Shell Oil Products US

September 9, 2003

R0223

Alameda County
SEP 15 2003
Environmental Health

Amir K. Gholami
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: **Shell-branded Service Station**
540 Hegenberger Road
Oakland, California

Dear Mr. Gholami:

Attached for your review and comment is a copy of the *Second Quarter 2003 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

P.O. Box 7869 Burbank, CA 91510-7869 Phone (559) 645-9306 Facsimile (559) 645-5643

CAMBRIA

September 9, 2003

Amir K. Gholami, REHS
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: **Second Quarter 2003 Monitoring Report**
Shell-branded Service Station
540 Hegenberger Road
Oakland, California
Incident #98995752
Cambria Project #245-0414-002

Dear Mr. Gholami:

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

SECOND QUARTER 2003 ACTIVITIES

Groundwater Monitoring: Blaine Tech Services, Inc. (Blaine) of San Jose, California gauged water levels, sampled the monitoring wells, calculated groundwater elevations, and compiled the analytical data. The adjacent Arco station located at 566 Hegenberger Road was sampled concurrently. Cambria prepared a vicinity map, which includes previously submitted well survey information (Figure 1) and a groundwater elevation contour map (Figure 2). Data from the Arco site is presented on Figure 2. However, water level elevation data for the Arco site is anomalous due to their apparently anomalous wellhead elevations, and was not used in contouring.

Interim Remedial Action: From July 1999 through June 2000, groundwater extraction (GWE) was performed at the site to remove dissolved-phase hydrocarbons and methyl tert-butyl ether (MTBE) from beneath the site. From June through December 2000, dual-phase vacuum extraction (DVE) was conducted to enhance GWE and to extract vapor-phase hydrocarbon and MTBE from the soil as well. DVE was discontinued after the December 2000 event, and monthly

Cambria Environmental Technology, Inc.

5900 Hollis Street
Suite A
Emeryville, CA 94608
Tel (510) 420-0700
Fax (510) 420-9170

DVE events were resumed in May 2001. Due to low vapor mass-removal rates, DVE was discontinued in October 2001, and monthly GWE was re-initiated. Wells MW-1 and MW-3 and tank backfill well BW-D were used for extraction until April 2002, when extraction from the tank backfill was switched from well BW-D to BW-B due to higher historic MTBE concentrations observed in this well. A total of 13.7 lbs. of MTBE was removed from the subsurface during DVE and GWE events. Monthly GWE events were discontinued in March 2003 when construction of a fixed GWE system was initiated.

GWE System Installation: Design and installation of the GWE system described in our *Interim Remedial Work Plan* dated February 13, 2003 was completed. System operation began on April 28, 2003. Discharge authorization was received from East Bay Municipal Utility District (EBMUD) in a permit dated March 26, 2003.

Monitoring wells MW-1, MW-3, and MW-5, and tank backfill well BW-B are used as extraction wells. System analytical data are summarized in Table 1. To assess system production, groundwater level measurements and flow meter readings have been recorded at various times of operation. Table 2 summarizes the field data and system operation and calculates mass removal. Based on the field data, the GWE system operated at average flow rates ranging from approximately 0.4 to 1.2 gallons per minute.

Through August 5, 2003, a total of 97,696 gallons of groundwater have been extracted. A total of 13.2 pounds of MTBE has been recovered. Mass removal data are presented in Table 2.

ANTICIPATED THIRD QUARTER 2003 ACTIVITIES

Groundwater Monitoring: Blaine will gauge water levels, sample the monitoring wells using the non-purging method, and tabulate the data. In addition, Blaine will sample tank backfill well BW-D. The sampling event will take place concurrently with sampling at the Arco station located north of the site at 566 Hegenberger Road. Arco and Shell will exchange water level and analytical data on these events. Cambria has notified Arco's consultant of the apparently anomalous wellhead elevation data, and will use this data in preparing groundwater contours if it is corrected. Cambria will prepare a report documenting those activities.

GWE System: We will operate the system under the conditions of the EBMUD discharge permit.

CLOSING

We appreciate the opportunity to work with you on this project. Please call Diane Lundquist at (510) 420-3334 if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc

Diane Lundquist, P.E.
Principal Engineer

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

Tables: 1 - Groundwater Extraction – System Analytical Data
2 - Groundwater Extraction – Operation and Mass Removal Data

Attachments: A - Blaine Groundwater Monitoring Report and Field Notes
B - Arco Groundwater Data

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

G:\Oakland 540 Hegenberger\Qm\2q03\2q03qm.doc

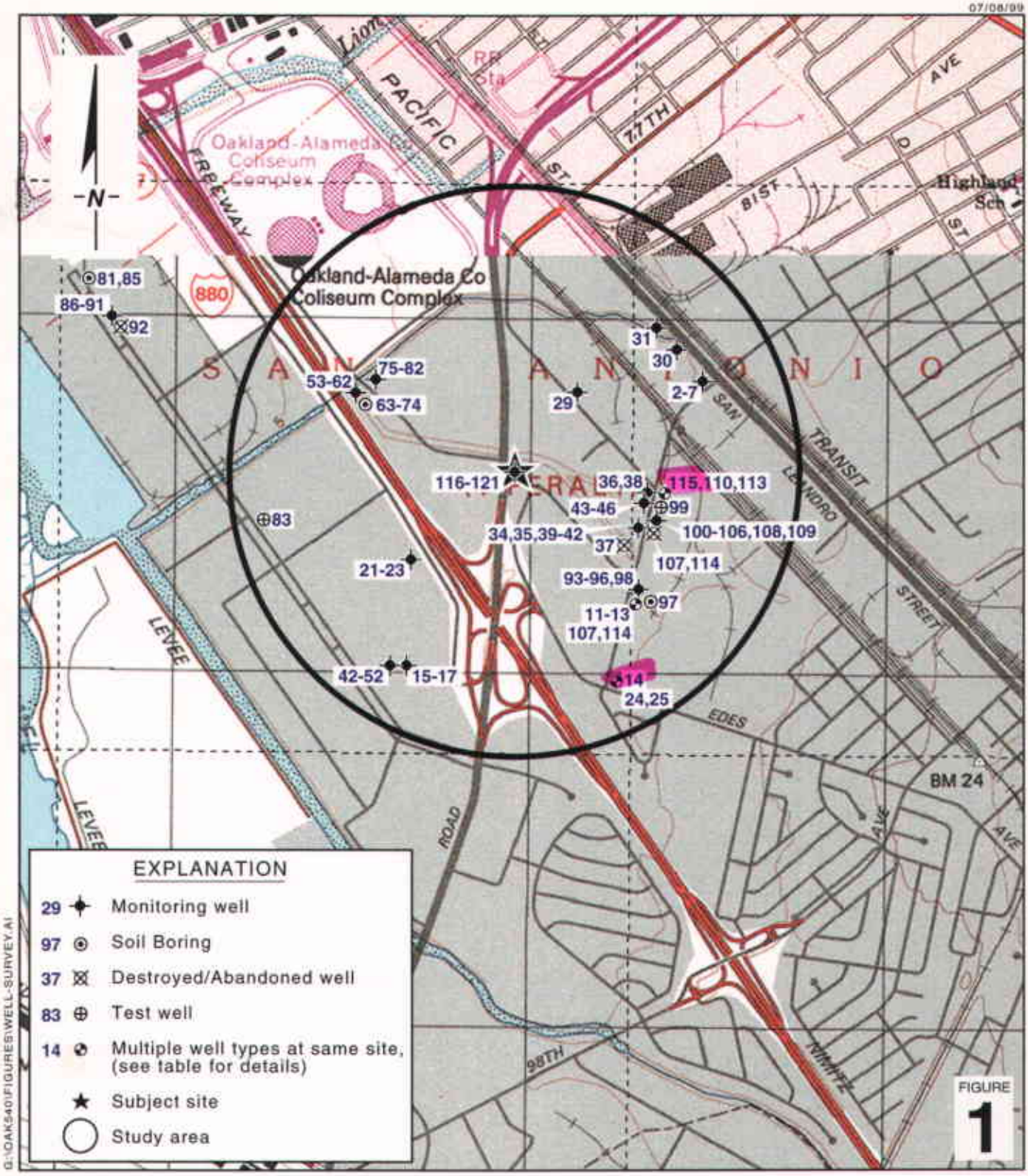


FIGURE 1

0 1/8 1/4 1/2 1 MILES

SCALE 1:1/4

Shell-branded Service Station
540 Hegenberger Road
Oakland, California
Incident #98995752

CAMBRIA

Area Well Survey

(1/2-Mile Radius)

09/09/03

Groundwater Elevation Contour Map

June 23, 2003

Shell Groundwater Gradient Direction
August 1998 through March 2003
(20 events)

N E S W

EXPLANATION

- MW-2 — Shell monitoring well
- BW-A — Tank backfill well
- MW-1 — Well used for groundwater extraction
- MW-1 — ARCO monitoring well, survey data not referenced to mean sea level (msl), not used for contouring
- RW-1 — ARCO recovery well
- SB-1 — Soil boring location (March 1998)
- SB-D — Soil boring location (July 1998)
- SB-E — Soil boring location (August 2000)
- C-1 — Former canal sampling location
- FH — Fire hydrant
- FL = 5.0' — Flowline elevation (msl)
- Sanitary sewer main (SS)
- Water line (W)
- Telephone (T)
- Storm drain (SD)
- Flow direction
- NS — Not surveyed
- Groundwater flow direction
- xx.xx — Groundwater elevation contour, in feet above msl, dashed where inferred

Well
ELEV
Benzene
MTBE

- Well designation
- Groundwater elevation, in feet above msl
- Benzene and MTBE concentrations are in parts per billion and are analyzed by EPA Method 8260.

G:\OAKLAND\540HEGENBERGER\FIGURES\2QM03-MP.DWG

approximate ARCO property line

MW-7 NS <0.50 14
MW-3 96.93 <0.50 5.2
RW-1 NS <0.50 <0.50
MW-6 98.92 <0.50 <0.50
MW-2 (destroyed 12/92)
MW-5 98.47 <0.50 <0.50
MW-1 98.49 <5.0 260
MW-4 98.14 <0.50 <0.50
MW-2 0.47 <0.50 44
BW-A NS <10 <100
BW-D NS <10 <100
BW-B NS <0.50 43
BW-C NS <10 170
MW-3 -4.35 <50 8,100
MW-5 -6.67 <10 1,700
MW-1 1.50 <100 35,000
MW-4 1.70 <0.50 <5.0

canopy, dispenser islands, USTs, Former W/O UST, ARCO Service Station #4494, 566 Hegenberger Road, AM/PM Mini-Mart, Burger King, Laborers' International Union, Days Inn, Jack in the Box, Shell-branded Service Station, 540 Hegenberger, Remediation piping, Remediation compound, carwash, dispensers, building, storage, PG&E Vault, SS cleanout, planter, sidewalk, driveway, canal, culvert, ARCO property line

HEGENBERGER RD
EDES AVE
ENTERPRISE WAY

SD-1 SD-2 SB-1 SB-2 SB-3 SB-4 SB-5 SB-D SB-E SB-F SB-G

FL = -2.0' FL = -0.83' FL = -0.45' FL = 6.0' FL = 0.14' FL = -1.80' FL = 4.81' FL = -1.0' FL = -0.8' FL = 5.0'

72" SD, 15" SD, 12" W, 8" SS, 10" SS, 2" SS, 16" W, 8" W (abandoned), W, SD, FH

-1.00 -3.00 -5.00

0 20 40 80
Scale (ft)

FIGURE 2

Shell-branded Service Station
540 Hegenberger Road
Oakland, California
Incident #98995752

CAMBRIA

Table 1: **Groundwater Extraction - System Analytical Data** - Shell-branded Service Station, Incident #98995752, 540 Hegenberger, Oakland, California

Sample Date (mm/dd/yyyy)	Influent			Midfluent 1			Midfluent 2			Effluent		
	TPHg Conc. (ppb)	Benzene Conc. (ppb)	MTBE Conc (ppb)	TPHg Conc. (ppb)	Benzene Conc (ppb)	MTBE Conc. (ppb)	TPHg Conc. (ppb)	Benzene Conc (ppb)	MTBE Conc. (ppb)	TPHg Conc. (ppb)	Benzene Conc. (ppb)	MTBE Conc (ppb)
04/28/2003	<1,000	<10	2,700	<50	<0.50	<0.50	<50	<0.50	<0.50	<50	<0.50	<0.50
05/12/2003	<10,000	<100	21,000	**51**	<0.50	<0.50	**140**	<0.50	<0.50	**99**	<0.50	<0.50
05/27/2003	<10,000	<100	29,000	<50	<0.50	<0.50	<50	<0.50	<0.50	<50	<0.50	<0.50
06/09/2003	<25,000	<250	20,000	<50	<0.50	<0.50	<50	<0.50	<0.50	<50	<0.50	<0.50
06/23/2003	<500	<5.0	1,300	<50	<0.50	<0.50	<50	<0.50	<0.50	<50	<0.50	<0.50
07/08/2003	<1,000	<10	2,000	<50	<0.50	<0.50	<50	<0.50	<0.50	<50	<0.50	<0.50
07/25/2003	<500	<50	16,000	<50	<0.50	<0.50	<50	<0.50	<0.50	<50	<0.50	<0.50
08/05/2003	<5,000	<50	11,000	<50	<0.50	<5.0	<50	<0.50	<5.0	<50	<0.50	<5.0

Abbreviations & Notes:

TPHg = Total purgeable hydrocarbons as gasoline
MTBE = Methyl tert-butyl ether
Conc. = Concentration
ppb = parts per billion, equivalent to µg/l
TPHg, benzene, and MTBE analyzed by EPA Method 8260B

Table 2: Groundwater Extraction - Operation and Mass Removal Data - Shell-branded Service Station, Incident #98995752, 540 Hegenberger Road , Oakland, California

			Period			TPHg			Benzene			MTBE		
Site Visit (mm/dd/yy)	Hour Meter (hours)	Flow Meter Reading (gal)	Period Volume (gal)	Operational Flow Rate (gpm)	Cumulative Volume (gal)	TPHg Conc. (ppb)	Period Removal (pounds)	Cumulative Removal (pounds)	Benzene Conc. (ppb)	Period Removal (pounds)	Cumulative Removal (pounds)	MTBE Conc. (ppb)	Period Removal (pounds)	Cumulative Removal (pounds)
04/28/2003	3.3	840	0	0.00	0	<1,000	0.000	0.000	<10	0.000	0.000	2,700	0.000	0.000
05/02/2003	101.3	6,680	5,840	1.0	5,840		0.024	0.024		0.000	0.000		0.132	0.132
05/12/2003	341.2	23,885	17,205	1.2	23,045	<10,000	0.718	0.742	<100	0.007	0.007	21,000	3.015	3.146
05/27/2003	699.9	45,085	21,200	1.0	44,245	<10,000	0.885	1.627	<100	0.009	0.016	29,000	5.130	8.277
06/09/2003	1011.8	58,453	13,368	0.7	57,613	<25,000	1.394	3.021	<250	0.014	0.030	20,000	2.231	10.507
06/23/2003	1347.2	67,082	8,629	0.4	66,242	<500	0.018	3.039	<5.0	0.000	0.030	1,300	0.094	10.601
07/08/2003	1706.9	80,092	13,010	0.6	79,252	<1,000	0.054	3.093	<10	0.001	0.031	2,000	0.217	10.818
07/25/2003	2113.6	97,580	17,488	0.7	96,740	<500	0.036	3.130	<50	0.004	0.035	16,000	2.335	13.153
08/05/2003	2136.0	98,536	956	0.7	97,696	<5,000	0.002	3.132	<50	0.000	0.035	11,000	0.088	13.241
		Total Extracted Volume=		**97,696**		**Total Pounds Removed:**		**3.13**	**Total Pounds Removed:**		**0.035**	**Total Pounds Removed:**		**13.2**
		Average Period Operational Flow Rate=		**0.8**		**Total Gallons Removed:**		**0.51**	**Total Gallons Removed:**		**0.006**	**Total Gallons Removed:**		**2.13**

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 ($g/10^6 \mu g$) x (pound/453.6g) x (3.785 L/gal)
When constituents are not detected, the concentration is assumed to be equal to half the detection limit in subsequent calculations.
Volume removal data based on the formula: mass (pounds) x $(density)^{-1}$ (cc/g) x 453.6 (g/pound) x (L/1000 cc) * (gal/3.785 L)
Density inputs: TPHg = 0.73 g/cc, TPHd = 0.87 g/cc, MTBE = 0.74 g/cc
TPHg, BTEX, and MTBE analyzed by EPA Method 8260B
System started on 4/28/03 with 3.3hours and 880 gallons on flow meter.

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

July 11, 2003

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

Second Quarter 2003 Groundwater Monitoring at
Shell-branded Service Station
540 Hegenberger Road
Oakland, CA

Monitoring performed on June 23, 2003

Groundwater Monitoring Report **030623-RH-2**

This report covers the routine monitoring of groundwater wells at this Shell-branded 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/pc

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

cc: Anni Kreml
Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Oakland, CA 94608

WELL CONCENTRATIONS
Shell-branded Service Station
540 Hegenberger Road
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 (a)	08/26/1998	2,700	28	55	59	39	33,000	NA	10.54	7.91	2.63	1.8
MW-1 (b)	08/26/1998	<1,000	22	<10	<10	<10	17,000	NA	10.54	7.91	2.63	2.2
MW-1	12/28/1998	<5,000	<50.0	<50.0	<50.0	<50.0	153,000	33,000	10.54	8.75	1.79	1.9
MW-1	03/29/1999	<2,000	<20.0	<20.0	<20.0	<20.0	693,000	NA	10.54	8.32	2.22	2.0
MW-1	06/22/1999	20,000	<200	<200	<200	<200	150,000	NA	10.54	9.05	1.49	1.7
MW-1	09/30/1999	<2,500	<25.0	<25.0	<25.0	<25.0	30,900	NA	10.54	8.35	2.19	2.6
MW-1	11/19/1999	NA	NA	NA	NA	NA	NA	NA	10.54	9.58	0.96	NA
MW-1	11/24/1999	NA	NA	NA	NA	NA	NA	NA	10.54	9.65	0.89	NA
MW-1	12/02/1999	NA	NA	NA	NA	NA	NA	NA	10.54	9.55	0.99	NA
MW-1	12/10/1999	<50.0	29.7	<20.0	<20.0	<20.0	76,300	NA	10.54	8.86	1.68	1.2
MW-1	03/02/2000	<2,500	<25.0	<25.0	<25.0	<25.0	27,600	NA	10.54	8.83	1.71	3.2
MW-1	06/08/2000	<2,000	<20.0	<20.0	<20.0	<20.0	59,000	67,600	10.54	7.78	2.76	1.9
MW-1	09/05/2000	<10,000	411	<100	<100	<100	71,100	115,000e	10.54	7.84	2.70	NA
MW-1	12/15/2000	35,600	1,310	<50.0	<50.0	<50.0	136,000	f	10.54	7.65	2.89	NA
MW-1	03/09/2001	<10,000	1,390	<100	<100	<100	89,600	164,000	10.54	6.44	4.10	NA
MW-1	06/27/2001	<5,000	<50	<50	<50	<50	NA	19,000	10.54	8.46	2.08	NA
MW-1	09/19/2001	<5,000	<50	<50	<50	<50	NA	52,000	10.54	8.10	2.44	NA
MW-1	12/31/2001	<5,000	<25	<25	<25	<25	NA	17,000	10.54	7.31	3.23	NA
MW-1	03/14/2002	<20,000	<200	<200	<200	<200	NA	60,000	10.54	7.68	2.86	NA
MW-1	06/25/2002	<5,000	<50	<50	<50	<50	NA	34,000	10.54	8.40	2.14	NA
MW-1	09/19/2002	<2,500	<25	<25	<25	<25	NA	18,000	10.52	8.58	1.94	NA
MW-1	12/12/2002	<5,000	<50	<50	<50	<50	NA	30,000	10.52	8.41	2.11	NA
MW-1	01/02/2003	NA	<0.50	<0.50	<0.50	<1.0	NA	NA	10.52	7.45	3.07	NA
MW-1	03/20/2003 g	3,800	<25	<25	<25	<25	5,500	NA	10.52	8.21	2.31	NA
MW-1	**06/23/2003**	**<10,000**	**<100**	**<100**	**<100**	**<200**	**NA**	**35,000**	**10.52**	**9.02**	**1.50**	**NA**
MW-2 (a)	08/26/1998	<250	3.2	<2.5	<2.5	<2.5	4,000	NA	9.21	7.18	2.03	2.4

WELL CONCENTRATIONS
Shell-branded Service Station
540 Hegenberger Road
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-2 (b)	08/26/1998	<250	3.1	<2.5	<2.5	<2.5	4,800	NA	9.21	7.18	2.03	2.7
MW-2 (D)(b)	08/26/1998	<250	4.8	<2.5	<2.5	6.0	3,300	NA	9.21	7.18	2.03	2.7
MW-2	12/28/1998	<50.0	<0.500	<0.500	<0.500	<0.500	28.8	NA	9.21	7.34	1.87	2.1
MW-2	03/29/1999	235	<0.500	<0.500	<0.500	3.4	101	NA	9.21	6.85	2.36	2.0
MW-2	06/22/1999	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	9.21	7.10	2.11	1.9
MW-2	09/30/1999	<50.0	<0.500	<0.500	<0.500	<0.500	1,700	NA	9.21	8.06	1.15	1.0
MW-2	12/10/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	9.21	8.61	0.60	1.4
MW-2	03/02/2000	<500	11.5	<5.00	<5.00	<5.00	5,280	NA	9.21	6.33	2.88	0.4
MW-2	06/08/2000	<50.0	0.670	<0.500	<0.500	<0.500	3,160	NA	9.21	6.87	2.34	1.6
MW-2	09/05/2000	<1,000	<10.0	<10.0	<10.0	<10.0	9,600	NA	9.21	6.79	2.42	NA
MW-2	12/15/2000	<200	<2.00	<2.00	<2.00	<2.00	6,320	NA	9.21	6.76	2.45	NA
MW-2	03/09/2001	<500	<5.00	<5.00	<5.00	<5.00	17,200	NA	9.21	6.28	2.93	NA
MW-2	06/27/2001	<100	1.4	<1.0	<1.0	<2.0	NA	470	9.21	7.12	2.09	NA
MW-2	09/19/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	330	9.21	7.17	2.04	NA
MW-2	12/31/2001	<100	<1.0	<1.0	<1.0	<1.0	NA	420	9.21	6.24	2.97	NA
MW-2	03/14/2002	<250	4.5	3.3	<2.5	<2.5	NA	1,600	9.21	6.72	2.49	NA
MW-2	06/25/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	110	9.21	7.23	1.98	NA
MW-2	09/19/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	90	9.19	7.48	1.71	NA
MW-2	12/12/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	170	9.19	7.33	1.86	NA
MW-2	03/20/2003 g	56	<0.50	<0.50	<0.50	<0.50	58	NA	9.19	7.65	1.54	NA
MW-2	**06/23/2003**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**NA**	**44**	**9.19**	**8.72**	**0.47**	**NA**
MW-3 (a)	08/26/1998	2,300	180	330	<0.50	420	44,000	NA	9.45	6.52	2.93	1.8
MW-3 (b)	08/26/1998	<50	<0.50	<0.50	<0.50	<0.50	52,000	75,000	9.45	6.52	2.93	2.3
MW-3	12/28/1998	<5,00	139	<50.0	<50.0	<50.0	15,100	NA	9.45	6.73	2.72	1.7
MW-3	03/29/1999	52,500	5,500	6,900	1,360	6,250	508,000	630,000 (c)	9.45	6.21	3.24	2.1
MW-3	06/22/1999	58,000	6,600	9,850	1,640	6,950	677,000	653,000	9.45	7.00	2.45	1.3
MW-3	09/30/1999	4,360	121	122	36.1	647	33,700	35,600	9.45	6.84	2.61	0.6

WELL CONCENTRATIONS
Shell-branded Service Station
540 Hegenberger Road
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-3	11/19/1999	NA	NA	NA	NA	NA	NA	NA	9.45	7.93	1.52	NA
MW-3	11/24/1999	NA	NA	NA	NA	NA	NA	NA	9.45	8.25	1.20	NA
MW-3	12/02/1999	NA	NA	NA	NA	NA	NA	NA	9.45	7.55	1.90	NA
MW-3	12/10/1999	4,220	973	26.3	273	584	88,200	NA	9.45	7.28	2.17	2.5
MW-3	03/02/2000	65,300	5,210	10,300	2,650	15,100	56,800	59,800e	9.45	5.87	3.58	d
MW-3	06/08/2000	72,700	3,570	10,200	2,100	13,400	44,400	NA	9.45	5.32	4.13	1.1
MW-3	09/05/2000	26,100	959	2,910	1,090	5,640	24,000	NA	9.45	5.60	3.85	NA
MW-3	12/15/2000	5,190	438	8.39	483	530	19,100	11,800f	9.45	6.27	3.18	NA
MW-3	03/09/2001	5,880	472	42.2	392	1,290	41,800	NA	9.45	5.71	3.74	NA
MW-3	06/27/2001	9,100	330	79	140	1,600	NA	31,000	9.45	6.88	2.57	NA
MW-3	09/19/2001	790	14	18	17	67	NA	8,100	9.45	6.70	2.75	NA
MW-3	12/31/2001	<5,000	220	<50	86	<50	NA	22,000	9.45	5.92	3.53	NA
MW-3	03/14/2002	<2,500	<25	<25	<25	<25	NA	12,000	9.45	6.25	3.20	NA
MW-3	06/25/2002	<10,000	160	<100	<100	<100	NA	42,000	9.45	6.65	2.80	NA
MW-3	09/19/2002	<10,000	650	<100	280	360	NA	84,000	9.45	6.51	2.94	NA
MW-3	12/12/2002	<10,000	170	<100	<100	<100	NA	45,000	9.45	6.97	2.48	NA
MW-3	01/02/2003	NA	59	<5.0	5.3	<10	NA	NA	9.45	5.90	3.55	NA
MW-3	03/20/2003 g	5,100	<50	<50	<50	<50	4,400	NA	9.45	6.87	2.58	NA
MW-3	**06/23/2003**	**<5,000**	**<50**	**<50**	**<50**	**<100**	**NA**	**8,100**	**9.45**	**13.80**	**-4.35**	**NA**
MW-4	09/25/2000	NA	NA	NA	NA	NA	NA	NA	9.88	7.64	2.24	NA
MW-4	12/15/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	9.88	7.55	2.33	NA
MW-4	03/09/2001	<50.0	<0.500	0.730	<0.500	0.529	3.16	NA	9.88	7.04	2.84	NA
MW-4	06/27/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	9.88	7.76	2.12	NA
MW-4	09/19/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	9.88	7.69	2.19	NA
MW-4	12/31/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	9.88	7.08	2.80	NA
MW-4	03/14/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	9.88	7.57	2.31	NA
MW-4	06/25/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	9.88	8.50	1.38	NA

WELL CONCENTRATIONS
Shell-branded Service Station
540 Hegenberger Road
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-4	09/19/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	9.88	8.22	1.66	NA
MW-4	12/12/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	9.88	8.08	1.80	NA
MW-4	03/20/2003 g	<50	<0.50	<0.50	<0.50	<0.50	<5.0	NA	9.88	7.92	1.96	NA
MW-4	**06/23/2003**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**NA**	**<5.0**	**9.88**	**8.18**	**1.70**	**NA**
MW-5	06/18/2002	NA	NA	NA	NA	NA	NA	NA	NA	8.36	NA	NA
MW-5	06/25/2002	<10,000	<100	<100	<100	<100	NA	60,000	NA	8.30	NA	NA
MW-5	09/19/2002	<2,000	<20	<20	<20	<20	NA	7,200	10.03	8.44	1.59	NA
MW-5	12/12/2002	<5,000	<50	<50	<50	<50	NA	33,000	10.03	8.49	1.54	NA
MW-5	03/20/2003 g	12,000	<50	<50	<50	<50	15,000	NA	10.03	8.23	1.80	NA
MW-5	**06/23/2003**	**<1,000**	**<10**	**<10**	**<10**	**<20**	**NA**	**1,700**	**10.03**	**16.70**	**-6.67**	**NA**
C-1	09/19/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	1.44	NA	NA
C-1	03/29/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	2.59	NA	NA
C-1	06/25/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	3.72	NA	NA
C-1	09/19/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	3.08	NA	NA
C-1	12/12/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	0.64	NA	NA
C-1	03/20/2003 g	<50	<0.50	<0.50	<0.50	<0.50	<5.0	NA	NA	4.61	NA	NA
SD-1	09/19/2001	Unable to sample		NA	NA	NA	NA	NA	NA	NA	NA	NA
SD-1	03/29/2002	Dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SD-1	06/25/2002	Dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SD-1	09/19/2002	Dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SD-1	12/12/2002	Dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SD-1	03/20/2003	Dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SD-2	09/19/2001	Unable to sample		NA	NA	NA	NA	NA	NA	NA	NA	NA
SD-2	03/29/2002	Dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

WELL CONCENTRATIONS
Shell-branded Service Station
540 Hegenberger Road
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)
SD-2	06/25/2002	Dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SD-2	09/19/2002	Dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SD-2	12/12/2002	Dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SD-2	03/20/2003	Dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BW-A	06/22/1999	318	<0.50	<0.50	0.590	1.48	4,470	NA	NA	4.71	NA	1.1
BW-A	06/25/2002	<500	<5.0	<5.0	<5.0	18	NA	3,100	NA	5.14	NA	NA
BW-A	09/19/2002	<200	<2.0	<2.0	<2.0	<2.0	NA	<20	NA	7.19	NA	NA
BW-A	12/12/2002	<500	<5.0	<5.0	<5.0	<5.0	NA	2,900	NA	6.40	NA	NA
BW-A	03/20/2003 g	<2,500	<25	<25	<25	<25	<250	NA	NA	5.36	NA	NA
BW-A	**06/23/2003**	**<1,000**	**<10**	**<10**	**<10**	**<20**	**NA**	**<100**	**NA**	**10.27**	**NA**	**NA**
BW-B	06/22/1999	<250	<2.5	<2.5	<2.5	<2.5	8,600	NA	NA	5.90	NA	1.2
BW-B	06/27/2001	<5,000	<50	<50	<50	<50	NA	40,000	NA	5.83	NA	NA
BW-B	12/31/2001	<2,000	<20	<20	<20	<20	NA	9,200	NA	4.19	NA	NA
BW-B	03/14/2002	<2,000	<20	<20	<20	<20	NA	9,400	NA	5.24	NA	NA
BW-B	06/25/2002	<2,000	<20	<20	<20	<20	NA	6,600	NA	6.19	NA	NA
BW-B	09/19/2002	<500	<5.0	<5.0	<5.0	<5.0	NA	<50	NA	8.46	NA	NA
BW-B	12/12/2002	<500	<5.0	<5.0	<5.0	<5.0	NA	1,700	NA	7.46	NA	NA
BW-B	03/20/2003 g	170	<1.0	<1.0	<1.0	<1.0	190	NA	NA	6.23	NA	NA
BW-B	**06/23/2003**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**NA**	**43**	**NA**	**9.95**	**NA**	**NA**
BW-C	06/22/1999	<50	<0.50	<0.50	<0.50	0.98	11,000	NA	NA	5.91	NA	1.6
BW-C	06/25/2002	<5,000	<50	<50	<50	<50	NA	20,000	NA	6.49	NA	NA
BW-C	09/19/2002	<1,000	<10	<10	<10	<10	NA	400	NA	8.52	NA	NA
BW-C	12/12/2002	<2,000	<20	<20	<20	<20	NA	8,000	NA	7.57	NA	NA
BW-C	03/20/2003 g	270	<1.0	<1.0	<1.0	<1.0	250	NA	NA	6.48	NA	NA
BW-C	**06/23/2003**	**<1,000**	**<10**	**<10**	**<10**	**<20**	**NA**	**170**	**NA**	**11.48**	**NA**	**NA**

WELL CONCENTRATIONS
Shell-branded Service Station
540 Hegenberger Road
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)
BW-D	06/22/1999	<50.0	<0.500	<0.500	<0.500	<0.500	2,190	NA	NA	4.78	NA	1.4
BW-D	06/25/2002	Well inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA
BW-D	07/02/2002	<1,000	23	<10	<10	<10	NA	<100	NA	6.36	NA	NA
BW-D	09/19/2002	<250	<2.5	<2.5	<2.5	<2.5	NA	<25	NA	7.25	NA	NA
BW-D	12/12/2002	<5,000	<50	<50	<50	<50	NA	16,000	NA	6.21	NA	NA
BW-D	03/20/2003 g	71	<0.50	<0.50	<0.50	<0.50	55	NA	NA	5.23	NA	NA
BW-D	**06/23/2003**	**<1,000**	**<10**	**<10**	**<10**	**<20**	**NA**	**<100**	**NA**	**10.25**	**NA**	**NA**

Abbreviations:
TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B; prior to June 27, 2001, analyzed by EPA Method 8015.
BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B; prior to June 27, 2001, analyzed by EPA Method 8020.
MTBE = Methyl-tertiary-butyl ether
TOC = Top of Casing Elevation
GW = Groundwater
DO = Dissolved Oxygen
ppm = Parts per million
ug/L = Parts per billion
MSL = Mean sea level
ft = Feet
<n = Below detection limit
D = Duplicate sample
NA = Not applicable

WELL CONCENTRATIONS
Shell-branded Service Station
540 Hegenberger Road
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)

Notes:

a = pre-purge

b = post purge

c = Lab confirmed MTBE by mistake. MTBE value at MW-1 should have been confirmed instead.

d = DO reading not taken.

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

f = The second highest MTBE hit was mistakenly confirmed. MTBE for MW-1 should have been confirmed.

g = On March 20, 2003, all analyses run by EPA Method 8015/8020.

Site surveyed September 21, 2000, by Virgil Chavez Land Surveying of Vallejo, California.

C-1 is a canal sample location.

SD-1 and SD-2 are storm drains.

Wells MW-1 through MW-5 surveyed January 24 and June 19, 2002, by Virgil Chavez Land Surveying of Vallejo, California.

SEVERN TRENT STL

Submission#: 2003-06-0724

Blaine Tech Services, Inc.

July 08, 2003

1680 Rogers Avenue
San Jose, CA 95112-1105

Attn.: Leon Gearhart

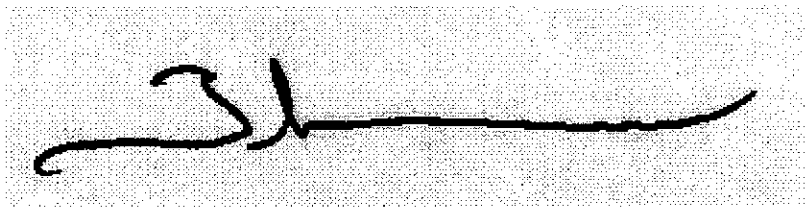
Project#: 030623-RH2
Project: 98995752
Site: 540 Hegenberger Road, Oakland

Dear Mr.Gearhart,

Attached is our report for your samples received on 06/23/2003 16:30
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 08/07/2003 unless you have requested otherwise.
We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.
You can also contact me via email. My email address is: tgranicher@stl-inc.com

Sincerely,



Tod Granicher
Project Manager

SEVERN TRENT STL

Submission #: 2003-06-0724

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.
Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030623-RH2
98995752

Received: 06/23/2003 16:30

Site: 540 Hegenberger Road, Oakland

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-1	06/23/2003 13:00	Water	1
MW-2	06/23/2003 12:50	Water	2
MW-3	06/23/2003 10:25	Water	3
MW-4	06/23/2003 10:49	Water	4
MW-5	06/23/2003 10:10	Water	5
BW-A	06/23/2003 12:32	Water	6
BW-B	06/23/2003 10:15	Water	7
BW-C	06/23/2003 12:03	Water	8
BW-D	06/23/2003 11:45	Water	9

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030623-RH2
98995752

Received: 06/23/2003 16:30

Site: 540 Hegenberger Road, Oakland

Prep(s): 5030B
Test(s): 8260FAB
Sample ID: **MW-1**
Lab ID: 2003-06-0724 - 1
Sampled: 06/23/2003 13:00
Extracted: 7/7/2003 12:34
Matrix: Water
QC Batch#: 2003/07/07-1b.64
Analysis Flag: o (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	10000	ug/L	200.00	07/07/2003 12:34	
Benzene	ND	100	ug/L	200.00	07/07/2003 12:34	
Toluene	ND	100	ug/L	200.00	07/07/2003 12:34	
Ethylbenzene	ND	100	ug/L	200.00	07/07/2003 12:34	
Total xylenes	ND	200	ug/L	200.00	07/07/2003 12:34	
Methyl tert-butyl ether (MTBE)	35000	1000	ug/L	200.00	07/07/2003 12:34	
Surrogates(s)						
1,2-Dichloroethane-d4	128.6	76-130	%	200.00	07/07/2003 12:34	
Toluene-d8	104.2	78-115	%	200.00	07/07/2003 12:34	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030623-RH2
98995752

Received: 06/23/2003 16:30

Site: 540 Hegenberger Road, Oakland

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	**MW-2**	Lab ID:	2003-06-0724 - 2
Sampled:	06/23/2003 12:50	Extracted:	7/7/2003 12:56
Matrix:	Water	QC Batch#:	2003/07/07-1b.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	07/07/2003 12:56	
Benzene	ND	0.50	ug/L	1.00	07/07/2003 12:56	
Toluene	ND	0.50	ug/L	1.00	07/07/2003 12:56	
Ethylbenzene	ND	0.50	ug/L	1.00	07/07/2003 12:56	
Total xylenes	ND	1.0	ug/L	1.00	07/07/2003 12:56	
Methyl tert-butyl ether (MTBE)	44	5.0	ug/L	1.00	07/07/2003 12:56	
Surrogates(s)						
1,2-Dichloroethane-d4	103.3	76-130	%	1.00	07/07/2003 12:56	
Toluene-d8	103.2	78-115	%	1.00	07/07/2003 12:56	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030623-RH2
98995752

Received: 06/23/2003 16:30

Site: 540 Hegenberger Road, Oakland

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	MW-3	Lab ID:	2003-06-0724 - 3
Sampled:	06/23/2003 10:25	Extracted:	7/6/2003 19:11
Matrix:	Water	QC Batch#:	2003/07/06-1e.62

Analysis Flag: e (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	5000	ug/L	100.00	07/06/2003 19:11	
Benzene	ND	50	ug/L	100.00	07/06/2003 19:11	
Toluene	ND	50	ug/L	100.00	07/06/2003 19:11	
Ethylbenzene	ND	50	ug/L	100.00	07/06/2003 19:11	
Total xylenes	ND	100	ug/L	100.00	07/06/2003 19:11	
Methyl tert-butyl ether (MTBE)	8100	500	ug/L	100.00	07/06/2003 19:11	
Surrogates(s)						
1,2-Dichloroethane-d4	92.6	76-130	%	100.00	07/06/2003 19:11	
Toluene-d8	103.7	78-115	%	100.00	07/06/2003 19:11	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030623-RH2
98995752

Received: 06/23/2003 16:30

Site: 540 Hegenberger Road, Oakland

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	**MW-4**	Lab ID:	2003-06-0724 - 4
Sampled:	06/23/2003 10:49	Extracted:	7/7/2003 13:19
Matrix:	Water	QC Batch#:	2003/07/07-1b.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	07/07/2003 13:19	
Benzene	ND	0.50	ug/L	1.00	07/07/2003 13:19	
Toluene	ND	0.50	ug/L	1.00	07/07/2003 13:19	
Ethylbenzene	ND	0.50	ug/L	1.00	07/07/2003 13:19	
Total xylenes	ND	1.0	ug/L	1.00	07/07/2003 13:19	
Methyl tert-butyl ether (MTBE)	ND	5.0	ug/L	1.00	07/07/2003 13:19	
Surrogates(s)						
1,2-Dichloroethane-d4	105.5	76-130	%	1.00	07/07/2003 13:19	
Toluene-d8	102.9	78-115	%	1.00	07/07/2003 13:19	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030623-RH2
98995752

Received: 06/23/2003 16:30

Site: 540 Hegenberger Road, Oakland

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	**MW-5**	Lab ID:	2003-06-0724 - 5
Sampled:	06/23/2003 10:10	Extracted:	7/6/2003 19:55
Matrix:	Water	QC Batch#:	2003/07/06-1e.62

Analysis Flag: o (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1000	ug/L	20.00	07/06/2003 19:55	
Benzene	ND	10	ug/L	20.00	07/06/2003 19:55	
Toluene	ND	10	ug/L	20.00	07/06/2003 19:55	
Ethylbenzene	ND	10	ug/L	20.00	07/06/2003 19:55	
Total xylenes	ND	20	ug/L	20.00	07/06/2003 19:55	
Methyl tert-butyl ether (MTBE)	1700	100	ug/L	20.00	07/06/2003 19:55	
Surrogates(s)						
1,2-Dichloroethane-d4	96.1	76-130	%	20.00	07/06/2003 19:55	
Toluene-d8	100.2	78-115	%	20.00	07/06/2003 19:55	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030623-RH2
98995752

Received: 06/23/2003 16:30

Site: 540 Hegenberger Road, Oakland

Prep(s): 5030B
Test(s): 8260FAB

Sample ID: **BW-A**
Lab ID: 2003-06-0724 - 6

Sampled: 06/23/2003 12:32
Extracted: 7/6/2003 20:18

Matrix: Water
QC Batch#: 2003/07/06-1e.62

Analysis Flag: Im (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1000	ug/L	20.00	07/06/2003 20:18	
Benzene	ND	10	ug/L	20.00	07/06/2003 20:18	
Toluene	ND	10	ug/L	20.00	07/06/2003 20:18	
Ethylbenzene	ND	10	ug/L	20.00	07/06/2003 20:18	
Total xylenes	ND	20	ug/L	20.00	07/06/2003 20:18	
Methyl tert-butyl ether (MTBE)	ND	100	ug/L	20.00	07/06/2003 20:18	
Surrogates(s)						
1,2-Dichloroethane-d4	87.3	76-130	%	20.00	07/06/2003 20:18	
Toluene-d8	98.3	78-115	%	20.00	07/06/2003 20:18	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030623-RH2
98995752

Received: 06/23/2003 16:30

Site: 540 Hegenberger Road, Oakland

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	**BW-B**	Lab ID:	2003-06-0724 - 7
Sampled:	06/23/2003 10:15	Extracted:	7/7/2003 13:41
Matrix:	Water	QC Batch#:	2003/07/07-1b.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	07/07/2003 13:41	
Benzene	ND	0.50	ug/L	1.00	07/07/2003 13:41	
Toluene	ND	0.50	ug/L	1.00	07/07/2003 13:41	
Ethylbenzene	ND	0.50	ug/L	1.00	07/07/2003 13:41	
Total xylenes	ND	1.0	ug/L	1.00	07/07/2003 13:41	
Methyl tert-butyl ether (MTBE)	43	5.0	ug/L	1.00	07/07/2003 13:41	
Surrogates(s)						
1,2-Dichloroethane-d4	102.3	76-130	%	1.00	07/07/2003 13:41	
Toluene-d8	101.0	78-115	%	1.00	07/07/2003 13:41	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030623-RH2
98995752

Received: 06/23/2003 16:30

Site: 540 Hegenberger Road, Oakland

Prep(s): 5030B
Sample ID: **BW-C**
Sampled: 06/23/2003 12:03
Matrix: Water
Analysis Flag: Im (See Legend and Note Section)

Test(s): 8260FAB
Lab ID: 2003-06-0724 - 8
Extracted: 7/5/2003 11:11
QC Batch#: 2003/07/05-1b.65

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1000	ug/L	20.00	07/05/2003 11:11	
Benzene	ND	10	ug/L	20.00	07/05/2003 11:11	
Toluene	ND	10	ug/L	20.00	07/05/2003 11:11	
Ethylbenzene	ND	10	ug/L	20.00	07/05/2003 11:11	
Total xylenes	ND	20	ug/L	20.00	07/05/2003 11:11	
Methyl tert-butyl ether (MTBE)	170	100	ug/L	20.00	07/05/2003 11:11	
Surrogates(s)						
1,2-Dichloroethane-d4	92.4	76-130	%	20.00	07/05/2003 11:11	
Toluene-d8	100.9	78-115	%	20.00	07/05/2003 11:11	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030623-RH2
98995752

Received: 06/23/2003 16:30

Site: 540 Hegenberger Road, Oakland

Prep(s): 5030B
Test(s): 8260FAB
Sample ID: **BW-D**
Lab ID: 2003-06-0724 - 9
Sampled: 06/23/2003 11:45
Extracted: 7/5/2003 11:56
Matrix: Water
QC Batch#: 2003/07/05-1b.65
Analysis Flag: Im (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1000	ug/L	20.00	07/05/2003 11:56	
Benzene	ND	10	ug/L	20.00	07/05/2003 11:56	
Toluene	ND	10	ug/L	20.00	07/05/2003 11:56	
Ethylbenzene	ND	10	ug/L	20.00	07/05/2003 11:56	
Total xylenes	ND	20	ug/L	20.00	07/05/2003 11:56	
Methyl tert-butyl ether (MTBE)	ND	100	ug/L	20.00	07/05/2003 11:56	
Surrogates(s)						
1,2-Dichloroethane-d4	93.6	76-130	%	20.00	07/05/2003 11:56	
Toluene-d8	101.4	78-115	%	20.00	07/05/2003 11:56	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030623-RH2
98995752

Received: 06/23/2003 16:30

Site: 540 Hegenberger Road, Oakland

Batch QC Report

Prep(s): 5030B — Test(s): 8260FAB

Method Blank — **Water** — **QC Batch # 2003/07/05-1b.65**

MB: 2003/07/05-1b.65-027 — Date Extracted: 07/05/2003 10:27

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	07/05/2003 10:27	
Methyl tert-butyl ether (MTBE)	ND	5.0	ug/L	07/05/2003 10:27	
Benzene	ND	0.5	ug/L	07/05/2003 10:27	
Toluene	ND	0.5	ug/L	07/05/2003 10:27	
Ethylbenzene	ND	0.5	ug/L	07/05/2003 10:27	
Total xylenes	ND	1.0	ug/L	07/05/2003 10:27	
Surrogates(s)					
1,2-Dichloroethane-d4	87.6	76-130	%	07/05/2003 10:27	
Toluene-d8	98.5	78-115	%	07/05/2003 10:27	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030623-RH2
98995752

Received: 06/23/2003 16:30

Site: 540 Hegenberger Road, Oakland

Batch QC Report

Prep(s): 5030B
Method Blank
MB: 2003/07/06-1e.62-054

Water

Test(s): 8260FAB
QC Batch # 2003/07/06-1e.62
Date Extracted: 07/06/2003 17:54

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	07/06/2003 17:54	
Methyl tert-butyl ether (MTBE)	ND	5.0	ug/L	07/06/2003 17:54	
Benzene	ND	0.5	ug/L	07/06/2003 17:54	
Toluene	ND	0.5	ug/L	07/06/2003 17:54	
Ethylbenzene	ND	0.5	ug/L	07/06/2003 17:54	
Total xylenes	ND	1.0	ug/L	07/06/2003 17:54	
Surrogates(s)					
1,2-Dichloroethane-d4	96.0	76-130	%	07/06/2003 17:54	
Toluene-d8	104.5	78-115	%	07/06/2003 17:54	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030623-RH2
98995752

Received: 06/23/2003 16:30

Site: 540 Hegenberger Road, Oakland

Batch QC Report

Prep(s): 5030B — Test(s): 8260FAB

Method Blank — **Water** — **QC Batch # 2003/07/07-1b.64**

MB: 2003/07/07-1b.64-022 — Date Extracted: 07/07/2003 10:22

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	07/07/2003 10:22	
Methyl tert-butyl ether (MTBE)	ND	5.0	ug/L	07/07/2003 10:22	
Benzene	ND	0.5	ug/L	07/07/2003 10:22	
Toluene	ND	0.5	ug/L	07/07/2003 10:22	
Ethylbenzene	ND	0.5	ug/L	07/07/2003 10:22	
Total xylenes	ND	1.0	ug/L	07/07/2003 10:22	
Surrogates(s)					
1,2-Dichloroethane-d4	105.1	76-130	%	07/07/2003 10:22	
Toluene-d8	99.1	78-115	%	07/07/2003 10:22	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030623-RH2
98995752

Received: 06/23/2003 16:30

Site: 540 Hegenberger Road, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260FAB

Laboratory Control Spike | **Water** | **QC Batch # 2003/07/05-1b.65**

LCS 2003/07/05-1b.65-043 Extracted: 07/05/2003 Analyzed: 07/05/2003 09:43

LCSD 2003/07/05-1b.65-005 Extracted: 07/05/2003 Analyzed: 07/05/2003 10:05

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE)	20.1	19.5	25	80.4	78.0	3.0	65-165	20		
Benzene	23.4	25.9	25	93.6	103.6	10.1	69-129	20		
Toluene	23.3	24.5	25	93.2	98.0	5.0	70-130	20		
Surrogates(s)										
1,2-Dichloroethane-d4	449	440	500	89.8	88.0		76-130			
Toluene-d8	495	498	500	99.0	99.6		78-115			

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030623-RH2
98995752

Received: 06/23/2003 16:30

Site: 540 Hegenberger Road, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260FAB

Laboratory Control Spike **Water** **QC Batch # 2003/07/06-1e.62**

LCS 2003/07/06-1e.62-010 Extracted: 07/06/2003 Analyzed: 07/06/2003 17:10

LCSD 2003/07/06-1e.62-032 Extracted: 07/06/2003 Analyzed: 07/06/2003 17:32

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE)	26.0	25.6	25	104.0	102.4	1.6	65-165	20		
Benzene	27.3	26.9	25	109.2	107.6	1.5	69-129	20		
Toluene	26.4	27.1	25	105.6	108.4	2.6	70-130	20		
Surrogates(s)										
1,2-Dichloroethane-d4	449	446	500	89.8	89.2		76-130			
Toluene-d8	514	518	500	102.8	103.6		78-115			

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030623-RH2
98995752

Received: 06/23/2003 16:30

Site: 540 Hegenberger Road, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260FAB

Laboratory Control Spike | **Water** | **QC Batch # 2003/07/07-1b.64**

LCS 2003/07/07-1b.64-038 Extracted: 07/07/2003 Analyzed: 07/07/2003 09:38

LCSD 2003/07/07-1b.64-000 Extracted: 07/07/2003 Analyzed: 07/07/2003 10:00

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE)	25.3	28.4	25	101.2	113.6	11.5	65-165	20		
Benzene	25.0	25.4	25	100.0	101.6	1.6	69-129	20		
Toluene	23.7	25.1	25	94.8	100.4	5.7	70-130	20		
Surrogates(s)										
1,2-Dichloroethane-d4	487	521	500	97.4	104.2		76-130			
Toluene-d8	497	513	500	99.4	102.6		78-115			

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.
Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030623-RH2
98995752

Received: 06/23/2003 16:30

Site: 540 Hegenberger Road, Oakland

Legend and Notes

Analysis Flag

lrn

Reporting limits raised due to high level of non-target analyte materials.

o

Reporting limits were raised due to high level of analyte present in the sample.

LAB: __

2003-06-0724

SHELL Chain Of Custody Record

75404

Lab Identification (if necessary):
Address:
City, State, Zip:

Shell Project Manager to be Invoiced:

- [x] SCIENCE & ENGINEERING
- [ ] TECHNICAL SERVICES
- [ ] CRMT HOUSTON

Karen Petryna

INCIDENT NUMBER (S&E ONLY): 9 8 9 9 5 7 5 2

SAP or CRMT NUMBER (TS/CRMT): [redacted]

DATE: 6/23/03

PAGE: 1 of 1

SAMPLING COMPANY:	LOG CODE:	SITE ADDRESS (Street and City):	GLOBAL ID NO.:
Blaine Tech Services	BTSS	540 Hegenberger Road, Oakland	T0600102123

ADDRESS:	EDF DELIVERABLE TO (Responsible Party or Designee):	PHONE NO.:	E-MAIL:	CONSULTANT PROJECT NO.:
1680 Rogers Avenue, San Jose, CA 95112	Anni Kreml	(510)420-3335	ShellOaklandEDF@cambria-env.com	BTS # 030623-RH2

PROJECT CONTACT (Hardcopy or PDF Report to): Leon Gearhart

TELEPHONE:	FAX:	E-MAIL:
408-573-0555	408-573-7771	lgearhart@blainetech.com

SAMPLER NAME(S) (Print): Ryan Hanstedt

LAB USE ONLY

TURNAROUND TIME (BUSINESS DAYS): [x] 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

TEMPERATURE ON RECEIPT C°: 3.5°C

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH - Gas, Purgeable	BTEX	[illegible]	MTBE (8260B - 0.5ppb RL)	Oxygenates (5) by (8260B)	Ethanol (8260B)	Methanol	1,2-DCA (8260B)	EDB (8260B)		TPH - Diesel, Extractable (8015m)	FIELD NOTES
	mw-1	6/23/03	1300	GW	7	X	X	X									
	mw-2	↓	1250	↓	↓	X	X	X									
	mw-3		1025			X	X	X									
	mw-4		1049			X	X	X									
	mw-5		1010			X	X	X									
	BW-A		1232			X	X	X									
	BW-B		1015			X	X	X									
	BW-C		1203			X	X	X									
	BW-D	↓	1145	↓	↓	X	X	X									

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
[signature]	[signature]	06.23.03	1630
[signature]		06.23.03	1730
	Normark.	6/23/03	1730

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

10/16/00 Revision

C&O Graphic: (714) 658-8702

WELL GAUGING DATA

Project # 030623-RH2 Date 6/23/03 Client Shell

Site 540 Hegenberger Rd, 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	~~Bolt stuck in lid, no gauge~~				~~[illegible]~~ 9.02	—	TOC	Ext
MW-2	2					8.72	19.90		
MW-3	2	Water level below top of pump @				13.80	—		Ext
MW-4	4					8.18	18.45		
MW-5	4					16.70	—		Ext
BW-A	12					10.27	12.68		
BW-B	4					9.95	—		Ext
BW-C	4					11.48	12.90		
BW-D	12					10.25	12.25	↓	

SHELL WELL MONITORING DATA SHEET

BTS #: 030623-RH2	Site: 540 Hegenberger Rd, Oakland
Sampler: Ryan H	Date: 6/23/03
Well I.D.: mw-1	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): ———	Depth to Water (DTW): 9.02
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]: ———	

Purge Method: Bailer / Disposable Bailer / Middleburg / Electric Submersible / Waterra / Peristaltic / Extraction Pump / Other ____

Sampling Method: (Bailer) / Disposable Bailer / (Extraction Port) / Dedicated Tubing / Other: ____

____ (Gals.) X Ext = -0 Gals.
1 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	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1300	72.4	7.3	10.53	65	0	Clear, Some Organic Fines

Did well dewater? Yes (No) Gallons actually evacuated: 0

Sampling Date: 6/23/03 Sampling Time: 1300 Depth to Water:

Sample I.D.: mw-1 Laboratory: (STL) 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:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

SHELL WELL MONITORING DATA SHEET

BTS #: #30623-RHZ	Site: 540 Hegenberger Rd, Oakland
Sampler: Ryan H	Date: 6/23/03
Well I.D.: mw-2	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 19.90	Depth to Water (DTW): 8.72
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]: 10.96	

Purge Method: (Bailer) / Disposable Bailer / Middleburg / Electric Submersible / Waterra / Peristaltic / Extraction Pump / Other_____

Sampling Method: (Bailer) / Disposable Bailer / Extraction Port / Dedicated Tubing / Other:_____

1.75 (Gals.) X	3	= 5.25 Gals.
1 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	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1236	~~1235~~ 72.0	7.3	1115	167	1.75	turbid
1238	69.1	7.3	1215	>200	3.5	cloudy
~~1239~~ 1240	69.2	7.3	1392	>200	5.25	"

Did well dewater? Yes (No) Gallons actually evacuated: 5.25

Sampling Date: 6/23/03 Sampling Time: 1250 Depth to Water: 10.90

Sample I.D.: mw-2 Laboratory: (STL) 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:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

SHELL WELL MONITORING DATA SHEET

BTS #: 030623-RH2	Site: 540 Hegenberger Rd, Oakland
Sampler: Ryan H	Date: 6/23/03
Well I.D.: MW-3	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth (TD): ———	Depth to Water (DTW): top of pump 13.80
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]: ———	

Purge Method: Bailer / Disposable Bailer / Middleburg / Electric Submersible / Waterra / Peristaltic / Extraction Pump / Other ____

Sampling Method: (Bailer) / Disposable Bailer / Extraction Port / Dedicated Tubing / Other: ____

____ (Gals.) X Ext = 0 Gals.
1 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	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1625	70.6	7.4	10.23	2	0	Clear

Did well dewater? ~~Yes~~ ~~No~~ Gallons actually evacuated: 0

Sampling Date: 6/23/03 Sampling Time: 1625 Depth to Water: ———

Sample I.D.: MW-3 Laboratory: (STL) 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:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

SHELL WELL MONITORING DATA SHEET

BTS #: 030623-EH2	Site: 540 Hegenberger Rd, Oakland
Sampler: Ryan H	Date: 6/23/03
Well I.D.: mw-4	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 10.45	Depth to Water (DTW): 5.15
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]: 10.23	

Purge Method: Bailer, Disposable Bailer, Middleburg, (Electric Submersible), Waterra, Peristaltic, Extraction Pump, Other_____

Sampling Method: (Bailer), Disposable Bailer, Extraction Port, Dedicated Tubing, Other: _____

1 Case Volume	(Gals.) X	Specified Volumes	=	Calculated Volume	Gals.
6.7		3		20.1	

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1041	66.2	7.3	5420	177	6.7	Purged
1042	66.6	7.4	5132	149	13.4	"
1044	66.5	7.4	4991	95	20.1	"

Did well dewater? Yes (No) Gallons actually evacuated: 20.1

Sampling Date: 6/23/03 Sampling Time: 1049 Depth to Water: 10.17 Duplicate

Sample I.D.: mw-4 Laboratory: (STL) 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:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

SHELL WELL MONITORING DATA SHEET

BTS #: 030623-RH2	Site: 540 Hegenberger Rd, Oakland
Sampler: Ryan H	Date: 6/23/03
Well I.D.: MW-5	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth (TD): ———	Depth to Water (DTW): ~~Approx~~ 16.70
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]: ———	

Purge Method: Bailer / Disposable Bailer / Middleburg / Electric Submersible / Waterra / Peristaltic / Extraction Pump / Other ____

Sampling Method: (Bailer) / Disposable Bailer / Extraction Port / Dedicated Tubing / Other: ____

____ (Gals.) X	Ext	=	C	Gals.
1 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	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1010	73.5	7.0	17.3	28	C	Clear

Did well dewater? ___ Yes ___ No ___ Gallons actually evacuated: C

Sampling Date: 6/23/03 Sampling Time: 1010 Depth to Water:

Sample I.D.: MW-5 Laboratory: (STL) 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:		mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:		mV	Post-purge:	mV

SHELL WELL MONITORING DATA SHEET

BTS #: 030623-EH2	Site: 540 Hegenberger Rd, Oakland
Sampler: Ryan H	Date: 6/23/03
Well I.D.: Bw-A	Well Diameter: 2 3 4 6 8 (12)
Total Well Depth (TD): 12.68	Depth to Water (DTW): 10.27
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]: 10.75	

Purge Method: Bailer; Disposable Bailer; Middleburg; (Electric Submersible); Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: (Bailer); Disposable Bailer; Extraction Port; Dedicated Tubing; Other:_____

14.1 (Gals.) X	3	= 42.3 Gals.
1 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	radius² * 0.163

12 = 5.87

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1221	73.5	7.2	906	5	14.1	clear
1224	72.8	6.8	1132	4	28.2	"
1227	72.3	6.8	1281	2	42.3	"

Did well dewater? Yes (No) Gallons actually evacuated: 42.3

Sampling Date: 6/23/03 Sampling Time: 1232 Depth to Water: 10.35

Sample I.D.: Bw-A Laboratory: (STL) 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:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

SHELL WELL MONITORING DATA SHEET

BTS #: 030623-EHZ	Site: 540 Hegenberger Rd, Oakland
Sampler: Ryan H	Date: 6/23/03
Well I.D.: Bw-B	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): ___	Depth to Water (DTW): 9.95
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]: ___	

Purge Method: Bailer / Disposable Bailer / Middleburg / Electric Submersible / Waterra / Peristaltic / Extraction Pump / Other ___

Sampling Method: (Bailer) / Disposable Bailer / Extraction Port / Dedicated Tubing / Other: ___

___ (Gals.) X Ext = ___ Gals.
1 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	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1015	70.6	7.0	1205	49	-	clear

Did well dewater? Yes No Gallons actually evacuated: -

Sampling Date: 6/23/03 Sampling Time: 1015 Depth to Water:

Sample I.D.: Bw-B Laboratory: (STL) 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:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

SHELL WELL MONITORING DATA SHEET

BTS #: 30623-PHZ	Site: 540 Hegenberger Rd, Oakland
Sampler: Ryan H	Date: 6/23/03
Well I.D.: BW-C	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 12.90	Depth to Water (DTW): 11.48
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]: 11.76	

Purge Method: (Bailer) / (Disposable Bailer) / Middleburg / Electric Submersible / Waterra / Peristaltic / Extraction Pump / Other ____

Sampling Method: (Bailer) / Disposable Bailer / Extraction Port / Dedicated Tubing / Other: ____

0.9 (Gals.) X 3 = 2.7 Gals.
1 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	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1152	71.7	7.0	1011	66	1.0	low, brief
1155	71.5	6.9	1017	64	2.0	"
1158	71.4	6.9	1015	31	3.0	clear

Did well dewater? Yes (No) Gallons actually evacuated: 3.0

Sampling Date: 6/23/03 Sampling Time: 1203 Depth to Water: 11.50

Sample I.D.: BW-C Laboratory: (STL) 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:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

SHELL WELL MONITORING DATA SHEET

BTS #: 030623-RH2	Site: 540 Hegenberger Rd, Oakland
Sampler: Ryan H	Date: 6/23/03
Well I.D.: Bw-D	Well Diameter: 2 3 4 6 8 (12)
Total Well Depth (TD): 12.25	Depth to Water (DTW): 10.25
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]: 10.65	

Purge Method: Bailer, Disposable Bailer, Middleburg, (Electric Submersible), Waterra, Peristaltic, Extraction Pump, Other

Sampling Method: (Bailer), Disposable Bailer, Extraction Port, Dedicated Tubing, Other:

11.7 (Gals.) X 3 = 35.1 Gals.
1 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	radius² * 0.163

12 = 5.87

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1135	69.6	7.1	1077	14	11.7	clear
1137	70.8	6.9	988	8	23.4	"
1140	71.3	6.9	949	11	35.1	"

Did well dewater? Yes (No) Gallons actually evacuated: 35.1

Sampling Date: 6/23/03 Sampling Time: 1145 Depth to Water: 10.25

Sample I.D.: Bw-D Laboratory: (STL) 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:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

ATTACHMENT B

Arco Groundwater Data

Table 1
Groundwater Elevation and Analytical Data

ARCO Service Station #4494
566 Hegenberger Road
Oakland, California

Well Number	Date Sampled	Top of Riser Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Dissolved Oxygen (mg/L)
MW-1	06/20/00	106.10	7.02	99.08	ND<1,000	ND<10	ND<10	ND<10	ND<20	14,000/15,000[a]	NA
	09/28/00		7.07	99.03	ND<500	ND<5.0	ND<5.0	ND<5.0	ND<5.0	13000/18,800[a]	NA
	12/17/00		6.95	99.15	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	10,600	NA
	03/28/01		6.88	99.22	ND<500	ND<5.0	ND<5.0	ND<5.0	ND<5.0	16,900	NA
	06/21/01		7.18	98.92	ND<1,000	ND<10	ND<10	ND<10	ND<10	3,400	NA
	09/23/01		7.11	98.99	ND<1,000	ND<10	ND<10	ND<10	ND<10	2200/1800[a]	NA
	12/31/01		6.91	99.19	ND<5,000	ND<50	ND<50	ND<50	ND<50	14,000	NA
	03/14/02		6.85	99.25	ND<5,000	ND<50	ND<50	ND<50	ND<50	6,200	NA
	04/17/02		5.89	100.21	ND<5,000	ND<50	ND<50	ND<50	ND<50	4,500	NA
	08/08/02		7.19	98.91	230[b]	ND<2.0	ND<2.0	ND<2.0	ND<2.0	660/440[a]	4.5
	12/12/02		7.28	98.82	630[d]	ND<5.0	ND<5.0	ND<5.0	ND<5.0	1300/830[a]	1.9
	03/20/03[c]		6.91	99.19	1,100	ND<5.0	ND<5.0	ND<5.0	ND<5.0	780	2.2
	06/23/03		**7.61**	**98.49**	**530**	**ND<5.0**	**ND<5.0**	**ND<5.0**	**ND<5.0**	**260**	**1.2**
MW-3	06/20/00	106.29	9.18	97.11	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	27/27[a]	NA
	09/28/00		9.33	96.96	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	4.3/ND<2.0[a]	NA
	12/17/00		9.31	96.98	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	03/28/01		9.23	97.06	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	7.42	NA
	06/21/01		9.58	96.71	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	09/23/01		9.76	96.53	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	12/31/01		8.78	97.51	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	03/14/02		9.25	97.04	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	4	NA
	04/17/02		8.44	97.85	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	08/08/02		9.63	96.66	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	2.6
	12/12/02		9.51	96.78	ND<50[d]	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	3.0
	03/20/03[c]		9.40	96.89	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	6.1	1.2
	06/23/03		**9.36**	**96.93**	**ND<50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**5.2**	**0.9**

Table 1
Groundwater Elevation and Analytical Data

ARCO Service Station #4494
566 Hegenberger Road
Oakland, California

Well Number	Date Sampled	Top of Riser Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Dissolved Oxygen (mg/L)
MW-4	06/20/00	107.40	8.49	98.91	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<10	NA
	09/28/00		8.70	98.70	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<2.5	NA
	12/17/00		8.53	98.87	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	03/28/01		8.59	98.81	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	06/21/01		8.79	98.61	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	09/23/01		8.67	98.73	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	12/31/01		8.03	99.37	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	03/14/02		8.48	98.92	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	04/17/02		7.79	99.61	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	5.6	NA
	08/08/02		8.90	98.50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	4.5
	12/12/02		9.07	98.33	ND<50[d]	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	5.6
	03/20/03[e]		8.85	98.55	ND<50	ND<0.50	ND<0.50	ND<0.50	0.50	ND<0.50	4.8
	06/23/03		**9.26**	**98.14**	**ND<50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**6.3**
MW-5	06/20/00	105.19	7.65	97.54	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<10	NA
	09/28/00		6.82	98.37	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<2.5	NA
	12/17/00		6.50	98.69	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	03/28/01		6.34	98.85	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	06/21/01		7.88	97.31	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	09/23/01		6.98	98.21	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	12/31/01		5.01	100.18	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	03/14/02		5.93	99.26	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	04/17/02		5.37	99.82	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	8.5	NA
	08/08/02		6.85	98.34	ND<50[b]	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	0.7
	12/12/02		6.53	98.66	ND<50[d]	2.2	4.7	1.3	6.8	ND<2.5	1.3
	03/20/03[e]		6.40	98.79	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	2.7
	06/23/03		**6.72**	**98.47**	**ND<50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**1.3**

Table 1
Groundwater Elevation and Analytical Data

ARCO Service Station #4494
566 Hegenberger Road
Oakland, California

Well Number	Date Sampled	Top of Riser Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Dissolved Oxygen (mg/L)
MW-6	06/20/00	105.07	6.24	98.83	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<10	NA
	09/28/00		6.45	98.62	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<2.5	NA
	12/17/00		6.26	98.81	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	03/28/01		6.10	98.97	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	06/21/01		7.68	97.39	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	09/23/01		6.72	98.35	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	12/23/01		4.68	100.39	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	03/14/02		5.55	99.52	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	04/17/02		4.96	100.11	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	7	NA
	08/08/02		6.46	98.61	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	0.7
	12/12/02		6.18	98.89	65[d]	3.3	8.4	2.7	14	ND<2.5	1.1
	03/20/03[e]		6.18	98.89	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	2.2
	06/23/03		**6.15**	**98.92**	**ND<50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**2.0**
MW-7	06/20/00	105.52	8.65	96.87	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	13/13[a]	NA
	09/28/00		8.75	96.77	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	136/261[a]	NA
	12/17/00		8.62	96.90	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	27.1	NA
	03/28/01		8.66	96.86	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	51.5	NA
	06/21/01		8.84	96.68	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	53	NA
	09/23/01		8.75	96.77	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	35/21[a]	NA
	12/23/01		7.79	97.73	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	440	NA
	03/14/02		8.30	97.22	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	18	NA
	04/17/02		7.43	98.09	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	67	NA
	08/08/02		8.61	96.91	55[b]	ND<0.5	ND<0.5	ND<0.5	ND<0.5	130/100[a]	1.1
	12/12/02	**	8.55	NC	75[d]	ND< 0.5	ND< 0.5	ND< 0.5	ND< 0.5	160/130[a]	1.2
	03/20/03[e]		8.38	NC	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	32	2.2
	06/23/03		**8.37**	**NC**	**ND<50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**14**	**0.8**

Table 1
Groundwater Elevation and Analytical Data

ARCO Service Station #4494
566 Hegenberger Road
Oakland, California

Well Number	Date Sampled	Top of Riser Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Dissolved Oxygen (mg/L)
RW-1	06/20/00	NE	8.21	NC	ND<50	ND<0.5	1.1	ND<0.5	ND<1.0	ND<10	NA
	09/28/00		8.28	NC	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<2.5	NA
	12/17/00		8.29	NC	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	03/28/01		8.16	NC	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	06/21/01		9.37	NC	160	5.1	ND<0.5	1.1	3.2	ND<2.5	NA
	09/23/01		8.75	NC	57	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	12/31/01		6.80	NC	520	3.1	ND<0.5	6.4	4.7	ND<2.5	NA
	03/14/02		7.86	NC	240	3.7	ND<0.5	0.7	2.8	ND<2.5	NA
	04/17/02		7.13	NC	ND<50	ND<0.5	1.6	ND<0.5	0.72	ND<2.5	NA
	08/08/02		8.48	NC	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	3.7/ND<0.5[a,c]	1.1
	12/12/02		8.63	NC	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	1.9
	03/20/03[e]		8.08	NC	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1.9
	06/23/03		**8.28**	**NC**	**ND<50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**1.1**

TPH = Total Petroleum Hydrocarbons analyzed by EPA Method 8015M. (prior to 3/20/03)
MTBE = Methyl tertiary butyl ether analyzed by EPA Method 8021B unless otherwise noted. (prior to 3/20/03)
µg/L = Micrograms per liter
mg/L = Milligrams per liter
NC = Not calculated
NE = Not surveyed/No elevation
ND< = Not detected at or above specifed laboratory detection limit.
a = Analyzed by EPA Method 8260
b = Hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel.
c = This sample was analyzed beyond the EPA recommended holding time. The results may still be useful for their intended purpose.
d = Analyzed by EPA Method 8215B/8021B for Gasoline Range Organics
e = TPH-g, BTEX, and MTBE analyzed by EPA method 8260B beginning on 2003 samlping event (03/20/03)
** = Top of casing was found shattered on December 12, 2002. Top of Casing (TOC) unknown.

Source: The data within this table collected prior to August 2002 was provided to URS by Group Environmental Management Company and their previous consultants. URS has not verified the accuracy of this information.

Table 2
Groundwater Flow Direction and Gradient

ARCO Service Station #4494
566 Hegenberger Road
Oakland, California

Date Measured	Average Flow Direction	Average Hydraulic Gradient
06/20/00	North-Northeast	0.015
09/28/00	North	0.018
12/17/00	North-Northwest	0.013
03/28/01	Northwest	0.011
06/21/01	North	0.017
09/23/01	North	0.020
12/31/01	North-Northwest	0.023
03/14/02	North-Northwest	0.017
04/14/02	Northwest	0.007
08/08/02	North-Northwest	0.022
12/12/02	North-Northwest	0.017
03/20/03	North-Northwest	0.016
06/23/03	**Northwest**	**0.014**

Note:

The data within this table collected prior to August 2002 was provided to URS by Group Environmental Management Company and their previous consultants. URS has not verified the accuracy of this information.

Table 3
Fuel Oxygenate Analytical Data

ARCO Service Station # 4494
566 Hagenberger Road
Oakland, California

Well Number	Date Sampled	Ethanol (µg/L)	TBA (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
MW-1	03/20/03	ND<1,000	640	780	ND<5.0	ND<5.0	ND<5.0	NA	NA
	06/23/03	**ND<1,000**	**ND<200**	**260**	**ND<5.0**	**ND<5.0**	**ND<5.0**	**ND<5.0**	**ND<5.0**
MW-3	03/20/03	ND<100	ND<20	601	ND<0.50	ND<0.50	1.1	NA	NA
	06/23/03	**ND<100**	**ND<20**	**5.2**	**ND<0.50**	**ND<0.50**	**0.75**	**ND<0.50**	**ND<0.50**
MW-4	03/20/03	ND<100	ND<20	ND<0.50	ND<0.50	ND<0.50	ND<0.50	NA	NA
	06/23/03	**ND<100**	**ND<20**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**
MW-5	03/20/03	ND<100	ND<20	ND<0.50	ND<0.50	ND<0.50	ND<0.50	NA	NA
	06/23/03	**ND<100**	**ND<20**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**
MW-6	03/20/03	ND<100	ND<20	ND<0.50	ND<0.50	ND<0.50	ND<0.50	NA	NA
	06/23/03	**ND<100**	**ND<20**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**
MW-7	03/20/03	ND<100	ND<20	32	ND<0.50	ND<0.50	0.62	NA	NA
	06/23/03	**ND<100**	**170**	**14**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**
RW-1	03/20/03	ND<100	ND<20	ND<0.50	ND<0.50	ND<0.50	ND<0.50	NA	NA
	06/23/03	**ND<100**	**ND<20**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**

Note = All fuel oxygenate compounds analyzed using EPA Method 8260B
TBA = tert-Butyl alcohol
MTBE = Methyl tert-butyl ether
DIPE = Di-isopropyl ether
ETBE = Ethyl tert butyl ether
TAME = tert-Amyl methyl ether
1,2-DCA = 1,2-Dichloroethane
EDB = 1,2-Dibromoethane
µg/L = micrograms per liter
ND< = Less than laboratory reporting limit
NA = Not analyzed

Sequoia
Analytical

885 Jarvis Dr
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

11 July, 2003

Scott Robinson
URS Corporation [Arco]
500 12th Street, Suite 100
Oakland, CA 94607

RE: ARCO #4494, Oakland, CA
Sequoia Work Order: MMF0710

Enclosed are the results of analyses for samples received by the laboratory on 06/24/03 08:20. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James Hartley For Theresa Allen
Project Manager

CA ELAP Certificate #1210

Sequoia Analytical

885 Jarvis Dr.
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

URS Corporation [Arco]	Project: ARCO #4494, Oakland, CA	MMF0710
500 12th Street, Suite 100	Project Number: INTRIM-50443	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	07/11/03 14:37

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	MMF0710-01	Water	06/23/03 14:15	06/24/03 08:20
MW-3	MMF0710-02	Water	06/23/03 13:22	06/24/03 08:20
MW-4	MMF0710-03	Water	06/23/03 12:50	06/24/03 08:20
MW-5	MMF0710-04	Water	06/23/03 13:12	06/24/03 08:20
MW-6	MMF0710-05	Water	06/23/03 13:39	06/24/03 08:20
MW-7	MMF0710-06	Water	06/23/03 13:57	06/24/03 08:20
RW-1	MMF0710-07	Water	06/23/03 13:54	06/24/03 08:20

There were no custody seals that were received with this project.

Sequoia Analytical

885 Jarvis Dr
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

URS Corporation [Arco]	Project: ARCO #4494, Oakland, CA	MMF0710
500 12th Street, Suite 100	Project Number: INTRIM-50443	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	07/11/03 14:37

Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (MMF0710-01) Water Sampled: 06/23/03 14:15 Received: 06/24/03 08:20									
Ethanol	ND	1000	ug/l	10	3G02002	07/02/03	07/02/03	EPA 8260B	
tert-Butyl alcohol	ND	200	"	"	"	"	"	"	
Methyl tert-butyl ether	**260**	5.0	"	"	"	"	"	"	
Di-isopropyl ether	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
Xylenes (total)	ND	5.0	"	"	"	"	"	"	
Gasoline Range Organics (C6-C10)	**530**	500	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*92.6 %*	*78-129*		"	"	"	"	
MW-3 (MMF0710-02) Water Sampled: 06/23/03 13:22 Received: 06/24/03 08:20									
Ethanol	ND	100	ug/l	1	3G02002	07/02/03	07/02/03	EPA 8260B	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	
Methyl tert-butyl ether	**5.2**	0.50	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
tert-Amyl methyl ether	**0.75**	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Gasoline Range Organics (C6-C10)	ND	50	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*96.8 %*	*78-129*		"	"	"	"	

Sequoia Analytical

885 Jarvis Dr
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

URS Corporation [Arco]	Project: ARCO #4494, Oakland, CA	MMF0710
500 12th Street, Suite 100	Project Number: INTRIM-50443	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	07/11/03 14:37

Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (MMF0710-03) Water Sampled: 06/23/03 12:50 Received: 06/24/03 08:20									
Ethanol	ND	100	ug/l	1	3G02002	07/02/03	07/02/03	EPA 8260B	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Gasoline Range Organics (C6-C10)	ND	50	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*97.4 %*		*78-129*		"	"	"	
MW-5 (MMF0710-04) Water Sampled: 06/23/03 13:12 Received: 06/24/03 08:20									
Ethanol	ND	100	ug/l	1	3G02002	07/02/03	07/02/03	EPA 8260B	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Gasoline Range Organics (C6-C10)	ND	50	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*95.8 %*		*78-129*		"	"	"	

Sequoia Analytical

885 Jarvis Dr
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

URS Corporation [Arco]	Project: ARCO #4494, Oakland, CA	MMF0710
500 12th Street, Suite 100	Project Number: INTRIM-50443	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	07/11/03 14:37

Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-6 (MMF0710-05) Water Sampled: 06/23/03 13:39 Received: 06/24/03 08:20									
Ethanol	ND	100	ug/l	1	3G02002	07/02/03	07/02/03	EPA 8260B	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Gasoline Range Organics (C6-C10)	ND	50	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*97.8 %*	*78-129*		"	"	"	"	
MW-7 (MMF0710-06) Water Sampled: 06/23/03 13:57 Received: 06/24/03 08:20									
Ethanol	ND	100	ug/l	1	3G02002	07/02/03	07/02/03	EPA 8260B	
tert-Butyl alcohol	**170**	20	"	"	"	"	"	"	
Methyl tert-butyl ether	**14**	0.50	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Gasoline Range Organics (C6-C10)	ND	50	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*99.2 %*	*78-129*		"	"	"	"	

Sequoia Analytical

885 Jarvis Dr
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

URS Corporation [Arco]	Project: ARCO #4494, Oakland, CA	MMF0710
500 12th Street, Suite 100	Project Number: INTRIM-50443	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	07/11/03 14:37

Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
RW-1 (MMF0710-07) Water Sampled: 06/23/03 13:54 Received: 06/24/03 08:20									
Ethanol	ND	100	ug/l	1	3G02002	07/02/03	07/02/03	EPA 8260B	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Gasoline Range Organics (C6-C10)	ND	50	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*99.6 %*	*78-129*		"	"	"	"	

Sequoia Analytical

885 Jarvis Dr
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

URS Corporation [Arco]	Project: ARCO #4494, Oakland, CA	MMF0710
500 12th Street, Suite 100	Project Number: INTRIM-50443	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	07/11/03 14:37

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3G02002 - EPA 5030B P/T										
Blank (3G02002-BLK1)				Prepared & Analyzed: 07/02/03						
Ethanol	ND	100	ug/l							
tert-Butyl alcohol	ND	20	"							
Methyl tert-butyl ether	ND	0.50	"							
Di-isopropyl ether	ND	0.50	"							
Ethyl tert-butyl ether	ND	0.50	"							
tert-Amyl methyl ether	ND	0.50	"							
1,2-Dichloroethane	ND	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.50	"							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Gasoline Range Organics (C6-C10)	ND	50	"							
Surrogate: 1,2-Dichloroethane-d4	*4.83*		"	*5.00*		*96.6*	*78-129*			
Laboratory Control Sample (3G02002-BS1)				Prepared & Analyzed: 07/02/03						
Methyl tert-butyl ether	9.56	0.50	ug/l	10.0		95.6	63-137			
Benzene	10.2	0.50	"	10.0		102	78-124			
Toluene	11.9	0.50	"	10.0		119	78-129			
Surrogate: 1,2-Dichloroethane-d4	*4.81*		"	*5.00*		*96.2*	*78-129*			
Laboratory Control Sample (3G02002-BS2)				Prepared & Analyzed: 07/02/03						
Methyl tert-butyl ether	8.26	0.50	ug/l	9.92		83.3	63-137			
Benzene	5.27	0.50	"	6.40		82.3	78-124			
Toluene	32.9	0.50	"	29.7		111	78-129			
Gasoline Range Organics (C6-C10)	423	50	"	440		96.1	70-113			
Surrogate: 1,2-Dichloroethane-d4	*4.51*		"	*5.00*		*90.2*	*78-129*			

Sequoia Analytical

885 Jarvis Dr.
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

URS Corporation [Arco]	Project: ARCO #4494, Oakland, CA	MMF0710
500 12th Street, Suite 100	Project Number: INTRIM-50443	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	07/11/03 14:37

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3G02002 - EPA 5030B P/T										
Matrix Spike (3G02002-MS1)		**Source: MMF0710-01**		Prepared & Analyzed: 07/02/03						
Methyl tert-butyl ether	344	5.0	ug/l	99.2	260	84.7	63-137			
Benzene	52.5	5.0	"	64.0	ND	82.0	78-124			
Toluene	332	5.0	"	297	0.80	112	78-129			
Gasoline Range Organics (C6-C10)	4250	500	"	4400	530	84.5	70-113			
Surrogate: 1,2-Dichloroethane-d4	*4.75*		"	*5.00*		*95.0*	*78-129*			
Matrix Spike Dup (3G02002-MSD1)		**Source: MMF0710-01**		Prepared & Analyzed: 07/02/03						
Methyl tert-butyl ether	347	5.0	ug/l	99.2	260	87.7	63-137	0.868	13	
Benzene	53.0	5.0	"	64.0	ND	82.8	78-124	0.948	12	
Toluene	330	5.0	"	297	0.80	111	78-129	0.604	10	
Gasoline Range Organics (C6-C10)	4270	500	"	4400	530	85.0	70-113	0.469	9	
Surrogate: 1,2-Dichloroethane-d4	*4.90*		"	*5.00*		*98.0*	*78-129*			

Sequoia Analytical

885 Jarvis Dr
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

URS Corporation [Arco]	Project: ARCO #4494, Oakland, CA	MMF0710
500 12th Street, Suite 100	Project Number: INTRIM-50443	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	07/11/03 14:37

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Chain of Custody Record

bp

Project Name 030623-DW-3

BP BU/GEM CO Portfolio:

BP Laboratory Contract Number:

Date: 6-23-03 Requested Due Date (mm/dd/yy) -- MMF0710

On-site Time:	Temp:
Off- site Time:	Temp:
Sky Conditions:	
Meteorological Events:	
Wind Speed:	Direction:

Send To:	BP/GEM Facility No.:
Lab Name: SEQUOIA	BP/GEM Facility Address: 566 HEGENBERGER, OAKLAND, CA
Lab Address: 885 Jarvis Dr. Morgan Hill, CA 95037	Site ID No. ARCO 4494
	Site Lat/Long:
	California Global ID #: T0600100104
Lab PM: Latonya Pelt	BP/GEM PM Contact: PAUL SUPPLE
Tele/Fax: 408-776-9600 / 408-782-6308	Address:
Report Type & QC Level: Send EDF Reports	
BP/GEM Account No.:	Tele/Fax:

Consultant/Contractor: URS	
Address: 500 12th St., Ste. 200 Oakland, CA 94609-4014	
e-mail EDD: syed_rehan@urscorp.com	
Consultant/Contractor Project No.: 15-00004494.01 00427	
Consultant Tele/Fax: 510-874-1735/510-874-3268	
Consultant/Contractor PM: Scott Robinson	
Invoice to: Consultant/Contractor or (BP/GEM) (Circle one)	
BP/GEM Work Release No: INTRIM -50443	

Lab Bottle Order No:

Item No.	Sample Description	Time	Matrix: Soil/Solid	Matrix: Water/Liquid	Matrix: Sediments	Matrix: Air	Laboratory No.	No. of containers	Preservatives: Unpreserved	Preservatives: H_2SO_4	Preservatives: HNO_3	Preservatives: HCl	Requested Analysis: TPH-G / BTEX (8260)	Requested Analysis: TPH-D (8015)	Requested Analysis: MTBE (8021)	Requested Analysis: MTBE, TAME, ETBE, DIPE, TBA (8260)	Requested Analysis: 1,2-DCA & EDB (8260)	Requested Analysis: Ethanol (8260)	Sample Point Lat/Long and Comments
1	MW-1	11:15		X			01	3				X	X		X			X	
2	MW-3	13:22					02						X		X			X	
3	MW-4	12:50					03						X		X			X	
4	MW-5	13:12					04						X		X			X	
5	MW-6	13:39					05						X		X			X	
6	MW-7	13:57					06						X		X			X	
7	RW-1	13:54					07						X		X			X	
8																			
9																			
10																			

Sampler's Name: Dave Walter	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: Blaine Tech Services	Dave Walter	6/24/03	08:20		6/24/03	8:20
Shipment Date:		6/24/03	8:20		6/24/03	8:20
Shipment Method:						
Shipment Tracking No:						

Special Instructions: Address Invoice to BP/GEM but send to URS for approval

Coolers In Place Yes ___ No ✓ Temperature Blank Yes ___ No ✓ Cooler Temperature on Receipt ___ °F/C Trip Blank Yes ___ No ✓

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: URS
REC. BY (PRINT): TL
WORKORDER: MMF 0710

DATE REC'D AT LAB: 6/24/03
TIME REC'D AT LAB: 820
DATE LOGGED IN: 6-24-03

Drinking water for regulatory purposes: YES (NO)
Wastewater for regulatory purposes: YES (NO)

CIRCLE THE APPROPRIATE RESPONSE	LAB SAMPLE #	DASH #	CLIENT ID	CONTAINER DESCRIPTION	PRESERVATIVE	SAMPLE MATRIX	DATE SAMPLED	REMARKS: CONDITION (ETC.)
1. Custody Seal(s) Present / (Absent) Intact / Broken*	01		MW-1	(3) Voas	HCl	L	6/23/03	
2. Chain-of-Custody (Present) / Absent*	02		-3					
3. Traffic Reports or Packing List: Present / (Absent)	03		-4					
	04		-5					
	05		-6					
4. Airbill: Airbill / Sticker Present / (Absent)	06		-7					
	07		RW-1					
5. Airbill #:								
6. Sample Labels: (Present) / Absent								
7. Sample IDs: (Listed) / Not Listed on Chain-of-Custody								
8. Sample Condition: (Intact) / Broken* / Leaking*								
9. Does information on custody reports, traffic reports and sample labels agree? (Yes) / No*								
10. Sample received within hold time: (Yes) / No*								
11. Proper Preservatives used: (Yes) / No*								
12. Temp Rec. at Lab: 5°C Is temp 4 +/-2°C? (Yes) / No**								

(Acceptance range for samples requiring thermal pres.)

**Exception (if any): Metals / DFF (Direct From Field) or Problem COC

6/24/03

*IF CIRCLED, CONTACT PROJECT MANAGER AND ATTACH RECORD OF RESOLUTION.

WELL GAUGING DATA

Project # 030623-DW-3 Date 6-23-03 Client Arco

Site 566 Hegenberger Rd 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	4					7.61	22.96		
MW-3	4					9.36	17.91		NP 7'
MW-4	4					9.26	16.61		NP 7'
MW-5	2					6.72	16.99		
MW-6	2					6.15	18.20		
MW-7	~~2~~ 4					8.37	15.40		
RW-1	~~2~~ 2					8.28	11.24		

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 030623-DW-3	Station # 4494
Sampler: Dave Walter	Date: 6-23-03
Well I.D.: MW-1	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 22.96	Depth to Water: 7.61
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

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

Purge Method:
- Bailer
- Disposable Bailer
- Middleburg
- X Electric Submersible
- Extraction Pump
- Other: _____

Sampling Method:
- Bailer
- X Disposable Bailer
- Extraction Port
- Other: _____

Top of Screen: _____

If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

10.0 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 30 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
14:05	70.6	7.5	9955	10	clear
well dewatered @ 12 gl				DTW = 20.85	
14:15	70.1	7.6	7610	—	DTW = 17.03

Did well dewater? (Yes) No			Gallons actually evacuated: 12		
Sampling Time: 14:15			Sampling Date: 6-23-03		
Sample I.D.: MW-1			Laboratory: Pace (Sequoia) Other _____		
Analyzed for: (TPH-G) (BTEX) MTBE TPH-D			Other: Oxygenates, Ethanol by 8260		
D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	1.2	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 030623-DW-3	Station # 4494
Sampler: Dave Walter	Date: 6-23-03
Well I.D.: MW-3	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth: 17.91	Depth to Water: 9.36
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Purge Method: Bailer / (Disposable Bailer) / Middleburg / Electric Submersible / Extraction Pump / Other: ____

Sampling Method: Bailer / (X) Disposable Bailer / Extraction Port / Other: ____

Top of Screen: 7'

If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

1 Case Volume (Gals.)	X	Specified Volumes	=	Calculated Volume
____	X	(X) no purge	=	____ Gals.

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
1322	70.9	8.7	5488	—	clear

Did well dewater? Yes No — Gallons actually evacuated: —

Sampling Time: 1322 — Sampling Date: 6-23-03

Sample I.D.: MW-3 — Laboratory: Pace (Sequoia) Other ____

Analyzed for: (TPH-G) (BTEX) MTBE TPH-D Other: Oxygenates, Ethanol by 8260

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	0.9	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 030623-DW-3	Station # 4494
Sampler: Dave Walter	Date: 6-23-03
Well I.D.: MW-4	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth: 16.61	Depth to Water: 9.26
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Purge Method: Bailer / ~~Disposable Bailer~~ / ~~Middleburg~~ / ~~Electric Submersible~~ / ~~Extraction Pump~~ / Other: ____

Sampling Method: Bailer / X Disposable Bailer / Extraction Port / Other: ____

Top of Screen: 7'

If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

____ (1 Case Volume (Gals.)) X 1 no purge (Specified Volumes) ____ Gals. (Calculated Volume)

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
1250	66.5	7.5	1055	—	clear

Did well dewater? Yes / No — Gallons actually evacuated: —

Sampling Time: 1250 — Sampling Date: 6-23-03

Sample I.D.: MW-4 — Laboratory: Pace / (Sequoia) / Other ____

Analyzed for: (TPH-G) (BTEX) MTBE TPH-D — Other: Oxygenates, Ethanol by 8260

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	6.3	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 030623-DW-3	Station # 4494
Sampler: Dave Walter	Date: 6-23-03
Well I.D.: MW-5	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth: 16.99	Depth to Water: 6.72
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Purge Method: Bailer / X Disposable Bailer / Middleburg / Electric Submersible / Extraction Pump / Other: _____

Sampling Method: Bailer / X Disposable Bailer / Extraction Port / Other: _____

Top of Screen: _____ If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

1.6 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 4.8 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
13:02	68.2	7.3	9377	1.6	
13:05	67.6	7.1	11920	3.2	
13:07	67.4	7.2	11550	4.8	

Did well dewater? Yes (No)

Gallons actually evacuated: 4.8

Sampling Time: 13:12

Sampling Date: 6-23-03

Sample I.D.: MW-5

Laboratory: Pace (Sequoia) Other _____

Analyzed for: (TPH-G) (BTEX) MTBE TPH-D Other: Oxygenates, Ethanol by 8260

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	1.3 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 030623-Dav-3	Station # 4494
Sampler: Dave Walter / EH	Date: 6-23-03
Well I.D.: mw-6	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth: 18.20	Depth to Water: 6.15
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH

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

Purge Method: Bailer / (Disposable Bailer) / Middleburg / Electric Submersible / Extraction Pump / Other: ____

Sampling Method: Bailer / X Disposable Bailer / Extraction Port / Other: ____

Top of Screen: ____ If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

1.9 (1 Case Volume (Gals.)) X 3 (Specified Volumes) = 5.7 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
1330	70.5	7.5	6349	2.0	cloudy
1352	69.7	7.2	6212	4.0	"
1339	69.7	7.1	6112	6.0	"

Did well dewater? Yes (No) Gallons actually evacuated: 6.0

Sampling Time: 1339 Sampling Date: 6-23-03

Sample I.D.: mw-6 Laboratory: Pace (Sequoia) Other____

Analyzed for: (TPH-G) (BTEX) MTBE TPH-D Other: Oxygenates, Ethanol by 8260

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

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 030623-DW-3	Station # 4494
Sampler: Dave Walter (RH)	Date: 6-23-03
Well I.D.: mw-7	Well Diameter: 1/2 3 (4) 6 8 ____
Total Well Depth: 13.40	Depth to Water: 8.37
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Purge Method: Bailer / Disposable Bailer / Middleburg / (Electric Submersible) / Extraction Pump / Other: ____

Sampling Method: Bailer / X Disposable Bailer / Extraction Port / Other: ____

Top of Screen: ____ If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

3.3 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 9.9 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
1350	74.8	7.1	4428	3.3	yellow
1351	71.0	7.2	4336	6.6	"
1352	70.2	7.1	4222	10.0	"

Did well dewater? Yes (No) Gallons actually evacuated: 10.0

Sampling Time: 1357 Sampling Date: 6-23-03

Sample I.D.: mw-7 Laboratory: Pace (Sequoia) Other ____

Analyzed for: (TPH-G) (BTEX) MTBE TPH-D Other: Oxygenates, Ethanol by 8260

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

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 030623-DW-3	Station # 4494
Sampler: Dave Walter	Date: 6-23-03
Well I.D.: RW-1	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth: 11.24	Depth to Water: 8.28
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

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

Purge Method: Bailer
X Disposable Bailer
Middleburg
Electric Submersible
Extraction Pump
Other: ___

Sampling Method: Bailer
X Disposable Bailer
Extraction Port
Other: ___

Top of Screen: ___

If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

0.5 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 1.5 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
13:45	69.2	7.5	14770	0.5	clear
13:47	68.6	7.4	17420	1.0	
13:49	68.5	7.3	18560	1.5	

Did well dewater? Yes (No) Gallons actually evacuated: 1.5

Sampling Time: 13:54 Sampling Date: 6-23-03

Sample I.D.: RW-1 Laboratory: Pace (Sequoia) Other ___

Analyzed for: (TPH-G) (BTEX) MTBE TPH-D Other: Oxygenates, Ethanol by 8260

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

Chain of Custody Record

Project Name 030623-Dw-3
BP BU/GEM CO Portfolio:
BP Laboratory Contract Number:
Date: 6-23-03 **Requested Due Date** (mm/dd/yy)

On-site Time:	Temp:
Off- site Time:	Temp:
Sky Conditions:	
Meteorological Events:	
Wind Speed:	Direction:

end To:	BP/GEM Facility No.:	Consultant/Contractor: URS
ab Name: SEQUOIA	BP/GEM Facility Address: 566 HEGENBERGER, OAKLAND, CA	Address: 500 12th St., Ste. 200
ab Address: 885 Jarvis Dr. Morgan Hill, CA 95037	Site ID No. ARCO 4494	Oakland, CA 94609-4014
	Site Lat/Long:	e-mail EDD: syed_rehan@urscorp.com
	California Global ID #: T0600100104	Consultant/Contractor Project No.: J5-00004494.01 00427
ab PM: Latonya Pelt	BP/GEM PM Contact: PAUL SUPPLE	Consultant Tele/Fax: 510-874-1735/510-874-3268
ele/Fax: 408-776-9600 / 408-782-6308	Address:	Consultant/Contractor PM: Scott Robinson
eport Type & QC Level: Send EDF Reports		Invoice to: Consultant/Contractor or BP/GEM (Circle one)
P/GEM Account No.:	Tele/Fax:	BP/GEM Work Release No: INTRIM -50443

ab Bottle Order No:

em No.	Sample Description	Time	Matrix: Soil/Solid	Matrix: Water/Liquid	Matrix: Sediments	Matrix: Air	Laboratory No.	No. of containers	Preservatives: Unpreserved	Preservatives: H_2SO_4	Preservatives: HNO_3	Preservatives: HCl	Preservatives:	Preservatives:	Requested Analysis: TPH-G / BTEX (8015+8021) 5326	Requested Analysis: TPH-D (8015)	Requested Analysis: MTBE (8021)	Requested Analysis: MTBE, TAME, ETBE DIPE, TBA (8260)	Requested Analysis: 1,2-DCA & EDB (8260)	Requested Analysis: Ethanol (8260)	Requested Analysis:	Requested Analysis:	Requested Analysis:	Requested Analysis:	Sample Point Lat/Long and Comments
1	MW-1	14:15		X				3				X			X			X		X					
2	MW-3	13:22													X			X		X					
3	MW-4	12:50													X			X		X					
4	MW-5	13:17													X			X		X					
5	MW-6	13:39													X			X		X					
6	MW-7	13:57													X			X		X					
7	RW-1	13:54													X			X		X					
8																									
9																									
10																									

ampler's Name: Dave Walter	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
ampler's Company: Blaine Tech Services	David C. Walter					
ipment Date:						
ipment Method:						
ipment Tracking No:						

pecial Instructions: Address Invoice to BP/GEM but send to URS for approval

ustody Seals In Place Yes No Temperature Blank Yes No Cooler Temperature on Receipt °F/C Trip Blank Yes No

BP GEM OIL COMPANY TYPE **A** BILL OF LADING

SOURCE RECORD **BILL OF LADING** FOR NON-HAZARDOUS PURGEWATER RECOVERED FROM GROUNDWATER WELLS AT BP GEM OIL COMPANY FACILITIES IN THE STATE OF CALIFORNIA. THE NON-HAZARDOUS PURGE- WATER WHICH HAS BEEN RECOVERED FROM GROUND- WATER WELLS IS COLLECTED BY THE CONTRACTOR, MADE UP INTO LOADS OF APPROPRIATE SIZE AND HAULED BY DILLARD ENVIRONMENTAL TO THE ALTAMONT LANDFILL AND RESOURCE RECOVERY FACILITY IN LIVERMORE, CALIFORNIA.

The contractor performing this work is BLAINE TECH SERVICES, INC. (BTS), 1680 Rogers Avenue, San Jose, CA 95112 (phone [408] 573-0555). Blaine Tech Services, Inc. is authorized by BP GEM OIL COMPANY to recover, collect, apportion into loads the Non-Hazardous Well Purgewater that is drawn from wells at the BP GEM Oil Company facility indicated below and deliver that purgewater to BTS. Transport routing of the Non-Hazardous Well Purgewater may be direct from one BP GEM facility to the designated destination point; from one BP GEM facility to the designated destination point via another BP GEM facility; from a BP GEM facility to the designated destination point via the contractor's facility, or any combination thereof. The Non-Hazardous Well Purgewater is and remains the property of BP GEM Oil Company.

This **Source Record BILL OF LADING** was initiated to cover the recovery of Non-Hazardous Well Purgewater from wells at the BP GEM Oil Company facility described below:

Station # 4494

Station Address 566 Hegenberger Rd Oakland

Total Gallons Collected From Groundwater Monitoring Wells: 32

added equip. rinse water 10

any other adjustments ______

TOTAL GALS. RECOVERED 42

loaded onto BTS vehicle # 47

BTS event # 030623-DW-3

time 14:25

date 6/23/03

signature David C Walt

* *

REC'D AT ______

time ______

date ___/___/___

unloaded by signature ______

WELLHEAD INSPECTION CHECKLIST

Client Arco Date 6-23-03

Site Address 566 Hegenberger Rd Oakland

Job Number 030623-DW-3 Technician Dave Walker

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)	Repair Order Submitted
mw-1	X							
mw-3	X							
mw-4	X							
mw-5	X							
mw-6	X							
mw-7	X							
RW-1	X							

NOTES: