



Shell Oil Products US

January 14, 2003

R0433

Alameda County
JAN 17 2003
Environmental Health

Barney Chan
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: Former Shell Service Station
1230 14th Street
Oakland, California

Dear Mr. Chan:

Attached for your review and comment is a copy of the *Fourth Quarter 2002 Monitoring Report* for the above referenced site. Upon information and belief, I declare, under penalty of perjury, that the information contained in the attached document is true and correct.

As always, please feel free to contact me directly at (559) 645-9306 with any questions or concerns.

Sincerely,

Shell Oil Products US

Karen Petryna

Karen Petryna
Sr. Environmental Engineer

January 14, 2003

Barney Chan
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: **Fourth Quarter 2002 Monitoring Report**
Former Shell Service Station
1230 14th Street
Oakland, California
Incident #97088250
Cambria Project #245-0233-002



Dear Mr. Chan:

On behalf of Equilon Enterprises LLC dba Shell Oil Products US, Cambria Environmental Technology, Inc. (Cambria) is submitting this groundwater monitoring report in accordance with the reporting requirements of 23 CCR 2652d.

FOURTH QUARTER 2002 ACTIVITIES

Groundwater Monitoring: Blaine Tech Services, Inc. (Blaine) of San Jose, California gauged all site wells, measured dissolved oxygen (DO) concentrations, calculated groundwater elevations, and compiled the collected data. Cambria prepared an area vicinity map which includes previously submitted well survey information (Figure 1) and a groundwater elevation contour map (Figure 2). Blaine's report, with supporting field notes, is included as Attachment A.

Groundwater Extraction (GWE): As proposed in the May 23, 2002 *Subsurface Investigation Work Plan*, semi-monthly mobile GWE using MW-5 began on June 11, 2002 in an attempt to reduce hydrocarbon concentrations in groundwater in the suspected source area. Mass-removal data for the site is presented in Table 1. To date, approximately 1.5 pounds of hydrocarbons have been removed by GWE.

Dual Phase Vapor Extraction (DVE): DVE is the process of applying high vacuum through an airtight well seal to simultaneously extract soil vapors from the vadose zone and to enhance GWE from the saturated zone. Semi-monthly GWE was changed to semi-monthly DVE beginning on September 19, 2002. Mass removal data is summarized in Table 2. To date, approximately 3.7 pounds of vapor phase hydrocarbons have been removed from the subsurface.

Oakland, CA
San Ramon, CA
Sonoma, CA

**Cambria
Environmental
Technology, Inc.**

1144 65th Street
Suite B
Oakland, CA 94608
Tel (510) 420-0700
Fax (510) 420-9170

ANTICIPATED FIRST QUARTER 2003 ACTIVITIES

Groundwater Monitoring: Blaine will gauge and sample all wells, measure DO concentrations, and tabulate the data. Groundwater samples are collected semi-annually in the second and fourth quarters. Cambria will prepare a monitoring report.

DVE: Semi-monthly DVE using MW-5 will continue through the first quarter of 2003.

Corrective Action Implementation: As soon as approval to proceed is given by the Alameda County Health Care Services Agency, Cambria will schedule and conduct the 5-day in-situ field test of hydrogen peroxide/Fenton's reagent injection proposed in Cambria's August 26, 2002 *Subsurface Investigation Report and Corrective Action Plan* and September 12, 2002 addendum.

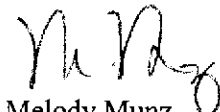


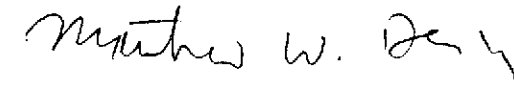
CLOSING

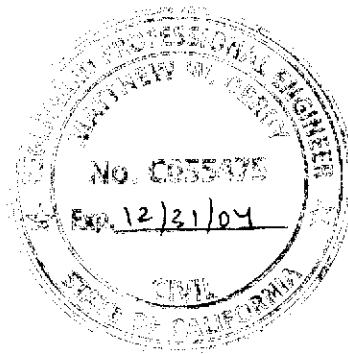
We appreciate the opportunity to work with you on this project. Please call Melody Munz at (510) 420-3324 if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc




Melody Munz
Project Engineer


Matthew W. Derby, P.E.
Senior Project Engineer



Figures: 1 - Vicinity/Area Well Survey Map
2 - Groundwater Elevation Contour Map

Tables: 1 - Groundwater Extraction – Mass Removal Data
2 - Vapor Extraction – Mass Removal Data

Attachment: A - Blaine Groundwater Monitoring Report and Field Notes

cc: Karen Petryna, Shell Oil Products US, P.O. Box 7869, Burbank, CA 91510-7869
Tom Saberi, 1045 Airport Boulevard, Suite 12, South San Francisco, CA 94080
Matthew Dudley, Sedgwick, Detert, Moran, & Arnold, 1 Embarcadero Center,
16th Floor, San Francisco, CA 94111-3628

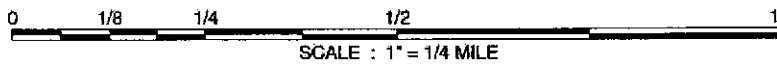


G:\OAKLAND\1230-14TH\FIGURES\VIC-WELL-SURVEY.A1

EXPLANATION

- 6 ⊙ Catholic Protection well
- 1 ⊙ Industrial well
- 2 ⊙ Unknown well
- ★ Subject site
- Study area

SOURCE: TOPOI MAPS



Former Shell Service Station
 1230 14th Street
 Oakland, California
 Incident #97088250



C A M B R I A

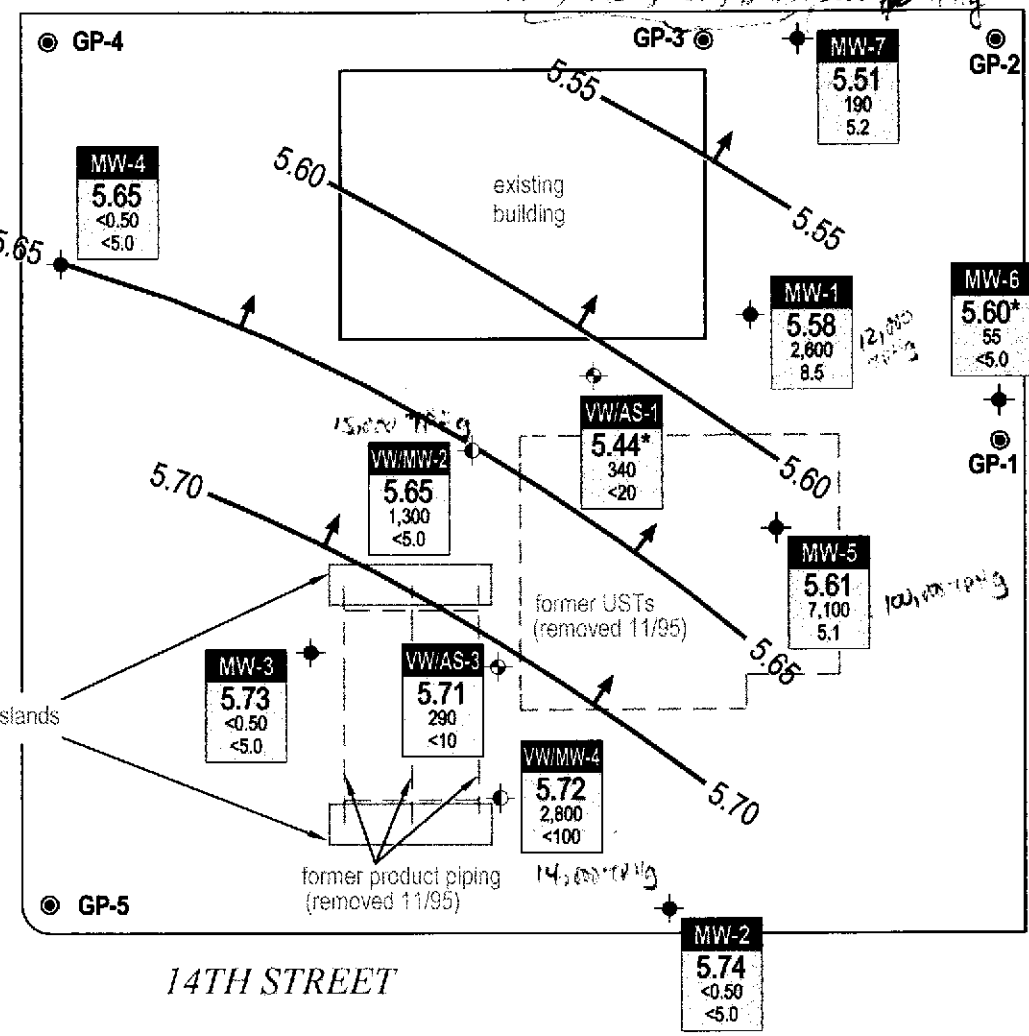
**Vicinity/Area Well
 Survey Map**
 (1/2-Mile Radius)

FIGURE 1

TPHg 1370 - 210
9800, 4400, 120, 6500, 3000 pp TPHg

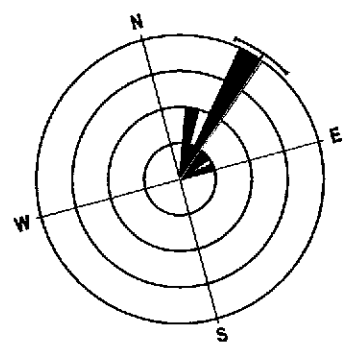
UNION STREET

14TH STREET



EXPLANATION

- MW-1 ● Monitoring well location
 - VW/AS-1 ● Combination air sparge/soil vapor extraction well
 - VW/MW-2 ● Combination soil vapor extraction well/monitoring well
 - GP-1 ● Soil boring location (12/11/00)
 - * Data anomalous, not used for contouring
 - Groundwater flow direction
 - XX.XX Groundwater elevation contour, in feet above mean sea level (msl), approximately located, dashed where inferred
- | | |
|---------|--|
| Well | Well designation |
| ELEV | Groundwater elevation, in feet above msl |
| Benzene | Benzene and MTBE concentrations are in parts per billion and are analyzed by EPA Method 8260 |
| MTBE | |



Groundwater Flow Direction (3Q00 through 4Q02)



FIGURE 2

G:\OAKLAND\1230-14TH\FIGURES\CM02-MP.DWG

Former Shell Service Station
 1230 14th Street
 Oakland, California
 Incident #97088250



C A M B R I A

Groundwater Elevation Contour Map

November 11, 2002

**Table 1: Groundwater Extraction - Mass Removal Data - Former Shell Service Station, Incident #97088250,
1230 14th St., Oakland, California**

Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPPH			Benzene		
					TPPH Concentration (ppb)	TPPH Removed (pounds)	TPPH Removed To Date (pounds)	Benzene Concentration (ppb)	Benzene Removed (pounds)	Benzene Removed To Date (pounds)
06/11/02	MW-5	300	300	04/17/02	33,000	0.08261	0.08261	3,800	0.00951	0.00951
06/25/02	MW-5	200	500	04/17/02	33,000	0.05507	0.13768	3,800	0.00634	0.01585
07/09/02	MW-5	415	915	04/17/02	33,000	0.11428	0.25196	3,800	0.01316	0.02901
07/23/02	MW-5	300	1,215	04/17/02	33,000	0.08261	0.33457	3,800	0.00951	0.03853
08/06/02	MW-5	300	1,515	04/17/02	33,000	0.08261	0.41718	3,800	0.00951	0.04804
08/20/02	MW-5	185	1,700	04/17/02	33,000	0.05094	0.46812	3,800	0.00587	0.05390
09/03/02	MW-5	151	1,851	04/17/02	33,000	0.04158	0.50970	3,800	0.00479	0.05869
09/19/02	MW-5	400	2,251	04/17/02	33,000	0.11015	0.61984	3,800	0.01268	0.07138
10/01/02	MW-5	375	2,626	04/17/02	33,000	0.10326	0.72311	3,800	0.01189	0.08327
10/17/02	MW-5	150	2,776	04/17/02	33,000	0.04130	0.76441	3,800	0.00476	0.08802
11/01/02	MW-5	327	3,103	04/17/02	33,000	0.09004	0.85445	3,800	0.01037	0.09839
11/15/02	MW-5	200	3,303	11/11/02	100,000	0.16689	1.02134	7,100	0.01185	0.11024
12/03/02	MW-5	200	3,503	11/11/02	100,000	0.16689	1.18823	7,100	0.01185	0.12209
12/31/02	MW-5	391	3,894	11/11/02	100,000	0.32626	1.51449	7,100	0.02316	0.14525
Total Gallons Extracted:			3,894	Total Pounds Removed:			1.51449	0.14525		
				Total Gallons Removed:			0.24828	0.01990		

**Table 1: Groundwater Extraction - Mass Removal Data - Former Shell Service Station, Incident #97088250,
1230 14th St., Oakland, California**

Abbreviations & Notes:

TPPH = Total purgeable hydrocarbons as gasoline

ppb = Parts per billion

gal = Gallons

Mass removed based on the formula: volume extracted (gal) x concentration ($\mu\text{g/L}$) x ($\text{g}/10^6 \mu\text{g}$) 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 8260

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.

Groundwater extracted by vacuum trucks provided by Phillips Services. Water disposed of at a Martinez Refinery.

**Table 2: Vapor Extraction - Mass Removal Data - Former Shell Service Station,
Incident #97088250, 1230 14th Street, Oakland, California**

Date	Well	Interval Hours of Operation	System Flow Rate	Hydrocarbon Concentrations		TPPH		Benzene	
				TPHg	Benzene	TPHg Removal Rate	Cumulative TPHg Removed	Benzene Removal Rate	Cumulative Benzene Removed
				(Concentrations in ppmv)		(#/hour)	(#)	(#/hour)	(#)
09/19/02	MW-5	4.00	10.1	150	25	0.020	0.081	0.003	0.012
10/01/02	MW-5	4.00	11.1	2,100	23	0.312	1.327	0.003	0.025
10/17/02	MW-5	4.00	9.3	1,100	20	0.137	1.874	0.002	0.034
11/01/02	MW-5	4.00	10.0	520	8.9	0.070	2.152	0.001	0.038
11/15/02	MW-5	4.00	8.5	1,500	16	0.170	2.834	0.002	0.045
12/03/02	MW-5	4.00	7.7	1,300	15	0.134	3.370	0.001	0.050
12/31/02	MW-5	4.25	10.9	560	13	0.082	3.716	0.002	0.057
<i>1/17/03 MW-5</i>									
Total Pounds Removed:						TPHg =	3.716	Benzene =	0.057

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.

ATTACHMENT A
Blaine Groundwater Monitoring Report
and Field Notes

BLAINE
TECH SERVICES, INC.



1680 ROGERS AVENUE
SAN JOSE, CA 95112-1105
(408) 573-7771 FAX
(408) 573-0555 PHONE
CONTRACTOR'S LICENSE #746684
www.blainetech.com

December 5, 2002

Karen Petryna
Shell Oil Products US
P.O. Box 7869
Burbank, CA 91510-7869

Fourth Quarter 2002 Groundwater Monitoring at
Former Shell Service Station
1230 14th Street
Oakland, CA

Monitoring performed on November 11, 2002

Groundwater Monitoring Report 021111-DW-1

This report covers the routine monitoring of groundwater wells at this Former Shell facility. In accordance with standard procedures that conform to Regional Water Quality Control Board requirements, routine field data collection includes depth to water, total well depth, thickness of any separate immiscible layer, water column volume, calculated purge volume (if applicable), elapsed evacuation time (if applicable), total volume of water removed (if applicable), and standard water parameter instrument readings. Sample material is collected, contained, stored, and transported to the laboratory in conformance with EPA standards. Purgewater (if applicable) is, likewise, collected and transported to the Martinez Refining Company.

Basic field information is presented alongside analytical values excerpted from the laboratory report in the cumulative table of **WELL CONCENTRATIONS**. The full analytical report for the most recent samples and the field data sheets are attached to this report.

At a minimum, Blaine Tech Services, Inc. field personnel are certified on completion of a forty hour Hazardous Materials and Emergency Response training course per 29 CFR 1910.120. Field personnel are also enrolled in annual eight hour refresher courses.

Blaine Tech Services, Inc. conducts sampling and documentation assignments of this type as an independent third party. Our activities at this site consisted of objective data and sample collection only. No interpretation of analytical results, defining of hydrological conditions or formulation of recommendations was performed.

Please call if you have any questions.

Yours truly,

Leon Gearhart
Project Coordinator

LG/jt

attachments: Cumulative Table of WELL CONCENTRATIONS
Certified Analytical Report
Field Data Sheets

cc: Anni Kreml
Cambria Environmental Technology, Inc.
1144 65th Street, Ste. C
Oakland, CA 94608-2411

WELL GAUGING DATA

Project # 02111-DW-1 Date 11-11-02 Client Shell

Site 1230 14th St Oakland

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	
mw-1	2					13.00	20.87	 ↓	
mw-2	2					12.16	21.54		
mw-3	2					12.44	19.34		
mw-4	2					12.36	19.80		
mw-5 ^{**}	4	*gauge	w/ stinger in well			12.86	19.63		
mw-6	4					13.24	19.62		
mw-7	4					13.69	19.70		
vw/mw-2	2					12.63	20.20		
vw/mw-4	2					12.41	18.54		
vw/AS-1	1					13.15	19.57		
vw/AS-3	1					12.43	19.60		
**mw-5 obstruction @ ~13', could be broken stinger									
Cannot get 3" pump past it									

WELL CONCENTRATIONS
Former Shell Service Station
1230 14th Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-1	03/25/1996	37,000	7,400	1,500	720	3,300	<500	NA	18.58	9.53	9.05	NA
MW-1	06/21/1996	35,000	9,900	460	340	3,500	890	NA	18.58	10.72	7.86	NA
MW-1	09/26/1996	19,000	8,200	510	780	790	<250	NA	18.58	12.88	5.70	NA
MW-1	12/19/1996	27,000	120	1,200	1,400	2,800	<100	NA	18.58	12.59	5.99	NA
MW-1	12/19/1996	32,000	12,000	1,300	1,600	3,100	830	NA	18.58	12.59	5.99	NA
MW-1	03/25/1997	39,000	13,000	1,600	840	3,100	730	NA	18.58	11.10	7.48	1.2
MW-1	06/26/1997	NA	NA	NA	NA	NA	NA	NA	18.58	12.42	6.16	NA
MW-1	09/26/1997	NA	NA	NA	NA	NA	NA	NA	18.58	13.31	5.27	0.8
MW-1	12/05/1997	NA	NA	NA	NA	NA	NA	NA	18.58	12.65	5.93	0.3
MW-1	02/19/1998	16,000	5,500	450	500	800	<500	NA	18.58	6.46	12.12	2.4
MW-1	06/08/1998	NA	NA	NA	NA	NA	NA	NA	18.58	6.62	11.96	1.2
MW-1	08/25/1998	NA	NA	NA	NA	NA	NA	NA	18.58	11.83	6.75	2.8
MW-1	12/28/1998	NA	NA	NA	NA	NA	NA	NA	18.58	12.01	6.57	2.6
MW-1	03/26/1999	NA	NA	NA	NA	NA	NA	NA	18.58	9.15	9.43	2.2
MW-1	06/30/1999	NA	NA	NA	NA	NA	NA	NA	18.58	11.22	7.36	3.8
MW-1	09/30/1999	NA	NA	NA	NA	NA	NA	NA	18.58	11.89	6.69	3.0
MW-1	12/27/1999	34,800	8,660	953	956	2,770	<1,000	NA	18.58	13.55	5.03	2.4/2.1
MW-1	01/21/2000	40,600	14,700	1,850	1,210	3,670	<500	NA	18.58	13.42	5.16	2.8
MW-1	03/07/2000	NA	NA	NA	NA	NA	NA	NA	18.58	8.11	10.47	0.4
MW-1	04/17/2000	NA	NA	NA	NA	NA	NA	NA	18.58	9.78	8.80	3.0/3.4
MW-1	04/18/2000	18,300	8,060	543	528	872	<50.0	NA	18.58	NA	NA	NA
MW-1	09/21/2000	NA	NA	NA	NA	NA	NA	NA	18.58	13.11	5.47	5.2
MW-1	10/17/2000	15,800	6,720	435	587	887	351	<66.7	18.58	12.61	5.97	1.2/0.8
MW-1	01/09/2001	NA	NA	NA	NA	NA	NA	NA	18.58	12.94	5.64	0.3
MW-1	04/27/2001	1,400	650	28	58	48	NA	<10	18.58	10.73	7.85	1.8/2.1
MW-1	07/03/2001	NA	NA	NA	NA	NA	NA	NA	18.58	12.00	6.58	1.8
MW-1	12/06/2001	4,500	1,500	85	160	210	NA	<50	18.58	10.53	8.05	2.5/2.9
MW-1	01/23/2002	NA	NA	NA	NA	NA	NA	NA	18.58	9.33	9.25	0.1

WELL CONCENTRATIONS
Former Shell Service Station
1230 14th Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-1	04/17/2002	230	12	<0.50	4.6	2.5	NA	<5.0	18.58	10.49	8.09	6.3/5.3
MW-1	07/18/2002	NA	NA	NA	NA	NA	NA	NA	18.58	11.98	6.60	1.2
MW-1	11/11/2002	12,000	2,600	240	470	640	NA	8.5	18.58	13.00	5.58	0.2/0.2
MW-2	03/25/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	8.19	9.71	NA
MW-2	06/21/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	9.94	7.96	NA
MW-2	09/26/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	12.15	5.75	NA
MW-2	12/19/1996	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	17.90	11.70	6.20	NA
MW-2	03/25/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	9.25	8.65	1.8
MW-2	06/26/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	11.36	6.54	2.4
MW-2	09/26/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	12.56	5.34	1.1
MW-2	09/26/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	12.56	5.34	1.1
MW-2	12/05/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	11.15	6.75	0.7
MW-2	02/19/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	17.90	5.61	12.29	2.7
MW-2	06/08/1998	<50	<0.30	<0.30	<0.30	<0.60	<10	NA	17.90	5.58	12.32	3.2
MW-2	08/25/1998	NA	NA	NA	NA	NA	NA	NA	17.90	10.67	7.23	1.7
MW-2	12/28/1998	<50.0	<0.500	<0.500	<0.500	<0.500	<2.00	NA	17.90	11.65	6.25	0.4/0.8
MW-2	03/26/1999	NA	NA	NA	NA	NA	NA	NA	17.90	8.60	9.30	0.7
MW-2	06/30/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	17.90	10.30	7.60	2.3
MW-2	09/30/1999	NA	NA	NA	NA	NA	NA	NA	17.90	10.77	7.13	1.9
MW-2	12/27/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	17.90	12.21	5.69	0.7/0.7
MW-2	03/07/2000	NA	NA	NA	NA	NA	NA	NA	17.90	7.13	10.77	1.1
MW-2	04/17/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	17.90	8.35	9.55	1.8/1.8
MW-2	09/21/2000	NA	NA	NA	NA	NA	NA	NA	17.90	11.76	6.14	2.1
MW-2	10/17/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	17.90	11.80	6.10	0.9/0.6
MW-2	01/09/2001	NA	NA	NA	NA	NA	NA	NA	17.90	12.14	5.76	0.7
MW-2	04/27/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	17.90	9.85	8.05	1.1/0.9
MW-2	07/03/2001	NA	NA	NA	NA	NA	NA	NA	17.90	11.20	6.70	1.2
MW-2	12/06/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	17.90	10.77	7.13	3.9/2.1

WELL CONCENTRATIONS
Former Shell Service Station
1230 14th Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
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MW-2	01/23/2002	NA	NA	NA	NA	NA	NA	NA	17.90	8.64	9.26	2.5
MW-2	04/17/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	17.90	9.61	8.29	3.5/5.2
MW-2	07/18/2002	NA	NA	NA	NA	NA	NA	NA	17.90	11.09	6.81	1.4
MW-2	11/11/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	17.90	12.16	5.74	0.2/0.3

MW-3	03/25/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.18	8.47	9.71	NA
MW-3	06/21/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.18	10.40	7.78	NA
MW-3	09/26/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.18	12.45	5.73	NA
MW-3	12/19/1996	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	18.18	12.14	6.02	NA
MW-3	03/25/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.18	9.54	8.64	2.2
MW-3	06/26/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.18	11.66	6.52	3.6
MW-3	09/26/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.18	12.85	5.33	1.1
MW-3	12/05/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.18	11.44	6.74	0.6
MW-3	02/19/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.18	6.78	11.40	3.6
MW-3	06/08/1998	<50	<0.30	<0.30	<0.30	<0.60	<10	NA	18.18	6.82	11.36	3.8
MW-3	06/08/1998	<50	<0.30	<0.30	<0.30	<0.60	<10	NA	18.18	6.82	11.36	3.8
MW-3	08/25/1998	NA	NA	NA	NA	NA	NA	NA	18.18	11.09	7.09	1.2
MW-3	12/28/1998	<50.0	<0.500	<0.500	<0.500	<0.500	<2.00	NA	18.18	11.84	6.34	0.9/0.6
MW-3	03/26/1999	NA	NA	NA	NA	NA	NA	NA	18.18	8.57	9.61	0.8
MW-3	06/30/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	18.18	10.61	7.57	4.8
MW-3	09/30/1999	NA	NA	NA	NA	NA	NA	NA	18.18	11.53	6.65	1.4
MW-3	12/27/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	18.18	12.35	5.83	1.4/2.5
MW-3	03/07/2000	NA	NA	NA	NA	NA	NA	NA	18.17	7.36	10.81	5.8
MW-3	04/17/2000	<50.0	<0.500	<0.500	<0.500	<0.500	19.3	NA	18.17	8.39	9.78	6.5/5.1
MW-3	09/21/2000	NA	NA	NA	NA	NA	NA	NA	18.17	12.01	6.16	3.0
MW-3	10/17/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	18.17	12.10	6.07	2.0/1.0
MW-3	01/09/2001	NA	NA	NA	NA	NA	NA	NA	18.17	12.43	5.74	1.9
MW-3	04/27/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	18.17	10.10	8.07	2.3/2.4
MW-3	07/03/2001	NA	NA	NA	NA	NA	NA	NA	18.17	11.45	6.72	1.4

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MW-3	12/06/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	18.17	11.07	7.10	2.8/3.9
MW-3	01/23/2002	NA	NA	NA	NA	NA	NA	NA	18.17	8.89	9.28	3.1
MW-3	04/17/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	18.17	9.92	8.25	3.7/3.2
MW-3	07/18/2002	NA	NA	NA	NA	NA	NA	NA	18.17	11.42	6.75	1.6
MW-3	11/11/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	18.17	12.44	5.73	0.3/0.4
MW-4	03/25/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	9.20	8.81	NA
MW-4	06/21/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	10.25	7.76	NA
MW-4	09/26/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	12.29	5.72	NA
MW-4	12/19/1996	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	18.01	12.47	5.54	NA
MW-4	03/25/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	9.44	8.57	1.8
MW-4	06/26/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	11.57	6.44	6.2
MW-4 (D)	06/26/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	11.57	6.44	6.2
MW-4	09/26/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	12.75	5.26	2.1
MW-4	12/05/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	11.37	6.64	1.0
MW-4 (D)	12/05/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	11.37	6.64	1.0
MW-4	02/19/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	18.01	5.59	12.42	6.5
MW-4	06/08/1998	<50	<0.30	<0.30	<0.30	<0.60	<10	NA	18.01	5.65	12.36	2.6
MW-4	08/25/1998	NA	NA	NA	NA	NA	NA	NA	18.01	10.98	7.03	2.4
MW-4	12/28/1998	<50.0	<0.500	<0.500	<0.500	<0.500	<2.00	NA	18.01	11.83	6.18	1.3/1.2
MW-4	03/26/1999	NA	NA	NA	NA	NA	NA	NA	18.01	8.40	9.61	1.9
MW-4	06/30/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	18.01	10.53	7.48	7.6
MW-4	09/30/1999	NA	NA	NA	NA	NA	NA	NA	18.01	11.03	6.98	2.6
MW-4	12/27/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	18.01	12.53	5.48	1.9/0.8
MW-4	03/07/2000	NA	NA	NA	NA	NA	NA	NA	18.01	7.00	11.01	6.5
MW-4	04/17/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	18.01	8.57	9.44	5.1/5.1
MW-4	09/21/2000	NA	NA	NA	NA	NA	NA	NA	18.01	12.05	5.96	3.0
MW-4	10/17/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	18.01	11.96	6.05	5.5/1.2
MW-4	01/09/2001	NA	NA	NA	NA	NA	NA	NA	18.01	12.33	5.68	2.1

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MW-4	04/27/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	18.01	9.96	8.05	5.3/3.8
MW-4	07/03/2001	NA	NA	NA	NA	NA	NA	NA	18.01	11.35	6.66	4.5
MW-4	12/06/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	18.01	10.99	7.02	10.23/6.5
MW-4	01/23/2002	NA	NA	NA	NA	NA	NA	NA	18.01	8.80	9.21	8.8
MW-4	04/17/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	18.01	9.75	8.26	7.0/5.1
MW-4	07/18/2002	NA	NA	NA	NA	NA	NA	NA	18.01	11.32	6.69	5.3
MW-4	11/11/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	18.01	12.36	5.65	3.6/2.0
MW-5	12/03/2001	NA	NA	NA	NA	NA	NA	NA	18.47	11.86	6.61	NA
MW-5	12/06/2001	31,000	3,000	2,000	1,100	3,000	NA	<50	18.47	11.40	7.07	3.1/3.2
MW-5	01/23/2002	NA	NA	NA	NA	NA	NA	NA	18.47	9.24	9.23	0.9
MW-5	04/17/2002	33,000	3,800	2,400	1,300	4,400	NA	<200	18.47	10.35	8.12	5.3/3.8
MW-5	07/18/2002	NA	NA	NA	NA	NA	NA	NA	18.47	11.82	6.65	0.8
MW-5	11/11/2002	100,000	7,100	12,000	3,000	17,000	NA	5.1	18.47	12.86	5.61	1.2/1.4
MW-6	12/03/2001	NA	NA	NA	NA	NA	NA	NA	18.84	12.19	6.65	NA
MW-6	12/06/2001	76	5.7	3.8	1.4	7.0	NA	<5.0	18.84	11.70	7.14	6.3/6.1
MW-6	01/23/2002	NA	NA	NA	NA	NA	NA	NA	18.84	9.57	9.27	8.7
MW-6	04/17/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	18.84	10.73	8.11	9.8/9.1
MW-6	07/18/2002	NA	NA	NA	NA	NA	NA	NA	18.84	12.27	6.57	1.7
MW-6	11/11/2002	580	55	<0.50	<0.50	2.8	NA	<5.0	18.84	13.24	5.60	0.3/0.6
MW-7	12/03/2001	NA	NA	NA	NA	NA	NA	NA	19.20	12.66	6.54	NA
MW-7	12/06/2001	1,800	390	<2.0	6.2	<2.0	NA	<20	19.20	12.20	7.00	3.9/3.8
MW-7	01/23/2002	NA	NA	NA	NA	NA	NA	NA	19.20	10.00	9.20	9.4
MW-7	04/17/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	19.20	11.21	7.99	8.8/7.3
MW-7	07/18/2002	NA	NA	NA	NA	NA	NA	NA	19.20	12.69	6.51	0.8
MW-7	11/11/2002	3,000	190	<0.50	<0.50	4.3	NA	5.2	19.20	13.69	5.51	0.4/0.8

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VWMW-2	03/25/1996	13,000	900	920	180	1,500	<250	NA	18.30	9.04	9.26	NA
VWMW-2	06/21/1996	27,000	4,100	1,100	1,400	3,200	700	NA	18.30	10.48	7.82	NA
VWMW-2	09/26/1996	27,000	5,300	1,900	980	2,200	<500	NA	18.30	12.52	5.78	NA
VWMW-2 (D)	09/26/1996	29,000	5,800	2,200	1,100	2,500	<250	NA	18.30	12.52	5.78	NA
VWMW-2	12/19/1996	50,000	6,200	5,100	1,700	5,600	590	NA	18.30	12.42	5.88	NA
VWMW-2	03/25/1997	210	5.6	<0.50	0.52	<0.50	14	NA	18.30	9.83	8.47	2.0
VWMW-2 (D)	03/25/1997	250	1.7	0.58	0.51	<0.50	4.7	NA	18.30	9.83	8.47	2.0
VWMW-2	06/26/1997	NA	NA	NA	NA	NA	NA	NA	18.30	12.43	5.87	NA
VWMW-2	09/26/1997	NA	NA	NA	NA	NA	NA	NA	18.30	12.98	5.32	0.9
VWMW-2	12/05/1997	NA	NA	NA	NA	NA	NA	NA	18.30	12.20	6.10	0.4
VWMW-2	02/19/1998	<50	1.5	<0.50	<0.50	0.71	<2.5	NA	18.30	5.83	12.47	3.6
VWMW-2	06/08/1998	NA	NA	NA	NA	NA	NA	NA	18.30	5.80	12.50	1.0
VWMW-2	08/25/1998	NA	NA	NA	NA	NA	NA	NA	18.30	11.72	6.58	4.8
VWMW-2	12/28/1998	NA	NA	NA	NA	NA	NA	NA	18.30	11.69	6.61	2.7
VWMW-2	03/26/1999	NA	NA	NA	NA	NA	NA	NA	18.30	8.75	9.55	2.8
VWMW-2	06/30/1999	NA	NA	NA	NA	NA	NA	NA	18.30	10.72	7.58	4.7
VWMW-2	09/30/1999	NA	NA	NA	NA	NA	NA	NA	18.30	12.24	6.06	4.9
VWMW-2	12/27/1999	13,500	1,330	1,310	490	1,400	<250	NA	18.30	13.92	4.38	2.1/1.9
VWMW-2	01/21/2000	12,100	2,200	1,080	429	1,120	<250	NA	18.30	13.26	5.04	2.8
VWMW-2	03/07/2000	NA	NA	NA	NA	NA	NA	NA	18.28	7.87	10.41	3.7
VWMW-2	04/17/2000	NA	NA	NA	NA	NA	NA	NA	18.28	9.65	8.63	3.7/4.1
VWMW-2	04/18/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	18.28	NA	NA	NA
VWMW-2	09/21/2000	NA	NA	NA	NA	NA	NA	NA	18.28	12.75	5.53	6.2
VWMW-2	10/17/2000	4,070	763	589	214	501	<50.0	NA	18.28	12.21	6.07	0.8/0.7
VWMW-2	01/09/2001	NA	NA	NA	NA	NA	NA	NA	18.28	12.51	5.77	0.7
VWMW-2	04/27/2001	80	5.7	<0.50	2.7	4.9	NA	<0.50	18.28	10.21	8.07	2.3/2.8
VWMW-2	07/03/2001	NA	NA	NA	NA	NA	NA	NA	18.28	11.60	6.68	0.6
VWMW-2	12/06/2001	160	1.7	1.0	1.8	4.6	NA	<5.0	18.28	11.15	7.13	3.7/2.3
VWMW-2	01/23/2002	NA	NA	NA	NA	NA	NA	NA	18.28	9.07	9.21	0.5

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VWMW-2	04/17/2002	<50	2.1	<0.50	<0.50	<0.50	NA	<5.0	18.28	10.11	8.17	4.9/4.4
VWMW-2	07/18/2002	NA	NA	NA	NA	NA	NA	NA	18.28	11.61	6.67	0.9
VWMW-2	11/11/2002	15,000	1,300	1,300	680	1,800	NA	<5.0	18.28	12.63	5.65	0.2/0.2

VWMW-4	03/25/1996	83,000	6,500	7,000	2,000	11,000	<250	NA	18.14	8.45	9.69	NA
VWMW-4 (D)	03/25/1996	84,000	6,400	7,000	2,100	12,000	<250	NA	18.14	8.45	9.69	NA
VWMW-4	06/21/1996	110,000	14,000	15,000	3,700	17,000	1,700	NA	18.14	10.38	7.76	NA
VWMW-4 (D)	06/21/1996	100,000	12,000	12,000	2,900	13,000	<1,000	NA	18.14	10.38	7.76	NA
VWMW-4	09/26/1996	52,000	13,000	2,700	2,100	3,200	<500	NA	18.14	12.43	5.71	NA
VWMW-4	12/19/1996	75,000	15,000	6,600	3,000	7,600	<1,250	NA	18.14	11.87	6.27	NA
VWMW-4	03/25/1997	56,000	4,700	1,500	2,500	6,300	580	NA	18.14	9.60	8.54	2.4
VWMW-4	06/26/1997	NA	NA	NA	NA	NA	NA	NA	18.14	12.36	5.78	NA
VWMW-4	09/26/1997	NA	NA	NA	NA	NA	NA	NA	18.14	12.82	5.32	0.4
VWMW-4	12/05/1997	NA	NA	NA	NA	NA	NA	NA	18.14	12.15	5.99	0.3
VWMW-4	02/19/1998	4,100	320	40	44	520	<50	NA	18.14	5.85	12.29	1.8
VWMW-4 (D)	02/19/98	4,300	340	44	47	540	<50	NA	18.14	5.85	12.29	1.8
VWMW-4	06/08/1998	NA	NA	NA	NA	NA	NA	NA	18.14	5.87	12.27	1.8
VWMW-4	08/25/1998	NA	NA	NA	NA	NA	NA	NA	18.14	10.96	7.18	2.5
VWMW-4	12/28/1998	NA	NA	NA	NA	NA	NA	NA	18.14	11.28	6.86	0.9
VWMW-4	03/26/1999	NA	NA	NA	NA	NA	NA	NA	18.14	8.45	9.69	1.9
VWMW-4	06/30/1999	NA	NA	NA	NA	NA	NA	NA	18.14	9.70	8.44	3.6
VWMW-4	09/30/1999	NA	NA	NA	NA	NA	NA	NA	18.14	11.78	6.36	2.6
VWMW-4	12/27/1999	33,900	3,740	2,000	1,130	5,090	587	NA	18.14	12.63	5.51	0.4/0.2
VWMW-4	01/21/2000	13,900	1,560	568	227	1,990	<500	21.0a	18.14	13.07	5.07	1.0
VWMW-4	03/07/2000	NA	NA	NA	NA	NA	NA	NA	18.13	7.82	10.31	0.9
VWMW-4	04/17/2000	NA	NA	NA	NA	NA	NA	NA	18.13	9.18	8.95	1.4/1.9
VWMW-4	04/18/2000	757	103	8.59	30.8	84.2	<25.0	NA	18.13	NA	NA	NA
VWMW-4	09/21/2000	NA	NA	NA	NA	NA	NA	NA	18.13	12.18	5.95	5.0
VWMW-4	10/17/2000	8,360	2,060	391	468	1,170	147	NA	18.13	12.03	6.10	0.7/0.8

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VWMW-4	01/09/2001	NA	NA	NA	NA	NA	NA	NA	18.13	12.42	5.71	0.9
VWMW-4	04/27/2001	7,100	2,300	50	460	250	NA	<10	18.13	10.13	8.00	1.0/1.4
VWMW-4	07/03/2001	NA	NA	NA	NA	NA	NA	NA	18.13	11.42	6.71	1.2
VWMW-4	12/06/2001	7,700	750	90	300	350	NA	<25	18.13	11.02	7.11	2.5/1.9
VWMW-4	01/23/2002	NA	NA	NA	NA	NA	NA	NA	18.13	8.89	9.24	0.4
VWMW-4	04/17/2002	4,800	760	27	240	150	NA	<25	18.13	9.89	8.24	4.7/5.1
VWMW-4	07/18/2002	NA	NA	NA	NA	NA	NA	NA	18.13	11.37	6.76	0.6
VWMW-4	11/11/2002	14,000	2,800	480	700	1,300	NA	<100	18.13	12.41	5.72	0.3/0.3

VW/AS-1	03/25/1996	NA	NA	NA	NA	NA	NA	NA	18.60	8.98	9.62	NA
VW/AS-1	06/21/1996	NA	NA	NA	NA	NA	NA	NA	18.60	10.95	7.65	NA
VW/AS-1	09/26/1996	NA	NA	NA	NA	NA	NA	NA	18.60	12.98	5.62	NA
VW/AS-1	12/19/1996	NA	NA	NA	NA	NA	NA	NA	18.60	12.67	5.93	NA
VW/AS-1	03/25/1997	NA	NA	NA	NA	NA	NA	NA	18.60	10.12	8.48	NA
VW/AS-1	06/26/1997	NA	NA	NA	NA	NA	NA	NA	18.60	12.34	6.26	NA
VW/AS-1	09/26/1997	NA	NA	NA	NA	NA	NA	NA	18.60	13.40	5.20	NA
VW/AS-1	12/05/1997	NA	NA	NA	NA	NA	NA	NA	18.60	11.96	6.64	5.2
VW/AS-1	02/19/1998	NA	NA	NA	NA	NA	NA	NA	18.60	6.22	12.38	1.3
VW/AS-1	06/08/1998	NA	NA	NA	NA	NA	NA	NA	18.60	6.20	12.40	1.0
VW/AS-1	08/25/1998	NA	NA	NA	NA	NA	NA	NA	18.60	11.59	7.01	1.6
VW/AS-1	12/28/1998	NA	NA	NA	NA	NA	NA	NA	18.60	11.74	6.86	1.3
VW/AS-1	03/26/1999	NA	NA	NA	NA	NA	NA	NA	18.60	9.20	9.40	1.3
VW/AS-1	06/30/1999	NA	NA	NA	NA	NA	NA	NA	18.60	11.08	7.52	2.1
VW/AS-1	09/30/1999	NA	NA	NA	NA	NA	NA	NA	18.60	11.94	6.66	1.9
VW/AS-1	12/27/1999	8,940	2,000	95.7	1,200	570	606	NA	18.60	11.01	7.59	1.6/1.8
VW/AS-1	03/07/2000	NA	NA	NA	NA	NA	NA	NA	18.59	7.35	11.24	NA
VW/AS-1	04/17/2000	NA	NA	NA	NA	NA	NA	NA	18.59	9.08	9.51	1.9/2.0
VW/AS-1	04/18/2000	20,800	6,550	1,220	2,270	1,720	<250	NA	18.59	NA	NA	NA
VW/AS-1	09/21/2000	NA	NA	NA	NA	NA	NA	NA	18.59	11.98	6.61	2.1

WELL CONCENTRATIONS
Former Shell Service Station
1230 14th Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
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VW/AS-1	10/17/2000	38,400	7,240	5,980	1,960	5,730	534	72.4	18.59	12.62	5.97	2.5/1.0
VW/AS-1	01/09/2001	NA	NA	NA	NA	NA	NA	NA	18.59	13.03	5.56	1.9
VW/AS-1	04/27/2001	34,000	8,000	2,100	2,500	2,000	NA	<25	18.59	10.71	7.88	2.9/2.1
VW/AS-1	07/03/2001	NA	NA	NA	NA	NA	NA	NA	18.59	12.03	6.56	2.0
VW/AS-1	12/06/2001	6,000	990	35	820	59	NA	<25	18.59	11.63	6.96	1.2/0.8
VW/AS-1	01/23/2002	NA	NA	NA	NA	NA	NA	NA	18.59	9.34	9.25	0.9
VW/AS-1	04/17/2002	12,000	2,900	57	1,400	98	NA	<200	18.59	10.41	8.18	3.3/2.9
VW/AS-1	07/18/2002	NA	NA	NA	NA	NA	NA	NA	18.59	12.13	6.46	0.3
VW/AS-1	11/11/2002	2,200	340	7.3	250	24	NA	<20	18.59	13.15	5.44	1.2/1.3

VW/AS-3	03/25/1996	NA	NA	NA	NA	NA	NA	NA	18.17	8.50	9.67	NA
VW/AS-3	06/21/1996	NA	NA	NA	NA	NA	NA	NA	18.17	10.42	7.75	NA
VW/AS-3	09/26/1996	NA	NA	NA	NA	NA	NA	NA	18.17	12.49	5.68	NA
VW/AS-3	12/19/1996	NA	NA	NA	NA	NA	NA	NA	18.17	12.28	5.89	NA
VW/AS-3	03/25/1997	NA	NA	NA	NA	NA	NA	NA	18.17	9.61	8.56	NA
VW/AS-3	06/26/1997	NA	NA	NA	NA	NA	NA	NA	18.17	11.80	6.37	NA
VW/AS-3	09/26/1997	NA	NA	NA	NA	NA	NA	NA	18.17	12.89	5.28	NA
VW/AS-3	12/05/1997	NA	NA	NA	NA	NA	NA	NA	18.17	11.38	6.79	1.8
VW/AS-3	02/19/1998	NA	NA	NA	NA	NA	NA	NA	18.17	6.24	11.93	1.3
VW/AS-3	06/08/1998	NA	NA	NA	NA	NA	NA	NA	18.17	6.25	11.92	1.2
VW/AS-3	08/25/1998	NA	NA	NA	NA	NA	NA	NA	18.17	11.43	6.74	1.3
VW/AS-3	12/28/1998	NA	NA	NA	NA	NA	NA	NA	18.17	11.63	6.54	1.7
VW/AS-3	03/26/1999	NA	NA	NA	NA	NA	NA	NA	18.17	8.92	9.25	1.5
VW/AS-3	06/30/1999	NA	NA	NA	NA	NA	NA	NA	18.17	10.71	7.46	2.5
VW/AS-3	09/30/1999	NA	NA	NA	NA	NA	NA	NA	18.17	11.78	6.39	1.5
VW/AS-3	12/27/1999	488	47.9	2.60	16.9	8.50	35.4	NA	18.17	12.57	5.60	1.5/2.1
VW/AS-3	03/07/2000	NA	NA	NA	NA	NA	NA	NA	18.14	4.82	13.32	NA
VW/AS-3	04/17/2000	NA	NA	NA	NA	NA	NA	NA	18.14	8.69	9.45	2.0/2.4
VW/AS-3	04/18/2000	3,110	871	<5.00	141	56.8	78.2	NA	18.14	NA	NA	NA

WELL CONCENTRATIONS
Former Shell Service Station
1230 14th Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
VW/AS-3	09/21/2000	NA	NA	NA	NA	NA	NA	NA	18.14	11.65	6.49	2.5
VW/AS-3	10/17/2000	7,730	2,700	<50.0	542	344	<250	42.1	18.14	12.13	6.01	1.6/1.0
VW/AS-3	01/09/2001	NA	NA	NA	NA	NA	NA	NA	18.14	12.51	5.63	2.2
VW/AS-3	04/27/2001	14,000	3,900	62	690	560	NA	46	18.14	10.20	7.94	2.8/1.6
VW/AS-3	07/03/2001	NA	NA	NA	NA	NA	NA	NA	18.14	11.55	6.59	2.6
VW/AS-3	12/06/2001	5,000	1,200	19	380	320	NA	<50	18.14	11.10	7.04	0.9/1.1
VW/AS-3	01/23/2002	NA	NA	NA	NA	NA	NA	NA	18.14	8.93	9.21	1.1
VW/AS-3	04/17/2002	17,000	5,000	<25	1,100	390	NA	<250	18.14	10.00	8.14	3.2/3.2
VW/AS-3	07/18/2002	NA	NA	NA	NA	NA	NA	NA	18.14	11.49	6.65	0.4
VW/AS-3	11/11/2002	1,700	290	1.5	150	2.8	NA	<10	18.14	12.43	5.71	1.0/1.1

Abbreviations:

TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B; prior to April 27, 2001, analyzed by EPA Method 8015.

BTEX = benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B; prior to April 27, 2001, analyzed by EPA Method 8020.

MTBE = Methyl-tertiary-butyl ether

TOC = Top of Casing Elevation

GW = Groundwater

DO = Dissolved Oxygen

NA = Not applicable

ug/L = Parts per billion

ppm = Parts per million

MSL = Mean sea level

ft = Feet

<n = Below detection limit

D = Duplicate sample

n/n = Pre-purge/Post-purge DO Readings

WELL CONCENTRATIONS
Former Shell Service Station
1230 14th Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
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Notes:

a = Sample was analyzed outside of the EPA recommended holding time.

Site surveyed November 1, 2001 by Virgil Chavez Land Surveying of Vallejo, California.



Report Number : 29715

Date : 11/21/2002

Leon Gearhart
Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112-1105

Subject : 11 Water Samples
Project Name : 1230 14th Street, Oakland
Project Number : 021111-DW-1
P.O. Number : 97088250

Dear Mr. Gearhart,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

A handwritten signature in black ink that reads "Joel Kiff". The signature is written in a cursive style with a large, looped "J" and "K".

Joel Kiff



Report Number : 29715

Date : 11/21/2002

Subject : 11 Water Samples
Project Name : 1230 14th Street, Oakland
Project Number : 021111-DW-1
P.O. Number : 97088250

Case Narrative

Matrix Spike/Matrix Spike Duplicate Results associated with samples VW/AS-1, VW/MW-4, VW/AS-3 for the analyte Benzene were affected by the analyte concentrations already present in the un-spiked sample.

Approved By:  _____
Joel Kiff

2795 2nd St, Suite 300 Davis, CA 95616 916-297-4800



Report Number : 29715

Date : 11/21/2002

Project Name : 1230 14th Street, Oakland

Project Number : 021111-DW-1

Sample : MW-1

Matrix : Water

Lab Number : 29715-01

Sample Date :11/11/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	2600	10	ug/L	EPA 8260B	11/15/2002
Toluene	240	0.50	ug/L	EPA 8260B	11/15/2002
Ethylbenzene	470	10	ug/L	EPA 8260B	11/15/2002
Total Xylenes	640	10	ug/L	EPA 8260B	11/15/2002
Methyl-t-butyl ether (MTBE)	8.5	5.0	ug/L	EPA 8260B	11/15/2002
TPH as Gasoline	12000	1000	ug/L	EPA 8260B	11/15/2002
Toluene - d8 (Surr)	85.5		% Recovery	EPA 8260B	11/15/2002
4-Bromofluorobenzene (Surr)	101		% Recovery	EPA 8260B	11/15/2002

Sample : MW-2

Matrix : Water

Lab Number : 29715-02

Sample Date :11/11/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	11/15/2002
Toluene	< 0.50	0.50	ug/L	EPA 8260B	11/15/2002
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	11/15/2002
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	11/15/2002
Methyl-t-butyl ether (MTBE)	< 5.0	5.0	ug/L	EPA 8260B	11/15/2002
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	11/15/2002
Toluene - d8 (Surr)	103		% Recovery	EPA 8260B	11/15/2002
4-Bromofluorobenzene (Surr)	99.7		% Recovery	EPA 8260B	11/15/2002

Approved By:  Joel Kiff



Report Number : 29715

Date : 11/21/2002

Project Name : 1230 14th Street, Oakland

Project Number : 021111-DW-1

Sample : MW-3

Matrix : Water

Lab Number : 29715-03

Sample Date :11/11/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	11/15/2002
Toluene	< 0.50	0.50	ug/L	EPA 8260B	11/15/2002
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	11/15/2002
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	11/15/2002
Methyl-t-butyl ether (MTBE)	< 5.0	5.0	ug/L	EPA 8260B	11/15/2002
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	11/15/2002
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	11/15/2002
4-Bromofluorobenzene (Surr)	101		% Recovery	EPA 8260B	11/15/2002

Sample : MW-4

Matrix : Water

Lab Number : 29715-04

Sample Date :11/11/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	11/15/2002
Toluene	< 0.50	0.50	ug/L	EPA 8260B	11/15/2002
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	11/15/2002
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	11/15/2002
Methyl-t-butyl ether (MTBE)	< 5.0	5.0	ug/L	EPA 8260B	11/15/2002
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	11/15/2002
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	11/15/2002
4-Bromofluorobenzene (Surr)	99.0		% Recovery	EPA 8260B	11/15/2002

Approved By:  Joel Kiff



Report Number : 29715

Date : 11/21/2002

Project Name : 1230 14th Street, Oakland

Project Number : 021111-DW-1

Sample : MW-5

Matrix : Water

Lab Number : 29715-05

Sample Date :11/11/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	7100	50	ug/L	EPA 8260B	11/17/2002
Toluene	12000	50	ug/L	EPA 8260B	11/17/2002
Ethylbenzene	3000	50	ug/L	EPA 8260B	11/17/2002
Total Xylenes	17000	50	ug/L	EPA 8260B	11/17/2002
Methyl-t-butyl ether (MTBE)	5.1	5.0	ug/L	EPA 8260B	11/15/2002
TPH as Gasoline	100000	5000	ug/L	EPA 8260B	11/17/2002
Toluene - d8 (Surr)	99.6		% Recovery	EPA 8260B	11/17/2002
4-Bromofluorobenzene (Surr)	102		% Recovery	EPA 8260B	11/17/2002

Sample : MW-6

Matrix : Water

Lab Number : 29715-06

Sample Date :11/11/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	55	0.50	ug/L	EPA 8260B	11/15/2002
Toluene	< 0.50	0.50	ug/L	EPA 8260B	11/15/2002
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	11/15/2002
Total Xylenes	2.8	0.50	ug/L	EPA 8260B	11/15/2002
Methyl-t-butyl ether (MTBE)	< 5.0	5.0	ug/L	EPA 8260B	11/15/2002
TPH as Gasoline	580	50	ug/L	EPA 8260B	11/15/2002
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	11/15/2002
4-Bromofluorobenzene (Surr)	99.4		% Recovery	EPA 8260B	11/15/2002

Approved By:  Joel Kiff



Report Number : 29715

Date : 11/21/2002

Project Name : 1230 14th Street, Oakland

Project Number : 021111-DW-1

Sample : MW-7

Matrix : Water

Lab Number : 29715-07

Sample Date : 11/11/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	190	0.50	ug/L	EPA 8260B	11/15/2002
Toluene	< 0.50	0.50	ug/L	EPA 8260B	11/15/2002
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	11/15/2002
Total Xylenes	4.3	0.50	ug/L	EPA 8260B	11/15/2002
Methyl-t-butyl ether (MTBE)	5.2	5.0	ug/L	EPA 8260B	11/15/2002
TPH as Gasoline	3000	50	ug/L	EPA 8260B	11/15/2002
Toluene - d8 (Surr)	94.0		% Recovery	EPA 8260B	11/15/2002
4-Bromofluorobenzene (Surr)	100		% Recovery	EPA 8260B	11/15/2002

Sample : VW/MW-2

Matrix : Water

Lab Number : 29715-08

Sample Date : 11/11/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	1300	5.0	ug/L	EPA 8260B	11/17/2002
Toluene	1300	5.0	ug/L	EPA 8260B	11/17/2002
Ethylbenzene	680	5.0	ug/L	EPA 8260B	11/17/2002
Total Xylenes	1800	5.0	ug/L	EPA 8260B	11/17/2002
Methyl-t-butyl ether (MTBE)	< 5.0	5.0	ug/L	EPA 8260B	11/15/2002
TPH as Gasoline	15000	500	ug/L	EPA 8260B	11/17/2002
Toluene - d8 (Surr)	95.6		% Recovery	EPA 8260B	11/15/2002
4-Bromofluorobenzene (Surr)	102		% Recovery	EPA 8260B	11/15/2002

Approved By:  Joel Kiff



Report Number : 29715

Date : 11/21/2002

Project Name : 1230 14th Street, Oakland

Project Number : 021111-DW-1

Sample : VW/MW-4

Matrix : Water

Lab Number : 29715-09

Sample Date :11/11/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	2800	10	ug/L	EPA 8260B	11/19/2002
Toluene	480	10	ug/L	EPA 8260B	11/19/2002
Ethylbenzene	700	10	ug/L	EPA 8260B	11/19/2002
Total Xylenes	1300	10	ug/L	EPA 8260B	11/19/2002
Methyl-t-butyl ether (MTBE)	< 100	100	ug/L	EPA 8260B	11/19/2002
TPH as Gasoline	14000	1000	ug/L	EPA 8260B	11/19/2002
Toluene - d8 (Surr)	103		% Recovery	EPA 8260B	11/19/2002
4-Bromofluorobenzene (Surr)	97.3		% Recovery	EPA 8260B	11/19/2002

Sample : VW/AS-1

Matrix : Water

Lab Number : 29715-10

Sample Date :11/11/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	340	2.0	ug/L	EPA 8260B	11/19/2002
Toluene	7.3	2.0	ug/L	EPA 8260B	11/19/2002
Ethylbenzene	250	2.0	ug/L	EPA 8260B	11/19/2002
Total Xylenes	24	2.0	ug/L	EPA 8260B	11/19/2002
Methyl-t-butyl ether (MTBE)	< 20	20	ug/L	EPA 8260B	11/19/2002
TPH as Gasoline	2200	200	ug/L	EPA 8260B	11/19/2002
Toluene - d8 (Surr)	103		% Recovery	EPA 8260B	11/19/2002
4-Bromofluorobenzene (Surr)	96.4		% Recovery	EPA 8260B	11/19/2002

Approved By:  Joel Kiff



Report Number : 29715

Date : 11/21/2002

Project Name : 1230 14th Street, Oakland

Project Number : 021111-DW-1

Sample : VW/AS-3

Matrix : Water

Lab Number : 29715-11

Sample Date : 11/11/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	290	2.0	ug/L	EPA 8260B	11/21/2002
Toluene	1.5	1.0	ug/L	EPA 8260B	11/19/2002
Ethylbenzene	150	1.0	ug/L	EPA 8260B	11/19/2002
Total Xylenes	2.8	1.0	ug/L	EPA 8260B	11/19/2002
Methyl-t-butyl ether (MTBE)	< 10	10	ug/L	EPA 8260B	11/19/2002
TPH as Gasoline	1700	100	ug/L	EPA 8260B	11/19/2002
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	11/19/2002
4-Bromofluorobenzene (Surr)	96.5		% Recovery	EPA 8260B	11/19/2002

Approved By:  Joel Kiff

Report Number : 29715

Date : 11/21/2002


QC Report : Method Blank Data

Project Name : 1230 14th Street, Oakland

Project Number : 021111-DW-1

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	11/17/2002
Toluene	< 0.50	0.50	ug/L	EPA 8260B	11/17/2002
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	11/17/2002
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	11/17/2002
Methyl-t-butyl ether (MTBE)	< 5.0	5.0	ug/L	EPA 8260B	11/17/2002
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	11/17/2002
Toluene - d8 (Surr)	98.1		%	EPA 8260B	11/17/2002
4-Bromofluorobenzene (Surr)	106		%	EPA 8260B	11/17/2002
Benzene	< 0.50	0.50	ug/L	EPA 8260B	11/15/2002
Toluene	< 0.50	0.50	ug/L	EPA 8260B	11/15/2002
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	11/15/2002
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	11/15/2002
Methyl-t-butyl ether (MTBE)	< 5.0	5.0	ug/L	EPA 8260B	11/15/2002
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	11/15/2002
Toluene - d8 (Surr)	101		%	EPA 8260B	11/15/2002
4-Bromofluorobenzene (Surr)	100		%	EPA 8260B	11/15/2002
Benzene	< 0.50	0.50	ug/L	EPA 8260B	11/14/2002
Toluene	< 0.50	0.50	ug/L	EPA 8260B	11/14/2002
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	11/14/2002
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	11/14/2002
Methyl-t-butyl ether (MTBE)	< 5.0	5.0	ug/L	EPA 8260B	11/14/2002
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	11/14/2002
Toluene - d8 (Surr)	98.3		%	EPA 8260B	11/14/2002
4-Bromofluorobenzene (Surr)	102		%	EPA 8260B	11/14/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
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Approved By:  Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd St. Suite 300 Davis, CA 95616 530-297-4800

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : 1230 14th Street, Oakland

Project Number : 021111-DW-1

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Benzene	29711-01	100	40.0	39.9	125	125	ug/L	EPA 8260B	11/17/02	60.2	58.8	2.49	70-130	25
Toluene	29711-01	48	40.0	39.9	79.8	79.3	ug/L	EPA 8260B	11/17/02	80.6	79.5	1.36	70-130	25
Tert-Butanol	29711-01	6.3	200	200	207	205	ug/L	EPA 8260B	11/17/02	100	99.6	0.657	70-130	25
Methyl-t-Butyl Ether	29711-01	140	40.0	39.9	175	174	ug/L	EPA 8260B	11/17/02	77.9	77.3	0.764	70-130	25
Benzene	29769-04	<0.50	40.0	40.0	41.1	39.1	ug/L	EPA 8260B	11/15/02	103	97.6	5.09	70-130	25
Toluene	29769-04	<0.50	40.0	40.0	42.0	39.5	ug/L	EPA 8260B	11/15/02	105	98.8	6.01	70-130	25
Tert-Butanol	29769-04	<5.0	200	200	200	191	ug/L	EPA 8260B	11/15/02	99.8	95.4	4.52	70-130	25
Methyl-t-Butyl Ether	29769-04	<0.50	40.0	40.0	39.9	39.0	ug/L	EPA 8260B	11/15/02	99.8	97.4	2.41	70-130	25
Benzene	29745-01	<0.50	40.0	40.0	40.5	43.2	ug/L	EPA 8260B	11/15/02	101	108	6.26	70-130	25
Toluene	29745-01	<0.50	40.0	40.0	37.8	40.8	ug/L	EPA 8260B	11/15/02	94.5	102	7.68	70-130	25
Tert-Butanol	29745-01	<5.0	200	200	196	220	ug/L	EPA 8260B	11/15/02	97.8	110	11.6	70-130	25
Methyl-t-Butyl Ether	29745-01	2.4	40.0	40.0	37.9	41.4	ug/L	EPA 8260B	11/15/02	88.8	97.6	9.42	70-130	25

Approved By:  Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Report Number: 29715

Date: 11/21/2002

QC Report : Laboratory Control Sample (LCS)

Project Name: 1230 14th Street, Oakland

Project Number: 021111-DW-1

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	11/17/02	104	70-130
Toluene	40.0	ug/L	EPA 8260B	11/17/02	99.1	70-130
Tert-Butanol	200	ug/L	EPA 8260B	11/17/02	101	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	11/17/02	102	70-130
Benzene	40.0	ug/L	EPA 8260B	11/15/02	104	70-130
Toluene	40.0	ug/L	EPA 8260B	11/15/02	107	70-130
Tert-Butanol	200	ug/L	EPA 8260B	11/15/02	102	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	11/15/02	100	70-130
Benzene	40.0	ug/L	EPA 8260B	11/14/02	106	70-130
Toluene	40.0	ug/L	EPA 8260B	11/14/02	94.9	70-130
Tert-Butanol	200	ug/L	EPA 8260B	11/14/02	94.0	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	11/14/02	104	70-130

KIFF ANALYTICAL, LLC

Approved By:



Joel Kiff

Lab Identification (if necessary):

Address:

City, State, Zip:

Shell Project Manager to be invoiced:

Karen Petryna

29715

SCIENCE & ENGINEERING
 TECHNICAL SERVICES
 CRMT HOUSTON

INCIDENT NUMBER (S&E ONLY)

9 7 0 8 8 2 5 0

SAP or CRMT NUMBER (TS/CRMT)

DATE: 11-11-02

PAGE: 1 of 2

SAMPLING COMPANY: Blaine Tech Services		LOG CODE: BTSS	SITE ADDRESS (Street and City): 1230 14th Street, Oakland		GLOBAL ID NO.: T0600101691
ADDRESS: 1680 Rogers Avenue, San Jose, CA 95112		EDF DELIVERABLE TO (Responsible Party or Designee): Anni Kremi		PHONE NO.: 510-420-3335	E-MAIL: ShellOaklandEDF@cambria-env.com
PROJECT CONTACT (Hardcopy or PDF Report to): Leon Gearhart		SAMPLER NAME(S) (Print): Dave Walter		CONSULTANT PROJECT NO.: 02111-DW-1	
TELEPHONE: 408-573-0555	FAX: 408-573-7771	E-MAIL: lgearhart@blainetech.com		BTS #	

TURNAROUND TIME (BUSINESS DAYS):
 10 DAYS 5 DAYS 72 HOURS 48 HOURS 24 HOURS LESS THAN 24 HOURS

LA - RWQCB REPORT FORMAT UST AGENCY:

GC/MS MTBE CONFIRMATION: HIGHEST _____ HIGHEST per BORING _____ ALL _____

SPECIAL INSTRUCTIONS OR NOTES: CHECK BOX IF EDD IS NOT NEEDED

REQUESTED ANALYSIS

TPH - Gas, Purgeable	BTEX	MTBE (8021B - 5ppb RL)	MTBE (8260B - 0.5ppb RL)	Oxygenates (6) by (8260B)	Ethanol (8260B)	Methanol	1,2-DCA (8260B)	EDB (8260B)	TPH - Diesel, Extractable (8015m)
X	X	X							
X	X	X							
X	X	X							
X	X	X							
X	X	X							
X	X	X							
X	X	X							
X	X	X							
X	X	X							
X	X	X							

FIELD NOTES:
 Container/Preservative or PID Readings or Laboratory Notes

TEMPERATURE ON RECEIPT C°

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	NO. OF CONT.
		DATE	TIME		
	MW-1	11-11	11:57	W	3
	MW-2		11:36		
	MW-3		10:56		
	MW-4		10:41		
	MW-5		13:31		
	MW-6		10:13		
	MW-7		9:54		
	VW/mw-2		11:18		
	VW/mw-4		12:19		
	MW/AS-1		12:41		

Relinquished by: (Signature) <i>David C. Stahl</i>	Received by: (Signature) <i>John Little</i>	Date: 11/20/02	Time: 1054
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

DISTRIBUTION: White with final report, Green to File, Yellow and Pink to Client.

10/18/00 Revision

C&C Graphic (714) 898-9702

SHILL CHAIN OF CUSTODY RECORD

Lab Identification (if necessary):

Address:

City, State, Zip:

Shell Project Manager to be invoiced:

SCIENCE & ENGINEERING
 TECHNICAL SERVICES
 CRMT-HOUSTON

Karen Petryna

29715

INCIDENT NUMBER (S&E ONLY)

9 7 0 8 8 2 5 0

SAP or CRMT NUMBER (TS/CRMT)

DATE: 11-11-02

PAGE: 2 of 2

SAMPLING COMPANY: Blaine Tech Services		LOG CODE: BTSS	SITE ADDRESS (Street and City): 1230 14th Street, Oakland		GLOBAL ID NO.: T0600101691
ADDRESS: 1680 Rogers Avenue, San Jose, CA 95112			EDF DELIVERABLE TO (Responsible Party or Designee): Anni Krem!	PHONE NO.: 510-420-3335	E-MAIL: ShellOaklandEDF@cambria-env.com
PROJECT CONTACT (Hardcopy or PDF Report to): Leon Gearhart			CONSULTANT PROJECT NO.: 021111-DW-2		BTS #
TELEPHONE: 408-573-0555	FAX: 408-573-7771	E-MAIL: lgearhart@blainetech.com	SAMPLER NAME(S) (Print): Dave Walter		

TURNAROUND TIME (BUSINESS DAYS):
 10 DAYS 5 DAYS 72 HOURS 48 HOURS 24 HOURS LESS THAN 24 HOURS

LA - RWQCB REPORT FORMAT UST AGENCY: _____

GC/MS MTBE CONFIRMATION: HIGHEST _____ HIGHEST per BORING _____ ALL _____

SPECIAL INSTRUCTIONS OR NOTES: _____ CHECK BOX IF EDD IS NOT NEEDED

REQUESTED ANALYSIS												FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes	
TPH - Gas, Purgeable	BTEX	MTBE (8021B - 5ppb RL)	MTBE (8260B - 0.5ppb RL)	Oxygenates (5) by (8260B)	Ethanol (8260B)	Methanol	1,2-DCA (8260B)	EDB (8260B)	TPH - Diesel, Extractable (8015m)				TEMPERATURE ON RECEIPT C°

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	NO. OF CONT.	TPH - Gas, Purgeable	BTEX	MTBE (8021B - 5ppb RL)	MTBE (8260B - 0.5ppb RL)	Oxygenates (5) by (8260B)	Ethanol (8260B)	Methanol	1,2-DCA (8260B)	EDB (8260B)	TPH - Diesel, Extractable (8015m)			TEMPERATURE ON RECEIPT C°	
		DATE	TIME																
	MW/AS-3	11-11	13:11	W	3	X	X	X											LI

Relinquished by: (Signature) <i>David C. Walter</i>	Received by: (Signature) _____	Date:	Time:
Relinquished by: (Signature) _____	Received by: (Signature) _____	Date:	Time:
Relinquished by: (Signature) _____	Received by: (Signature) <i>John Entler / Kiff Analytical</i>	Date: 11/20/02	Time: 1054

SHELL WELL MONITORING DATA SHEET

BTS #: 02111-DW-1	Site: 1230 14th St Oakland
Sampler: Dave Walter	Date: 11-11-02
Well I.D.: MW-1	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth (TD): 20.87	Depth to Water (DTW): 13.00
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 14.57	

Purge Method: Bailer Water: Peristaltic Sampling Method: Bailer
 Disposable Bailer Extraction Pump Disposable Bailer
 Middleburg Other _____ Extraction Port
 Electric Submersible Other _____ Dedicated Tubing

$1.3 \text{ (Gals.)} \times 3 = 3.9 \text{ Gals.}$	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														
I Case Volume Specified Volumes Calculated Volume																	

Time	Temp (°F)	pH	Cond. (mS or μ S)	Turbidity (NTUs)	Gals. Removed	Observations
11:48	66.3	6.9	1397	>200	1.3	gray/odor
11:50	65.9	6.8	1472	>200	2.6	
11:52	65.4	6.9	1491	>200	3.9	

Did well dewater? Yes No Gallons actually evacuated: 3.9

Sampling Date: 11-11-02 Sampling Time: 11:57 Depth to Water: 13.33

Sample I.D.: MW-1 Laboratory: Kiff SPL Other _____

Analyzed for: TPH-G BTEX MTBE TPH-D Other: _____

EB I.D. (if applicable): _____ @ _____ Time Duplicate I.D. (if applicable): _____

Analyzed for: TPH-G BTEX MTBE TPH-D Other: _____

D.O. (if req'd): <u>Pre-purge</u>	0.2	mB/L	Post-purge:	0.2	mB/L
O.R.P. (if req'd): Pre-purge:		mV	Post-purge:		mV

SHELL WELL MONITORING DATA SHEET

BTS #: 02111-DW-1	Site: 1230 14th St Oakland
Sampler: Dave Walter	Date: 11-11-02
Well I.D.: MW-3	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth (TD): 19.34	Depth to Water (DTW): 12.44
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 13.82	

Purge Method: <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Disposable Bailer <input type="checkbox"/> Middleburg <input type="checkbox"/> Electric Submersible	Water: <input type="checkbox"/> Peristaltic <input type="checkbox"/> Extraction Pump <input type="checkbox"/> Other _____	Sampling Method: <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Disposable Bailer <input type="checkbox"/> Extraction Port <input type="checkbox"/> Dedicated Tubing Other: _____
--	---	--

1.1 (Gals.) X <u>3</u> = <u>3.3</u> Gals. Case Volume Specified Volumes Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
10:44	69.6	6.4	885	7200	1.1	Brown
10:51	69.4	6.4	931	7200	2.2	
10:58	68.2	6.5	928	7200	3.3	

Did well dewater? Yes No Gallons actually evacuated: 3.3

Sampling Date: 11-11-02 Sampling Time: 10:58 Depth to Water: 13.05

Sample I.D.: MW-3 Laboratory: Kiff SPL Other _____

Analyzed for: TPH-G BTEX MTBE TPH-D Other: _____

EB I.D. (if applicable): _____ @ _____ Duplicate I.D. (if applicable): _____

Analyzed for: TPH-G BTEX MTBE TPH-D Other: _____

D.O. (if req'd): Pre-purge: 0.3 mg/L Post-purge: 0.4 mg/L

O.R.P. (if req'd): Pre-purge: _____ mV Post-purge: _____ mV

SHELL WELL MONITORING DATA SHEET

BTS #: 02111-DW-1	Site: 1230 14th St Oakland
Sampler: Dave Walter	Date: 11-11-02
Well I.D.: MW-4	Well Diameter: (2) 3 4 6 8
Total Well Depth (TD): 19.80	Depth to Water (DTW): 12.36
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 13.54	

Purge Method: Bailer Water Sampling Method: Bailer
 Disposable Bailer Peristaltic Disposable Bailer
 Middleburg Extraction Pump Extraction Port
 Electric Submersible Other _____ Dedicated Tubing

Other: _____

1.2 (Gals.) X	3	= 3.6 Gals.
I Case Volume	Specified Volumes	Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
10:31	69.7	6.7	538	7200	1.2	Brown
10:33	70.5	6.7	371	7200	2.4	
10:35	70.4	6.7	360	7200	3.6	

Did well dewater? Yes No Gallons actually evacuated: 3.6

Sampling Date: 11-11-02 Sampling Time: 10:40 Depth to Water: 12.88

Sample I.D.: MW-4 Laboratory: (Kiff) SPL Other _____

Analyzed for: (TPH-G BTEX MTBE) TPH-D Other:

EB I.D. (if applicable): @ _____ Duplicate I.D. (if applicable):

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

D.O. (if req'd): (Pre-purge): 3.6 mg/L (Post-purge): 2.0 mg/L

O.R.P. (if req'd): Pre-purge: _____ mV Post-purge: _____ mV

SHELL WELL MONITORING DATA SHEET

BTS #: 02111-DW-1	Site: 1230 14th St Oakland
Sampler: Dave Walter	Date: 11-11-02
Well I.D.: MW-5	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 19.63	Depth to Water (DTW): 12.86
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method: Bailor Disposable Bailor Middleburg Electric Submersible

Watera Peristaltic Extraction Pump Other _____

Sampling Method: Bailor Disposable Bailor Extraction Port Dedicated Tubing

Other: _____

$4.4 \text{ (Gals.)} \times 3 = 13.2 \text{ Gals.}$ <p>1 Case Volume Specified Volumes Calculated Volume</p>	<table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
13:18	66.0	6.8	1363	20	5	odor / sheen
13:22	66.0	6.8	1404	42	10	
13:26	65.3	6.9	1418	53	15	
* obstruction in well @ 13'. Could not get 3" ES by it. Had to use Middleburg.						

Did well dewater? Yes No Gallons actually evacuated: 15

Sampling Date: 11-11-02 Sampling Time: 13:31 Depth to Water: 12.98

Sample I.D.: MW-5 Laboratory: Kiff SPL Other _____

Analyzed for: TPH-G BTEX MTBE TPH-D Other: _____

EB I.D. (if applicable): @ _____ Duplicate I.D. (if applicable): _____

Analyzed for: TPH-G BTEX MTBE TPH-D Other: _____

D.O. (if req'd): Pre-purge: 1.2 mg/L Post-purge: 1.4 mg/L

O.R.P. (if req'd): Pre-purge: _____ mV Post-purge: _____ mV

SHELL WELL MONITORING DATA SHEET

BTS #: 02111-DW-1	Site: 1230 14th St Oakland
Sampler: Dave Walter	Date: 11-11-02
Well I.D.: MW-6	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 14.62	Depth to Water (DTW): 13.24
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 14.51	

Purge Method: Bailor Waterra Sampling Method: Bailor
 Disposable Bailor Peristaltic Disposable Bailor
 Middleburg Extraction Pump Extraction Port
 Electric Submersible Other _____ Dedicated Tubing

4.1 (Gals.) X 3 = 12.3 Gals. 1 Case Volume Specified Volumes Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														

Time	Temp (°F)	pH	Cond. (mS or <u>µS</u>)	Turbidity (NTUs)	Gals. Removed	Observations
10:04	64.0	6.7	979	111	5	
10:05	64.6	6.7	966	111	10	
10:06	64.7	6.7	996	7200	15	

Did well dewater? Yes No Gallons actually evacuated: 15

Sampling Date: 11-11-02 Sampling Time: 10:13 Depth to Water: 14.51

Sample I.D.: MW-6 Laboratory: Kiff SPL Other _____

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

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

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

D.O. (if req'd): Pre-purge: 0.3 mg/L Post-purge: 0.6 mg/L

O.R.P. (if req'd): Pre-purge: _____ mV Post-purge: _____ mV

SHELL WELL MONITORING DATA SHEET

BTS #: 02111-DW-1	Site: 1230 14th St Oakland
Sampler: Dave Walter	Date: 11-11-02
Well I.D.: MW-7	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 19.70	Depth to Water (DTW): 13.69
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 14.89	

Purge Method: Bailer Waterra Sampling Method: Bailer
 Disposable Bailer Peristaltic Disposable Bailer
 Middleburg Extraction Pump Extraction Port
 Electric Submersible Other _____ Dedicated Tubing
 Other: _____

$3.9 \text{ (Gals.)} \times 3 = 11.7 \text{ Gals.}$ 1 Case Volume Specified Volumes Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
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2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														

Time	Temp (°F)	pH	Cond. (mS or μ S)	Turbidity (NTUs)	Gals. Removed	Observations
9:45	63.2	6.6	1003	35	4	
9:46	64.3	6.6	945	123	8	
9:47	64.6	6.6	945	180	17	

Did well dewater? Yes No Gallons actually evacuated: 17

Sampling Date: 11-11-02 Sampling Time: 9:54 Depth to Water: 14.88

Sample I.D.: MW-7 Laboratory: KiFF SPL Other _____

Analyzed for: TPH-G BTEX MTBE TPH-D Other: _____

EB I.D. (if applicable): _____ @ _____ Time Duplicate I.D. (if applicable): _____

Analyzed for: TPH-G BTEX MTBE TPH-D Other: _____

D.O. (if req'd):	<u>Pre-purge:</u>	<u>0.4</u> mg/L	<u>Post-purge:</u>	<u>0.3</u> mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

SHELL WELL MONITORING DATA SHEET

BTS #: 02111-DW-1	Site: 1230 14th St Oakland
Sampler: Dave Walter	Date: 11-11-02
Well I.D.: VW/AS-1	Well Diameter: 2 3 4 6 8 <u>1"</u>
Total Well Depth (TD): 19.51	Depth to Water (DTW): 13.15
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 14.42	

Purge Method: Bailer Disposable Bailer Middleburg Electric Submersible <i>X-pin bailer</i>	Waters Peristaltic Extraction Pump Other _____	Sampling Method: Bailer Disposable Bailer Extraction Port Dedicated Tubing <i>X-Other: pin bailer</i>
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$.2 \text{ (Gals.)} \times 3 = 0.6 \text{ Gals.}$ Case Volume Specified Volumes Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														

Time	Temp (°F)	pH	Cond. (mS or μS)	Turbidity (NTUs)	Gals. Removed	Observations
12:34	68.3	6.9	1175	> 200	.2	<i>gray/odor</i>
12:35	68.4	6.9	1178	> 200	.4	
12:36	68.0	6.9	1189	> 200	.6	

Did well dewater? Yes <input type="radio"/> No <input checked="" type="radio"/>	Gallons actually evacuated: 6	
Sampling Date: 11-11-02	Sampling Time: 12:41	Depth to Water: 13.29
Sample I.D.: VW/AS-1	Laboratory: <u>Kiff</u> SPL Other _____	
Analyzed for: <u>TPH-G BTEX MTBE</u> TPH-D Other:		
EB I.D. (if applicable): @ _____	Duplicate I.D. (if applicable): _____	
Analyzed for: TPH-G BTEX MTBE TPH-D Other:		
D.O. (if req'd): <u>Pre-purge</u> 1.2 mg/L	Post-purge: 1.3 mg/L	
O.R.P. (if req'd): Pre-purge: _____ mV	Post-purge: _____ mV	

SHELL WELL MONITORING DATA SHEET

BTS #: 02111-DW-1	Site: 1230 14th St Oakland
Sampler: Dave Walter	Date: 11-11-02
Well I.D.: VW/mw-2	Well Diameter: <input checked="" type="radio"/> 2 3 4 6 8
Total Well Depth (TD): 20.00	Depth to Water (DTW): 12.63
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <input checked="" type="radio"/> PVC Grade	D.O. Meter (if req'd): <input checked="" type="radio"/> YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 14.14	

Purge Method: Bailor Waterra Sampling Method: Bailor
 Disposable Bailer Peristaltic Disposable Bailer
 Middleburg Extraction Pump Extraction Port
 Electric Submersible Other _____ Dedicated Tubing
 Other: _____

$1.2 \text{ (Gals.)} \times 3 = 3.6 \text{ Gals.}$ 1 Case Volume Specified Volumes Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														

Time	Temp (°F)	pH	Cond. (mS or μS)	Turbidity (NTUs)	Gals. Removed	Observations
11:09	67.1	6.8	926	7200	1.2	color/gray
11:11	67.3	6.8	985	7200	2.4	
11:13	67.0	6.9	985	7200	3.6	

Did well dewater? Yes No Gallons actually evacuated: 3.6

Sampling Date: 11-11-02 Sampling Time: 11:18 Depth to Water: 13.39

Sample I.D.: VW/mw-2 Laboratory: Kiff SPL Other _____

Analyzed for: TPH-G BTEX MTBE TPH-D Other: _____

EB I.D. (if applicable): _____ @ _____ Time Duplicate I.D. (if applicable): _____

Analyzed for: TPH-G BTEX MTBE TPH-D Other: _____

D.O. (if req'd): <input checked="" type="radio"/> Pre-purge: 0.2 mg/L	Post-purge: 0.2 mg/L
O.R.P. (if req'd): Pre-purge: _____ mV	Post-purge: _____ mV

SHELL WELL MONITORING DATA SHEET

BTS #: 02111-DW-1	Site: 1230 14th St Oakland
Sampler: Dave Walker	Date: 11-11-02
Well I.D.: VW/AS-3	Well Diameter: 2 3 4 6 8 <u>12</u>
Total Well Depth (TD): 19.60	Depth to Water (DTW): 12.43
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSL</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 13.86	

Purge Method: Bailer Waterra Sampling Method: Bailer
 Disposable Bailer Peristaltic Disposable Bailer
 Middleburg Extraction Pump Extraction Port
 Electric Submersible Other _____ Dedicated Tubing
X pin bailer Other: *X pin bailer*

<u>0.3</u> (Gals.) X <u>3</u> = <u>0.9</u> Gals.		
I Case Volume	Specified Volumes	Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Time	Temp (°F)	pH	Cond. (mS or <u>µS</u>)	Turbidity (NTUs)	Gals. Removed	Observations
12:54	67.6	6.8	1041	42	0.3	odor
12:55	67.3	6.8	1096	27	0.6	
12:56	67.1	6.8	1119	31	0.9	

Did well dewater? Yes No Gallons actually evacuated: 0.9

Sampling Date: 11-11-02 Sampling Time: 13:01 Depth to Water: 12.90

Sample I.D.: VW/AS-3 Laboratory: Kiff SPL Other _____

Analyzed for: TPH-G BTEX MTBE TPH-D Other: _____

EB I.D. (if applicable): _____ @ _____ Duplicate I.D. (if applicable): _____

Analyzed for: TPH-G BTEX MTBE TPH-D Other: _____

D.O. (if req'd): Pre-purge: 1.0 mg/L Post-purge: 1.1 mg/L

O.R.P. (if req'd): Pre-purge: _____ mV Post-purge: _____ mV

SHELL WELL MONITORING DATA SHEET

BTS #: 02111-DW-1	Site: 1230 14th St Oakland
Sampler: Dave Walter	Date: 11-11-02
Well I.D.: VW/mw-4	Well Diameter: ② 3 4 6 8
Total Well Depth (TD): 18.54	Depth to Water (DTW): 12.41
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 13.63	

Purge Method: Bailer Water: Peristaltic Sampling Method: Bailer
 Disposable Bailer Extraction Pump Disposable Bailer
 Middleburg Other _____ Extraction Port
 Electric Submersible Other _____ Dedicated Tubing

$\frac{1.0 \text{ (Gals.)} \times 3}{\text{Specified Volumes}} = \frac{3.0}{\text{Calculated Volume}} \text{ Gals.}$	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														

Time	Temp (°F)	pH	Cond. (mS or μS)	Turbidity (NTUs)	Gals. Removed	Observations
12:10	68.5	6.8	1176	>200	1.0	gray color
12:12	68.8	6.8	1192	>200	2.0	
12:14	69.2	6.8	1199	>200	3.0	

Did well dewater? Yes No Gallons actually evacuated: 3

Sampling Date: 11-11-02 Sampling Time: 12:14 Depth to Water: 13.61

Sample I.D.: VW/mw-4 Laboratory: KIF SPL Other _____

Analyzed for: TPH-G BTEX MTBE TPH-D Other: _____

EB I.D. (if applicable): _____ @ _____ Time Duplicate I.D. (if applicable): _____

Analyzed for: TPH-G BTEX MTBE TPH-D Other: _____

D.O. (if req'd):	Pre-purge:	0.3 mg/L	Post-purge:	0.3 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV