semi-volatile organic compounds analyzed by EPA Method 8240

TABLE 1

HISTORICAL SOIL ANALYTICAL DATA
SHELL-BRANDED SERVICE STATION
610 MARKET STREET, OAKLAND, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*POG (mg/kg)*	*TPHg (mg/kg)*	*B (mg/kg)*	*T (mg/kg)*	*E (mg/kg)*	*X (mg/kg)*	*MTBE (mg/kg)*	*VOCs (mg/kg)*	*SVOCs (mg/kg)*	*Cd (mg/kg)*	*Cr (mg/kg)*	*Pb (mg/kg)*	*Ni (mg/kg)*	*Zn (mg/kg)*

Cd = Cadmium analyzed by EPA Method 6010
Cr = Chromium analyzed by EPA Method 6010
Pb = Lead analyzed by EPA Method 6010
Ni = Nickel analyzed by EPA Method 6010
Zn = Zinc analyzed by EPA Method 6010
fbg = Feet below grade
mg/kg = Milligrams per kilogram
ND = Not detected; see laboratory report for specific detection limits.
<x = Not detected at reporting limit x
--- = Not analyzed
ESL = Environmental screening level
NA = No applicable ESLs
Results in **bold** equal or exceed applicable ESL
Shading indicates that soil sample location was subsequently excavated; results are not representative of residual soil.

a = San Francisco Bay Regional Water Quality Control Board commercial/industrial ESL for soil where groundwater is not a 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]).

TABLE 2

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
610 MARKET STREET, OAKLAND, CALIFORNIA

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (µg/L)	MTBE 8260 (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)
MW-1	12/17/1998	2,200	20	<10	110	420	<50	---	---	---	---	---	21.70	13.71	7.99
MW-1	03/09/1999	4,320	25.8	<10.0	338	474	<100	---	---	---	---	---	21.70	13.03	8.67
MW-1	06/16/1999	6,150	107	84.0	615	1,050	<250	---	---	---	---	---	21.70	13.82	7.88
MW-1	09/29/1999	3,440	97.3	58.7	433	578	89.1	---	---	---	---	---	21.70	14.45	7.25
MW-1	12/22/1999	1,370	34.5	4.38	196	49	29.3	---	---	---	---	---	21.70	15.39	6.31
MW-1	03/21/2000	2,550	10.3	3.36	164	312	65.6	---	---	---	---	---	21.70	11.94	9.76
MW-1	06/20/2000	4,770	64.3	18.6	387	732	51.3	---	---	---	---	---	21.70	13.15	8.55
MW-1	09/21/2000	7,490	350	229	690	1,490	160	---	---	---	---	---	21.70	13.65	8.05
MW-1	11/30/2000	5,410	420	168	494	1,170	167	---	---	---	---	---	21.70	14.20	7.50
MW-1	03/06/2001	965	25.7	9.14	13.3	9.12	<25.0	---	---	---	---	---	21.70	12.99	8.71
MW-1	06/28/2001	5,900	190	71	360	910	---	110	---	---	---	---	21.70	13.98	7.72
MW-1	09/12/2001	7,400	240	110	460	1,300	---	130	---	---	---	---	21.70	14.15	7.55
MW-1	12/12/2001	1,700	100	30	120	300	---	98	---	---	---	---	21.70	13.75	7.95
MW-1	03/08/2002	1,100	63	12	74	83	---	50	---	---	---	---	21.70	13.22	8.48
MW-1	06/06/2002	2,300	95	31	130	290	---	49	---	---	---	---	21.70	13.57	8.13
MW-1	09/09/2002	3,600	150	44	200	590	---	54	---	---	---	---	21.70	14.05	7.65
MW-1	12/12/2002	2,200	130	14	120	310	---	46	---	---	---	---	21.70	14.20	7.50
MW-1	02/26/2003	580	30	2.9	25	48	---	27	---	---	---	---	21.70	13.57	8.13
MW-1	04/15/2003	---	---	---	---	---	---	---	---	---	---	---	21.70	13.67	8.03
MW-1	06/13/2003	440	18	6.1	33	88	---	24	---	---	---	---	21.70	13.85	7.85
MW-1	09/26/2003	54	3.8	0.51	4.7	7.5	---	11	---	---	---	---	21.70	14.63	7.07
MW-1	11/24/2003	120	5.6	0.87	8.4	20	---	17	---	---	---	---	21.70	14.86	6.84
MW-1	03/01/2004	350	20	3.8	38	100	---	18	---	---	---	---	21.70	12.85	8.85
MW-1	06/15/2004	100	1.8	<0.50	2.6	6.1	---	15	---	---	---	---	21.70	14.27	7.43
MW-1	09/16/2004	200	20	0.75	7.8	16	---	27	<5.0	<2.0	<2.0	<2.0	21.70	14.60	7.10
MW-1	12/29/2004	67	1.8	<0.50	1.8	3.5	---	15	---	---	---	---	21.70	14.27	7.43
MW-1	02/28/2005	60	1.8	<0.50	1.9	3.6	---	22	---	---	---	---	21.70	12.45	9.25
MW-1	03/23/2005	---	---	---	---	---	---	---	---	---	---	---	21.70	12.50	9.20
MW-1	05/18/2005	92	5.3	<0.50	5.4	12	---	9.7	---	---	---	---	21.70	12.22	9.48
MW-1	08/16/2005	---	---	---	---	---	---	---	---	---	---	---	21.70	13.51	8.19

TABLE 2

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
610 MARKET STREET, OAKLAND, CALIFORNIA

Well ID	*Date*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE 8020 (µg/L)*	*MTBE 8260 (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)*
MW-1	09/15/2005	210	16	<0.50	4.3	19	---	19	320	<2.0	<2.0	<2.0	21.70	14.00	7.70
MW-1	10/26/2005	---	---	---	---	---	---	---	---	---	---	---	21.70	14.30	7.40
MW-1	12/13/2005	<50.0	7.55	2.14	2.39	2.73	---	18.6	---	---	---	---	21.70	14.27	7.43
MW-1	03/08/2006	<50.0	1.95	<0.500	1.29	2.42	---	13.6	---	---	---	---	21.70	12.10	9.60
MW-1	06/27/2006	180	22	1.9	8.0	25	---	34	---	---	---	---	21.70	12.70	9.00
MW-1	09/25/2006	160	16	<0.50	2.1	11	---	23	<10	<1.0	<1.0	<1.0	21.70	14.07	7.63
MW-1	12/21/2006	120	3.2	<0.50	<0.50	<1.0	---	27	---	---	---	---	21.70	14.27	7.43
MW-1	03/20/2007	<50	1.8	<0.50	<0.50	<1.0	---	15	---	---	---	---	21.70	13.61	8.09
MW-1	06/18/2007	98	7.5	0.27 1	0.52 1	1.4	---	19	---	---	---	---	21.70	14.42	7.28
MW-1	08/30/2007	94 n	6.6	<1.0	<1.0	0.82 1	---	19	<10	<2.0	<2.0	<2.0	21.70	14.84	6.86
MW-1	12/28/2007	67 n	4.8	<1.0	<1.0	<1.0	---	23	---	---	---	---	21.70	15.01	6.69
MW-1	03/26/2008	<50	3.7	<1.0	<1.0	<1.0	---	12	---	---	---	---	21.70	14.16	7.54
MW-1	05/29/2008	310	20	1.3	13	39	---	22	---	---	---	---	21.70	14.76	6.94
MW-1	09/25/2008	66	3.8	<1.0	<1.0	<1.0	---	14	<10	<2.0	<2.0	<2.0	21.70	15.31	6.39
MW-1	12/16/2008	<50	2.6	<1.0	<1.0	<1.0	---	17	---	---	---	---	21.70	14.30	7.40
MW-1	02/26/2009	79	5.9	<1.0	<1.0	<1.0	---	20	---	---	---	---	21.70	14.51	7.19
MW-1	05/26/2009	160	15	<1.0	6.2	15	---	28	---	---	---	---	21.70	14.74	6.96
MW-1	09/02/2009	220	28	<1.0	<1.0	22	---	28	<10	<2.0	<2.0	<2.0	21.70	15.61	6.09
MW-1	03/10/2010	99	12	<1.0	<1.0	<1.0	---	27	---	---	---	---	21.70	13.85	7.85
MW-1	08/31/2010	170	23	<1.0	<1.0	18	---	20	13	<2.0	<2.0	<2.0	21.70	15.08	6.62
MW-1	03/08/2011	120	15	0.60	1.2	1.5	---	17	---	---	---	---	21.70	13.35	8.35
MW-1	09/19/2011	290	46	1.4	0.60	14	---	45	<10	<1.0	<1.0	1.8	21.70	14.71	6.99
MW-1	**03/05/2012**	**150**	**22**	**0.61**	**<0.50**	**1.0**	**---**	**29**	**---**	**---**	**---**	**---**	**21.70**	**15.32**	**6.38**
MW-2	12/17/1998	<5,000	<50	<50	<50	<50	11,000	---	---	---	---	---	19.61	12.07	7.54
MW-2	03/09/1999	<250	5.20	<2.50	<2.50	<2.50	9,870	---	---	---	---	---	19.61	11.46	8.15
MW-2	06/16/1999	<50.0	0.569	<0.500	<0.500	<0.500	3,440	---	---	---	---	---	19.61	12.26	7.35
MW-2	09/29/1999	58.6	2.51	0.978	<0.500	<0.500	3,930	---	---	---	---	---	19.61	12.51	7.10
MW-2	12/22/1999	<2,000	50.4	<20.0	<20.0	<20.0	15,000	---	---	---	---	---	19.61	13.40	6.21
MW-2	03/21/2000	<5,000	94.7	<50.0	<50.0	<50.0	13,900	---	---	---	---	---	19.61	10.36	9.25

TABLE 2

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
610 MARKET STREET, OAKLAND, CALIFORNIA

Well ID	*Date*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE 8020 (µg/L)*	*MTBE 8260 (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)*
MW-2	06/20/2000	101	5.95	<0.500	<0.500	0.552	7,670	---	---	---	---	---	19.61	11.12	8.49
MW-2	09/21/2000	<2,000	<20.0	<20.0	<20.0	<20.0	4,460	---	---	---	---	---	19.61	11.95	7.66
MW-2	11/30/2000	81.1	4.46	0.924	0.841	3.23	3,450	---	---	---	---	---	19.61	12.48	7.13
MW-2	03/06/2001	<500	183	<5.00	<5.00	<5.00	14,000	---	---	---	---	---	19.61	11.10	8.51
MW-2	06/28/2001	<1,000	<10	<10	<10	<10	---	4,200	---	---	---	---	19.61	12.40	7.21
MW-2	09/12/2001	<2,000	120	<20	<20	<20	---	17,000	---	---	---	---	19.61	12.45	7.16
MW-2	12/12/2001	<1,000	<10	<10	<10	<10	---	3,000	---	---	---	---	19.61	12.14	7.47
MW-2	03/08/2002	<250	<2.5	<2.5	<2.5	<2.5	---	1,100	---	---	---	---	19.61	11.68	7.93
MW-2	06/06/2002	<500	<5.0	<5.0	<5.0	<5.0	---	2,000	---	---	---	---	19.61	11.95	7.66
MW-2	09/09/2002	<200	<2.0	<2.0	<2.0	<2.0	---	740	---	---	---	---	19.62	12.38	7.24
MW-2	12/12/2002	<200	<2.0	<2.0	<2.0	<2.0	---	1,000	---	---	---	---	19.62	12.40	7.22
MW-2	02/26/2003	<500	<5.0	<5.0	<5.0	<5.0	---	1,600	---	---	---	---	19.62	12.69	6.93
MW-2	04/15/2003	---	---	---	---	---	---	---	---	---	---	---	19.62	12.81	6.81
MW-2	06/13/2003	<500	<5.0	<5.0	<5.0	<10	---	790	---	---	---	---	19.62	12.65	6.97
MW-2	09/26/2003	<250	<2.5	<2.5	<2.5	<5.0	---	250	---	---	---	---	18.20	12.95	5.25
MW-2	11/24/2003	<50	<0.50	<0.50	<0.50	<1.0	---	87	---	---	---	---	18.20	12.89	5.31
MW-2	03/01/2004	<50	<0.50	<0.50	<0.50	<1.0	---	35	---	---	---	---	18.20	10.08	8.12
MW-2	06/15/2004	66 b	<0.50	<0.50	<0.50	<1.0	---	110	---	---	---	---	18.20	12.85	5.35
MW-2	09/16/2004	<50	<0.50	<0.50	<0.50	<1.0	---	26	<5.0	<2.0	<2.0	<2.0	18.20	12.00	6.20
MW-2	12/29/2004	<50	<0.50	0.73	<0.50	<1.0	---	43	---	---	---	---	18.20	11.60	6.60
MW-2	02/28/2005	---	---	---	---	---	---	---	---	---	---	---	18.20	9.71	8.49
MW-2	03/23/2005	340 f	3.9	<2.0	<2.0	<4.0	---	370	---	---	---	---	18.20	10.10	8.10
MW-2	05/18/2005	<100	4.6	<1.0	<1.0	3.3	---	160	---	---	---	---	18.20	10.21	7.99
MW-2	08/16/2005	---	---	---	---	---	---	---	---	---	---	---	18.20	10.53	7.67
MW-2	09/15/2005	<50	<0.50	<0.50	<0.50	<1.0	---	11	520	<2.0	<2.0	<2.0	18.20	11.98	6.22
MW-2	10/26/2005	---	---	---	---	---	---	---	---	---	---	---	18.20	11.38	6.82
MW-2	12/13/2005	<50.0	<0.500	1.66	<0.500	<0.500	---	2.11	---	---	---	---	18.20	10.71	7.49
MW-2	03/08/2006	<50.0	<0.500	<0.500	<0.500	<0.500	---	<0.500	---	---	---	---	18.20	9.50	8.70
MW-2	06/27/2006	<100 i	<1.0 i	<1.0 i	<1.0 i	<1.0 i	---	9.1 i	---	---	---	---	18.20	9.73	8.47
MW-2	09/25/2006	83 j	<2.5	<2.5	<2.5	<5.0	---	<5.0	4,500	<5.0	<5.0	<5.0	18.20	11.08	7.12

TABLE 2

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
610 MARKET STREET, OAKLAND, CALIFORNIA

Well ID	*Date*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE 8020 (µg/L)*	*MTBE 8260 (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)*
MW-2	12/21/2006	160	<0.50	<0.50	<0.50	<1.0	---	1.6	---	---	---	---	18.20	11.30	6.90
MW-2	03/20/2007	<50	0.98	<0.50	<0.50	<1.0	---	18	---	---	---	---	18.20	10.76	7.44
MW-2	06/18/2007	86 m	<0.50	<1.0	<1.0	<1.0	---	2.4	---	---	---	---	18.20	11.35	6.85
MW-2	08/30/2007	110 n	<0.50	<1.0	<1.0	<1.0	---	2.2	2,700	6.3	0.30 l	<2.0	18.20	11.80	6.40
MW-2	12/28/2007	<50 n	<2.5	<5.0	<5.0	<5.0	---	2.1 l	---	---	---	---	18.20	11.69	6.51
MW-2	03/26/2008	<50	<0.50	<1.0	<1.0	<1.0	---	<1.0	---	---	---	---	18.20	11.23	6.97
MW-2	05/29/2008	130	<0.50	<1.0	<1.0	<1.0	---	3.0	---	---	---	---	18.20	11.83	6.37
MW-2	09/25/2008	380	<0.50	<1.0	<1.0	<1.0	---	3.7	4,200	7.9	<2.0	<2.0	18.20	13.21	4.99
MW-2	12/16/2008	220	<1.0	<2.0	<2.0	<2.0	---	2.1	---	---	---	---	18.20	12.40	5.80
MW-2	02/26/2009	<50	<0.50	<1.0	<1.0	<1.0	---	1.9	---	---	---	---	18.20	10.56	7.64
MW-2	05/26/2009	140	<0.50	<1.0	<1.0	<1.0	---	2.6	---	---	---	---	18.20	11.03	7.17
MW-2	09/02/2009	270	<0.50	<1.0	<1.0	<1.0	---	2.2	4,600	4.9	<2.0	<2.0	18.20	12.01	6.19
MW-2	03/10/2010	<50	<0.50	<1.0	<1.0	<1.0	---	37	---	---	---	---	18.20	9.96	8.24
MW-2	08/31/2010	110	<0.50	<1.0	<1.0	<1.0	---	6.2	3,300	2.8	<2.0	<2.0	18.20	11.30	6.90
MW-2	03/08/2011	<50	0.66	<0.50	<0.50	<1.0	---	28	---	---	---	---	18.20	9.86	8.34
MW-2	09/19/2011	<250	<5.0 o	<5.0 o	<5.0 o	<10 o	---	15 o	5,700 o	<10 o	<10 o	<10 o	18.20	11.22	6.98
MW-2	**03/05/2012**	**100**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**---**	**1.2**	**---**	**---**	**---**	**---**	**18.20**	**11.65**	**6.55**
MW-3	12/17/1998	30,000	890	110	2,100	4,300	42,000	43,000	---	---	---	---	19.05	11.65	7.40
MW-3	03/09/1999	22,700	536	<200	1,030	1,510	35,400	38,500	---	---	---	---	19.05	11.03	8.02
MW-3	06/16/1999	19,300	625	129	805	1,210	42,400	51,600	---	---	---	---	19.05	11.89	7.16
MW-3	09/29/1999	20,200	727	155	1,000	1,180	84,100	136,000 a	---	---	---	---	19.05	12.35	6.70
MW-3	12/22/1999	44,500	767	64.4	1,810	2,090	191,000	186,000 a	---	---	---	---	19.05	13.45	5.60
MW-3	03/21/2000	<25,000	466	<250	727	2,280	126,000	155,000	---	---	---	---	19.05	10.00	9.05
MW-3	06/20/2000	16,200	1,140	98.8	1,140	1,410	579,000	376,000 a	---	---	---	---	19.05	11.15	7.90
MW-3	09/21/2000	<50,000	712	<500	520	795	293,000	298,000	---	---	---	---	19.05	11.58	7.47
MW-3	11/30/2000	18,000	1,050	124	1,120	2,010	543,000 a	403,000 a	---	---	---	---	19.05	12.10	6.95
MW-3	03/06/2001	19,900	1,290	115	1,450	1,760	706,000	149,000	---	---	---	---	19.05	11.00	8.05
MW-3	06/28/2001	<50,000	1,200	<250	1,100	1,300	---	610,000	---	---	---	---	19.05	11.96	7.09
MW-3	09/12/2001	<20,000	430	<200	230	480	---	390,000	---	---	---	---	19.05	12.05	7.00

TABLE 2

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
610 MARKET STREET, OAKLAND, CALIFORNIA

Well ID	*Date*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE 8020 (µg/L)*	*MTBE 8260 (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)*
MW-3	10/23/2001	11,000	350	<100	210	440	---	290,000	---	---	---	---	19.05	12.62	6.43
MW-3	12/12/2001	<20,000	280	<200	<200	<200	---	160,000	---	---	---	---	19.05	11.83	7.22
MW-3	03/08/2002	<20,000	270	<200	<200	<200	---	340,000	---	---	---	---	19.05	11.26	7.79
MW-3	06/06/2002	<50,000	290	<250	<250	<250	---	290,000	---	---	---	---	19.05	11.50	7.55
MW-3	09/09/2002	<20,000	<200	<200	<200	<200	---	230,000	---	---	---	---	19.06	11.92	7.14
MW-3	12/12/2002	<50,000	<200	<200	<200	<500	---	190,000	---	---	---	---	19.06	10.95	8.11
MW-3	02/26/2003	<25,000	<250	<250	<250	<250	---	210,000	---	---	---	---	19.06	15.01	4.05
MW-3	04/15/2003	---	---	---	---	---	---	---	---	---	---	---	19.06	15.12	3.94
MW-3	06/13/2003	<25,000	<250	<250	<250	<500	---	27,000	---	---	---	---	19.06	15.25	3.81
MW-3	09/26/2003	<10,000	<100	<100	<100	<200	---	15,000	---	---	---	---	18.08	c	---
MW-3	11/24/2003	<10,000	<100	<100	<100	<200	---	9,900	---	---	---	---	18.08	15.13	2.95
MW-3	03/01/2004	<10,000	<100	<100	<100	<200	---	8,000	---	---	---	---	18.08	9.97	8.11
MW-3	06/15/2004	<10,000	<100	<100	<100	<200	---	6,900	---	---	---	---	18.08	15.05	3.03
MW-3	09/16/2004	<500	<5.0	<5.0	<5.0	<10	---	1,000	75	<20	<20	<20	18.08	14.70	3.38
MW-3	12/29/2004	<250	2.8	<2.5	<2.5	<5.0	---	580	---	---	---	---	18.08	14.83	3.25
MW-3	02/28/2005	---	---	---	---	---	---	---	---	---	---	---	18.08	9.60	8.48
MW-3	03/23/2005	<1,000	<10	<10	<10	<20	---	1500	---	---	---	---	18.08	12.68	5.40
MW-3	05/18/2005	1200	49	<10	47	<20	---	3400	---	---	---	---	18.08	10.60	7.48
MW-3	08/16/2005	---	---	---	---	---	---	330	---	---	---	---	18.08	15.22	2.86
MW-3	09/15/2005	<1,000	<10	<10	<10	<20	---	140	180	<40	<40	<40	18.08	15.30	2.78
MW-3	10/26/2005	---	---	---	---	---	---	48	---	---	---	---	18.08	15.00	3.08
MW-3	12/13/2005	482	4.56	1.64 h	<0.500	<0.500	---	72.5	273	---	---	---	18.08	11.18	6.90
MW-3	03/08/2006	627	2.62	<0.500	1.71	1.25	---	175	483	---	---	---	18.08	14.95	3.13
MW-3	06/27/2006	530	8.3	<2.5	9.5	3.5	---	100	---	---	---	---	18.08	14.63	3.45
MW-3	09/25/2006	520	12	<2.5	6.5	<5.0	---	110	2,900	<5.0	<5.0	<5.0	18.08	11.23	6.85
MW-3	12/21/2006	120	2.2	<0.50	<0.50	<1.0	---	1.7	120	---	---	---	18.08	11.22	6.86
MW-3	03/20/2007	150	0.96	1.2	<0.50	<1.0	---	19	300	---	---	---	18.08	11.35	6.73
MW-3	06/18/2007	180	2.2	<1.0	<1.0	<1.0	---	14	780	---	---	---	18.08	11.22	6.86
MW-3	08/30/2007	200 n	3.5	<1.0	<1.0	0.29 l	---	29	1,500	<2.0	<2.0	<2.0	18.08	13.59	4.49
MW-3	12/28/2007	140 n	2.7	0.34 l	<1.0	<1.0	---	<1.0	98	---	---	---	18.08	11.79	6.29

TABLE 2

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
610 MARKET STREET, OAKLAND, CALIFORNIA

Well ID	*Date*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE 8020 (µg/L)*	*MTBE 8260 (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)*
MW-3	03/26/2008	120	1.3	1.6	<1.0	<1.0	---	3.4	150	---	---	---	18.08	11.05	7.03
MW-3	05/29/2008	130	2.4	<1.0	<1.0	<1.0	---	6.0	250	---	---	---	18.08	11.69	6.39
MW-3	09/25/2008	410	9.3	<1.0	<1.0	<1.0	---	13	1,200	<2.0	<2.0	<2.0	18.08	12.00	6.08
MW-3	12/16/2008	410	14	<1.0	<1.0	<1.0	---	5.5	560	---	---	---	18.08	11.71	6.37
MW-3	02/26/2009	640	3.1	<1.0	<1.0	<1.0	---	1.3	10	---	---	---	18.08	10.71	7.37
MW-3	05/26/2009	250	1.8	<1.0	<1.0	<1.0	---	2.2	59	---	---	---	18.08	11.53	6.55
MW-3	09/02/2009	260	5.3	<1.0	<1.0	<1.0	---	7.0	350	<2.0	<2.0	<2.0	18.08	12.34	5.74
MW-3	03/10/2010	89	<0.50	<1.0	<1.0	1.0	---	<1.0	<10	---	---	---	18.08	10.29	7.79
MW-3	08/31/2010	81	1.1	<1.0	<1.0	<1.0	---	5.5	230	<2.0	<2.0	<2.0	18.08	11.80	6.28
MW-3	03/08/2011	<50	<0.50	<0.50	<0.50	<1.0	---	<1.0	<10	---	---	---	18.08	10.37	7.71
MW-3	09/19/2011	100	<0.50	<0.50	<0.50	<1.0	---	6.4	490	<1.0	<1.0	<1.0	18.08	11.51	6.57
MW-3	**03/05/2012**	**64**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**---**	**1.6**	**340**	**---**	**---**	**---**	**18.08**	**12.12**	**5.96**
MW-4	05/13/2002	---	---	---	---	---	---	---	---	---	---	---	---	10.64	---
MW-4	05/20/2002	<1,000	<10	<10	<10	<10	---	4,600	---	---	---	---	---	10.64	---
MW-4	06/06/2002	<1,000	<10	<10	<10	<10	---	4,800	---	---	---	---	---	10.61	---
MW-4	09/09/2002	Unable to sample		---	---	---	---	---	---	---	---	---	18.03	11.07	6.96
MW-4	09/18/2002	<250	<2.5	<2.5	<2.5	<2.5	---	1,000	---	---	---	---	18.03	11.15	6.88
MW-4	12/12/2002	<100	<1.0	<1.0	<1.0	<1.0	---	370	---	---	---	---	18.03	11.13	6.90
MW-4	02/26/2003	<50	<0.50	<0.50	<0.50	<0.50	---	<5.0	---	---	---	---	18.03	10.61	7.42
MW-4	04/15/2003	---	---	---	---	---	---	---	---	---	---	---	18.03	10.73	7.30
MW-4	06/13/2003	180 b	<0.50	110	<0.50	<1.0	---	2.3	---	---	---	---	18.03	10.88	7.15
MW-4	09/26/2003	<5,000	<50	<50	<50	<100	---	13,000	---	---	---	---	18.03	11.58	6.45
MW-4	11/24/2003	<13,000	<130	<130	<130	<250	---	11,000	---	---	---	---	18.03	11.78	6.25
MW-4	03/01/2004	<50	<0.50	<0.50	<0.50	<1.0	---	<0.50	---	---	---	---	18.03	9.47	8.56
MW-4	06/15/2004	<500	<5.0	<5.0	<5.0	<10	---	630	---	---	---	---	18.03	11.38	6.65
MW-4	09/16/2004	<100	<1.0	12	<1.0	<2.0	---	280	280	<4.0	<4.0	<4.0	18.03	11.80	6.23
MW-4	12/29/2004	<50	<0.50	<0.50	<0.50	<1.0	---	<0.50	---	---	---	---	18.03	10.63	7.40
MW-4	02/28/2005	<50	<0.50	<0.50	<0.50	<1.0	---	<0.50	---	---	---	---	18.03	9.20	8.83
MW-4	03/23/2005	---	---	---	---	---	---	---	---	---	---	---	18.03	9.43	8.60

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
610 MARKET STREET, OAKLAND, CALIFORNIA

Well ID	*Date*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE 8020 (µg/L)*	*MTBE 8260 (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)*
MW-4	05/18/2005	1,900	<5.0	<5.0	16	97	---	910	---	---	---	---	18.03	9.75	8.28
MW-4	08/16/2005	---	---	---	---	---	---	---	---	---	---	---	18.03	10.85	7.18
MW-4	09/15/2005	<2,500	<25	<25	<25	85	---	5,100	400	<100	<100	<100	18.03	11.30	6.73
MW-4	10/26/2005	---	---	---	---	---	---	---	---	---	---	---	18.03	11.45	6.58
MW-4	12/13/2005	3,480	<0.500	1.54 h	<0.500	<0.500	---	2,490 a	201	---	---	---	18.03	11.70	6.33
MW-4	03/08/2006	1,560	<0.500	0.910	<0.500	3.39	---	0.870	<10.0	---	---	---	18.03	9.25	8.78
MW-4	06/27/2006	75	<0.50	18	<0.50	<0.50	---	63	<20	---	---	---	18.03	10.12	7.91
MW-4	09/25/2006	670 j	<10	<10	<10	<20	---	1,400	430	<20	<20	<20	18.03	11.23	6.80
MW-4	12/21/2006	<50	<0.50	<0.50	<0.50	<1.0	---	2.0	6.8	---	---	---	18.03	10.37	7.66
MW-4	03/20/2007	<50	<0.50	<0.50	<0.50	<1.0	---	<1.0	<10	---	---	---	18.03	9.84	8.19
MW-4	06/18/2007	<50	<0.50	<1.0	<1.0	<1.0	---	<1.0	7.1 l	---	---	---	18.03	10.62	7.41
MW-4	08/30/2007	<50 n	<0.50	<1.0	<1.0	<1.0	---	<1.0	<10	<2.0	<2.0	<2.0	18.03	11.93	6.10
MW-4	12/28/2007	160 n,m	<0.50	130	<1.0	<1.0	---	<1.0	<10	---	---	---	18.03	11.97	6.06
MW-4	03/26/2008	<50	<0.50	<1.0	<1.0	<1.0	---	<1.0	<10	---	---	---	18.03	11.34	6.69
MW-4	05/29/2008	<50	<0.50	<1.0	<1.0	<1.0	---	3.4	<10	---	---	---	18.03	11.87	6.16
MW-4	09/25/2008	<50	<0.50	1.3	<1.0	<1.0	---	4.5	<10	<2.0	<2.0	<2.0	18.03	12.35	5.68
MW-4	12/16/2008	630	<0.50	360	<1.0	<1.0	---	<1.0	<10	---	---	---	18.03	12.47	5.56
MW-4	02/26/2009	<50	<0.50	<1.0	<1.0	<1.0	---	<1.0	<10	---	---	---	18.03	10.29	7.74
MW-4	05/26/2009	<50	<0.50	3.6	<1.0	<1.0	---	<1.0	<10	---	---	---	18.03	11.74	6.29
MW-4	09/02/2009	<50	<0.50	<1.0	<1.0	<1.0	---	5.9	<10	<2.0	<2.0	<2.0	18.03	12.60	5.43
MW-4	03/10/2010	<50	<0.50	1.6	<1.0	<1.0	---	<1.0	<10	---	---	---	18.03	9.95	8.08
MW-4	08/31/2010	400	<0.50	<1.0	<1.0	<1.0	---	1.1	30	<2.0	<2.0	<2.0	18.03	12.12	5.91
MW-4	03/08/2011	73 j	<0.50	44	<0.50	<1.0	---	<1.0	<10	---	---	---	18.03	10.66	7.37
MW-4	09/19/2011	<50	<0.50	<0.50	<0.50	<1.0	---	<1.0	<10	<1.0	<1.0	<1.0	18.03	11.71	6.32
MW-4	**03/05/2012**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**---**	**<0.50**	**<10**	**---**	**---**	**---**	**18.03**	**12.50**	**5.53**
MW-5	05/13/2002	---	---	---	---	---	---	---	---	---	---	---	---	10.40	---
MW-5	05/20/2002	<2,500	<25	<25	<25	<25	---	17,000	---	---	---	---	---	10.41	---
MW-5	06/06/2002	<5,000	<50	<50	<50	<50	---	15,000	---	---	---	---	---	10.36	---
MW-5	09/09/2002	Unable to sample		---	---	---	---	---	---	---	---	---	17.78	10.82	6.96

TABLE 2

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
610 MARKET STREET, OAKLAND, CALIFORNIA

Well ID	*Date*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE 8020 (µg/L)*	*MTBE 8260 (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)*
MW-5	09/18/2002	<2,500	<25	<25	<25	<25	---	16,000	---	---	---	---	17.78	10.81	6.97
MW-5	12/12/2002	<2,500	<25	<25	<25	<25	---	13,000	---	---	---	---	17.78	10.83	6.95
MW-5	02/26/2003	<2,000	<20	<20	<20	<20	---	7,500	---	---	---	---	17.78	10.57	7.21
MW-5	04/15/2003	---	---	---	---	---	---	---	---	---	---	---	17.78	10.69	7.09
MW-5	06/13/2003	<2,500	<25	<25	<25	<50	---	4,400	---	---	---	---	17.78	10.82	6.96
MW-5	09/26/2003	<2,500	<25	<25	<25	<50	---	4,700	---	---	---	---	17.78	11.49	6.29
MW-5	11/24/2003	<10,000	<100	<100	<100	<200	---	7,100	---	---	---	---	17.78	11.70	6.08
MW-5	03/01/2004	<2,000	<20	<20	<20	<40	---	2,800	---	---	---	---	17.78	9.68	8.10
MW-5	06/15/2004	<2,000	<20	<20	<20	<40	---	2,100	---	---	---	---	17.78	11.28	6.50
MW-5	09/16/2004	<2,000	<20	<20	<20	<40	---	2,200	2,800	<80	<80	<80	17.78	11.62	6.16
MW-5	12/29/2004	<2,000	<20	<20	<20	<40	---	3,700	---	---	---	---	17.78	11.11	6.67
MW-5	02/28/2005	<200	<2.0	<2.0	<2.0	<4.0	---	740	---	---	---	---	17.78	9.50	8.28
MW-5	03/23/2005	---	---	---	---	---	---	---	---	---	---	---	17.78	9.70	8.08
MW-5	05/18/2005	<50 g	<0.50	<0.50	<0.50	<1.0	---	180	---	---	---	---	17.78	9.49	8.29
MW-5	06/17/2005	---	---	---	---	---	---	270	---	---	---	---	17.78	9.89	7.89
MW-5	07/15/2005	---	---	---	---	---	---	350	---	---	---	---	17.78	10.20	7.58
MW-5	08/16/2005	---	---	---	---	---	---	270	---	---	---	---	17.78	10.50	7.28
MW-5	09/15/2005	<250	<2.5	<2.5	<2.5	<5.0	---	500	670	<10	<10	<10	17.78	10.96	6.82
MW-5	10/26/2005	---	---	---	---	---	---	260	---	---	---	---	17.78	11.22	6.56
MW-5	12/13/2005	438	<0.500	1.49 h	<0.500	<0.500	---	167	452	---	---	---	17.78	11.05	6.73
MW-5	03/08/2006	330	<0.500	<0.500	<0.500	<0.500	---	169	206	---	---	---	17.78	9.30	8.48
MW-5	06/27/2006	<50	<0.50	<0.50	<0.50	<0.50	---	60	75	---	---	---	17.78	9.83	7.95
MW-5	09/25/2006	<50	<0.50	<0.50	<0.50	<1.0	---	22	<10	<1.0	<1.0	<1.0	17.78	10.96	6.82
MW-5	12/21/2006	<50	<0.50	<0.50	<0.50	<1.0	---	2.4	<5.0	---	---	---	17.78	11.00	6.78
MW-5	03/20/2007	<50	<0.50	<0.50	<0.50	<1.0	---	1.7	<10	---	---	---	17.78	10.51	7.27
MW-5	06/18/2007	<50	<0.50	<1.0	<1.0	<1.0	---	2.0	61	---	---	---	17.78	11.18	6.60
MW-5	08/30/2007	<50 n	<0.50	<1.0	<1.0	<1.0	---	2.3	170	<2.0	<2.0	<2.0	17.78	11.65	6.13
MW-5	12/28/2007	<50 n	<0.50	<1.0	<1.0	<1.0	---	3.0	830	---	---	---	17.78	11.90	5.88
MW-5	03/26/2008	<50	<0.50	<1.0	<1.0	<1.0	---	1.7	55	---	---	---	17.78	11.11	6.67
MW-5	05/29/2008	65	<0.50	<1.0	<1.0	<1.0	---	3.9	940	---	---	---	17.78	11.52	6.26

TABLE 2

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
610 MARKET STREET, OAKLAND, CALIFORNIA

Well ID	*Date*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE 8020 (µg/L)*	*MTBE 8260 (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)*
MW-5	09/25/2008	64	<0.50	<1.0	<1.0	<1.0	---	3.3	560	<2.0	<2.0	<2.0	17.78	12.00	5.78
MW-5	12/16/2008	63	<0.50	<1.0	<1.0	<1.0	---	3.3	850	---	---	---	17.78	12.30	5.48
MW-5	02/26/2009	<50	<0.50	<1.0	<1.0	<1.0	---	2.1	850	---	---	---	17.78	11.08	6.70
MW-5	05/26/2009	<50	<0.50	<1.0	<1.0	<1.0	---	1.2	19	---	---	---	17.78	11.43	6.35
MW-5	09/02/2009	<50	<0.50	<1.0	<1.0	<1.0	---	1.6	180	<2.0	<2.0	<2.0	17.78	12.24	5.54
MW-5	03/10/2010	<50	<0.50	<1.0	<1.0	<1.0	---	1.3	170	---	---	---	17.78	10.59	7.19
MW-5	08/31/2010	<50	<0.50	<1.0	<1.0	<1.0	---	1.8	490	<2.0	<2.0	<2.0	17.78	11.75	6.03
MW-5	03/08/2011	<50	<0.50	<0.50	<0.50	<1.0	---	1.0	270	---	---	---	17.78	10.44	7.34
MW-5	09/19/2011	<50	<0.50	<0.50	<0.50	<1.0	---	1.2	240	<1.0	<1.0	<1.0	17.78	11.50	6.28
MW-5	**03/05/2012**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**---**	**0.68**	**120**	**---**	**---**	**---**	**17.78**	**12.09**	**5.69**
MW-6	03/28/2003	Well inaccessible		---	---	---	---	---	---	---	---	---	18.10	---	---
MW-6	04/07/2003	---	---	---	---	---	---	---	---	---	---	---	18.10	13.80	4.30
MW-6	04/15/2003	14,000	<250	<250	<250	<500	---	41,000	---	---	---	---	18.10	15.05	3.05
MW-6	06/13/2003	<10,000	<100	<100	<100	<200	---	27,000	---	---	---	---	18.10	14.42	3.68
MW-6	09/26/2003	<5,000	<50	<50	<50	<100	---	11,000	---	---	---	---	18.05	c	---
MW-6	11/24/2003	<10,000	<100	<100	<100	<200	---	5,000	---	---	---	---	18.05	14.68	3.37
MW-6	03/01/2004	<1,000	<10	<10	<10	<20	---	2,500	---	---	---	---	18.05	9.84	8.21
MW-6	06/15/2004	<1,000	<10	<10	<10	<20	---	2,800	---	---	---	---	18.05	14.82	3.23
MW-6	09/16/2004	<1,000	<10	<10	<10	<20	---	830	610	<40	<40	<40	18.05	14.20	3.85
MW-6	12/29/2004	<200	<2.0	<2.0	<2.0	<4.0	---	530	---	---	---	---	18.05	14.78	3.27
MW-6	02/28/2005	---	---	---	---	---	---	---	---	---	---	---	18.05	9.58	8.47
MW-6	03/23/2005	290 f	<2.0	<2.0	<2.0	<4.0	---	590	---	---	---	---	18.05	14.22	3.83
MW-6	05/18/2005	390	8.7	<0.50	0.93	9.0	---	68	---	---	---	---	18.05	9.79	8.26
MW-6	08/16/2005	---	---	---	---	---	---	34	---	---	---	---	18.05	10.64	7.41
MW-6	09/15/2005	<500	<5.0	<5.0	<5.0	<10	---	45	21,000 e	<20	<20	<20	18.05	11.83	6.22
MW-6	10/26/2005	---	---	---	---	---	---	31	---	---	---	---	18.05	11.31	6.74
MW-6	12/13/2005	982	<0.500	1.36 h	<0.500	<0.500	---	35.1	11,300 e	---	---	---	18.05	11.22	6.83
MW-6	03/08/2006	2,110	<0.500	<0.500	<0.500	<0.500	---	29.6	21,800	---	---	---	18.05	9.50	8.55
MW-6	06/27/2006	510	<0.50	<0.50	<0.50	<0.50	---	94	<20	---	---	---	18.05	9.84	8.21

TABLE 2

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
610 MARKET STREET, OAKLAND, CALIFORNIA

Well ID	*Date*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE 8020 (µg/L)*	*MTBE 8260 (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)*
MW-6	09/25/2006	730 j	<25	<25	<25	<50	---	<50	16,000	<50	<50	<50	18.05	11.08	6.97
MW-6	12/21/2006	890	<0.50	<0.50	<0.50	<1.0	---	30	33,000	---	---	---	18.05	11.12	6.93
MW-6	03/20/2007	<1,200 k	<12	<12	<12	<25	---	30	33,000	---	---	---	18.05	10.66	7.39
MW-6	06/18/2007	400	<0.50	<1.0	<1.0	<1.0	---	34	82,000	---	---	---	18.05	11.30	6.75
MW-6	08/30/2007	650 n	<50	<100	<100	<100	---	38 l	32,000	<200	<200	<200	18.05	11.81	6.24
MW-6	12/28/2007	170 n	<25	<50	<50	<50	---	28 l	36,000	---	---	---	18.05	11.97	6.08
MW-6	03/26/2008	1,300	<5.0	<10	<10	<10	---	26	36,000	---	---	---	18.05	10.83	7.22
MW-6	05/29/2008	2,500	<25	<50	<50	<50	---	<50	41,000	---	---	---	18.05	11.80	6.25
MW-6	09/25/2008	4,100	<25	<50	<50	<50	---	<50	44,000	<100	<100	<100	18.05	12.23	5.82
MW-6	12/16/2008	1,900	<10	<20	<20	<20	---	<20	28,000	---	---	---	18.05	12.40	5.65
MW-6	02/26/2009	1,500	<10	<20	<20	<20	---	<20	27,000	---	---	---	18.05	11.05	7.00
MW-6	05/26/2009	1,500	<10	<20	<20	<20	---	<20	29,000	---	---	---	18.05	11.52	6.53
MW-6	09/02/2009	1,800	<10	<20	<20	<20	---	<20	35,000	<40	<40	<40	18.05	12.25	5.80
MW-6	03/10/2010	<1,000	<10	<20	<20	<20	---	<20	25,000	---	---	---	18.05	10.94	7.11
MW-6	08/31/2010	610	<5.0	<10	<10	<10	---	15	20,000	<20	<20	<20	18.05	11.90	6.15
MW-6	12/21/2010	<1,000	<10	<20	<20	<20	---	<20	19,000	---	---	---	18.05	11.01	7.04
MW-6	03/08/2011	<1,200	<12	<12	<12	<25	---	<25	8,200	---	---	---	18.05	10.59	7.46
MW-6	06/01/2011	<500	<5.0	<5.0	<5.0	<10	---	<10	11,000	---	---	---	18.05	10.65	7.40
MW-6	09/19/2011	1,000 j	<10	<10	<10	<20	---	<20	16,000	<20	<20	<20	18.05	11.56	6.49
MW-6	**12/02/2011**	**150**	**<0.500**	**<0.500**	**<0.500**	**<0.500**	**---**	**6.91**	**4,170**	**---**	**---**	**---**	**18.05**	**11.95**	**6.10**
MW-6	**03/05/2012**	**<1,000**	**<10**	**<10**	**<10**	**<20**	**---**	**<10**	**9,600**	**---**	**---**	**---**	**18.05**	**12.02**	**6.03**
MW-7	03/28/2003	Well inaccessible		---	---	---	---	---	---	---	---	---	19.16	---	---
MW-7	04/07/2003	---	---	---	---	---	---	---	---	---	---	---	19.16	13.85	5.31
MW-7	04/15/2003	6,000	<100	<100	<100	<200	---	19,000	---	---	---	---	19.16	13.95	5.21
MW-7	06/13/2003	<5,000	<50	<50	<50	<100	---	5,700	---	---	---	---	19.16	13.92	5.24
MW-7	09/26/2003	<250	<2.5	<2.5	<2.5	<5.0	---	110	---	---	---	---	19.13	13.85	5.28
MW-7	11/24/2003	<50	<0.50	0.59	<0.50	1.7	---	7.6	---	---	---	---	19.13	13.99	5.14
MW-7	03/01/2004	67 b	<0.50	<0.50	<0.50	<1.0	---	120	---	---	---	---	19.13	10.85	8.28
MW-7	06/15/2004	120 b	<0.50	<0.50	<0.50	<1.0	---	89	---	---	---	---	19.13	13.27	5.86

TABLE 2

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
610 MARKET STREET, OAKLAND, CALIFORNIA

Well ID	*Date*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE 8020 (µg/L)*	*MTBE 8260 (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)*
MW-7	09/16/2004	<500	<5.0	<5.0	<5.0	<10	---	130	4,700	<20	<20	<20	19.13	12.83	6.30
MW-7	12/29/2004	<500	<5.0	<5.0	<5.0	<10	---	130	---	---	---	---	19.13	11.82	7.31
MW-7	02/28/2005	---	---	---	---	---	---	---	---	---	---	---	19.13	10.59	8.54
MW-7	03/23/2005	<1,000	<10	<10	<10	<20	---	16	---	---	---	---	19.13	11.16	7.97
MW-7	05/18/2005	67 g	<0.50	<0.50	<0.50	<1.0	---	12	---	---	---	---	19.13	10.42	8.71
MW-7	08/16/2005	---	---	---	---	---	---	---	---	---	---	---	19.13	11.52	7.61
MW-7	09/15/2005	<500	<5.0	<5.0	<5.0	<10	---	75	16,000	<20	<20	<20	19.13	11.95	7.18
MW-7	10/26/2005	---	---	---	---	---	---	---	---	---	---	---	19.13	12.23	6.90
MW-7	12/13/2005	1,210	<0.500	<0.500	<0.500	<0.500	---	19.1	14,600 e	---	---	---	19.13	12.15	6.98
MW-7	03/08/2006	989	<0.500	<0.500	<0.500	<0.500	---	7.29	14,000	---	---	---	19.13	10.70	8.43
MW-7	06/27/2006	370	<0.50	<0.50	<0.50	<0.50	---	16	20,000 a	---	---	---	19.13	10.77	8.36
MW-7	09/25/2006	840 j	<10	<10	<10	<20	---	<20	22,000	<20	<20	<20	19.13	12.04	7.09
MW-7	12/21/2006	740	<0.50	<0.50	<0.50	<1.0	---	7.5	27,000	---	---	---	19.13	12.18	6.95
MW-7	03/20/2007	460 j	<50	<50	<50	<100	---	<100	24,000	---	---	---	19.13	11.67	7.46
MW-7	06/18/2007	310 m	<5.0	<10	<10	<10	---	2.7 l	32,000	---	---	---	19.13	12.31	6.82
MW-7	08/30/2007	560 n	<25	<50	<50	<50	---	<50	28,000	<100	<100	<100	19.13	12.76	6.37
MW-7	12/28/2007	74 n	<25	<50	<50	<50	---	<50	26,000	---	---	---	19.13	12.85	6.28
MW-7	03/26/2008	1,400	<5.0	<10	<10	<10	---	<10	32,000	---	---	---	19.13	12.04	7.09
MW-7	05/29/2008	3,000	<25	<50	<50	<50	---	<50	44,000	---	---	---	19.13	12.80	6.33
MW-7	09/25/2008	3,600	<25	<50	<50	<50	---	<50	36,000	<100	<100	<100	19.13	13.14	5.99
MW-7	12/16/2008	1,700	<10	<20	<20	<20	---	<20	29,000	---	---	---	19.13	13.34	5.79
MW-7	02/26/2009	1,300	<10	<20	<20	<20	---	<20	19,000	---	---	---	19.13	12.16	6.97
MW-7	05/26/2009	1,600	<10	<20	<20	<20	---	<20	32,000	---	---	---	19.13	12.56	6.57
MW-7	09/02/2009	1,800	<10	<20	<20	<20	---	<20	33,000	<40	<40	<40	19.13	13.44	5.69
MW-7	03/10/2010	<1,000	<10	<20	<20	<20	---	<20	25,000	---	---	---	19.13	11.62	7.51
MW-7	08/31/2010	<1,000	<10	<20	<20	<20	---	<20	27,000	<40	<40	<40	19.13	12.90	6.23
MW-7	12/21/2010	<2,500	<25	<50	<50	<50	---	<50	22,000	---	---	---	19.13	12.11	7.02
MW-7	03/08/2011	<2,000	<20	<20	<20	<40	---	<40	9,600	---	---	---	19.13	11.51	7.62
MW-7	06/01/2011	620	<20	<20	<20	<40	---	<40	35,000	---	---	---	19.13	11.56	7.57
MW-7	09/19/2011	2,700	<25	<25	<25	<50	---	<50	48,000	<50	<50	<50	19.13	12.58	6.55

TABLE 2

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
610 MARKET STREET, OAKLAND, CALIFORNIA

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (µg/L)	MTBE 8260 (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)
MW-7	**12/02/2011**	**370**	**<0.500**	**<0.500**	**<0.500**	**<0.500**	**---**	**4.21**	**14,300**	**---**	**---**	**---**	**19.13**	**12.90**	**6.23**
MW-7	**03/05/2012**	**<2,500**	**<25**	**<25**	**<25**	**<50**	**---**	**<25**	**42,000**	**---**	**---**	**---**	**19.13**	**13.22**	**5.91**
MW-8	03/28/2003	Well inaccessible		---	---	---	---	---	---	---	---	---	18.72	---	---
MW-8	04/07/2003	---	---	---	---	---	---	---	---	---	---	---	18.72	14.13	4.59
MW-8	04/15/2003	890	29	22	15	71	---	430	---	---	---	---	18.72	14.10	4.62
MW-8	06/13/2003	---	---	---	---	---	---	---	---	---	---	---	18.72	13.94	4.78
MW-8	09/26/2003	<250	55	51	33	140	---	330	---	---	---	---	18.71	14.21	4.50
MW-8	11/24/2003	<5,000	<50	<50	<50	<100	---	5,600	---	---	---	---	18.71	14.16	4.55
MW-8	03/01/2004	<50	<0.50	<0.50	<0.50	<1.0	---	12	---	---	---	---	18.71	10.34	8.37
MW-8	06/15/2004	2,800	170	240	140	560	---	440	---	---	---	---	18.71	13.88	4.83
MW-8	09/16/2004	2,500	180	200	120	490	---	480	260	<10	<10	<10	18.71	13.92	4.79
MW-8	12/29/2004	4,400	360	600	280	1,400	---	690	---	---	---	---	18.71	13.44	5.27
MW-8	02/28/2005	---	---	---	---	---	---	---	---	---	---	---	18.71	10.15	8.56
MW-8	03/23/2005	2,800	120	190	110	420	---	300	---	---	---	---	18.71	13.79	4.92
MW-8	05/18/2005	250	34	3.4	6.6	27	---	110	---	---	---	---	18.71	10.85	7.86
MW-8	08/16/2005	---	---	---	---	---	---	---	---	---	---	---	18.71	10.95	7.76
MW-8	09/15/2005	460 f	54	21	24	92	---	250	130	<4.0	<4.0	<4.0	18.71	11.38	7.33
MW-8	10/26/2005	---	---	---	---	---	---	---	---	---	---	---	18.71	11.75	6.96
MW-8	12/13/2005	1,180	49.6	4.89 h	15.2	76.0	---	320 a	1,870	---	---	---	18.71	11.80	6.91
MW-8	03/08/2006	1,040	48.0	1.82	5.07	19.9	---	271	190	---	---	---	18.71	10.50	8.21
MW-8	06/27/2006	730	80	<2.5	8.6	28	---	360	500 a	---	---	---	18.71	10.00	8.71
MW-8	09/25/2006	830	120	4.1	3.0	15	---	260	420	3.7	<2.5	<2.5	18.71	11.42	7.29
MW-8	12/21/2006	1,200	140	3.8	2.3	12	---	190	1,100	---	---	---	18.71	12.08	6.63
MW-8	03/20/2007	660	100	2.3	1.3	2.9	---	280	660	---	---	---	18.71	11.56	7.15
MW-8	06/18/2007	1,200	270	4.9	2.0	6.21	---	230	1,300	---	---	---	18.71	11.72	6.99
MW-8	08/30/2007	1,100 n	160	3.8	2.3	7.64 l	---	150	840	5.2	<2.0	<2.0	18.71	12.22	6.49
MW-8	12/28/2007	610 n	89	1.8	0.58 l	2.33 l	---	140	820	---	---	---	18.71	12.26	6.45
MW-8	03/26/2008	240	19	<1.0	<1.0	<1.0	---	58	390	---	---	---	18.71	11.45	7.26
MW-8	05/29/2008	290	25	<1.0	<1.0	<1.0	---	99	800	---	---	---	18.71	12.13	6.58

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
610 MARKET STREET, OAKLAND, CALIFORNIA

Well ID	*Date*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE 8020 (µg/L)*	*MTBE 8260 (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)*
MW-8	09/25/2008	500	32	<1.0	<1.0	1.3	---	63	930	2.5	<2.0	<2.0	18.71	15.31	3.40
MW-8	12/16/2008	550	71	1.4	<1.0	1.8	---	46	1,400	---	---	---	18.71	12.92	5.79
MW-8	02/26/2009	120	0.97	<1.0	<1.0	<1.0	---	4.9	62	---	---	---	18.71	11.50	7.21
MW-8	05/26/2009	200	18	<1.0	<1.0	<1.0	---	39	710	---	---	---	18.71	11.91	6.80
MW-8	09/02/2009	480	55	1.6	<1.0	3.4	---	48	1,200	2.6	<2.0	<2.0	18.71	12.90	5.81
MW-8	03/10/2010	<50	<0.50	<1.0	<1.0	<1.0	---	1.6	14	---	---	---	18.71	11.02	7.69
MW-8	08/31/2010	650	110	11	6.5	25	---	48	1,200	2.2	<2.0	<2.0	18.71	12.20	6.51
MW-8	03/08/2011	97	<0.50	<0.50	<0.50	<1.0	---	3.7	23	---	---	---	18.71	10.80	7.91
MW-8	09/19/2011	1,200	370 o	13 o	3.3 o	30 o	---	53 o	2,500 o	<5.0 o	<5.0 o	<5.0 o	18.71	11.94	6.77
MW-8	**03/05/2012**	**700**	**160**	**<2.5**	**<2.5**	**<5.0**	**---**	**23**	**2,800**	**---**	**---**	**---**	**18.71**	**12.62**	**6.09**
MW-9	03/28/2003	---	---	---	---	---	---	---	---	---	---	---	18.78	11.19	7.59
MW-9	04/15/2003	420	<2.5	<2.5	<2.5	6.3	---	37	---	---	---	---	18.78	11.24	7.54
MW-9	06/13/2003	290 b	<0.50	<0.50	<0.50	2.6	---	34	---	---	---	---	18.78	11.39	7.39
MW-9	09/26/2003	540 b	<0.50	<0.50	<0.50	9.2	---	21	---	---	---	---	18.78	12.12	6.66
MW-9	11/24/2003	650 d	<0.50	<0.50	<0.50	6.3	---	14	---	---	---	---	18.78	12.30	6.48
MW-9	03/01/2004	230 d	<0.50	<0.50	<0.50	1.7	---	7.7	---	---	---	---	18.78	10.45	8.33
MW-9	06/15/2004	280	<0.50	<0.50	<0.50	1.9	---	8.3	---	---	---	---	18.78	11.88	6.90
MW-9	09/16/2004	260	<0.50	<0.50	<0.50	1.5	---	3.9	<5.0	<2.0	<2.0	<2.0	18.78	12.26	6.52
MW-9	12/29/2004	220	<0.50	<0.50	<0.50	1.2	---	3.5	---	---	---	---	18.78	11.76	7.02
MW-9	02/28/2005	140 g	<0.50	<0.50	<0.50	<1.0	---	1.5	---	---	---	---	18.78	10.21	8.57
MW-9	03/23/2005	---	---	---	---	---	---	---	---	---	---	---	18.78	10.14	8.64
MW-9	05/18/2005	210 g	<0.50	<0.50	<0.50	<1.0	---	2.8	---	---	---	---	18.78	10.21	8.57
MW-9	08/16/2005	---	---	---	---	---	---	---	---	---	---	---	18.78	11.25	7.53
MW-9	09/15/2005	230 g	<0.50	<0.50	<0.50	1.1	---	2.6	<5.0	<2.0	<2.0	<2.0	18.78	11.75	7.03
MW-9	10/26/2005	---	---	---	---	---	---	---	---	---	---	---	18.78	11.97	6.81
MW-9	12/13/2005	504	<0.500	<0.500	<0.500	2.53	---	2.88	---	---	---	---	18.78	11.92	6.86
MW-9	03/08/2006	205	<0.500	<0.500	<0.500	<0.500	---	1.45	---	---	---	---	18.78	10.05	8.73
MW-9	06/27/2006	260	<0.50	<0.50	<0.50	<0.50	---	1.9	---	---	---	---	18.78	10.64	8.14
MW-9	09/25/2006	160	<0.50	<0.50	<0.50	<1.0	---	1.6	<10	<1.0	<1.0	<1.0	18.78	11.78	7.00

TABLE 2

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
610 MARKET STREET, OAKLAND, CALIFORNIA

Well ID	*Date*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE 8020 (µg/L)*	*MTBE 8260 (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)*
MW-9	12/21/2006	300	<0.50	<0.50	<0.50	<1.0	---	1.4	---	---	---	---	18.78	11.86	6.92
MW-9	03/20/2007	150 j	<0.50	<0.50	<0.50	<1.0	---	1.2	---	---	---	---	18.78	11.34	7.44
MW-9	06/18/2007	81	0.18 l	<1.0	<1.0	0.27 l	---	1.2	---	---	---	---	18.78	12.01	6.77
MW-9	08/30/2007	52 n	<0.50	<1.0	<1.0	0.31 l	---	1.6	<10	<2.0	<2.0	<2.0	18.78	12.49	6.29
MW-9	12/28/2007	61 n	<0.50	<1.0	<1.0	0.27 l	---	1.9	---	---	---	---	18.78	12.84	5.94
MW-9	03/26/2008	89	<0.50	<1.0	<1.0	<1.0	---	1.6	---	---	---	---	18.78	12.30	6.48
MW-9	05/29/2008	130	<0.50	<1.0	<1.0	<1.0	---	7.4	---	---	---	---	18.78	12.61	6.17
MW-9	09/25/2008	63	<0.50	<1.0	<1.0	<1.0	---	17	<10	<2.0	<2.0	<2.0	18.78	12.92	5.86
MW-9	12/16/2008	74	<0.50	<1.0	<1.0	<1.0	---	13	---	---	---	---	18.78	13.03	5.75
MW-9	02/26/2009	81	<0.50	<1.0	<1.0	<1.0	---	14	---	---	---	---	18.78	11.94	6.84
MW-9	05/26/2009	140	<0.50	<1.0	<1.0	<1.0	---	5.8	---	---	---	---	18.78	12.47	6.31
MW-9	09/02/2009	54	<0.50	<1.0	<1.0	<1.0	---	16	<10	<2.0	<2.0	<2.0	18.42	13.00	5.42
MW-9	03/10/2010	<50	<0.50	<1.0	<1.0	<1.0	---	1.4	---	---	---	---	18.42	11.05	7.37
MW-9	08/31/2010	<50	<0.50	<1.0	<1.0	<1.0	---	12	<10	<2.0	<2.0	<2.0	18.42	12.35	6.07

Notes:
TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method 8260B; prior to June 28, 2001, analyzed by EPA Method 8015 unless otherwise noted.
BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B; prior to June 28, 2001, analyzed by EPA Method 8020.
MTBE = Methyl tertiary-butyl ether analyzed by method 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
TOC = Top of casing elevation, in feet relative to mean sea level
GW = Groundwater
µg/L = Micrograms per liter
ft = Feet
MSL = Mean sea level
<x = Not detected at reporting limit x

GROUNDWATER DATA
SHELL-BRANDED SERVICE STATION
610 MARKET STREET, OAKLAND, CALIFORNIA

Well ID	*Date*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE 8020 (µg/L)*	*MTBE 8260 (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)*

--- = Not analyzed or not available

a = Sample was analyzed outside the EPA recommended holding time.
b = Hydrocarbon reported does not match the laboratory standard.
c = Unable to gauge
d = Sample contains discrete peaks in addition to gasoline.
e = Estimated value. The concentration exceeded the calibration of analysis.
f = Quantity of unknown hydrocarbon(s) in sample based on gasoline.
g = The concentration reported reflects individual or discrete unidentified peaks not matching a typical fuel pattern.
h = Analyte was detected in the associated Method Blank.
i = Sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.
j = Hydrocarbon result partly due to individual peak(s) in quantitation range.
k = Reporting limit raised due to high concentrations of non-target analytes.
l = Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
m = 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.
n = Analyzed by the EPA method 8015B(M)
o = Sample container contained headspace

Wells MW-1, MW-2, and MW-3 surveyed December 9, 1998 by Virgil Chavez Land Surveying
Wells MW-6 through MW-9 surveyed April 10, 2003 by Virgil Chavez Land Surveying
Wells MW-2, MW-3, MW-6, MW-7, and MW-8 surveyed September 23, 2003 by Virgil Chavez Land Surveying
Well MW-9 surveyed October 20, 2009 by Virgil Chavez Land Surveying

TABLE 3

HISTORICAL GRAB GROUNDWATER ANALYTICAL DATA
SHELL-BRANDED SERVICE STATION
610 MARKET STREET, OAKLAND, CALIFORNIA

Sample ID	*Date*	*TPHg (µg/L)*	*B (µg/L)*	*T (µg/L)*	*E (µg/L)*	*X (µg/L)*	*MTBE (µg/L)*
SB-A	3/31/1998	**2,100**	**490**	<10	<10	19	**11,000 a/ 14,000**
SB-B	3/31/1998	120	5.8	<0.50	<0.50	<0.50	**5,300 a/6,200**
SB-C	3/31/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5 a
SB-D	4/16/2002	**68,000**	<250	**340**	**44**	**3,200**	**10,000**
SB-E	4/16/2002	<2,500	**19,000**	34	<25	<25	<25
SB-F	4/16/2002	<500	**3,300**	<5.0	<5.0	<5.0	<5.0
MW-4	5/20/2002	<1,000	**4,600**	<10	<10	<10	<10
MW-5	5/20/2002	<2,500	**17,000**	<25	<25	<25	<25
Groundwater ESL [b]:		210	46	130	43	100	1,800

Notes:
TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method 8260B; before April 16, 2002 analyzed by EPA Method 8015B (M).
BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B; before April 16, 2002 analyzed by EPA Method 8020.
MTBE = Methyl tertiary-butyl ether analyzed by EPA Method 8260B unless otherwise noted
µg/L = Micrograms per liter
<x = Not detected at reporting limit x
ESL = Environmental screening level
Results in **bold** equal or exceed applicable ESL

a = Analyzed by EPA Method 8020
b = 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]).

APPENDIX A

SITE HISTORY

SITE HISTORY

1995 Site Renovation: In August 1995, Paradiso Mechanical (Paradiso) of San Leandro, California replaced the central and western-most gasoline dispensers and removed the eastern-most dispensers and associated piping. Weiss Associates (Weiss) of Emeryville, California collected 18 soil samples from beneath the gasoline dispensers and product piping locations, which contained up to 2,700 milligrams per kilogram (mg/kg) total petroleum hydrocarbons as gasoline (TPHg) and 0.70 mg/kg benzene. Approximately 33 cubic yards of soil were removed during dispenser upgrades, and an additional 15 cubic yards were removed during over-excavation of the southern end of the middle dispenser island and the piping of the eastern-most dispenser islands. Investigation results are summarized in Weiss' November 2, 1995 *Dispenser Replacement Sampling* report.

1998 Station Upgrades: In March 1998, Paradiso added secondary containment to the turbine sumps in the underground storage tanks (USTs). Cambria inspected the turbine sumps and UST area, and no field indications of petroleum hydrocarbons, such as staining or odor, were observed during the site visit. Based on the field observations, no soil sampling was performed during the site upgrade activities. The details of these activities are summarized in Cambria's *1998 Site Upgrade Inspection Report* dated March 30, 1998.

1998 Site Investigation: In March 1998, Cambria drilled three soil borings (S-A through S-C). Soil samples from the borings contained up to 1.3 mg/kg TPHg, 0.063 mg/kg benzene, and 1.8 mg/kg methyl tertiary-butyl ether (MTBE). Grab groundwater samples from the borings contained up to 2,100 micrograms per liter (µg/L) TPHg, 490 µg/L benzene, and 14,000 µg/L MTBE. Cambria's July 1, 1998 *Subsurface Investigation Report* provides investigation details.

1998 Subsurface Investigation: In November 1998, Cambria installed three on-site groundwater monitoring wells (MW-1, MW-2, and MW-3). No TPHg, benzene, toluene, ethylbenzene, total xylenes, or MTBE was reported in analyzed soil samples collected from well MW-1. Soil samples from well borings MW-2 and MW-3 contained up to 1,700 mg/kg TPHg, 8.3 mg/kg benzene, and 16 mg/kg MTBE. Investigation details are presented in Cambria's April 20, 1999 *Well Installation Report.*

2000-2003 Mobile Dual-Phase Extraction (DPE) and Groundwater Extraction (GWE): From March 2000 to January 2003, Cambria coordinated mobile DPE and GWE from wells MW-2, MW-3, and T-1. Approximately 45,421 gallons of water were removed containing an estimated 3.4 pounds of TPHg, 0.087 pounds of benzene, and 71 pounds

of MTBE. Vapor extraction removed an estimated 53 pounds of TPHg, 1.5 pounds of benzene, and 43 pounds of MTBE.

2001 DPE and Soil Vapor Extraction (SVE) Pilot Test: In March 2001, Cambria performed a short-term (1 day) DPE test on well MW-3 and a short-term (1 day) SVE test on tank backfill well T-1. The tests were conducted using an internal combustion engine for vapor abatement. The cumulative mass removal (liquid and vapor) during the pilot tests was approximately 2.0 pounds of TPHg and 3.3 pounds of MTBE. Cambria's August 29, 2001 *Site Conceptual Model and Pilot Test Report* provides pilot test details.

2001 Site Conceptual Model (SCM), Conduit Study, and Sensitive Receptor Survey (SRS): Cambria's SRS identified one well of unknown use located approximately one-half mile southeast of the site. The only surface water body identified is the Inner Harbor, located approximately one-half mile south of the site. The only conduit identified down gradient of the site, which typically encounters groundwater, is a southwestward-flowing, 10-inch diameter sanitary sewer line. Based on the SCM developed for the site using this information, there are no significant sensitive receptors in the vicinity of the site. Cambria's August 29, 2001 *Site Conceptual Model and Pilot Test Report* presents the SCM, conduit study, and SRS.

2001 SVE Pilot Test: In October 2001, Cambria conducted a long-term (5 day) SVE pilot test on tank backfill well T-1. Based on the pilot test data, Cambria calculated a radius of influence of 15.0 to 30.3 feet. Approximately 16 pounds of TPHg, 1.3 pounds of benzene, and 36 pounds of MTBE were removed during the pilot test. Cambria's December 19, *2001 Soil Vapor Extraction Pilot Test Report and Investigation Work Plan* provides pilot test details.

2001-2002 Monthly Vapor Sampling: From November 2001 to November 2002, Cambria coordinated monthly vapor measurements in the tank backfill wells using a photo-ionization detector (PID). Due to a PID measurement of 63,930 parts per million by volume (ppmv) in well T-2 on February 7, 2002, Cambria began collecting monthly samples from well T-2 for laboratory analysis in addition to taking the PID readings. Vapor samples contained up to 5,400 ppmv TPHg, 24 ppmv benzene, and 2,200 ppmv MTBE. Cambria's January 13, 2012 *Fourth Quarter 2002 Self-Monitoring Report* summarizes the vapor sampling results.

2002 Subsurface Investigation: In April 2002, Cambria drilled three soil borings (SB-D through SB-F) and installed two groundwater monitoring wells (MW-4 and MW-5). Soil samples from the borings contained up to 6.1 mg/kg MTBE. No TPHg or benzene was

detected in the soil samples. Grab groundwater samples from the soil borings contained up to 68,000 µg/L TPHg, 340 µg/L benzene, and 19,000 µg/L MTBE. Cambria's August 12, 2002 *Subsurface Investigation Report* presents investigation details.

2002-2003 Subsurface Investigation: In November 2002 and January 2003, Cambria installed four groundwater monitoring wells (MW-6 through MW-9). Soil samples from the well borings contained up to 6,000 mg/kg TPHg, 7.4 mg/kg benzene, and 10 mg/kg MTBE. Investigation results are presented in Cambria's May 28, 2003 *Well Installation Report*.

2003-2006 GWE: From February 2003 to November 2006, Cambria operated a GWE system which extracted groundwater from wells MW-2, MW-3, MW-6 through MW-8, and tank backfill well T-1. The GWE system removed approximately 2,228,010 gallons of water containing an estimated 48 pounds of TPHg, 0.38 pounds of benzene, and 140 pounds of MTBE.

Groundwater Monitoring: Groundwater monitoring has been conducted since the fourth quarter of 1998. Groundwater flow direction is generally southwesterly.

APPENDIX B

BORING LOGS

Cambria Environmental Technology, Inc.
1144 - 65th St.
Oakland, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Equilon Enterprises LLC	**BORING/WELL NAME**	MW-1
JOB/SITE NAME	Shell-Branded Service Station	**DRILLING STARTED**	17-Nov-98
LOCATION	610 Market, Oakland CA	**DRILLING COMPLETED**	17-Nov-98
PROJECT NUMBER	240-0594	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	21.70 ft
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	10.25"	**SCREENED INTERVAL**	5 to 25 ft bgs
LOGGED BY	B. Busch	**DEPTH TO WATER (First Encountered)**	10.0 ft (17-Nov-98)
REVIEWED BY		**DEPTH TO WATER (Static)**	NA
REMARKS	Hand augered to 5' bgs.		

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								ASPHALT	0.5	Portland Type I/II Cement
0			MW1 - 5.5		5	SW		**SAND**; (SW); brown; medium dense; damp; 10% silt, 90% sand; no plasticity; moderate estimated permeability.		Bentonite Seal
										Monterey Sand #2/16
									7.5	
1.6			MW1 - 9.5		10	SM		**Silty SAND**; (SM); brown, grey; medium dense; damp; 20% silt, 80% sand; no plasticity; moderate estimated permeability. 11/17/98 ▽		
					15			@ 15' - 15% silt, 85% sand.	15.0	4"-diam., 0.010" Slotted Schedule 40 PVC
58			MW1 - 16.0							
NT			MW1 - 19.5		20	SM				
0.3			MW1 - 24.0		25				25.0	Bottom of Boring @ 25 ft

WELL LOG (PID) G:\CAD\BORINGS\OAK610.GPJ DEFAULT 12/21/98

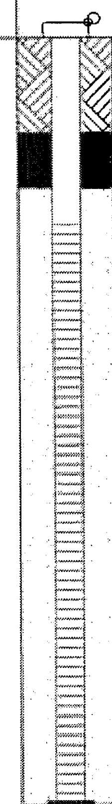
Cambria Environmental Technology, Inc.
1144 - 65th St.
Oakland, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Equilon Enterprises LLC	**BORING/WELL NAME**	MW-2
JOB/SITE NAME	Shell-Branded Service Station	**DRILLING STARTED**	17-Nov-98
LOCATION	610 Market, Oakland CA	**DRILLING COMPLETED**	17-Nov-98
PROJECT NUMBER	240-0594	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	19.61 ft
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	10.25"	**SCREENED INTERVAL**	5 to 20.5 ft bgs
LOGGED BY	B. Busch	**DEPTH TO WATER (First Encountered)**	10.0 ft (17-Nov-98)
REVIEWED BY		**DEPTH TO WATER (Static)**	NA
REMARKS	Hand augered to 5' bgs.		

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE ID	DEPTH (ft bgs)	U.S.C.S.	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)
						ASPHALT	0.5
					SW	**SAND**; (SW); brown to grey; loose; damp; 5% silt, 95% sand; no plasticity; high estimated permeability.	
				5			
1.0			MW2 - 5.5				7.5
					SM	**Silty SAND**; (SM); grey; loose; moist; 15% silt, 85% fine grained sand; no plasticity; moderate estimated permeability. 11/17/98 ▽	
				10			
11.0			MW2 - 10.5				
				15	SM	@ 15' - 15% silt, 85% fine to medium grained sand.	15.0
3.0			MW2 - 15.5				17.5
					SW	**SAND**; (SW); brown; loose; wet; 10% silt, 90% sand; no plasticity; high estimated permeability.	
1.0			MW2 - 19.5	20			20.5

WELL DIAGRAM



Cambria Environmental Technology, Inc.
1144 - 65th St.
Oakland, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Equilon Enterprises LLC	**BORING/WELL NAME**	MW-3
JOB/SITE NAME	Shell-Branded Service Station	**DRILLING STARTED**	17-Nov-98
LOCATION	610 Market, Oakland CA	**DRILLING COMPLETED**	17-Nov-98
PROJECT NUMBER	240-0594	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	19.05 ft
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	10.25"	**SCREENED INTERVAL**	5 to 20.5 ft bgs
LOGGED BY	B. Busch	**DEPTH TO WATER (First Encountered)**	10.0 ft (17-Nov-98)
REVIEWED BY		**DEPTH TO WATER (Static)**	NA
REMARKS	Hand augered to 5' bgs.		

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								TOPSOIL.	1.0	Portland Type I/II Cement
12.0			MW3 - 5.5		5	SM		**Silty SAND**; (SM); grey; loose; damp; 15% silt, 85% sand; no plasticity; moderate estimated permeability.		Bentonite Seal
204			MW3 - 10.5		10			11/17/98 ▽		Monterey Sand #2/16
15.0			MW3 - 15.5		15	SM		@ 15' - wet.	15.0	4"-diam., 0.010" Slotted Schedule 40 PVC
17.0			MW3 - 19.5		20				20.0	Bottom of Boring @ 20.5 ft

WELL LOG (PID) G:\OAKBIN\INTOAK610.GPJ DEFAULT.GDT 12/21/98

Cambria Environmental Technology, Inc.
1144 - 65th St.
Oakland, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	BORING/WELL NAME	MW-4
JOB/SITE NAME	Shell-Branded Service Station	DRILLING STARTED	17-Apr-02
LOCATION	610 Market, Oakland CA	DRILLING COMPLETED	17-Apr-02
PROJECT NUMBER	244-0594	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Gregg Drilling	GROUND SURFACE ELEVATION	Not Surveyed
DRILLING METHOD	Hollow-stem auger	TOP OF CASING ELEVATION	NA
BORING DIAMETER	10"	SCREENED INTERVAL	5 to 20 ft bgs
LOGGED BY	J. Gerke	DEPTH TO WATER (First Encountered)	10.2 ft (17-Apr-02)
REVIEWED BY	D. Lundquist, PE	DEPTH TO WATER (Static)	10.61 ft (20-May-02)

REMARKS: Hand augered to 5' bgs. Located within 6th Street, approximately 43 feet SW of the site and 103 feet SE of Market St.

MTBE (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)
							ASPHALT.	
								1.7
							Silty SAND; (SM); brown; damp; 20% silt, 80% fine with trace medium grained sand; no plasticity.	
				5				
<0.5	5 7 8	MW-4-6.5					@ 6 fbg - medium dense; moist.	
<0.5	7 9 12	MW-4-9.5		10	SM		@ 9 fbg - light brown with light gray mottling and oxidization staining. @ 10.2 fbg - wet.	
<0.5	7 7 9	MW-4-14.5		15			@ 14.0 fbg - light brown with light gray mottling.	
<0.5	6 8 10	MW-4-19.0		20				20.0

WELL DIAGRAM: Portland Type I/II Cement; Bentonite Seal; Monterey Sand #2/16; 4"-diam., 0.010" Slotted Schedule 40 PVC; Bottom of Boring @ 20 ft

WELL LOG (MTBE) G:\OA53600-1\GINT\OAK610.GPJ DEFAULT.GDT 6/11/02

Cambria Environmental Technology, Inc.
1144 - 65th St.
Oakland, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	BORING/WELL NAME	MW-5
JOB/SITE NAME	Shell-Branded Service Station	DRILLING STARTED	17-Apr-02
LOCATION	610 Market, Oakland CA	DRILLING COMPLETED	17-Apr-02
PROJECT NUMBER	244-0594	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Gregg Drilling	GROUND SURFACE ELEVATION	Not Surveyed
DRILLING METHOD	Hollow-stem auger	TOP OF CASING ELEVATION	NA
BORING DIAMETER	10"	SCREENED INTERVAL	5 to 20 ft bgs
LOGGED BY	J. Gerke	DEPTH TO WATER (First Encountered)	12.0 ft (17-Apr-02)
REVIEWED BY	D. Lundquist, PE	DEPTH TO WATER (Static)	10.41 ft (20-May-02)

REMARKS: Hand augered to 6' bgs. Located within 6th Street, approximately 35 feet SW of the site and 38 feet SE of Market St.

MTBE (ppm)	BLOW COUNTS	SAMPLE ID	DEPTH (ft bgs)	U.S.C.S.	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)
			0		**ASPHALT**.	1.0
				SP	**SAND**; (SP); brown; damp; 5% clay, 10% silt, 85% fine sand; no plasticity.	4.6
			5	SM	**Silty SAND**; (SM); light gray; damp; 10% clay, 25% silt, 65% sand; no plasticity.	5.6
<0.5	9, 12, 16	MW-5-6.5		SP	**SAND**; (SP); brown; medium dense; damp; 10% silt, 90% fine sand; no plasticity. @ 6 fbg - greenish gray; moist.	
<0.5	6, 8, 11	MW-5-9.5	10		@ 12 fbg - wet.	12.3
<0.5	7, 10, 12	MW-5-14.5	15		**Silty SAND**; (SM); light brown with light gray mottling; medium dense; wet; 25% silt, 75% sand; no plasticity.	
3.0	7, 9, 13	MW-5-19.5	20	SM	@ 19 fbg - light brown.	
<0.5	12, 14, 17	MW-5-24.5	25		@ 24 fbg - 20% silt, 80% sand.	25.5

WELL DIAGRAM: Portland Type I/II Cement; Bentonite Seal; Monterey Sand #2/16; 4"-diam., 0.010" Slotted Schedule 40 PVC; Portland Type I/II Cement; Bottom of Boring @ 25.5 ft

WELL LOG (MTBE) G:\OA5300-1\GINT\OAK610.GPJ DEFAULT.GDT 6/11/02

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	MW-6
JOB/SITE NAME	Shell-Branded Service Station	**DRILLING STARTED**	15-Nov-02
LOCATION	610 Market, Oakland CA	**DRILLING COMPLETED**	15-Nov-02
PROJECT NUMBER	244-0594	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	10"	**SCREENED INTERVAL**	5 to 20.01 ft bgs
LOGGED BY	J. Gerke	**DEPTH TO WATER (First Encountered)**	15.0 ft (15-Nov-02)
REVIEWED BY	M. Derby, PE# 55475	**DEPTH TO WATER (Static)**	NA
REMARKS	Hand augered to 5' bgs.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							CONCRETE	0.7	Portland Type I/II Cement; Bentonite Seal
		MW-6-5.5		5	SP		**SAND**; (SP); Brown; 5% Silt, 95% Sand.		
		MW-6-10.5		10			Brown with gray mottling.		Monterey Sand #2/16; 4"-diam., 0.010" Slotted Schedule 40 PVC
		MW-6-15.5		15	SM		▽ **Silty SAND**; (SM); Gray; 20% Silt, 80% Sand.	15.0	
					SP		**SAND**; (SP); 5% Silt, 95% Sand.	17.5	
		MW-6-19.0		20				20.0	Bottom of Boring @ 20 ft

WELL LOG (PID) G:\OAKLAND 610 MARKET\GINT\OAK610.GPJ DEFAULT.GDT 3/12/03

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	MW-7
JOB/SITE NAME	Shell-Branded Service Station	**DRILLING STARTED**	14-Nov-02
LOCATION	610 Market, Oakland CA	**DRILLING COMPLETED**	15-Nov-02
PROJECT NUMBER	244-0594	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	10"	**SCREENED INTERVAL**	5 to 20.01 ft bgs
LOGGED BY	J. Gerke	**DEPTH TO WATER (First Encountered)**	15.0 ft (14-Nov-02) ▽
REVIEWED BY	M. Derby, PE# 55475	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 8' bgs.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							Asphalt	0.6	Portland Type I/II Cement
							Silty SAND; (SM); Grayish brown to brown with gray; damp; 5% Clay, 15% Silt, 80% Sand; low plasticity.		Bentonite Seal
				5			Silty SAND; (SM); Brown; damp; 5% Clay, 15%Silt ,80% Sand.		
					SM				
		MW-7-9.0		10			Silty SAND; (SM); Brown with gray streaking; moist.		Monterey Sand #2/16
		MW-7-10.5							4"-diam., 0.010" Slotted Schedule 40 PVC
				15			▽		
		MW-7-15.5					**Poorly Graded SAND**; (SP); Gray; wet; 5% Silt, 95% Sand.	16.0	
					SP				
		MW-7-19.0		20			Brown.	20.0	Bottom of Boring @ 20 ft

WELL LOG (PID) G:\OAKLAND 610 MARKET\GINTOAK610.GPJ DEFAULT.GDT 3/12/03

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	MW-8
JOB/SITE NAME	Shell-Branded Service Station	**DRILLING STARTED**	14-Nov-02
LOCATION	610 Market, Oakland CA	**DRILLING COMPLETED**	14-Nov-02
PROJECT NUMBER	244-0594	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	10"	**SCREENED INTERVAL**	5 to 20.01 ft bgs
LOGGED BY	J. Gerke	**DEPTH TO WATER (First Encountered)**	10.0 ft (14-Nov-02)
REVIEWED BY	M. Derby, PE# 55475	**DEPTH TO WATER (Static)**	NA
REMARKS	Hand augered to 5' bgs.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							Asphalt	0.6	Portland Type I/II Cement
							Silty SAND; (SM); Grayish brown to gray; damp; 15% Silt, 85% Sand.		Bentonite Seal
		MW-8- 6		5			Silty SAND; (SM); grayish brown; damp; Silt 20%, Sand 80%.		
		MW-8- 11		10	SM		Silty SAND; (SM); gray; moist to wet; 20% Silt, 80% Sand.		Monterey Sand #2/16 4"-diam., 0.010" Slotted Schedule 40 PVC
		MW-8- 16		15			Silty SAND; (SM); gray; wet; 15% Silt, 85% Sand.		
		MW-8- 19.5		20	SP		**Poorly Graded SAND**; (SP); Grayish brown; wet; 10% Silt, 90% Sand.	19.0 20.0	Bottom of Boring @ 20 ft

WELL LOG (PID) G:\OAKLAND 610 MARKET\GINT\OAK610.GPJ DEFAULT.GDT 3/12/03

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	MW-9
JOB/SITE NAME	Shell-Branded Service Station	**DRILLING STARTED**	28-Jan-03
LOCATION	610 Market, Oakland CA	**DRILLING COMPLETED**	28-Jan-03
PROJECT NUMBER	244-0594	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	10"	**SCREENED INTERVAL**	5 to 20.01 ft bgs
LOGGED BY	J. Gerke	**DEPTH TO WATER (First Encountered)**	12.5 ft (18-Jan-03) ▽
REVIEWED BY	M. Derby, PE# 55475	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 5' bgs.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							Surface Planter with debris.; Dark brown; damp; 25% Clay, 40% Silt, 35% Sand.	0.4	Portland Type I/II Cement
							Silty SAND; (SM); Reddish brown to gray; damp; 5% Clay, 40% Silt, 55% Sand.		Bentonite Seal
		MW-9-5.5		5			Silty SAND; (SM); 5% Clay, 35% Silt, 60% Sand.		
		MW-9-10.5		10	SM		Silty SAND; (SM); Brown with 35% gray mottling; moist; 5% Clay, 45% Silt, 50% Sand. ▽		Monterey Sand #2/16 4"-diam., 0.010" Slotted Schedule 40 PVC
		MW-9-15.5		15			Silty SAND; (SM); Wet; 35% Silt, 65% Sand.		
		MW-9-19.0		20			Silty SAND; (SM); Wet; 20% Silt, 80% Sand.	20.0	Bottom of Boring @ 20 ft

WELL LOG (PID) G:\OAKLAND 610 MARKET\GINT\OAK610.GPJ DEFAULT.GDT 3/12/03

BORING LOG

Client: **Shell Oil Products Company**

Project No: **240-0594** Phase Task **2**

Boring ID **SB-A**

Location **610 Market Street, Oakland**

Surface Elev. **NA ft,**

Depth (feet)	Blow Count	Sample	Interval	Lithologic Description
0	Ground Surface			
				Asphalt
				Silty SAND: (SM); brown; loose; dry; 15% silt, 85% fine to medium sand; moderate estimated permeability.
5				
10				grey; damp; 15% silt, 85% fine sand.
15				
20				
25				
30				

TPHg (ppm)	Graphic Log	Boring Completion Graphics	Depth (feet)	Additional Comments
			0	
			5	
			10	
			15	Water encountered @ 14 ft.
				Bottom of boring @ 16 ft.
			20	
			25	
			30	

Driller **Gregg Drilling**	Drilling Started **3/31/98**	Notes: **See site map.**
Logged By **Aubrey Cool**	Drilling Completed **3/31/98**	
Water-Bearing Zones **NA**	Grout Type **Portland Type I/II**	

BOR 24594 3/31/98

Cambria Environmental Technology, Inc.

BORING LOG

Client: **Shell Oil Products Company**

Project No: **240-0594** Phase Task **2**

Boring ID **SB-B**

Location **610 Market Street, Oakland**

Surface Elev. **NA ft,**

Depth (feet)	Blow Count	Sample	Interval	Lithologic Description
0	Ground Surface			
				Asphalt
				SAND; (SW); brown to grey; loose; moist; 5% silt, 95% fine to medium sand; high estimated permeability.
				brown; damp; 10% silt, 90% fine to medium sand; moderate estimated permeability.
5				
				grey.
10				Silty SAND; (SM); grey; loose; wet; 15% silt, 85% fine sand; moderate estimated permeability.
				brown to grey; 15% silt, 85% fine to medium sand.
15				
20				
25				
30				

TPHg (ppm)	Graphic Log	Boring Completion Graphics	Depth (feet)	Additional Comments
			0	
			5	
			10	Water encountered @ 10.5 ft.
			15	Bottom of boring @ 15 ft.
			20	
			25	
			30	

Driller **Gregg Drilling**	Drilling Started **3/31/98**	Notes: **See site map.**
Logged By **Aubrey Cool**	Drilling Completed **3/31/98**	
Water-Bearing Zones **NA**	Grout Type **Portland Type I/II**	

BOR 24594 3/31/98

Cambria Environmental Technology, Inc.

BORING LOG

Client: **Shell Oil Products Company**

Project No: **240-0594** Phase Task **2**

Boring ID **SB-C**

Location **610 Market Street, Oakland**

Surface Elev. **NA ft,**

Depth (feet)	Blow Count	Sample	Interval	Lithologic Description
0	Ground Surface			
				Asphalt
				SAND; (SW); brown; loose; damp; 10% silt, 90% fine to medium sand; moderate to high estimated permeability.
5				Silty SAND; (SM); brown; loose; moist; 15% silt, 85% fine to medium sand; moderate to high estimated permeability.
				wet.
10				moist; 20% silt, 80% fine sand; moderate estimated permeability.
15				
20				no recovery.
25				
30				

TPHg (ppm) | Graphic Log | Boring Completion Graphics

Depth (feet): 0, 5, 10, 15, 20, 25, 30

Additional Comments:

- Water encountered @ 7 ft.
- Bottom of boring @ 26 ft.

Driller **Gregg Drilling**

Logged By **Aubrey Cool**

Water-Bearing Zones **NA**

Drilling Started **3/31/98**

Drilling Completed **3/31/98**

Grout Type **Portland Type I/II**

Notes: **See site map.**

BOR 24594 3/31/98

Cambria Environmental Technology, Inc.

Cambria Environmental Technology, Inc.
1144 - 65th St.
Oakland, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	BORING/WELL NAME	SB-D
JOB/SITE NAME	Shell-Branded Service Station	DRILLING STARTED	16-Apr-02
LOCATION	610 Market, Oakland CA	DRILLING COMPLETED	16-Apr-02
PROJECT NUMBER	244-0594	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Gregg Drilling	GROUND SURFACE ELEVATION	Not Surveyed
DRILLING METHOD	Hydraulic push	TOP OF CASING ELEVATION	NA
BORING DIAMETER	2"	SCREENED INTERVAL	NA
LOGGED BY	J. Gerke	DEPTH TO WATER (First Encountered)	13.7 ft (16-Apr-02)
REVIEWED BY	D. Lundquist, PE	DEPTH TO WATER (Static)	NA

REMARKS: Hand augered to 5' bgs. Located approximately 20 feet northwest of dispesnser D5/D6.

MTBE (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							FILL.	0.9	
							Silty SAND; (SM); brown; damp; 3% clay, 12% silt, 85% fine grained sand; no plasticity.		
<0.5		SB-D-5.0		5					
				10	SM				Portland Type I/II Cement
<0.5		SB-D-10.0							
<0.5		SB-D-11.5					@ 11.1 fbg - brown with gray mottling; moist; 5% clay, 25% silt, 70% fine grained sand.		
				15			@ 16.0 fbg - bluish gray; wet; 7% clay, 28% silt, 65% fine grained sand; odor.		
								18.8	
					SP		SAND; (SP); bluish gray; wet; 3% clay, 7% silt, 90% fine grained sand; no plasticity; odor.	20.0	
				20					Bottom of Boring @ 20 ft

WELL LOG (MTBE) G:\OA5300-1\GINT\OAK610.GPJ DEFAULT.GDT 6/11/02

Cambria Environmental Technology, Inc.
1144 - 65th St.
Oakland, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	BORING/WELL NAME	SB-E
JOB/SITE NAME	Shell-Branded Service Station	DRILLING STARTED	16-Apr-02
LOCATION	610 Market, Oakland CA	DRILLING COMPLETED	16-Apr-02
PROJECT NUMBER	244-0594	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Gregg Drilling	GROUND SURFACE ELEVATION	Not Surveyed
DRILLING METHOD	Hydraulic push	TOP OF CASING ELEVATION	NA
BORING DIAMETER	2"	SCREENED INTERVAL	NA
LOGGED BY	J. Gerke	DEPTH TO WATER (First Encountered)	13.0 ft (16-Apr-02) ▽
REVIEWED BY	D. Lundquist, PE	DEPTH TO WATER (Static)	NA ▼

REMARKS: Hand augered to 5' bgs. Located approximately 5 feet southwest of dispenser D1/D2.

MTBE (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							ASPHALT.	0.4	
					SP		**SAND**; (SP); bluish gray; damp; 5% clay, 10% silt, 80% fine grained sand; no plasticity.	3.5	
6.1		SB-E-5.0		5	SM		**Silty SAND**; (SM); brown; damp; 10% clay, 15% silt, 75% fine grained sand; no plasticity; odor.	6.5	
2.7		SB-E-10.0		10	SP		**SAND**; (SP); bluish gray; moist; 3% clay, 7% silt, 90% fine grained sand; no plasticity; odor.	12.0	Portland Type I/II Cement
4.8		SB-E-12.5		15	SM		**Silty SAND**; (SM); brown; moist; 3% clay, 17% silt, 80% fine grained sand; no plasticity; odor. ▽ @ 13 fbg - wet.	16.0	Bottom of Boring @ 16 ft

WELL LOG (MTBE) G:\OA5300-11\GINT\OAK610.GPJ DEFAULT.GDT 6/11/02

Cambria Environmental Technology, Inc.
1144 - 65th St.
Oakland, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	BORING/WELL NAME	SB-F
JOB/SITE NAME	Shell-Branded Service Station	DRILLING STARTED	16-Apr-02
LOCATION	610 Market, Oakland CA	DRILLING COMPLETED	16-Apr-02
PROJECT NUMBER	244-0594	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Gregg Drilling	GROUND SURFACE ELEVATION	Not Surveyed
DRILLING METHOD	Hydraulic push	TOP OF CASING ELEVATION	NA
BORING DIAMETER	2"	SCREENED INTERVAL	NA
LOGGED BY	J. Gerke	DEPTH TO WATER (First Encountered)	11.7 ft (16-Apr-02)
REVIEWED BY	D. Lundquist, PE	DEPTH TO WATER (Static)	NA

REMARKS: Hand augered to 5' bgs. Located approximately 27 feet south of well MW-3, near the south corner of the site.

MTBE (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							ASPHALT.	0.6	
							Silty SAND; (SM); brown; damp; 5% clay, 15% silt, 80% fine grained sand.		
<0.5		SB-F-5.0		5	SM		@ 5.0 fbg - brown with light gray mottling.		Portland Type I/II Cement
							@ 8.0 fbg - moist, odor.		
<0.5		SB-F-10.0		10			@ 9.8 fbg - bluish gray; 5% clay, 15% silt, 80% sand.		
<0.5		SB-F-11.2					@ 11.7 fbg - wet; 15% silt, 85% sand.	12.0	Bottom of Boring @ 12 ft

WELL LOG (MTBE) G:\OA5300-1\GINT\OAK610.GPJ DEFAULT.GDT 6/11/02

APPENDIX C

MASS REMOVAL DATA

Table 2: Groundwater Extraction - Operation and Mass Removal Data Shell-branded Service Station, Incident #98995750, 610 Market 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)
02/18/03	0.0	100	0	0.00	0	<20,000	0.000	0.000	270	0.0000	0.000	93,000	0.000	0.00
02/18/03	3.5	1,024	924	4.40	924		0.077	0.077		0.0021	0.002		0.717	0.72
02/25/03	140.2	30,312	29,288	3.57	30,212	<20,000	2.444	2.52	<200	0.0244	0.027	74,000	18.1	18.80
03/11/03	475.8	84,666	54,354	2.70	84,566	<10,000	2.268	4.79	<100	0.0227	0.049	47,000	21.3	40.12
03/13/03	524.0	92,030	7,364	2.55	91,930		0.307	5.10		0.0031	0.052		2.89	43.01
03/25/03	527.0	92,840	810	4.50	92,740	<10,000	0.034	5.13	<100	0.0003	0.053	38,000	0.257	43.26
04/07/03	838.6	142,754	49,914	2.67	142,654	30,000	12.495	17.6	<250	0.0521	0.105	33,000	13.7	57.01
04/14/03	985.4	165,205	22,451	2.55	165,105		5.620	23.2		0.0234	0.128		6.18	63.19
04/22/03	1,184.1	197,360	32,155	2.70	197,260	<25,000	3.354	26.6	<250	0.0335	0.162	26,000	6.98	70.17
04/29/03	1,305.4	216,450	19,090	2.62	216,350		1.991	28.6		0.0199	0.182		4.14	74.31
05/01/03	1,351.3	223,850	7,400	2.69	223,750	<10,000	0.309	28.9	<100	0.0031	0.185	25,000	1.54	75.85
05/20/03	1,783.0	291,620	67,770	2.62	291,520	<10,000	2.827	31.7	<100	0.0283	0.213	17,000	9.61	85.47
06/03/03	2,122.1	341,643	50,023	2.46	341,543	<10,000	2.087	33.8	<100	0.0209	0.234	15,000	6.26	91.73
06/17/03	2,456.1	388,001	46,358	2.31	387,901	<10,000	1.934	35.7	<100	0.0193	0.253	17,000	6.58	98.30
06/30/03	2,766.0	429,880	41,879	2.25	429,780		1.747	37.5		0.0175	0.271		5.94	104.24
07/14/03	3,095.9	473,549	43,669	2.21	473,449		1.822	39.3		0.0182	0.289		6.19	110.44
07/28/03	3,423.7	514,826	41,277	2.10	514,726	<5,000	0.861	40.2	<50	0.0086	0.297	7,100	2.45	112.88
08/11/03	3,761.9	545,750	30,924	1.52	545,650	<2,500	0.323	40.5	<25	0.0032	0.301	4,900	1.26	114.15
08/28/03	4,171.0	595,525	49,775	2.03	595,425	<2,500	0.519	41.0	<25	0.0052	0.306	7,700	3.20	117.35
09/08/03	4,435.4	626,720	31,195	1.97	626,620	<2,500	0.325	41.3	<25	0.0033	0.309	6,600	1.72	119.06
09/22/03	4,769.9	665,449	38,729	1.93	665,349	<5,000	0.808	42.2	<50	0.0081	0.317	5,700	1.84	120.91
10/08/03	5,084.6	701,104	35,655	1.89	701,004	<2,500	0.372	42.5	<25	0.0037	0.321	3,100	0.922	121.83
10/21/03	5,396.7	735,644	34,540	1.84	735,544	<5,000	0.721	43.2	<50	0.0072	0.328	3,800	1.10	122.92
11/06/03	5,785.7	778,218	42,574	1.82	778,118	<1,000	0.178	43.4	<10	0.0018	0.330	3,500	1.24	124.17
11/19/03	6,097.1	810,223	32,005	1.71	810,123		0.134	43.6		0.0013	0.331		0.935	125.10
12/05/03	6,481.6	849,610	39,387	1.71	849,510	<2,000	0.329	43.9	<20	0.0033	0.334	3,400	1.12	126.22
12/23/03	6,909.0	898,595	48,985	1.91	898,495		0.409	44.3		0.0041	0.339		1.390	127.61
01/02/04	7,057.2	917,835	19,240	2.16	917,735		0.161	44.5		0.0016	0.340		0.546	128.15
01/09/04	7,170.7	941,766	23,931	3.51	941,666	<2,000	0.200	44.7	<20	0.0020	0.342	2,700	0.539	128.69
01/21/04	7,461.1	986,590	44,824	2.57	986,490		0.374	45.0		0.0037	0.346		1.010	129.70
02/09/04	7,492.3	991,309	4,719	2.52	991,209	<250	0.005	45.0	7.8	0.0003	0.346	250	0.010	129.71
02/25/04	7,872.5	1,048,823	57,514	2.52	1,048,723		0.060	45.1		0.0037	0.350		0.120	129.83
03/09/04	7,952.6	1,062,912	14,089	2.93	1,062,812	<250	0.015	45.1	8.6	0.0010	0.351	700	0.082	129.92
03/23/04	8,285.6	1,117,340	54,428	2.72	1,117,240		0.057	45.2		0.0039	0.355		0.318	130.23
04/13/04	8,792.3	1,191,229	73,889	2.43	1,191,129	<1,000	0.308	45.5	<10	0.0031	0.358	1,900	1.17	131.40

Table 2: Groundwater Extraction - Operation and Mass Removal Data Shell-branded Service Station, Incident #98995750, 610 Market 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)
04/29/04	9,010.2	1,221,189	29,960	2.29	1,221,089		0.125	45.6		0.0012	0.359		0.475	131.88
05/10/04	9,273.9	1,256,838	35,649	2.25	1,256,738	<1,000	0.149	45.7	<10	0.0015	0.361	1,600	0.476	132.36
05/25/04	9,633.5	1,299,232	42,394	1.96	1,299,132		0.177	45.9		0.0018	0.362		0.566	132.92
05/28/04	9,633.5	1,299,232	0	0.00	1,299,132	3,400	0.000	45.9	170	0.0000	0.362	1,200	0.000	132.92
06/09/04	9,784.0	1,317,792	18,560	2.06	1,317,692	<1,000	0.077	46.0	<10	0.0008	0.363	1,100	0.170	133.09
06/22/04	10,092.7	1,353,124	35,332	1.91	1,353,024		0.147	46.1		0.0015	0.365		0.324	133.42
07/07/04	10,452.9	1,392,516	39,392	1.82	1,392,416	<1,000	0.164	46.3	<10	0.0016	0.366	1,100	0.362	133.78
07/22/04	10,815.9	1,431,329	38,813	1.78	1,431,229		0.162	46.5		0.0016	0.368		0.356	134.13
08/03/04	11,101.8	1,458,993	27,664	1.61	1,458,893	<1,000	0.115	46.6	<10	0.0012	0.369	850	0.196	134.33
08/18/04	11,462.6	1,489,829	30,836	1.42	1,489,729		0.129	46.7		0.0013	0.370		0.219	134.55
08/31/04	11,774.4	1,509,195	19,366	1.04	1,509,095		0.081	46.8		0.0008	0.371		0.137	134.69
09/16/04	12,158.3	1,544,659	35,464	1.54	1,544,559	<250	0.037	46.8	<2.5	0.0004	0.372	480	0.142	134.83
09/29/04	12,454.1	1,570,554	25,895	1.46	1,570,454		0.027	46.9		0.0003	0.372		0.104	134.93
10/12/04	12,764.9	1,596,571	26,017	1.40	1,596,471	<50	0.005	46.9	<0.50	0.0001	0.372	320	0.069	135.00
10/29/04	13,155.1	1,629,213	32,642	1.39	1,629,113		0.007	46.9		0.0001	0.372		0.087	135.09
11/08/04	13,396.0	1,650,078	20,865	1.44	1,649,978	<200	0.017	46.9	<2.0	0.0002	0.372	400	0.070	135.16
11/23/04	13,753.4	1,681,329	31,251	1.46	1,681,229		0.026	46.9		0.0003	0.372		0.104	135.26
12/02/04	13,970.7	1,699,369	18,040	1.38	1,699,269	<250	0.019	46.9	<2.5	0.0002	0.373	530	0.080	135.34
12/13/04	14,232.5	1,722,500	23,131	1.47	1,722,400		0.024	47.0		0.0002	0.373		0.102	135.45
12/27/04	14,569.0	1,753,347	30,847	1.53	1,753,247		0.032	47.0		0.0003	0.373		0.136	135.58
01/10/05	14,908.0	1,791,516	38,169	1.88	1,791,416	<250	0.040	47.0	<2.5	0.0004	0.374	350	0.111	135.69
01/24/05	15250.0 a	1,833,667	42,151	2.05	1,833,567		0.044	47.1		0.0004	0.374		0.123	135.82
02/08/05	15610.0 a	1,877,563	43,896	2.03	1,877,463	<250	0.046	47.1	<2.5	0.0005	0.374	460	0.168	135.98
02/22/05	977.7 b	1,905,770	28,207	1.41	1,905,670		0.029	47.2		0.0003	0.375		0.108	136.09
03/07/05	981.5	1,906,415	645	2.83	1,906,315	310	0.002	47.2	8.9	0.0000	0.375	120	0.001	136.09
03/21/05	1313.8	1,955,583	49,168	2.47	1,955,483		0.127	47.3		0.0037	0.378		0.049	136.14
04/13/05	1868.6	2,040,301	84,718	2.55	2,040,201	<250	0.088	47.4	<2.5	0.0009	0.379	350	0.247	136.39
04/26/05	2178.9	2,075,269	34,968	1.88	2,075,169		0.036	47.4		0.0004	0.380		0.102	136.49
07/22/05	2255.0	2,086,544	11,275	2.47	2,086,444		0.009	47.4		0.0003	0.380		0.051	136.54
07/29/05	2419.6	2,088,327	1,783	0.18	2,088,227	<200	0.001	47.4	3.2	0.0000	0.380	540	0.008	136.55
08/04/05	2562.3	2,090,240	1,913	0.22	2,090,140	86 c	0.001	47.4	1.8	0.0000	0.380	140	0.002	136.55
08/23/05	3020.5	2,095,197	4,957	0.18	2,095,097		0.004	47.4		0.0001	0.380		0.006	136.56
09/16/05	3596.9	2,101,199	6,003	0.17	2,101,099	77 c	0.004	47.4	1.1	0.0001	0.380	55	0.003	136.56
09/30/05	3932.7	2,104,244	3,045	0.15	2,104,144		0.002	47.4		0.0000	0.380		0.001	136.56

Table 2: Groundwater Extraction - Operation and Mass Removal Data Shell-branded Service Station, Incident #98995750, 610 Market 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)
10/13/05	4247.0	2,107,078	2,834	0.15	2,106,978	140	0.003	47.4	0.68	0.0000	0.380	26	0.001	136.56
10/28/05	4603.6	2,109,993	2,915	0.14	2,109,893		0.003	47.4		0.0000	0.380		0.001	136.56
11/11/05	4941.6	2,112,924	2,931	0.14	2,112,824	100 c	0.002	47.4	0.86	0.0000	0.380	26	0.001	136.57
11/23/05	5227.2	2,115,278	2,354	0.14	2,115,178		0.002	47.4		0.0000	0.380		0.001	136.57
12/16/05	5779.7	2,120,371	5,093	0.15	2,120,271	92	0.004	47.4	1.0	0.0000	0.380	36	0.002	136.57
12/30/05	6115.8	2,125,465	5,094	0.25	2,125,365		0.004	47.4		0.0000	0.380		0.002	136.57
01/09/06	6358.4	2,129,968	4,503	0.31	2,129,868	240	0.009	47.5	2.8	0.0001	0.381	180	0.007	136.58
01/20/06	6620.0	2,134,437	4,469	0.28	2,134,337		0.009	47.5		0.0001	0.381		0.007	136.58
02/02/06	6930.2	2,139,637	5,200	0.28	2,139,537	150	0.007	47.5	2.0	0.0001	0.381	140	0.006	136.59
02/17/06	7289.0	2,145,122	5,485	0.25	2,145,022		0.007	47.5		0.0001	0.381		0.006	136.59
03/03/06	7626.1	2,150,516	5,394	0.27	2,150,416	190	0.009	47.5	1.4	0.0001	0.381	91	0.004	136.60
03/17/06	7963.7	2,153,262	2,746	0.14	2,153,162		0.004	47.5		0.0000	0.381		0.002	136.60
03/31/06	8299.5	2,160,188	6,926	0.34	2,160,088		0.011	47.5		0.0001	0.381		0.005	136.61
04/13/06	8614.7	2,168,040	7,852	0.42	2,167,940	150	0.010	47.5	3.1	0.0002	0.381	250	0.016	136.62
04/27/06	8949.0	2,175,853	7,813	0.39	2,175,753		0.010	47.5		0.0002	0.381		0.016	136.64
05/11/06	9282.4	2,182,492	6,639	0.33	2,182,392	120	0.007	47.5	1.7	0.0001	0.381	120	0.007	136.65
05/26/06	9642.0	2,189,098	6,606	0.31	2,188,998		0.007	47.5		0.0001	0.382		0.007	136.65
06/08/06	9953.6	2,194,105	5,007	0.27	2,194,005	190	0.008	47.5	0.96	0.0000	0.382	63	0.003	136.65
06/22/06	10289.9	2,199,001	4,896	0.24	2,198,901		0.008	47.6		0.0000	0.382		0.003	136.66
07/07/06	10650.1	2,200,780	1,779	0.08	2,200,680	120	0.002	47.6	1.6	0.0000	0.382	9.9	0.000	136.66
07/18/06	10762.0	2,202,272	1,492	0.22	2,202,172		0.001	47.6		0.0000	0.382		0.000	136.66
08/01/06	11105.1	2,206,401	4,129	0.20	2,206,301	170	0.006	47.6	0.93	0.0000	0.382	20	0.001	136.66
08/16/06	11461.9	2,210,312	3,911	0.18	2,210,212		0.006	47.6		0.0000	0.382		0.001	136.66
09/05/06	11941.8	2,215,160	4,848	0.17	2,215,060	660	0.027	47.6	23	0.0009	0.383	55	0.002	136.66
09/19/06	12274.3	2,218,242	3,082	0.15	2,218,142		0.017	47.6		0.0006	0.383		0.001	136.66
10/02/06	**12,590.4**	**2,221,040**	**2,798**	**0.15**	**2,220,940**	**<50**	**0.001**	**47.6**	**<0.5**	**0.000006**	**0.383**	**9.8**	**0.000**	**136.66**
10/16/06	**12,928.2**	**2,224,000**	**2,960**	**0.15**	**2,223,900**		**0.001**	**47.6**		**0.0000**	**0.383**		**0.000**	**136.66**
10/30/06	**13,264.0**	**2,226,651**	**2,651**	**0.13**	**2,226,551**		**0.001**	**47.6**		**0.0000**	**0.383**		**0.000**	**136.66**
11/07/06	**13,455.2**	**2,228,110**	**1,459**	**0.13**	**2,228,010**		**0.000**	**47.6**		**0.0000**	**0.383**		**0.000**	**136.66**
		Total Extracted Volume:	**2,228,010**			**Total Pounds Removed:**	**47.6**		**Total Pounds Removed:**	**0.383**		**Total Pounds Removed:**	**137**	
		Average Operational Flow Rate:	**1.32**			**Total Gallons Removed:**	**7.82**		**Total Gallons Removed:**	**0.052**		**Total Gallons Removed:**	**22.1**	

Table 2: Groundwater Extraction - Operation and Mass Removal Data Shell-branded Service Station, Incident #98995750, 610 Market 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	

Abbreviations & Notes:

TPHg = Total purgeable hydrocarbons as gasoline
MTBE = Methyl tert-butyl ether
Conc. = Concentration
ppb = Parts per billion, equivalent to µg/L
µg/L = Micrograms per liter
L = Liter
gal = Gallon
g = Gram
Mass removed based on the formula: volume extracted (gal) x Concentration (µg/L) x (g/10^6µg) 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
a. Hour meter value is calculated due to hour meter failure
b. Hour meter replaced on 2/8/05. Initial reading 645.2 hours.
c. Quantity of unknown hydrocarbon(s) in sample is based on gasoline

As of February 1, 2006, gasoline range organics reported as TPHg include MTBE, tertiary-butyl alcohol, and di-isopropyl ether concentrations. TPHg concentrations reported prior to February 1, 2006 may not include one or more of these constituents.

Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995750, 610 Market Street, Oakland, California

Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPPH Concentration (ppb)	TPPH Removed (lb)	TPPH Removed To Date (lb)	Benzene Concentration (ppb)	Benzene Removed (lb)	Benzene Removed to Date (lb)	MTBE Concentration (ppb)	MTBE Removed (lb)	MTBE Removed To Date (lb)
					TPPH			**Benzene**			**MTBE**		
03/15/00	MW-2	0	0	03/21/00	<5,000	0.00000	0.00000	94.7	0.00000	0.00000	13,900	0.00000	0.00000
03/22/00	MW-2	100	100	03/21/00	<5,000	0.00209	0.00209	94.7	0.00008	0.00008	13,900	0.01160	0.01160
03/27/00	MW-2	75	175	03/21/00	<5,000	0.00156	0.00365	94.7	0.00006	0.00014	13,900	0.00870	0.02030
04/03/00	MW-2	100	275	03/21/00	<5,000	0.00209	0.00574	94.7	0.00008	0.00022	13,900	0.01160	0.03190
04/17/00	MW-2	200	475	03/21/00	<5,000	0.00417	0.00991	94.7	0.00016	0.00038	13,900	0.02320	0.05509
04/24/00	MW-2	125	600	03/21/00	<5,000	0.00261	0.01252	94.7	0.00010	0.00047	13,900	0.01450	0.06959
05/01/00	MW-2	50	650	03/21/00	<5,000	0.00104	0.01356	94.7	0.00004	0.00051	13,900	0.00580	0.07539
05/15/00	MW-2	75	725	03/21/00	<5,000	0.00156	0.01512	94.7	0.00006	0.00057	13,900	0.00870	0.08409
05/22/00	MW-2	100	825	03/21/00	<5,000	0.00209	0.01721	94.7	0.00008	0.00065	13,900	0.01160	0.09569
05/29/00	MW-2	75	900	03/21/00	<5,000	0.00156	0.01877	94.7	0.00006	0.00071	13,900	0.00870	0.10439
06/05/00	MW-2	617	1,517	03/21/00	<5,000	0.01287	0.03165	94.7	0.00049	0.00120	13,900	0.07156	0.17595
07/07/00	MW-2	460	1,977	06/20/00	101	0.00039	0.03203	5.95	0.00002	0.00122	7,670	0.02944	0.20539
08/17/00	MW-2	665	2,642	06/20/00	101	0.00056	0.03259	5.95	0.00003	0.00123	7,670	0.04256	0.21851
09/13/00	MW-2	429	3,071	06/20/00	101	0.00036	0.03296	5.95	0.00002	0.00125	7,670	0.02746	0.24597
10/27/00*	MW-2	75	3,146	06/20/00	101	0.00006	0.03302	5.95	0.00000	0.00126	7,670	0.00480	0.25077
01/16/02*	MW-2	230	3,376	12/12/01	**<1,000**	0.00096	0.03398	**<10**	0.00001	0.00127	**3,000**	0.00576	0.25653
01/23/02	MW-2	535	3,911	12/12/01	**<1,000**	0.00223	0.03621	**<10**	0.00002	0.00129	**3,000**	0.01339	0.26992
01/30/02	MW-2	300	4,211	12/12/01	**<1,000**	0.00125	0.03746	**<10**	0.00001	0.00130	**3,000**	0.00751	0.27743
02/05/02	MW-2	175	4,386	12/12/01	**<1,000**	0.00073	0.03819	**<10**	0.00001	0.00131	**3,000**	0.00438	0.28181
02/12/02	MW-2	289	4,675	12/12/01	**<1,000**	0.00121	0.03940	**<10**	0.00001	0.00132	**3,000**	0.00723	0.28904
02/19/02	MW-2	461	5,136	03/08/02	**<250**	0.00048	0.03988	**<2.5**	0.00000	0.00133	**1,100**	0.00423	0.29328
02/26/02	MW-2	250	5,386	03/08/02	**<250**	0.00026	0.04014	**<2.5**	0.00000	0.00133	**1,100**	0.00229	0.29557
03/05/02	MW-2	250	5,636	03/08/02	**<250**	0.00026	0.04040	**<2.5**	0.00000	0.00133	**1,100**	0.00229	0.29787
03/12/02	MW-2	300	5,936	03/08/02	**<250**	0.00031	0.04071	**<2.5**	0.00000	0.00133	**1,100**	0.00275	0.30062
03/19/02	MW-2	400	6,336	03/08/02	**<250**	0.00042	0.04113	**<2.5**	0.00000	0.00134	**1,100**	0.00367	0.30429

Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995750, 610 Market Street, Oakland, California

Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPPH Concentration (ppb)	TPPH Removed (lb)	TPPH Removed To Date (lb)	Benzene Concentration (ppb)	Benzene Removed (lb)	Benzene Removed to Date (lb)	MTBE Concentration (ppb)	MTBE Removed (lb)	MTBE Removed To Date (lb)
					TPPH			**Benzene**			**MTBE**		
03/26/02	MW-2	100	6,436	03/08/02	**<250**	0.00010	0.04123	**<2.5**	0.00000	0.00134	**1,100**	0.00092	0.30521
04/02/02	MW-2	200	6,636	03/08/02	**<250**	0.00021	0.04144	**<2.5**	0.00000	0.00134	**1,100**	0.00184	0.30704
04/09/02	MW-2	179	6,815	03/08/02	**<250**	0.00019	0.04163	**<2.5**	0.00000	0.00134	**1,100**	0.00164	0.30869
04/17/02	MW-2	250	7,065	03/08/02	**<250**	0.00026	0.04189	**<2.5**	0.00000	0.00135	**1,100**	0.00229	0.31098
04/23/02	MW-2	242	7,307	03/08/02	**<250**	0.00025	0.04214	**<2.5**	0.00000	0.00135	**1,100**	0.00222	0.31320
04/30/02	MW-2	250	7,557	03/08/02	**<250**	0.00026	0.04240	**<2.5**	0.00000	0.00135	**1,100**	0.00229	0.31550
05/07/02	MW-2	150	7,707	03/08/02	**<250**	0.00016	0.04256	**<2.5**	0.00000	0.00135	**1,100**	0.00138	0.31687
05/19/02	MW-2	272	7,979	03/08/02	**<250**	0.00028	0.04284	**<2.5**	0.00000	0.00136	**1,100**	0.00250	0.31937
05/21/02	MW-2	400	8,379	03/08/02	**<250**	0.00042	0.04326	**<2.5**	0.00000	0.00136	**1,100**	0.00367	0.32304
05/28/02	MW-2	250	8,629	03/08/02	**<250**	0.00026	0.04352	**<2.5**	0.00000	0.00136	**1,100**	0.00229	0.32534
06/03/02	MW-2	250	8,879	03/08/02	**<250**	0.00026	0.04378	**<2.5**	0.00000	0.00136	**1,100**	0.00229	0.32763
06/11/02	MW-2	189	9,068	06/06/02	**<500**	0.00039	0.04418	**<5.0**	0.00000	0.00137	**2,000**	0.00315	0.33079
06/18/02	MW-2	200	9,268	06/06/02	**<500**	0.00042	0.04459	**<5.0**	0.00000	0.00137	**2,000**	0.00334	0.33412
06/25/02	MW-2	241	9,509	06/06/02	**<500**	0.00050	0.04510	**<5.0**	0.00001	0.00138	**2,000**	0.00402	0.33815
07/02/02	MW-2	250	9,759	06/06/02	**<500**	0.00052	0.04562	**<5.0**	0.00001	0.00138	**2,000**	0.00417	0.34232
07/09/02	MW-2	200	9,959	06/06/02	**<500**	0.00042	0.04604	**<5.0**	0.00000	0.00139	**2,000**	0.00334	0.34566
07/16/02	MW-2	225	10,184	06/06/02	**<500**	0.00047	0.04651	**<5.0**	0.00000	0.00139	**2,000**	0.00375	0.34941
07/23/02	MW-2	256	10,440	06/06/02	**<500**	0.00053	0.04704	**<5.0**	0.00001	0.00140	**2,000**	0.00427	0.35368
07/30/02	MW-2	182	10,622	06/06/02	**<500**	0.00038	0.04742	**<5.0**	0.00000	0.00140	**2,000**	0.00304	0.35672
08/06/02	MW-2	300	10,922	06/06/02	**<500**	0.00063	0.04804	**<5.0**	0.00001	0.00141	**2,000**	0.00501	0.36173
08/13/02	MW-2	300	11,222	06/06/02	**<500**	0.00063	0.04867	**<5.0**	0.00001	0.00141	**2,000**	0.00501	0.36673
08/20/02	MW-2	300	11,522	06/06/02	**<500**	0.00063	0.04930	**<5.0**	0.00001	0.00142	**2,000**	0.00501	0.37174
08/27/02	MW-2	344	11,866	06/06/02	**<500**	0.00072	0.05001	**<5.0**	0.00001	0.00143	**2,000**	0.00574	0.37748
09/09/02	MW-2	181	12,047	09/09/02	**<200**	0.00015	0.05017	**<2.0**	0.00000	0.00143	**740**	0.00112	0.37860
09/11/02	MW-2	300	12,347	09/09/02	**<200**	0.00025	0.05042	**<2.0**	0.00000	0.00143	**740**	0.00185	0.38045

Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995750, 610 Market Street, Oakland, California

					TPPH			Benzene			MTBE		
Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPPH Concentration (ppb)	TPPH Removed (lb)	TPPH Removed To Date (lb)	Benzene Concentration (ppb)	Benzene Removed (lb)	Benzene Removed to Date (lb)	MTBE Concentration (ppb)	MTBE Removed (lb)	MTBE Removed To Date (lb)
09/24/02	MW-2	149	12,496	09/09/02	**<200**	0.00012	0.05054	**<2.0**	0.00000	0.00143	**740**	0.00092	0.38137
10/02/02	MW-2	150	12,646	09/09/02	**<200**	0.00013	0.05067	**<2.0**	0.00000	0.00143	**740**	0.00093	0.38230
10/09/02	MW-2	200	12,846	09/09/02	**<200**	0.00017	0.05083	**<2.0**	0.00000	0.00143	**740**	0.00123	0.38353
10/16/02	MW-2	290	13,136	09/09/02	**<200**	0.00024	0.05107	**<2.0**	0.00000	0.00144	**740**	0.00179	0.38532
10/23/02	MW-2	150	13,286	09/09/02	**<200**	0.00013	0.05120	**<2.0**	0.00000	0.00144	**740**	0.00093	0.38625
10/30/02	MW-2	250	13,536	09/09/02	**<200**	0.00021	0.05141	**<2.0**	0.00000	0.00144	**740**	0.00154	0.38779
11/08/02	MW-2	100	13,636	09/09/02	**<200**	0.00008	0.05149	**<2.0**	0.00000	0.00144	**740**	0.00062	0.38841
11/15/02	MW-2	326	13,962	09/09/02	**<200**	0.00027	0.05176	**<2.0**	0.00000	0.00144	**740**	0.00201	0.39042
11/22/02	MW-2	260	14,222	09/09/02	**<200**	0.00022	0.05198	**<2.0**	0.00000	0.00145	**740**	0.00161	0.39203
11/30/02	MW-2	250	14,472	09/09/02	**<200**	0.00021	0.05219	**<2.0**	0.00000	0.00145	**740**	0.00154	0.39357
12/03/02	MW-2	361	14,833	09/09/02	**<200**	0.00030	0.05249	**<2.0**	0.00000	0.00145	**740**	0.00223	0.39580
12/10/02	MW-2	420	15,253	09/09/02	**<200**	0.00035	0.05284	**<2.0**	0.00000	0.00146	**740**	0.00259	0.39840
12/21/02	MW-2	395	15,648	12/12/02	**<200**	0.00033	0.05317	**<2.0**	0.00000	0.00146	**1,000**	0.00330	0.40169
12/23/02	MW-2	470	16,118	12/12/02	**<200**	0.00039	0.05356	**<2.0**	0.00000	0.00146	**1,000**	0.00392	0.40561
12/31/02	MW-2	500	16,618	12/12/02	**<200**	0.00042	0.05398	**<2.0**	0.00000	0.00147	**1,000**	0.00417	0.40979
01/02/03	MW-2	400	17,018	12/12/02	**<200**	0.00033	0.05431	**<2.0**	0.00000	0.00147	**1,000**	0.00334	0.41312
01/07/03	MW-2	0	17,018	12/12/02	**<200**	0.00000	0.05431	**<2.0**	0.00000	0.00147	**1,000**	0.00000	0.41312
01/14/03	MW-2	225	17,243	12/12/02	**<200**	0.00019	0.05450	**<2.0**	0.00000	0.00147	**1,000**	0.00188	0.41500
01/21/03	MW-2	200	17,443	12/12/02	**<200**	0.00017	0.05467	**<2.0**	0.00000	0.00147	**1,000**	0.00167	0.41667
01/28/03	MW-2	224	17,667	12/12/02	**<200**	0.00019	0.05485	**<2.0**	0.00000	0.00148	**1,000**	0.00187	0.41854
03/15/00	MW-3	500	500	03/21/00	<25,000	0.01043	0.01043	466	0.00194	0.00194	**155,000**	0.64669	0.64669
03/22/00	MW-3	100	600	03/21/00	<25,000	0.00782	0.01825	466	0.00039	0.00233	**155,000**	0.12934	0.77603
03/27/00	MW-3	75	675	03/21/00	<25,000	0.01043	0.02868	466	0.00029	0.00262	**155,000**	0.09700	0.87303
04/03/00	MW-3	100	775	03/21/00	<25,000	0.02086	0.04954	466	0.00039	0.00301	**155,000**	0.12934	1.00237

Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995750, 610 Market Street, Oakland, California

					TPPH			Benzene			MTBE		
Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPPH Concentration (ppb)	TPPH Removed (lb)	TPPH Removed To Date (lb)	Benzene Concentration (ppb)	Benzene Removed (lb)	Benzene Removed to Date (lb)	MTBE Concentration (ppb)	MTBE Removed (lb)	MTBE Removed To Date (lb)
04/17/00	MW-3	200	975	03/21/00	<25,000	0.01304	0.06258	466	0.00078	0.00379	**155,000**	0.25868	1.26104
04/24/00	MW-3	125	1,100	03/21/00	<25,000	0.01043	0.07301	466	0.00049	0.00428	**155,000**	0.16167	1.42271
05/01/00	MW-3	100	1,200	03/21/00	<25,000	0.00782	0.08084	466	0.00039	0.00467	**155,000**	0.12934	1.55205
05/15/00	MW-3	75	1,275	03/21/00	<25,000	0.00522	0.08605	466	0.00029	0.00496	**155,000**	0.09700	1.64905
05/22/00	MW-3	50	1,325	03/21/00	<25,000	0.00782	0.09387	466	0.00019	0.00515	**155,000**	0.06467	1.71372
05/29/00	MW-3	75	1,400	03/21/00	<25,000	0.07041	0.16428	466	0.00029	0.00544	**155,000**	0.09700	1.81073
06/05/00	MW-3	675	2,075	03/21/00	<25,000	0.03744	0.20172	466	0.00262	0.00807	**155,000**	0.87303	2.68375
07/07/00	MW-3	68	2,143	06/20/00	16,200	0.09679	0.29851	1,140	0.00065	0.00872	579,000	0.32853	3.01229
08/17/00	MW-3	554	2,697	06/20/00	16,200	0.07489	0.37340	1,140	0.00527	0.01399	579,000	2.67659	5.68887
09/13/00	MW-3	716	3,413	06/20/00	16,200	0.09679	0.47019	1,140	0.00681	0.02080	579,000	3.45927	9.14814
10/27/00*	MW-3	250	3,663	06/20/00	16,200	0.03379	0.50398	1,140	0.00238	0.02317	579,000	1.20785	10.35599
03/22/01	MW-3	383	4,046	03/22/01	<20,000	0.03196	0.53594	<200	0.00032	0.02349	**390,000**	1.24640	11.60239
08/22/01	MW-3	90	4,136	06/28/01	<50,000	0.01877	0.55472	1,200	0.00090	0.02440	**610,000**	0.45811	12.06049
08/28/01	MW-3	600	4,736	06/28/01	<50,000	0.12517	0.67988	1,200	0.00601	0.03040	**610,000**	3.05403	15.11452
09/05/01	MW-3	750	5,486	06/28/01	<50,000	0.15646	0.83634	1,200	0.00751	0.03791	**610,000**	3.81754	18.93207
09/18/01	MW-3	1,900	7,386	09/12/01	**<20,000**	0.15854	0.99488	**430**	0.00682	0.04473	**390,000**	6.18317	25.11524
10/10/01	MW-3	500	7,886	09/12/01	**<20,000**	0.04172	1.03660	**430**	0.00179	0.04652	**390,000**	1.62715	26.74239
10/16/01	MW-3	200	8,086	09/12/01	**<20,000**	0.01669	1.05329	**430**	0.00072	0.04724	**390,000**	0.65086	27.39324
10/26/01	MW-3	1,300	9,386	10/23/01	**11,000**	0.11932	1.17262	**350**	0.00380	0.05104	**290,000**	3.14582	30.53907
10/31/01	MW-3	150	9,536	10/23/01	**11,000**	0.01377	1.18638	**350**	0.00044	0.05148	**290,000**	0.36298	30.90205
11/07/01	MW-3	280	9,816	10/23/01	**11,000**	0.02570	1.21209	**350**	0.00082	0.05229	**290,000**	0.67756	31.57961
11/17/01	MW-3	100	9,916	10/23/01	**11,000**	0.00918	1.22126	**350**	0.00029	0.05259	**290,000**	0.24199	31.82159
11/21/01	MW-3	400	10,316	10/23/01	**11,000**	0.03672	1.25798	**350**	0.00117	0.05375	**290,000**	0.96795	32.78954
12/01/01	MW-3	300	10,616	10/23/01	**11,000**	0.02754	1.28552	**350**	0.00088	0.05463	**290,000**	0.72596	33.51550
12/05/01	MW-3	350	10,966	10/23/01	**11,000**	0.03213	1.31764	**350**	0.00102	0.05565	**290,000**	0.84695	34.36245

Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995750, 610 Market Street, Oakland, California

					TPPH			Benzene			MTBE		
Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPPH Concentration (ppb)	TPPH Removed (lb)	TPPH Removed To Date (lb)	Benzene Concentration (ppb)	Benzene Removed (lb)	Benzene Removed to Date (lb)	MTBE Concentration (ppb)	MTBE Removed (lb)	MTBE Removed To Date (lb)
12/12/01	MW-3	500	11,466	12/12/01	**<20,000**	0.04172	1.35936	**280**	0.00117	0.05682	**160,000**	0.66755	35.03000
12/19/01	MW-3	450	11,916	12/12/01	**<20,000**	0.03755	1.39691	**280**	0.00105	0.05787	**160,000**	0.60079	35.63079
01/09/02	MW-3	190	12,106	12/12/01	**<20,000**	0.01585	1.41277	**280**	0.00044	0.05832	**160,000**	0.25367	35.88446
01/16/02*	MW-3	450	12,556	12/12/01	**<20,000**	0.03755	1.45032	**280**	0.00105	0.05937	**160,000**	0.60079	36.48526
01/23/02	MW-3	300	12,856	12/12/01	**<20,000**	0.02503	1.47535	**280**	0.00070	0.06007	**160,000**	0.40053	36.88578
01/30/02	MW-3	278	13,134	12/12/01	**<20,000**	0.02320	1.49855	**280**	0.00065	0.06072	**160,000**	0.37116	37.25694
02/05/02	MW-3	347	13,481	12/12/01	**<20,000**	0.02895	1.52750	**280**	0.00081	0.06153	**160,000**	0.46328	37.72022
02/12/02	MW-3	300	13,781	12/12/01	**<20,000**	0.02503	1.55254	**280**	0.00070	0.06223	**160,000**	0.40053	38.12075
02/19/02	MW-3	250	14,031	03/08/02	**<20,000**	0.02086	1.57340	**270**	0.00056	0.06279	**340,000**	0.70927	38.83002
02/26/02	MW-3	299	14,330	03/08/02	**<20,000**	0.02495	1.59835	**270**	0.00067	0.06347	**340,000**	0.84829	39.67831
03/05/02	MW-3	462	14,792	03/08/02	**<20,000**	0.03855	1.63690	**270**	0.00104	0.06451	**340,000**	1.31073	40.98904
03/12/02	MW-3	194	14,986	03/08/02	**<20,000**	0.01619	1.65308	**270**	0.00044	0.06495	**340,000**	0.55039	41.53943
03/19/02	MW-3	213	15,199	03/08/02	**<20,000**	0.01777	1.67086	**270**	0.00048	0.06543	**340,000**	0.60430	42.14373
03/26/02	MW-3	447	15,646	03/08/02	**<20,000**	0.03730	1.70816	**270**	0.00101	0.06643	**340,000**	1.26818	43.41191
04/02/02	MW-3	437	16,083	03/08/02	**<20,000**	0.03646	1.74462	**270**	0.00098	0.06742	**340,000**	1.23980	44.65171
04/09/02	MW-3	358	16,441	03/08/02	**<20,000**	0.02987	1.77449	**270**	0.00081	0.06822	**340,000**	1.01568	45.66739
04/17/02	MW-3	352	16,793	03/08/02	**<20,000**	0.02937	1.80387	**270**	0.00079	0.06902	**340,000**	0.99865	46.66604
04/23/02	MW-3	300	17,093	03/08/02	**<20,000**	0.02503	1.82890	**270**	0.00068	0.06969	**340,000**	0.85112	47.51716
04/30/02	MW-3	309	17,402	03/08/02	**<20,000**	0.02578	1.85468	**270**	0.00070	0.07039	**340,000**	0.87666	48.39382
05/07/02	MW-3	198	17,600	03/08/02	**<20,000**	0.01652	1.87121	**270**	0.00045	0.07083	**340,000**	0.56174	48.95556
05/19/02	MW-3	200	17,800	03/08/02	**<20,000**	0.01669	1.88789	**270**	0.00045	0.07129	**340,000**	0.56742	49.52298
05/21/02	MW-3	400	18,200	03/08/02	**<20,000**	0.03338	1.92127	**270**	0.00090	0.07219	**340,000**	1.13483	50.65781
05/28/02	MW-3	237	18,437	03/08/02	**<20,000**	0.01978	1.94105	**270**	0.00053	0.07272	**340,000**	0.67239	51.33020
06/03/02	MW-3	270	18,707	03/08/02	**<20,000**	0.02253	1.96358	**270**	0.00061	0.07333	**340,000**	0.76601	52.09621
06/11/02	MW-3	300	19,007	06/06/02	**<50,000**	0.06258	2.02616	**290**	0.00073	0.07405	**290,000**	0.72596	52.82217

Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995750, 610 Market Street, Oakland, California

					TPPH			Benzene			MTBE		
Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPPH Concentration (ppb)	TPPH Removed (lb)	TPPH Removed To Date (lb)	Benzene Concentration (ppb)	Benzene Removed (lb)	Benzene Removed to Date (lb)	MTBE Concentration (ppb)	MTBE Removed (lb)	MTBE Removed To Date (lb)
06/18/02	MW-3	179	19,186	06/06/02	**<50,000**	0.03734	2.06350	**290**	0.00043	0.07449	**290,000**	0.43316	53.25533
06/25/02	MW-3	200	19,386	06/06/02	**<50,000**	0.04172	2.10522	**290**	0.00048	0.07497	**290,000**	0.48397	53.73930
07/02/02	MW-3	270	19,656	06/06/02	**<50,000**	0.05632	2.16155	**290**	0.00065	0.07562	**290,000**	0.65336	54.39266
07/09/02	MW-3	287	19,943	06/06/02	**<50,000**	0.05987	2.22142	**290**	0.00069	0.07632	**290,000**	0.69450	55.08716
07/16/02	MW-3	233	20,176	06/06/02	**<50,000**	0.04861	2.27002	**290**	0.00056	0.07688	**290,000**	0.56383	55.65099
07/23/02	MW-3	300	20,476	06/06/02	**<50,000**	0.06258	2.33261	**290**	0.00073	0.07761	**290,000**	0.72596	56.37695
07/30/02	MW-3	221	20,697	06/06/02	**<50,000**	0.04610	2.37871	**290**	0.00053	0.07814	**290,000**	0.53479	56.91174
08/06/02	MW-3	237	20,934	06/06/02	**<50,000**	0.04944	2.42815	**290**	0.00057	0.07872	**290,000**	0.57351	57.48525
08/13/02	MW-3	146	21,080	06/06/02	**<50,000**	0.03046	2.45861	**290**	0.00035	0.07907	**290,000**	0.35330	57.83855
08/20/02	MW-3	276	21,356	06/06/02	**<50,000**	0.05758	2.51618	**290**	0.00067	0.07974	**290,000**	0.66788	58.50643
08/27/02	MW-3	150	21,506	06/06/02	**<50,000**	0.03129	2.54747	**290**	0.00036	0.08010	**290,000**	0.36298	58.86941
09/09/02	MW-3	200	21,706	09/09/02	**<20,000**	0.01669	2.56416	**<200**	0.00017	0.08027	**230,000**	0.38384	59.25325
09/11/02	MW-3	256	21,962	09/09/02	**<20,000**	0.02136	2.58552	**<200**	0.00021	0.08048	**230,000**	0.49132	59.74456
09/24/02	MW-3	400	22,362	09/09/02	**<20,000**	0.03338	2.61890	**<200**	0.00033	0.08082	**230,000**	0.76768	60.51225
10/02/02	MW-3	311	22,673	09/09/02	**<20,000**	0.02595	2.64485	**<200**	0.00026	0.08108	**230,000**	0.59687	61.10912
10/09/02	MW-3	656	23,329	09/09/02	**<20,000**	0.05474	2.69959	**<200**	0.00055	0.08162	**230,000**	1.25900	62.36811
10/16/02	MW-3	208	23,537	09/09/02	**<20,000**	0.01736	2.71695	**<200**	0.00017	0.08180	**230,000**	0.39919	62.76731
10/23/02	MW-3	246	23,783	09/09/02	**<20,000**	0.02053	2.73748	**<200**	0.00021	0.08200	**230,000**	0.47212	63.23943
10/30/02	MW-3	315	24,098	09/09/02	**<20,000**	0.02628	2.76376	**<200**	0.00026	0.08226	**230,000**	0.60455	63.84398
11/08/02	MW-3	358	24,456	09/09/02	**<20,000**	0.02987	2.79363	**<200**	0.00030	0.08256	**230,000**	0.68707	64.53105
11/15/02	MW-3	300	24,756	09/09/02	**<20,000**	0.02503	2.81867	**<200**	0.00025	0.08281	**230,000**	0.57576	65.10681
11/22/02	MW-3	100	24,856	09/09/02	**<20,000**	0.00834	2.82701	**<200**	0.00008	0.08290	**230,000**	0.19192	65.29873
11/30/02	MW-3	447	25,303	09/09/02	**<20,000**	0.03730	2.86431	**<200**	0.00037	0.08327	**230,000**	0.85788	66.15662
12/03/02	MW-3	200	25,503	09/09/02	**<20,000**	0.01669	2.88100	**<200**	0.00017	0.08344	**230,000**	0.38384	66.54046
12/10/02	MW-3	227	25,730	09/09/02	**<20,000**	0.01894	2.89994	**<200**	0.00019	0.08363	**230,000**	0.43566	66.97612

Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995750, 610 Market Street, Oakland, California

					TPPH			Benzene			MTBE		
Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPPH Concentration (ppb)	TPPH Removed (lb)	TPPH Removed To Date (lb)	Benzene Concentration (ppb)	Benzene Removed (lb)	Benzene Removed to Date (lb)	MTBE Concentration (ppb)	MTBE Removed (lb)	MTBE Removed To Date (lb)
12/21/02	MW-3	10	25,740	12/12/02	**<50,000**	0.00209	2.90203	**<200**	0.00001	0.08363	**190,000**	0.01585	66.99197
12/23/02	MW-3	278	26,018	12/12/02	**<50,000**	0.05799	2.96002	**<200**	0.00023	0.08387	**190,000**	0.44075	67.43272
12/31/02	MW-3	239	26,257	12/12/02	**<50,000**	0.04986	3.00988	**<200**	0.00020	0.08407	**190,000**	0.37892	67.81164
01/02/03	MW-3	235	26,492	12/12/02	**<50,000**	0.04902	3.05890	**<200**	0.00020	0.08426	**190,000**	0.37258	68.18421
01/07/03	MW-3	245	26,737	12/12/02	**<50,000**	0.05111	3.11001	**<200**	0.00020	0.08447	**190,000**	0.38843	68.57264
01/14/03	MW-3	317	27,054	12/12/02	**<50,000**	0.06613	3.17614	**<200**	0.00026	0.08473	**190,000**	0.50258	69.07522
01/21/03	MW-3	500	27,554	12/12/02	**<50,000**	0.10430	3.28044	**<200**	0.00042	0.08515	**190,000**	0.79271	69.86794
01/28/03	MW-3	200	27,754	12/12/02	**<50,000**	0.04172	3.32216	**<200**	0.00017	0.08532	**190,000**	0.31709	70.18502
Total Gallons Extracted:			**45,421**		**Total Pounds Removed:**		**3.37702**			**0.08681**			**70.63300**
					Total Gallons Removed:		**0.55361**			**0.01189**			**11.39242**

Abbreviations & Notes:

TPPH = Total purgeable hydrocarbons as gasoline
MtBE = Methyl tert-butyl ether
ppb = Parts per billion
lb = Pound
gal = Gallon
* = Groundwater volume pumped estimated; data not available
a = Dual-phase Vacuum Extraction (DVE) Pilot test using a RSI V3 Internal Combustion Engine with Bioslurp Tank on well MW-3 on March 22, 2001.
Details of mass removal estimates reported in Cambria's August 29, 2001 *Site Conceptual Model and Pilot Test Report*, Table 2.
Mass removed based on the formula: volume extracted (gal) x Concentration (µg/L) x (g/10^6µg) x (pound/453.6g) x (3.785 L/gal)
Volume removal data based on the formula: density (in gms/cc) x 9.339 (ccxlbs/gmsxgals)
TPPH and benzene analyzed by EPA Method 8015/8020
Data in bold font analyzed by EPA Method 8260, all others analyzed by EPA Method 8020
Concentrations based on most recent groundwater monitoring results
If concentration is less than the laboratory detection limit, one half of the detection limit concentration is used in the mass removal calculation.

Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995750, 610 Market Street, Oakland, California

					TPPH			Benzene			MTBE		
Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPPH Concentration (ppb)	TPPH Removed (lb)	TPPH Removed To Date (lb)	Benzene Concentration (ppb)	Benzene Removed (lb)	Benzene Removed to Date (lb)	MTBE Concentration (ppb)	MTBE Removed (lb)	MTBE Removed To Date (lb)

Groundwater extracted by vacuum trucks provided by Onyx Industrial; water disposed of at a Martinez refinery

Table 2: Vapor Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995750, 610 Market Street, Oakland, California

Date	Well ID	Interval Hours of Operation (hours)	System Flow Rate (CFM)	Hydrocarbon Concentrations (Concentrations in ppmv) TPHg	Benzene	MTBE	TPHg Removal Rate (#/hour)	TPHg Cumulative TPHg Removed (#)	Benzene Removal Rate (#/hour)	Benzene Cumulative Benzene Removed (#)	MTBE Removal Rate (#/hour)	MTBE Cumulative MTBE Removed (#)	Notes:
							TPHg		**Benzene**		**MTBE**		
03/15/00	MW-2	0	0	NA	NA	NA	0.000	0.000	0.000	0.000	0.000	0.000	
04/17/00	MW-2	1.25	0.86	15.9	0.340	519	0.000	0.000	0.000	0.000	0.006	0.008	
06/05/00	MW-2	4.00	9.8	1,910	62.7	363	0.250	1.001	0.007	0.030	0.049	0.202	
07/07/00	MW-2	4.00	13.7	473	<3.1	42	0.087	1.348	0.000	0.031	0.008	0.234	
08/17/00	MW-2	4.00	17	1,799	61	149	0.409	2.983	0.013	0.081	0.035	0.372	
09/13/00	MW-2	1.20	38	3,300	<15.7	631	1.676	4.995	0.004	0.085	0.328	0.766	
10/27/00	MW-2	1.75	5.8	16.8	0.229	9.29	0.001	4.997	0.000	0.085	0.001	0.767	
03/15/00	MW-3	0.22	0.87	3,400	50	410	0.040	0.009	0.001	0.000	0.005	0.001	
03/15/00	MW-3	2.75	0.74	3,700	47	410	0.037	0.109	0.000	0.001	0.004	0.012	
04/17/00	MW-3	1.25	7.8	246	8.05	2,850	0.026	0.141	0.001	0.002	0.304	0.393	
06/05/00	MW-3	4.00	5	2,130	23.0	529	0.142	0.711	0.001	0.008	0.036	0.537	
07/07/00	MW-3	4.00	0.8	<2,833	57	3,861	0.015	0.771	0.001	0.010	0.042	0.706	
08/17/00	MW-3	4.00	2.8	22,833	346	4,222	0.855	4.190	0.012	0.057	0.162	1.353	
09/13/00	MW-3	3.75	34	15,200	<31.4	1,670	6.909	30.097	0.006	0.081	0.777	4.266	
10/27/00	MW-3	1.50	6.4	11.7	0.215	9.27	0.001	30.098	0.000	0.081	0.001	4.267	
03/22/01	MW-3	0.583	3.0	2,800	10	2,100	0.112	30.164	0.000	0.082	0.086	4.317	a
03/22/01	MW-3	3.333	8.9	3,000	10	2,600	0.357	31.354	0.001	0.085	0.317	5.372	a
03/22/01	T-1	1.000	3	6,300	42	4,400	0.253	0.253	0.002	0.002	0.181	0.181	a
03/22/01	T-1	1.667	4.04	5,000	39	8,700	0.270	0.703	0.002	0.005	0.481	0.982	a
10/08/01	T-1	2.000	2	1,100	11	340	0.029	0.762	0.000	0.005	0.009	1.001	b
10/08/01	T-1	2.800	2	15,000	140	2,600	0.401	1.885	0.003	0.015	0.071	1.200	b
10/09/01	T-1	12.800	70.8	900	90	2,300	0.852	12.788	0.077	1.004	2.227	29.711	b
10/10/01	T-1	8.300	22	550	55	2,200	0.162	14.130	0.015	1.125	0.662	35.206	b

Table 2: Vapor Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995750, 610 Market Street, Oakland, California

Date	Well ID	Interval Hours of Operation (hours)	System Flow Rate (CFM)	Hydrocarbon Concentrations (Concentrations in ppmv) TPHg	Benzene	MTBE	TPHg Removal Rate (#/hour)	TPHg Cumulative TPHg Removed (#)	Benzene Removal Rate (#/hour)	Benzene Cumulative Benzene Removed (#)	MTBE Removal Rate (#/hour)	MTBE Cumulative MTBE Removed (#)	Notes:
							TPHg		**Benzene**		**MTBE**		
10/11/01	T-1	6.900	22	630	63	82	0.185	15.409	0.017	1.241	0.025	35.376	b
10/12/01	T-1	4.200	2	510	51	610	0.014	15.466	0.001	1.247	0.017	35.447	b
10/12/01	T-1	5.000	80	140	14	270	0.150	16.214	0.014	1.314	0.295	36.924	b
Total Pounds Removed:							**TPHg =**	**52.565**	**Benzene =**	**1.485**	**MTBE =**	**43.063**	

Abbreviations and Notes:

CFM = Cubic feet per minute

TPHg = Total petroleum hydrocarbons as gasoline (C6-C12) by modified EPA Method 8015 in 1 liter tedlar bag samples

ppmv = Parts per million by volume

= Pounds

NA = Not available

TPHG, Benzene, and MTBE analyzed by EPA Method 8015/8020 in 1 liter tedlar bag samples

TPHg / Benzene / MTBE removal rate = Rate based on Bay Area Air Quality Management District's Manual of Procedures for Soil Vapor Extraction dated July 17, 1991.
(Rate = Concentration (ppmv) x system flow rate (cfm) x (1lb-mole/386ft3) x molecular weight (86 lb/lb-mole for TPHg, 78 lb/lb-mole for benzene, 88 lb/lb-mole for MTBE) x 60 min/hour x 1/1,000,000)

Cumulative TPHg / Benzene / MTBE removal = Previous removal rate multiplied by the hour-interval of operation plus the previous total

If concentration is less than the laboratory detection limit, one half of the detection limit concentration is used in the mass removal calculation.

a = Dual-phase Vacuum Extraction (DVE) Pilot test using a RSI V3 Internal Combustion Engine with Bioslurp Tank on wells MW-3 and T-1 on March 22, 2001; details of mass removal estimates reported in Cambria's August 29, 2001 *Site Conceptual Model and Pilot Test Report*, Table 3; daily averages included herein.

b = 5-day SVE test on well T-1; details of mass removal estimates reported in Cambria's *Soil Vapor Extraction Pilot Test Report and Investigation Work Plan*, Table 1; daily averages included herein.

Table 1: Vapor Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995750, 610 Market Street, Oakland, California

Date	Hour Meter (hours)	Cumulative Opertion (hours)	System Flow Rate (CFM)	Hydrocarbon Concentrations (Concentrations in ppmv) TPHg	Benzene	MTBE	TPHg Removal Rate (#/hour)	TPHg Cumulative TPHg Removed (#)	Benzene Removal Rate (#/hour)	Benzene Cumulative Benzene Removed (#)	MTBE Removal Rate (#/hour)	MTBE Cumulative MTBE Removed (#)
							TPHg		**Benzene**		**MTBE**	
10/08/01												
10:30	96.2	0.00					0.000	0.000	0.000	0.000	0.000	0.000
10:45	96.5	0.30	2	**1,100**	**11**	**340**	0.029	0.009	0.000	0.000	0.009	0.003
11:00	96.7	0.50	2	12,870			0.029	0.015	0.000	0.000	0.009	0.005
11:15	96.9	0.70	2	19,460			0.029	0.021	0.000	0.000	0.009	0.007
11:30	97.2	1.00	2	18,790			0.029	0.029	0.000	0.000	0.009	0.009
11:45	97.5	1.30	2	17,540			0.029	0.038	0.000	0.000	0.009	0.012
12:00	97.7	1.50	2	17,190			0.029	0.044	0.000	0.000	0.009	0.014
12:15	98	1.80	2	16,850			0.029	0.053	0.000	0.000	0.009	0.017
12:30	98.2	2.00	2	14,170			0.029	0.059	0.000	0.001	0.009	0.019
12:45	98.5	2.30	2	14,020			0.401	0.179	0.003	0.002	0.071	0.040
13:15	98.9	2.70	2	12,880			0.401	0.340	0.003	0.003	0.071	0.068
13:45	99.4	3.20	2	12,650			0.401	0.540	0.003	0.005	0.071	0.104
14:15	99.9	3.70	2	74,000			0.401	0.741	0.003	0.006	0.071	0.140
14:45	100.5	4.30	2	76,680			0.401	0.981	0.003	0.008	0.071	0.182
15:15	101	4.80	2	**15,000**	**140**	**2,600**	0.401	1.18	0.003	0.010	0.071	0.218
10/9/2001												
8:45	112.8	16.60	71	11,600			0.854	11.3	0.077	0.924	2.23	26.6
9:00	113.2	17.00	72	9,740			0.866	11.6	0.079	0.956	2.27	27.5
9:15	113.5	17.30	71	9,270			0.854	11.9	0.077	0.979	2.23	28.2
9:30	113.6	17.40	61	**900**	90	**2,300**	0.734	11.9	0.067	0.986	1.92	28.3
9:45	113.8	17.60	58	8,850			0.698	12.1	0.063	0.998	1.82	28.7
10/10/2001												
8:45	119.2	23.00	0	8,980			0.000	12.1	0.000	0.998	0.000	28.7

Table 1: Vapor Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995750, 610 Market Street, Oakland, California

Date	Hour Meter (hours)	Cumulative Opertion (hours)	System Flow Rate (CFM)	Hydrocarbon Concentrations (Concentrations in ppmv) TPHg	Benzene	MTBE	TPHg Removal Rate (#/hour)	TPHg Cumulative TPHg Removed (#)	Benzene Removal Rate (#/hour)	Benzene Cumulative Benzene Removed (#)	MTBE Removal Rate (#/hour)	MTBE Cumulative MTBE Removed (#)
							TPHg		**Benzene**		**MTBE**	
9:00	119.4	23.20	1	9,370			0.007	12.1	0.001	0.998	0.030	28.7
9:15	119.6	23.40	12	8,520			0.088	12.1	0.008	1.00	0.361	28.8
9:30	119.8	23.60	42	6,790			0.309	12.2	0.028	1.01	1.26	29.0
9:45	120.1	23.90	45	5,840			0.331	12.3	0.030	1.01	1.35	29.4
12:00	120.7	24.50	79	**550**	55	**2,200**	0.581	12.6	0.053	1.05	2.38	30.9
12:15	120.9	24.70	80				0.588	12.7	0.053	1.06	2.41	31.4
16:00	122.1	25.90	80				0.588	13.4	0.053	1.12	2.41	34.2
10/11/2001												
8:15	126.1	29.90	0	6,560			0.000	13.4	0.000	1.12	0.000	34.2
8:30	126.3	30.10	2	6,200			0.017	13.4	0.002	1.12	0.002	34.2
8:45	126.5	30.30	5	5,510			0.042	13.4	0.004	1.12	0.006	34.2
9:00	126.7	30.50	72	5,220			0.606	13.6	0.055	1.13	0.081	34.3
9:15	126.9	30.70	41	5,270			0.345	13.6	0.031	1.14	0.046	34.3
9:30	127.2	31.00	60	**630**	63	**82**	0.505	13.8	0.046	1.15	0.067	34.3
9:45	127.4	31.20	61	4,770			0.514	13.9	0.047	1.16	0.068	34.3
13:30	128.1	31.90	62	4,340			0.522	14.3	0.047	1.20	0.070	34.4
13:45	128.3	32.10	59	5,590			0.497	14.4	0.045	1.20	0.066	34.4
14:00	128.6	32.40	64	5,210			0.539	14.5	0.049	1.22	0.072	34.4
14:15	128.9	32.70	61	3,670			0.514	14.7	0.047	1.23	0.068	34.4
15:30	129	32.80	60				0.505	14.7	0.046	1.24	0.067	34.4
10/12/2001												
7:30	132.8	36.60	0	4,910			0.000	14.7	0.000	1.24	0.000	34.4
7:45	133	36.80	2	4,980			0.014	14.7	0.001	1.24	0.017	34.4
8:00	133.2	37.00	22	**510**	51	**610**	0.150	14.7	0.014	1.24	0.184	34.5
8:15	133.4	37.20	30	5,200			0.205	14.8	0.019	1.24	0.250	34.5

Table 1: Vapor Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995750, 610 Market Street, Oakland, California

Date	Hour Meter (hours)	Cumulative Opertion (hours)	System Flow Rate (CFM)	Hydrocarbon Concentrations (Concentrations in ppmv) TPHg	Benzene	MTBE	TPHg Removal Rate (#/hour)	TPHg Cumulative TPHg Removed (#)	Benzene Removal Rate (#/hour)	Benzene Cumulative Benzene Removed (#)	MTBE Removal Rate (#/hour)	MTBE Cumulative MTBE Removed (#)
							TPHg		**Benzene**		**MTBE**	
8:30	133.6	37.40	41	4,490			0.280	14.8	0.025	1.25	0.342	34.6
8:45	133.8	37.60	53	4,310			0.361	14.9	0.033	1.26	0.442	34.7
9:00	134.1	37.90	58	3,770			0.395	15.0	0.036	1.27	0.484	34.8
9:15	134.3	38.10	58	3,330			0.395	15.1	0.036	1.27	0.484	34.9
9:30	134.5	38.30	62	2,940			0.423	15.2	0.038	1.28	0.517	35.0
10:00	135	38.80	51	2,350			0.348	15.4	0.032	1.30	0.426	35.2
10:30	135.5	39.30	47	1,907			0.320	15.5	0.029	1.31	0.392	35.4
11:00	136	39.80	45	2,130			0.084	15.6	0.008	**1.32**	0.166	35.5
11:30	136.5	40.30	45	1,093			0.084	15.6	0.008	1.32	0.166	35.6
12:00	137	40.80	44	1,116			0.082	15.7	0.007	1.32	0.163	35.7
12:30	137.5	41.30	45	983			0.084	15.7	0.008	1.33	0.166	35.7
12:45	137.8	41.60	45	**140**	14	**270**	0.084	15.7	0.008	1.33	0.166	35.8
13:00	138	41.80	45	956			0.084	15.7	0.008	1.33	0.166	35.8
13:10	138.2	42.00	45				0.084	15.8	0.008	1.33	0.166	35.9
Total Pounds Removed:							**TPHg =**	**15.8**	**Benzene =**	**1.33**	**MTBE =**	**35.9**

Abbreviations and Notes:

CFM = Cubic feet per minute ppmv = Parts per million by volume # = Pounds

First day well concentrations didnnot allow automated well valve to open much casuing flow to be below measuring capability.

Flow estimated at 2 cfm based on measured well vacuum and well valve position.

Bold = Sample concentrations from Lab analysis; Non-Bold= field measured concentrations by a Horiba OVA

TPHG, Benzene, and MTBE analyzed by EPA Method 8015/8020/8260 respectively from 1 liter tedlar bag samples

Second through fifth day benzene concetrations assumed to be 10% of the TPHg concentration.

TPHg / Benzene / MTBE removal rate = Rate based on Bay Area Air Quality Management District's Manual of Procedures for Soil Vapor Extraction dated July 17, 1991.

Table 1: Vapor Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995750, 610 Market Street, Oakland, California

							TPHg		Benzene		MTBE	
Date	Hour Meter (hours)	Cumulative Opertion (hours)	System Flow Rate (CFM)	Hydrocarbon Concentrations (Concentrations in ppmv) TPHg	Benzene	MTBE	TPHg Removal Rate (#/hour)	Cumulative TPHg Removed (#)	Benzene Removal Rate (#/hour)	Cumulative Benzene Removed (#)	MTBE Removal Rate (#/hour)	Cumulative MTBE Removed (#)

(Rate = Concentration (ppmv) x system flow rate (cfm) x (1lb-mole/386ft3) x molecular weight (86 lb/lb-mole for TPHg, 78 lb/lb-mole for benzene, 88 lb/lb-mole for MTBE) x 60 min/hour x 1/1,000,000)

Cumulative TPHg / Benzene / MTBE removal = Previous removal rate multiplied by the hour-interval of operation plus the previous total

Table 3: Vapor Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995750, 610 Market Street, Oakland, California

Date	Well ID	Interval Hours of Operation (hours)	System Flow Rate (CFM)	Hydrocarbon Concentrations (Concentrations in ppmv) TPHg	Benzene	MTBE	TPHg Removal Rate (#/hour)	TPHg Cumulative TPHg Removed (#)	Benzene Removal Rate (#/hour)	Benzene Cumulative Benzene Removed (#)	MTBE Removal Rate (#/hour)	MTBE Cumulative MTBE Removed (#)
							TPHg		**Benzene**		**MTBE**	
03/22/01	MW-3	**Dual-phase Vacuum Extraction (DVE) Pilot Test using a RSI V3 Internal Combustion Engine with Bioslurp Tank**										
9:05	(RPM=2,000)	0.000	3				0.112	0.000	0.000	0.000	0.086	0.000
9:10		0.083	3	1,642			0.112	0.009	0.000	0.000	0.086	0.007
9:15		0.083	3	18,600			0.112	0.019	0.000	0.000	0.086	0.014
9:20		0.083	3	14,120			0.112	0.028	0.000	0.000	0.086	0.021
9:35		0.250	3	**2,800**	**10**	**2,100**	0.112	0.056	0.000	0.000	0.086	0.043
9:50		0.250	4	9,350			0.150	0.093	0.000	0.000	0.115	0.072
10:05		0.250	3	12,820			0.112	0.122	0.000	0.000	0.086	0.093
10:35		0.500	2	7,160			0.075	0.159	0.000	0.001	0.057	0.122
10:45	(RPM=1,500)	0.167	12	**3,000**	**10**	**2,600**	0.481	0.239	0.001	0.001	0.427	0.193
10:50		0.830	12	8,470			0.481	0.639	0.001	0.002	0.427	0.547
11:00		0.167	13	6,150			0.521	0.726	0.002	0.002	0.462	0.625
11:15		0.250	14	10,240			0.561	0.866	0.002	0.003	0.498	0.749
11:30		0.250	8	1,745			0.321	0.946	0.001	0.003	0.285	0.820
11:45		0.250	9	18,270			0.361	1.04	0.001	0.003	0.320	0.900
12:00		0.250	22	6,410			0.882	1.26	0.003	0.004	0.782	1.096
03/22/01	T-1	**Soil Vapor Extraction (SVE) Pilot Test using a RSI V3 Internal Combustion Engine**										
13:00	(RPM=1,750)	0.000	3				0.253	0.000	0.002	0.000	0.181	0.000
13:05		0.083	3	**6,300**	**42**	**4,400**	0.253	0.021	0.002	0.000	0.181	0.015
13:10		0.083	3	36,620			0.253	0.042	0.002	0.000	0.181	0.030
13:15		0.083	3	34,870			0.253	0.063	0.002	0.000	0.181	0.045
13:30		0.250	3	35,250			0.253	0.126	0.002	0.001	0.181	0.090
13:45		0.250	3	35,820			0.253	0.189	0.002	0.001	0.181	0.135
14:00		0.250	3	34,480			0.253	0.252	0.002	0.002	0.181	0.180

Table 3: Vapor Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995750, 610 Market Street, Oakland, California

Date	Well ID	Interval Hours of Operation (hours)	System Flow Rate (CFM)	Hydrocarbon Concentrations (Concentrations in ppmv) TPHg	Benzene	MTBE	TPHg Removal Rate (#/hour)	TPHg Cumulative TPHg Removed (#)	Benzene Removal Rate (#/hour)	Benzene Cumulative Benzene Removed (#)	MTBE Removal Rate (#/hour)	MTBE Cumulative MTBE Removed (#)
							TPHg		**Benzene**		**MTBE**	
14:15	(RPM=2,500)	0.250	3	35,150			0.201	0.303	0.001	0.002	0.357	0.270
14:20		0.083	3	33,340			0.201	0.319	0.001	0.002	0.357	0.299
14:25		0.083	3	35,010			0.201	0.336	0.001	0.002	0.357	0.329
14:40		0.250	3	32,670			0.201	0.386	0.001	0.002	0.357	0.418
14:55		0.250	3	31,060			0.201	0.436	0.001	0.003	0.357	0.507
15:10		0.250	3	31,390			0.201	0.486	0.001	0.003	0.357	0.597
15:25		0.250	3	**5,000**	**39**	**8,700**	0.201	0.536	0.001	0.004	0.357	0.686
15:40		0.250	10	32,000			0.668	0.703	0.005	0.005	1.190	0.983
Total Pounds Removed:							**TPHg =**	**1.961**	**Benzene =**	**0.009**	**MTBE =**	**2.079**

Abbreviations and Notes:

CFM = Cubic feet per minute

TPHg = Total petroleum hydrocarbons as gasoline (C6-C12) by modified EPA Method 8015 in 1 liter tedlar bag samples

ppmv = Parts per million by volume

= Pounds

Bold = Sample concentrations from Lab analysis;Grayscale = field measured concentrations by a Horiba OVA

TPHG, Benzene, and MTBE analyzed by EPA Method 8015/8020 in 1 liter tedlar bag samples

TPHg / Benzene / MTBE removal rate = Rate based on Bay Area Air Quality Management District's Manual of Procedures for Soil Vapor Extraction dated July 17, 1991.
(Rate = Concentration (ppmv) x system flow rate (cfm) x (1lb-mole/386ft3) x molecular weight (86 lb/lb-mole for TPHg, 78 lb/lb-mole for benzene, 88 lb/lb-mole for MTBE) x 60 min/hour x 1/1,000,000)

Cumulative TPHg / Benzene / MTBE removal = Previous removal rate multiplied by the hour-interval of operation plus the previous total

Table 2: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995750, 610 Market Street, Oakland, California

Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Flow Rate (gpm)	TPPH Conc. (ppb)	TPPH Removed (lb)	TPPH Removed To Date (lb)	Benzene Conc. (ppb)	Benzene Removed (lb)	Benzene Removed to Date (lb)	MTBE Conc. (ppb)	MTBE Removed (lb)	MTBE Removed To Date (lb)
					TPPH			**Benzene**			**MTBE**		
03/22/01	MW-3	**Dual-phase Vacuum Extraction (DVE) Pilot test using a RSI V3 Internal Combustion Engine with Bioslurp Tank**											
9:05	(RPM=2,000)	0	0			0.000	0.000		0.000	0.000		0.000	0.000
9:10		13	13	2.60		0.001	0.001		0.000	0.000		0.042	0.042
9:15		13	26	2.60		0.001	0.002		0.000	0.000		0.042	0.085
9:20		29	55	5.80		0.002	0.005		0.000	0.000		0.094	0.179
9:35		18	73	1.20	**<20,000**	0.002	0.006	**<200**	0.000	0.000	**390,000**	0.059	0.238
9:50		37	110	2.47		0.003	0.009		0.000	0.000		0.120	0.358
10:05		36	146	2.40		0.003	0.012		0.000	0.000		0.117	0.475
10:35		55	201	1.83		0.005	0.017		0.000	0.000		0.179	0.654
10:45	(RPM=1,5000)	0	201	0.00		0.000	0.017		0.000	0.000		0.000	0.654
10:50		36	237	7.20		0.003	0.020		0.000	0.000		0.117	0.771
11:00		19	256	1.90		0.002	0.021		0.000	0.000		0.062	0.833
11:15		36	292	2.40		0.003	0.024		0.000	0.000		0.117	0.950
11:30		38	330	2.53		0.003	0.028		0.000	0.000		0.124	1.074
11:45		0	330	0.00		0.000	0.028		0.000	0.000		0.000	1.074
12:00		53	383	3.53		0.004	0.032		0.000	0.000		0.172	1.246
Total Gallons Extracted:			**383**		**Total Pounds Removed:**		**0.032**			**0.000**			**1.246**
					Total Gallons Removed:		**0.005**			**0.000**			**0.201**

Table 2: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995750, 610 Market Street, Oakland, California

					TPPH			Benzene			MTBE		
Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Flow Rate (gpm)	TPPH Conc. (ppb)	TPPH Removed (lb)	TPPH Removed To Date (lb)	Benzene Conc. (ppb)	Benzene Removed (lb)	Benzene Removed to Date (lb)	MTBE Conc. (ppb)	MTBE Removed (lb)	MTBE Removed To Date (lb)

Abbreviations & Notes:

TPPH = Total purgeable hydrocarbons as gasoline
MtBE = Methyl tert-butyl ether
µg/L = Micrograms per liter
ppb = Parts per billion, equivalent to µg/L
lb = Pound
SPH = Separate phase hydrocarbons
L = Liter
gal = Gallon
g = Gram
* = Groundwater volume pumped estimated; data not available
RPM = Revolutions per minute
Mass removed based on the formula: volume extracted (gal) x Concentration (µg/L) x (g/10^6µg) x (pound/453.6g) x (3.785 L/gal)
Volume removal data based on the formula: density (in gms/cc) x 9.339 (ccxlbs/gmsxgals)
TPPH and benzene analyzed by EPA Method 8015/8020
MTBE data in bold font analyzed by EPA Method 8260, all other MTBE analyzed by EPA Method 8020
Concentrations based on most recent groundwater monitoring results
If concentrations are below laboratory detection limits, one half the detection limit is used for mass removal calculations.
Groundwater extracted by vacuum trucks provided by ACTI; water disposed of at a Martinez refinery

APPENDIX D

WELL SURVEY RESULTS

Table 1. Well Survey Results - Shell-branded Service Station, 610 Market Street, Oakland, California. Incident # 98995756

Map ID	Well ID	Installation Date	Use	Depth (fbg)	Screened Interval (fbg)	Sealed Interval (fbg)
1	1S/4W-3SF12	Sept. 23, 1990	IRR	480	180-240, 300-340, 360-380, 430-470	0 to 90
2	1S/4W-35R	Unknown	UNK	175	Unknown	Unkown
3	1S/4W-35N1	Feb. 2, 1955	UNK	140	Unknown	Unkown
4	1S/4W-35Q	May 30, 1973	CATH	120	Unknown	0-90
5	1S/4W-35C7	Unknown	DES	55	Unknown	0-55

Well information provided by the State of California Department of Water Resources

Notes and Abbreviations:

Map ID = Column number refers to map location on Figure 1
Well ID = California State well identification number as recorded by the Department of Water Resources in Sacramento, California
fbg = feet below grade
UNK = Unknown
CATH = Cathodic Protection
DES = Destroyed Well