



**Shell Oil Products US**

July 18, 2003

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

Alameda County  
JUL 24 2003  
Environmental Health

**Subject: Shell-branded Service Station**  
105 Fifth Street  
Oakland, California

Dear Mr. Chan:

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  
Sr. Environmental Engineer

July 18, 2003

Barney Chan  
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  
105 Fifth Street  
Oakland, California  
Incident #98995757  
Cambria Project #245-0472-002



Dear Mr. Chan:

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.

## **HISTORICAL REMEDIATION SUMMARY**

Mobile dual-phase vacuum extraction (DVE) was performed at the site from April to November 2000 and once in March 2001. Mobile DVE is the process of applying a high vacuum through an airtight well seal to simultaneously extract soil vapors from the vadose zone and enhance groundwater extraction (GWE) from the saturated zone. Between April 2000 and March 2001, the DVE process removed an estimated 14.59 lbs. of total petroleum hydrocarbons as gasoline (TPHg) and 14.50 lbs. of methyl tertiary butyl ether (MTBE) from monitoring wells MW-2 and MW-3. DVE was discontinued due to limited chemical recovery.


## **SECOND QUARTER 2003 ACTIVITIES**

**Groundwater Monitoring:** Blaine Tech Services, Inc. (Blaine) of San Jose, California gauged and sampled the site wells, calculated groundwater elevations, and compiled the analytical data. Cambria prepared a vicinity map showing well survey data (Figure 1) and a groundwater elevation contour map (Figure 2). Blaine's report, presenting the laboratory report and

**Cambria  
Environmental  
Technology, Inc.**

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supporting field documents, is included as Attachment A. Well MW-3 was also sampled for oxygenates di-isopropyl ether, tert-amyl methyl ether, and tert-butanol, and for lead scavengers 1,2-dichloroethane and 1,2-dibromomethane. Results of this analysis are presented in Table 1.



**GWE:** Beginning in November 2001, Phillips Services Corporation of Benicia, California has conducted semi-monthly mobile GWE events from tank backfill well T-1. Mobile GWE vacuum operations consist of lowering dedicated stingers into selected monitoring wells and extracting fluids using a vacuum truck. The volume of extracted fluid is recorded and used to calculate the quantity of aqueous-phase hydrocarbon removed from the subsurface. These events were temporarily discontinued in anticipation of installation of a fixed GWE system. These events were resumed in May 2003. In June 2003, well MW-3 was added to the extraction program. Mass removal data from the GWE events is presented in Table 2. Through June 2003, a total of 123,211 gallons of water have been extracted, resulting in removal of 7.4 lbs. of TPHg and 69.6 lbs. of MTBE.

**GWE System Installation:** We have received all necessary permits for construction of a fixed GWE system. However, as with the first quarter results, groundwater monitoring results presented in this report display trends which continue to show a substantial decrease in MTBE concentrations. The concentration in tank backfill well T-1 decreased from 29,000 parts per billion (ppb) during the fourth quarter 2002 to 820 ppb in the first quarter 2003, and to 89 ppb this quarter. Concentrations in monitoring well MW-3 decreased to 14,000 ppb this quarter.

Shell will continue to maintain the permits for installation of the GWE system, but will not install it at this time, pending evaluation of additional quarterly groundwater monitoring data.

## ANTICIPATED THIRD QUARTER 2003 ACTIVITIES

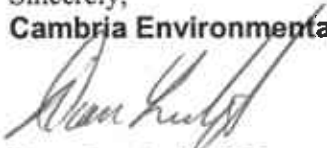
**Groundwater Monitoring:** Blaine will gauge and sample all wells, and tabulate the data. Cambria will prepare a monitoring report.

**GWE:** The frequency of mobile GWE from well T-1 has been increased to twice-monthly, well MW-3 has been added to the extraction program, and well MW-2 will also be added. We are in the process of obtaining an encroachment permit from the City of Oakland to add off-site well MW-6 to the extraction program

**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



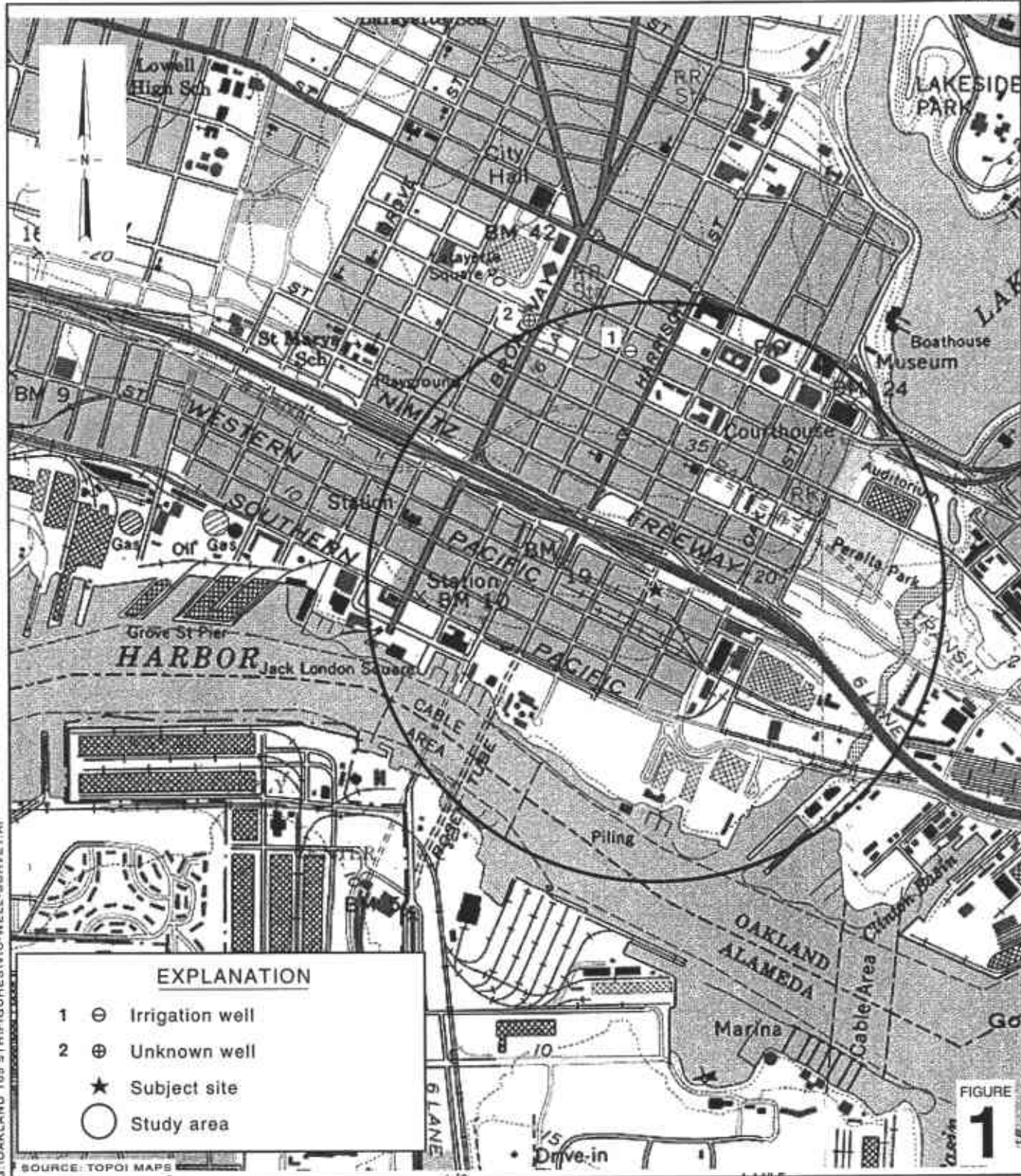
Figures: 1 - Vicinity/Well Survey Map  
2 - Groundwater Elevation Contour Map

Tables: 1 - Groundwater Analytical Data - Oxygenates  
2 - Groundwater Extraction – Mass Removal Data

Attachment: A - Blaine Groundwater Monitoring Report and Field Notes

cc: Karen Petryna, Shell Oil Products US, P.O. Box 7869, Burbank, CA 91510-7869  
Arthur R. and Mary A. Hansen, Trs., et al, 820 Loyola Drive, Los Altos, CA 94024

G:\Oakland 105 Fifth\Qm\2q03\2q03qm.doc



0:\OAKLAND 105 5TH\FIGURE\VIC-WELL-SURVEY.A1

**EXPLANATION**

- 1 ⊕ Irrigation well
- 2 ⊕ Unknown well
- ★ Subject site
- Study area

FIGURE 1

0 1/8 1/4 1/2 1  
SCALE : 1" = 1/4 MILE

**Shell-branded Service Station**  
 105 Fifth Street  
 Oakland, California  
 Incident# 98995757



C A M B R I A

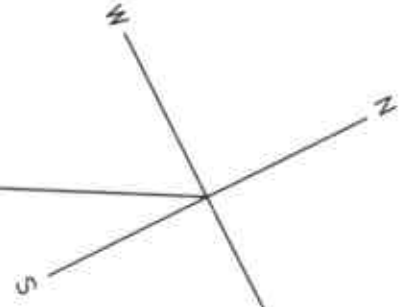
**Vicinity / Well Survey Map**

(1/2 Mile Radius)

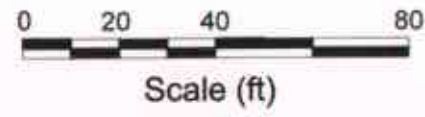


Groundwater Flow Direction  
(07/23/99 to 04/30/03)

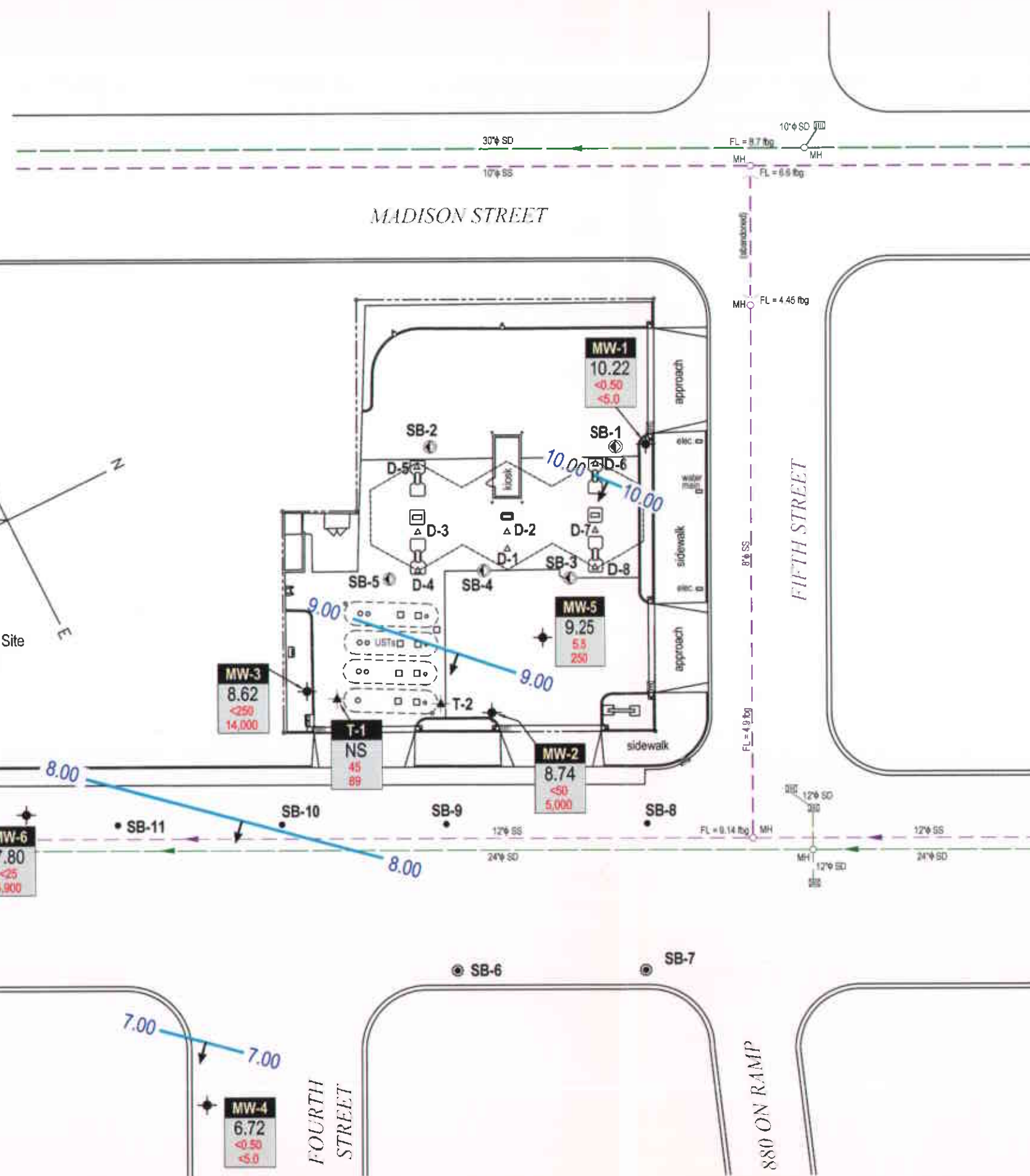
Oakland Inner Harbor  
(1,800 ft.)



Location of Sensitive Receptor Relative to Site  
(Oakland Inner Harbor - 1,800 ft. S 29° W)



Scale (ft)



**EXPLANATION**

- MW-1 ● Monitoring well location
- T-1 ▲ Tank backfill well location
- SB-1 ● Soil boring location (7/98)
- SB-6 ● Soil boring location (2/01)
- SB-8 ● Soil boring location (3/02)
- D-1 ▲ Soil sample location
- NS Not surveyed
- Groundwater flow direction
- xx.xx Groundwater elevation contour, in feet above mean sea level (msl), approximately located, dashed where inferred

**Well**

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

- SD Storm drain line (SD)
- SS Sanitary sewer line (SS)
- Flow direction
- MH Manhole
- SD Storm drain inlet
- fbg Feet below grade

All utility locations are approximate. Utility information was reported by Cambria during June 2001.



Groundwater Elevation Contour Map

April 30, 2003

C A M B R I A

Shell-branded Service Station

105 Fifth Street  
Oakland, California  
Incident #9899577

FIGURE  
**2**

**Table 1. Groundwater Analytical Data - Oxygenates - Shell-branded Service Station, Incident #98995757, 105 5th Street, Oakland, California**

Sample ID	Date Sampled	MTBE	DIPE	ETBE	TAME (Concentrations in ppb)	TBA	Ethanol	1,2-DCA	EDB
MW-2	10/23/01	13,000	<25	<25	<25	820	<500	---	---
MW-3	10/23/01	180,000	<250	<250	<250	53,000	<5,000	---	---
	10/15/02	44,000	<100	---	<100	9,100	---	<100	<100
	01/29/03	19,000	<25	---	<25	14,000	---	<25	<25
	04/30/03	14,000	<1,000	---	<1,000	24,000	---	<250	<250

**Abbreviations & Notes:**

MTBE = Methyl tert-butyl ether, analyzed by by EPA Method 8260  
 DIPE = Di-isopropyl ether, analyzed by EPA Method 8260  
 ETBE = Ethyl tert-butyl ether, analyzed by EPA Method 8260  
 TAME = Tert-amyl methyl ether, analyzed by EPA Method 8260  
 TBA = Tert-butyl alcohol, analyzed by EPA Method 8260  
 Ethanol analyzed by EPA Method 8260  
 1,2-DCA = 1,2-dichloroethane, analyzed by EPA Method 8260  
 EDB = 1,2-dibromomethane or ethylene dibromide, analyzed by EPA Method 8260  
 ppb = Parts per billion  
 --- = Not analyzed



**Table 2: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995757, 105 Fifth Street, Oakland, California**

Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPPH			Benzene			MTBE		
					TPPH Concentration (ppb)	TPPH Removed (pounds)	TPPH Removed To Date (pounds)	Benzene Concentration (ppb)	Benzene Removed (pounds)	Benzene Removed To Date (pounds)	MTBE Concentration (ppb)	MTBE Removed (pounds)	MTBE Removed To Date (pounds)
04/21/00	MW-2	150	150	04/07/00	4,940	0.00618	0.00618	659	0.00082	0.00082	41,800	0.05232	0.05232
04/28/00	MW-2	100	250	04/07/00	4,940	0.00412	0.01031	659	0.00055	0.00137	41,800	0.03488	0.08720
05/05/00	MW-2	310	560	04/07/00	4,940	0.01278	0.02308	659	0.00170	0.00308	41,800	0.10813	0.19532
05/12/00	MW-2	350	910	04/07/00	4,940	0.01443	0.03751	659	0.00192	0.00500	41,800	0.12208	0.31740
06/02/00	MW-2	257	1,167	04/07/00	4,940	0.01059	0.04811	659	0.00141	0.00642	41,800	0.08964	0.40704
07/06/00	MW-2	334	1,501	04/07/00	4,940	0.01377	0.06187	659	0.00184	0.00825	41,800	0.11650	0.52354
09/12/00	MW-2	312	1,813	07/26/00	5,010	0.01304	0.07492	409	0.00106	0.00932	54,300	0.14137	0.66491
10/26/00	MW-2	56	1,869	07/26/00	5,010	0.00234	0.07726	409	0.00019	0.00951	54,300	0.02537	0.69028
04/21/00	MW-3	100	100	04/07/00	<1,000	0.00042	0.00042	853	0.00071	0.00071	283,000	0.23615	0.23615
04/28/00	MW-3	100	200	04/07/00	<1,000	0.00042	0.00083	853	0.00071	0.00142	283,000	0.23615	0.47229
05/05/00	MW-3	50	250	04/07/00	<1,000	0.00021	0.00104	853	0.00036	0.00178	283,000	0.11807	0.59036
05/12/00	MW-3	150	400	04/07/00	<1,000	0.00063	0.00167	853	0.00107	0.00285	283,000	0.35422	0.94458
06/02/00	MW-3	550	950	04/07/00	<1,000	0.00229	0.00396	853	0.00391	0.00676	283,000	1.29880	2.24338
07/06/00	MW-3	528	1,478	04/07/00	<1,000	0.00220	0.00617	853	0.00376	0.01052	283,000	1.24685	3.49023
08/16/00	MW-3	849	2,327	07/26/00	<20,000	0.07084	0.07701	<200	0.00071	0.01123	<b>320,000</b>	2.26699	5.75722
09/12/00	MW-3	188	2,515	07/26/00	<20,000	0.01569	0.09270	<200	0.00016	0.01139	<b>320,000</b>	0.50200	6.25922
10/26/00	MW-3	156	2,483	07/26/00	<20,000	0.01302	0.09003	<200	0.00013	0.01136	<b>320,000</b>	0.41655	6.17377
06/10/03	MW-3	200	2,527	04/30/03	<25,000	0.02086	0.09787	<250	0.00021	0.01144	<b>14,000</b>	0.02336	5.78059
06/24/03	MW-3	800	3,315	04/30/03	<25,000	0.08344	0.17614	<250	0.00083	0.01222	<b>14,000</b>	0.09346	6.35268
11/26/01	T-1 <sup>a</sup>	2,700	2,700	10/23/01	<50,000	0.56324	0.56324	<250	0.00282	0.00282	<b>180,000</b>	4.05536	4.05536
12/10/01	T-1 <sup>a</sup>	2,750	5,450	10/23/01	<50,000	0.57367	1.13692	<250	0.00287	0.00568	<b>180,000</b>	4.13046	8.18581
12/26/01	T-1 <sup>a</sup>	2,800	8,250	10/23/01	<50,000	0.58410	1.72102	<250	0.00292	0.00861	<b>180,000</b>	4.20556	12.39137
01/09/01	T-1	5,184	13,434	01/07/02	<20,000	0.43257	2.15359	<b>310</b>	0.01341	0.02201	<b>92,000</b>	3.97966	16.37103
01/23/02	T-1	4,250	17,684	01/07/02	<20,000	0.35464	2.50823	<b>310</b>	0.01099	0.03301	<b>92,000</b>	3.26264	19.63367
02/06/02	T-1	4,000	21,684	01/07/02	<20,000	0.33377	2.84200	<b>310</b>	0.01035	0.04336	<b>92,000</b>	3.07072	22.70439
02/20/02	T-1	3,000	24,684	01/07/02	<20,000	0.25033	3.09233	<b>310</b>	0.00776	0.05112	<b>92,000</b>	2.30304	25.00743



**Table 2: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995757, 105 Fifth Street, Oakland, California**

Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPPH			Benzene			MTBE		
					TPPH Concentration (ppb)	TPPH Removed (pounds)	TPPH To Date (pounds)	Benzene Concentration (ppb)	Benzene Removed (pounds)	Benzene To Date (pounds)	MTBE Concentration (ppb)	MTBE Removed (pounds)	MTBE To Date (pounds)
03/06/02	T-1	4,500	29,184	01/07/02	<20,000	0.37550	3.46783	310	0.01164	0.06276	92,000	3.45456	28.46200
03/20/02	T-1	5,000	34,184	01/07/02	<20,000	0.41722	3.88505	310	0.01293	0.07569	92,000	3.83840	32.30040
04/03/02	T-1	5,200	39,384	01/07/02	<20,000	0.43391	4.31896	310	0.01345	0.08914	92,000	3.99194	36.29234
04/17/02	T-1	4,800	44,184	04/12/02	<5,000	0.10013	4.41909	230	0.00921	0.09835	57,000	2.28302	38.57536
06/03/02	T-1	3,539	47,723	04/12/02	<5,000	0.07383	4.49291	230	0.00679	0.10515	57,000	1.68325	40.25861
06/17/02	T-1	5,000	52,723	04/12/02	<5,000	0.10430	4.59722	230	0.00960	0.11474	57,000	2.37814	42.63675
07/01/02	T-1	2,873	55,596	04/12/02	<5,000	0.05993	4.65715	230	0.00551	0.12026	57,000	1.36648	44.00323
07/15/02	T-1	4,000	59,596	07/10/02	<20,000	0.33377	4.99093	260	0.00868	0.12893	69,000	2.30304	46.30627
08/12/02	T-1	3,900	63,496	07/10/02	<20,000	0.32543	5.31636	260	0.00846	0.13739	69,000	2.24547	48.55174
08/26/02	T-1	2,367	65,863	07/10/02	<20,000	0.19751	5.51387	260	0.00514	0.14253	69,000	1.36283	49.91456
09/09/02	T-1	1,959	67,822	07/10/02	<20,000	0.16347	5.67733	260	0.00425	0.14678	69,000	1.12791	51.04248
09/23/02	T-1	5,000	72,822	07/10/02	<20,000	0.41722	6.09455	260	0.01085	0.15763	69,000	2.87880	53.92128
10/09/02	T-1	4,500	77,322	07/10/02	<20,000	0.37550	6.47005	260	0.00976	0.16739	69,000	2.59092	56.51220
10/22/02	T-1	4,500	81,822	10/15/02	<5,000	0.09387	6.56392	150	0.00563	0.17302	29,000	1.08894	57.60114
11/05/02	T-1	2,384	84,206	10/15/02	<5,000	0.04973	6.61365	150	0.00298	0.17601	29,000	0.57690	58.17804
11/19/02	T-1	4,375	88,581	10/15/02	<5,000	0.09127	6.70492	150	0.00548	0.18148	29,000	1.05869	59.23673
12/09/02	T-1	2,341	90,922	10/15/02	<5,000	0.04884	6.75376	150	0.00293	0.18441	29,000	0.56649	59.80322
12/23/02	T-1	2,341	93,263	10/15/02	<5,000	0.04884	6.80259	150	0.00293	0.18734	29,000	0.56649	60.36971
01/06/03	T-1 <sup>b</sup>	2,341	95,604	10/15/02	<5,000	0.04884	6.85143	1.5	0.00003	0.18737	29,000	0.56649	60.93620
01/28/03	T-1 <sup>b</sup>	4,500	100,104	10/15/02	<5,000	0.09387	6.94530	1.5	0.00006	0.18743	29,000	1.08894	62.02514
02/10/03	T-1	4,500	104,604	01/29/03	1,300	0.04881	6.99411	67	0.00252	0.18994	820	0.03079	62.05593
03/10/03	T-1	3,539	108,143	01/29/03	1,300	0.03839	7.03250	67	0.00198	0.19192	820	0.02422	62.08014
04/08/03	T-1	300	108,443	01/29/03	1,300	0.00325	7.03576	67	0.00017	0.19209	820	0.00205	62.08219
05/05/03	T-1	3,500	108,104	04/30/03	360	0.01051	7.00463	45	0.00131	0.19126	89	0.00260	62.05853
05/27/03	T-1	4,500	112,643	04/30/03	360	0.01352	7.04602	45	0.00169	0.19361	89	0.00334	62.08348
06/10/03	T-1	4,600	112,743	04/30/03	360	0.01382	7.04632	45	0.00173	0.19365	89	0.00342	62.08356
06/24/03	T-1	1,428	109,871	04/30/03	360	0.00429	7.04005	45	0.00054	0.19263	89	0.00106	62.08325

**Table 2: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995757, 105 Fifth Street, Oakland, California**

Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPPH			Benzene			MTBE		
					TPPH Concentration (ppb)	TPPH Removed (pounds)	TPPH Removed To Date (pounds)	Benzene Concentration (ppb)	Benzene Removed (pounds)	Benzene Removed To Date (pounds)	MTBE Concentration (ppb)	MTBE Removed (pounds)	MTBE Removed To Date (pounds)
<b>Total Gallons Extracted:</b>			<b>128,011</b>		<b>Total Pounds Removed: 7.36517</b>					<b>0.21943</b>		<b>69.57548</b>	
					<b>Total Gallons Removed: 1.20741</b>					<b>0.03006</b>		<b>11.22185</b>	

**ATTACHMENT A**  
**Blaine Groundwater Monitoring Report**  
**and Field Notes**

BLAINE  
TECH SERVICES, INC.



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SAN JOSE, CA 95112-1105  
(408) 573-7771 FAX  
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June 5, 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  
105 5<sup>th</sup> Street  
Oakland, CA

Monitoring performed on April 30, 2003

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Groundwater Monitoring Report **030430-BA-1**

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/jt

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**  
**105 5th Street**  
**Oakland, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft)	GW Elevation (MSL)	DO Reading (ppm)
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MW-1	07/20/1999	NA	NA	NA	NA	NA	NA	NA	NA	12.22	17.56	-5.34	NA
MW-1	07/23/1999	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<2.50	<2.00	12.22	6.45	5.77	NA
MW-1	11/01/1999	100	NA	15.6	3.12	4.04	12.6	6.69	NA	12.22	6.59	5.63	0.5/0.7
MW-1	01/05/2000	<50.0	<20.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	12.22	6.38	5.84	1.2/1.4
MW-1	04/07/2000	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	12.22	5.83	6.39	1.6/2.4
MW-1	07/26/2000	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	12.22	6.10	6.12	1.1/1.4
MW-1	10/28/2000	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	12.22	14.08	-1.86	2.2/2.7
MW-1	01/30/2001	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	12.22	10.71	1.51	1.2/1.6
MW-1	04/17/2001	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	12.22	6.61	5.61	2.4/4.4
MW-1	07/09/2001	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	12.22	6.31	5.91	1.4/3.4
MW-1	10/23/2001	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	12.22	6.24	5.98	2.6/4.1
MW-1	01/07/2002	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	12.22	5.25	6.97	NA
MW-1	04/12/2002	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	14.92	5.54	9.38	NA
MW-1	07/10/2002	<50	74	<0.50	<0.50	<0.50	<0.50	NA	<5.0	14.92	5.98	8.94	NA
MW-1	10/15/2002	<50	51	<0.50	<0.50	<0.50	<0.50	NA	<5.0	14.92	5.46	9.46	NA
MW-1	01/29/2003	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	14.92	5.03	9.89	NA
<b>MW-1</b>	<b>04/30/2003</b>	<b>&lt;50</b>	<b>110</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;1.0</b>	<b>NA</b>	<b>&lt;5.0</b>	<b>14.92</b>	<b>4.70</b>	<b>10.22</b>	<b>NA</b>

MW-2	07/20/1999	NA	NA	NA	NA	NA	NA	NA	NA	10.87	18.24	-7.37	NA
MW-2	07/23/1999	13,800	NA	1,790	<100	<100	682	29,900	29,400	10.87	5.98	4.89	NA
MW-2	11/01/1999	2,420	NA	316	10.8	119	44.2	17,000	NA	10.87	6.03	4.84	0.5/0.3
MW-2	01/05/2000	2,120a	687	301a	<5.00a	116a	84.4a	14,700	NA	10.87	5.90	4.97	2.1/2.6
MW-2	04/07/2000	4,940b	1,300	659b	<25.0b	214b	314b	41,800b	NA	10.87	5.37	5.50	0.4/0.2
MW-2	07/26/2000	5,010	1,520	409	<50.0	302	307	54,300	NA	10.87	5.81	5.06	2.1/2.2
MW-2	10/28/2000	1,720	412	82.2	<10.0	46.0	102	9,800	NA	10.87	14.59	-3.72	0.7/0.7
MW-2	01/30/2001	1,640	574	14.7	<5.00	40.1	58.1	3,670	NA	10.87	10.31	0.56	1.8/2.0
MW-2	04/17/2001	598	179	21.8	<2.00	16.9	10.8	5,630	NA	10.87	6.08	4.79	1.5/2.6

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**105 5th Street**  
**Oakland, CA**

Well ID	Date	TPPH (ug/L)	TEPH (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	07/09/2001	<1,000	<500	19	<10	33	15	NA	6,200	10.87	5.70	5.17	1.1/2.0
MW-2	10/23/2001	<5,000	<500	50	<25	92	<25	NA	13,000	10.87	5.72	5.15	2.0/3.2
MW-2	01/07/2002	<1,000	<200	<10	<10	<10	<10	NA	4,500	10.87	4.87	6.00	NA
MW-2	04/12/2002	<1,000	<100	14	<10	27	13	NA	6,200	13.57	5.14	8.43	NA
MW-2	07/10/2002	<1,000	290	<10	<10	14	<10	NA	6,100	13.57	5.45	8.12	NA
MW-2	10/15/2002	<100	85	1.2	<1.0	<1.0	<1.0	NA	640	13.57	5.38	8.19	NA
MW-2	01/29/2003	<500	<300	10	<5.0	16	6.3	NA	1,700	13.57	5.14	8.43	NA
<b>MW-2</b>	<b>04/30/2003</b>	<b>&lt;5,000</b>	<b>440</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>58</b>	<b>&lt;100</b>	<b>NA</b>	<b>5,000</b>	<b>13.57</b>	<b>4.83</b>	<b>8.74</b>	<b>NA</b>

MW-3	07/20/1999	NA	NA	NA	NA	NA	NA	NA	NA	11.27	19.07	-7.80	NA
MW-3	07/23/1999	128	NA	<0.500	<0.500	<0.500	<0.500	404,000	324,000	11.27	6.43	4.84	NA
MW-3	11/01/1999	<1,000	NA	<10.0	<10.0	<10.0	<10.0	169,000	224,000	11.27	6.48	4.79	0.5/0.3
MW-3	01/05/2000	137	322	<1.00	<1.00	<1.00	<1.00	165,000	219,000	11.27	6.35	4.92	2.4/2.2
MW-3	04/07/2000	<1,000	264	853	<10.0	<10.0	<10.0	283,000	196,000a	11.27	5.91	5.36	04/0.2
MW-3	07/26/2000	<20,000	585	<200	<200	<200	<200	437,000	320,000	11.27	5.83	5.44	1.9/1.7
MW-3	10/28/2000	<12,500	441	<125	<125	<125	<125	266,000	308,000	11.27	17.51	-6.24	1.1/1.4
MW-3	01/30/2001	<5,000	555	<50.0	<50.0	<50.0	<50.0	248,000	167,000a	11.27	11.43	-0.16	2.0/2.2
MW-3	04/17/2001	<5,000	347	<50.0	<50.0	<50.0	<50.0	134,000	133,000	11.27	6.57	4.70	1.3/1.2
MW-3	07/09/2001	<20,000	250	<200	<200	<200	<200	NA	170,000	11.27	6.12	5.15	1.2/1.9
MW-3	10/23/2001	<50,000	260	<250	<250	<250	<250	NA	180,000	11.27	6.25	5.02	2.2/1.6
MW-3	01/07/2002	<10,000	160	<100	<100	<100	<100	NA	96,000	11.27	5.29	5.98	NA
MW-3	04/12/2002	<10,000	87	<100	<100	<100	<100	NA	78,000	13.96	5.43	8.53	NA
MW-3	07/10/2002	<20,000	150	<200	<200	<200	<200	NA	64,000	13.96	6.33	7.63	NA
MW-3	10/15/2002	<10,000	120	<100	<100	<100	<100	NA	44,000	13.96	5.96	8.00	NA
MW-3	01/02/2003	NA	NA	<5.0	<5.0	<5.0	<10	NA	NA	13.96	5.40	8.56	NA
MW-3	01/29/2003	<2,500	96	<25	<25	<25	<25	NA	19,000	13.96	5.68	8.28	NA
<b>MW-3</b>	<b>04/30/2003</b>	<b>&lt;25,000</b>	<b>360</b>	<b>&lt;250</b>	<b>&lt;250</b>	<b>&lt;250</b>	<b>&lt;500</b>	<b>NA</b>	<b>14,000</b>	<b>13.96</b>	<b>5.34</b>	<b>8.62</b>	<b>NA</b>



**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**105 5th Street**  
**Oakland, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft)	GW Elevation (MSL)	DO Reading (ppm)
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MW-4	03/23/2001	NA	NA	NA	NA	NA	NA	NA	NA	9.50	8.21	1.29	NA
MW-4	04/17/2001	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	9.50	5.08	4.42	2.4/2.6
MW-4	07/09/2001	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	9.50	4.64	4.86	2.0/1.5
MW-4	10/23/2001	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	9.50	7.90	1.60	2.8/1.8
MW-4	01/07/2002	<50	64	<0.50	<0.50	<0.50	<0.50	NA	<5.0	9.50	5.00	4.50	NA
MW-4	04/12/2002	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	12.17	7.49	4.68	NA
MW-4	07/10/2002	<50	67	<0.50	<0.50	<0.50	<0.50	NA	<5.0	12.17	4.75	7.42	NA
MW-4	10/15/2002	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	12.17	4.56	7.61	NA
MW-4	01/29/2003	<50	73	<0.50	<0.50	<0.50	<0.50	NA	<5.0	12.17	4.34	7.83	NA
<b>MW-4</b>	<b>04/30/2003</b>	<b>&lt;50</b>	<b>140</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;1.0</b>	<b>NA</b>	<b>&lt;5.0</b>	<b>12.17</b>	<b>5.45</b>	<b>6.72</b>	<b>NA</b>

MW-5	03/29/2002	NA	NA	NA	NA	NA	NA	NA	NA	14.78	5.86	8.92	NA
MW-5	04/12/2002	1,600	<50	25	3.5	44	110	NA	570	14.78	5.96	8.82	NA
MW-5	07/10/2002	930	<400	36	<2.0	93	8.8	NA	630	14.78	6.57	8.21	NA
MW-5	10/15/2002	200	90	9.9	<0.50	19	5.5	NA	180	14.78	6.17	8.61	NA
MW-5	01/29/2003	120	85	6.0	<0.50	2.9	2.6	NA	220	14.78	5.85	8.93	NA
<b>MW-5</b>	<b>04/30/2003</b>	<b>&lt;250</b>	<b>160</b>	<b>5.5</b>	<b>&lt;2.5</b>	<b>7.2</b>	<b>7.7</b>	<b>NA</b>	<b>250</b>	<b>14.78</b>	<b>5.53</b>	<b>9.25</b>	<b>NA</b>

MW-6	09/25/2002	NA	NA	NA	NA	NA	NA	NA	NA	12.91	5.50	7.41	NA
MW-6	10/15/2002	<500	72	<5.0	<5.0	<5.0	<5.0	NA	2,600	12.91	5.45	7.46	NA
MW-6	01/29/2003	<250	350	<2.5	<2.5	<2.5	<2.5	NA	1,600	12.91	5.20	7.71	NA
<b>MW-6</b>	<b>04/30/2003</b>	<b>&lt;2,500</b>	<b>220</b>	<b>&lt;25</b>	<b>&lt;25</b>	<b>&lt;25</b>	<b>&lt;50</b>	<b>NA</b>	<b>5,900</b>	<b>12.91</b>	<b>5.11</b>	<b>7.80</b>	<b>NA</b>

T-1	01/07/2002	<20,000	2,600	310	<200	<200	<200	NA	92,000	NA	4.86	NA	NA
T-1	04/12/2002	<5,000	1,000	230	<50	<50	<50	NA	57,000	NA	5.05	NA	NA
T-1	07/10/2002	<20,000	3,700	260	<200	<200	<200	NA	69,000	NA	5.84	NA	NA

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**105 5th Street**  
**Oakland, CA**

Well ID	Date	TPPH (ug/L)	TEPH (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)
T-1	10/15/2002	<5,000	2,100	150	62	<50	75	NA	29,000	NA	5.77	NA	NA
T-1	01/02/2003	NA	NA	1.5	<0.50	<0.50	<1.0	NA	NA	NA	5.10	NA	NA
T-1	01/29/2003	1,300	1,200	67	6.5	<2.0	5.2	NA	820	NA	5.49	NA	NA
<b>T-1</b>	<b>04/30/2003</b>	<b>360</b>	<b>1,000</b>	<b>45</b>	<b>0.60</b>	<b>&lt;0.50</b>	<b>2.3</b>	<b>NA</b>	<b>89</b>	<b>NA</b>	<b>4.91</b>	<b>NA</b>	<b>NA</b>

Abbreviations:

TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B; prior to July 9, 2001, analyzed by EPA Method 8015.

TEPH = Total petroleum hydrocarbons as diesel by modified EPA Method 8015.

BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B; prior to July 9, 2001, analyzed by EPA Method 8020.

MTBE = Methyl-tertiary-butyl ether

TOC = Top of Casing Elevation

GW = Groundwater

DO = Dissolved Oxygen

ug/L = Parts per billion

ppm = Parts per million

MSL = Mean sea level

ft = Feet

<n = Below detection limit

NA = Not applicable

n/n = Pre-purge/Post-purge

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**105 5th Street**  
**Oakland, CA**

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

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

b = Result was generated out of hold time.

Top of casing for well MW-4 provided by Cambria Environmental Technology, Inc.

Wells MW-1 through MW-5 surveyed April 12, 2002, by Virgil Chavez Land Surveying of Vallejo, California.

Site surveyed Spetember 26, 2002, by Virgil Chavez Land Surveying of Vallejo, California.

**Blaine Tech Services, Inc.**

May 06, 2003

1680 Rogers Avenue  
San Jose, CA 95112-1105  
Attn.: Leon Gearhart  
Project#: 030430-3A1  
Project: 98995757  
Site: 105 5th Street, Oakland

Dear Mr. Gearhart,

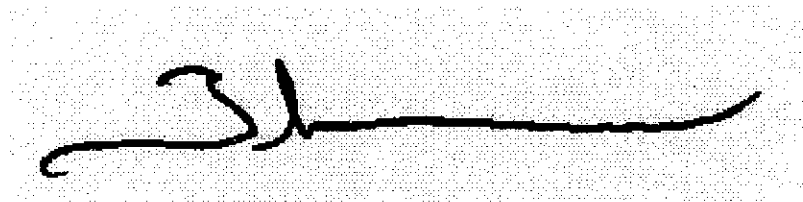
Attached is our report for your samples received on 05/01/2003 15:20  
This report has been reviewed and approved for release. Reproduction of this report  
is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after  
06/15/2003 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](mailto:tgranicher@stl-inc.com)

Sincerely,



Tod Granicher  
Project Manager

**Diesel (C10-C24) by 8015m**

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue

San Jose, CA 95112-1105

Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030430-3A1

98995757

Received: 05/01/2003 15:20

Site: 105 5th Street, Oakland

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
MW-1	04/30/2003 11:10	Water	1
MW-2	04/30/2003 11:45	Water	2
MW-3	04/30/2003 12:00	Water	3
MW-4	04/30/2003 09:20	Water	4
MW-5	04/30/2003 11:20	Water	5
MW-6	04/30/2003 10:00	Water	6
T-1	04/30/2003 11:30	Water	7

**Diesel (C10-C24) by 8015m**

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue

San Jose, CA 95112-1105

Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030430-3A1  
98995757

Received: 05/01/2003 15:20

Site: 105 5th Street, Oakland

Prep(s):	3510/8015M	Test(s):	8015M
Sample ID:	MW-1	Lab ID:	2003-05-0032 - 1
Sampled:	04/30/2003 11:10	Extracted:	5/2/2003 09:59
Matrix:	Water	QC Batch#:	2003/05/02-03.10

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Diesel	110	50	ug/L	1.00	05/06/2003 01:30	ndp
<i>Surrogates(s)</i> o-Terphenyl	97.6	60-130	%	1.00	05/06/2003 01:30	

**Diesel (C10-C24) by 8015m**

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Project: 030430-3A1

98995757

Received: 05/01/2003 15:20

Site: 105 5th Street, Oakland

Prep(s):	3510/8015M	Test(s):	8015M
Sample ID:	MW-2	Lab ID:	2003-05-0032 - 2
Sampled:	04/30/2003 11:45	Extracted:	5/2/2003 09:59
Matrix:	Water	QC Batch#:	2003/05/02-03.10

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Diesel	440	50	ug/L	1.00	05/06/2003 02:07	ndp
<b>Surrogates(s)</b> o-Terphenyl	102.5	60-130	%	1.00	05/06/2003 02:07	



**Diesel (C10-C24) by 8015m**

Blaine Tech Services, Inc.

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Project: 030430-3A1  
98995757

Received: 05/01/2003 15:20

Site: 105 5th Street, Oakland

Prep(s):	3510/8015M	Test(s):	8015M
Sample ID:	MW-3	Lab ID:	2003-05-0032 - 3
Sampled:	04/30/2003 12:00	Extracted:	5/2/2003 09:59
Matrix:	Water	QC Batch#:	2003/05/02-03.10

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Diesel	360	50	ug/L	1.00	05/06/2003 02:44	ndp
<b>Surrogates(s)</b> o-Terphenyl	101.0	60-130	%	1.00	05/06/2003 02:44	

**Diesel (C10-C24) by 8015m**

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San Jose, CA 95112-1105

Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030430-3A1

98995757

Received: 05/01/2003 15:20

Site: 105 5th Street, Oakland

Prep(s):	3510/8015M	Test(s):	8015M
Sample ID:	MW-4	Lab ID:	2003-05-0032 - 4
Sampled:	04/30/2003 09:20	Extracted:	5/2/2003 09:59
Matrix:	Water	QC Batch#:	2003/05/02-03.10

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Diesel	140	50	ug/L	1.00	05/06/2003 03:21	ndp
<b>Surrogates(s)</b>						
o-Terphenyl	100.3	60-130	%	1.00	05/06/2003 03:21	

**Diesel (C10-C24) by 8015m**

Blaine Tech Services, Inc.

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San Jose, CA 95112-1105

Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030430-3A1

98995757

Received: 05/01/2003 15:20

Site: 105 5th Street, Oakland

Prep(s):	3510/8015M	Test(s):	8015M
Sample ID:	MW-5	Lab ID:	2003-05-0032 - 5
Sampled:	04/30/2003 11:20	Extracted:	5/2/2003 09:59
Matrix:	Water	QC Batch#:	2003/05/02-03.10

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Diesel	160	50	ug/L	1.00	05/06/2003 03:59	ndp
<b>Surrogates(s)</b> o-Terphenyl	100.2	60-130	%	1.00	05/06/2003 03:59	

**Diesel (C10-C24) by 8015m**

Blaine Tech Services, Inc.

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1680 Rogers Avenue

San Jose, CA 95112-1105

Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030430-3A1

98995757

Received: 05/01/2003 15:20

Site: 105 5th Street, Oakland

Prep(s):	3510/8015M	Test(s):	8015M
Sample ID:	MW-6	Lab ID:	2003-05-0032 - 6
Sampled:	04/30/2003 10:00	Extracted:	5/2/2003 09:59
Matrix:	Water	QC Batch#:	2003/05/02-03.10

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Diesel	220	50	ug/L	1.00	05/06/2003 04:36	ndp
<b>Surrogates(s)</b>						
o-Terphenyl	96.4	60-130	%	1.00	05/06/2003 04:36	

**Diesel (C10-C24) by 8015m**

Blaine Tech Services, Inc.

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Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030430-3A1

98995757

Received: 05/01/2003 15:20

Site: 105 5th Street, Oakland

Prep(s):	3510/8015M	Test(s):	8015M
Sample ID:	T-1	Lab ID:	2003-05-0032 - 7
Sampled:	04/30/2003 11:30	Extracted:	5/2/2003 09:59
Matrix:	Water	QC Batch#:	2003/05/02-03.10

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Diesel	1000	50	ug/L	1.00	05/06/2003 05:13	
<b>Surrogates(s)</b> o-Terphenyl	84.1	60-130	%	1.00	05/06/2003 05:13	

**Diesel (C10-C24) by 8015m**

Blaine Tech Services, Inc.  
Attn.: Leon Gearhart

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

Project: 030430-3A1  
98995757

Received: 05/01/2003 15:20

Site: 105 5th Street, Oakland

Batch QC Report		
Prep(s): 3510/8015M		Test(s): 8015M
Method Blank	Water	QC Batch # 2003/05/02-03.10
MB: 2003/05/02-03.10-001		Date Extracted: 05/02/2003 09:59

Compound	Conc.	RL	Unit	Analyzed	Flag
Diesel	ND	50	ug/L	05/02/2003 11:42	
<b>Surrogates(s)</b> o-Terphenyl	92.3	60-130	%	05/02/2003 11:42	

**Diesel (C10-C24) by 8015m**

Blaine Tech Services, Inc.

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Project: 030430-3A1

98995757

Received: 05/01/2003 15:20

Site: 105 5th Street, Oakland

Batch QC Report									
Prep(s): 3510/8015M					Test(s): 8015M				
Laboratory Control Spike			Water			QC Batch # 2003/05/02-03.10			
LCS	2003/05/02-03.10-002		Extracted: 05/02/2003			Analyzed: 05/02/2003 14:49			
LCSD	2003/05/02-03.10-003		Extracted: 05/02/2003			Analyzed: 05/02/2003 15:26			

Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Diesel	664	698	1000	66.4	69.8	5.0	60-130	25		
<b>Surrogates(s)</b> o-Terphenyl	18.8	19.9	20.0	93.9	99.6		60-130	0		



**Diesel (C10-C24) by 8015m**

Blaine Tech Services, Inc.

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Project: 030430-3A1

98995757

Received: 05/01/2003 15:20

Site: 105 5th Street, Oakland

**Legend and Notes**

**Result Flag**

ndp

Hydrocarbon reported does not match the pattern of our Diesel standard

**Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)**

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

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San Jose, CA 95112-1105

Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030430-3A1

98995757

Received: 05/01/2003 15:20

Site: 105 5th Street, Oakland

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
MW-1	04/30/2003 11:10	Water	1
MW-2	04/30/2003 11:45	Water	2
MW-3	04/30/2003 12:00	Water	3
MW-4	04/30/2003 09:20	Water	4
MW-5	04/30/2003 11:20	Water	5
MW-6	04/30/2003 10:00	Water	6
T-1	04/30/2003 11:30	Water	7

**Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)**

Blaine Tech Services, Inc.

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Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030430-3A1  
98995757

Received: 05/01/2003 15:20

Site: 105 5th Street, Oakland

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	MW-1	Lab ID:	2003-05-0032 - 1
Sampled:	04/30/2003 11:10	Extracted:	5/5/2003 19:56
Matrix:	Water	QC Batch#:	2003/05/05-1c.65

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	05/05/2003 19:56	
Benzene	ND	0.50	ug/L	1.00	05/05/2003 19:56	
Toluene	ND	0.50	ug/L	1.00	05/05/2003 19:56	
Ethylbenzene	ND	0.50	ug/L	1.00	05/05/2003 19:56	
Total xylenes	ND	1.0	ug/L	1.00	05/05/2003 19:56	
Methyl tert-butyl ether (MTBE)	ND	5.0	ug/L	1.00	05/05/2003 19:56	
<b>Surrogates(s)</b>						
1,2-Dichloroethane-d4	107.2	76-114	%	1.00	05/05/2003 19:56	
Toluene-d8	95.5	88-110	%	1.00	05/05/2003 19:56	

**Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)**

Blaine Tech Services, Inc.

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Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030430-3A1  
98995757

Received: 05/01/2003 15:20

Site: 105 5th Street, Oakland

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	MW-2	Lab ID:	2003-05-0032 - 2
Sampled:	04/30/2003 11:45	Extracted:	5/5/2003 23:37
Matrix:	Water	QC Batch#:	2003/05/05-1c.65

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	5000	ug/L	100.00	05/05/2003 23:37	
Benzene	ND	50	ug/L	100.00	05/05/2003 23:37	
Toluene	ND	50	ug/L	100.00	05/05/2003 23:37	
Ethylbenzene	58	50	ug/L	100.00	05/05/2003 23:37	
Total xylenes	ND	100	ug/L	100.00	05/05/2003 23:37	
Methyl tert-butyl ether (MTBE)	5000	500	ug/L	100.00	05/05/2003 23:37	
<b>Surrogates(s)</b>						
1,2-Dichloroethane-d4	110.6	76-114	%	100.00	05/05/2003 23:37	
Toluene-d8	95.3	88-110	%	100.00	05/05/2003 23:37	

**Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)**

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Project: 030430-3A1

98995757

Received: 05/01/2003 15:20

Site: 105 5th Street, Oakland

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	MW-3	Lab ID:	2003-05-0032 - 3
Sampled:	04/30/2003 12:00	Extracted:	5/6/2003 13:07
Matrix:	Water	QC Batch#:	2003/05/06-V1.62
Analysis Flag: 0 ( See Legend and Note Section )			

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	25000	ug/L	500.00	05/06/2003 13:07	
Benzene	ND	250	ug/L	500.00	05/06/2003 13:07	
Toluene	ND	250	ug/L	500.00	05/06/2003 13:07	
Ethylbenzene	ND	250	ug/L	500.00	05/06/2003 13:07	
Total xylenes	ND	500	ug/L	500.00	05/06/2003 13:07	
tert-Butyl alcohol (TBA)	24000	2500	ug/L	500.00	05/06/2003 13:07	
Methyl tert-butyl ether (MTBE)	14000	2500	ug/L	500.00	05/06/2003 13:07	
Di-isopropyl Ether (DIPE)	ND	1000	ug/L	500.00	05/06/2003 13:07	
tert-Amyl methyl ether (TAME)	ND	1000	ug/L	500.00	05/06/2003 13:07	
1,2-DCA	ND	250	ug/L	500.00	05/06/2003 13:07	
EDB	ND	250	ug/L	500.00	05/06/2003 13:07	
<b>Surrogates(s)</b>						
1,2-Dichloroethane-d4	98.1	76-114	%	500.00	05/06/2003 13:07	
Toluene-d8	96.9	88-110	%	500.00	05/06/2003 13:07	

**Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)**

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Project: 030430-3A1

98995757

Received: 05/01/2003 15:20

Site: 105 5th Street, Oakland

Prep(s): 5030B	Test(s): 8260FAB
Sample ID: MW-4	Lab ID: 2003-05-0032 - 4
Sampled: 04/30/2003 09:20	Extracted: 5/6/2003 13:29
Matrix: Water	QC Batch#: 2003/05/06-V1.62

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	05/06/2003 13:29	
Benzene	ND	0.50	ug/L	1.00	05/06/2003 13:29	
Toluene	ND	0.50	ug/L	1.00	05/06/2003 13:29	
Ethylbenzene	ND	0.50	ug/L	1.00	05/06/2003 13:29	
Total xylenes	ND	1.0	ug/L	1.00	05/06/2003 13:29	
Methyl tert-butyl ether (MTBE)	ND	5.0	ug/L	1.00	05/06/2003 13:29	
<b>Surrogates(s)</b>						
1,2-Dichloroethane-d4	95.3	76-114	%	1.00	05/06/2003 13:29	
Toluene-d8	92.9	88-110	%	1.00	05/06/2003 13:29	

**Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)**

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San Jose, CA 95112-1105

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Project: 030430-3A1

98995757

Received: 05/01/2003 15:20

Site: 105 5th Street, Oakland

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	MW-5	Lab ID:	2003-05-0032 - 5
Sampled:	04/30/2003 11:20	Extracted:	5/6/2003 16:27
Matrix:	Water	QC Batch#:	2003/05/06-V1-62
Analysis Flag: o ( See Legend and Note Section )			

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	250	ug/L	5.00	05/06/2003 16:27	
Benzene	5.5	2.5	ug/L	5.00	05/06/2003 16:27	
Toluene	ND	2.5	ug/L	5.00	05/06/2003 16:27	
Ethylbenzene	7.2	2.5	ug/L	5.00	05/06/2003 16:27	
Total xylenes	7.7	5.0	ug/L	5.00	05/06/2003 16:27	
Methyl tert-butyl ether (MTBE)	250	25	ug/L	5.00	05/06/2003 16:27	
<b>Surrogates(s)</b>						
1,2-Dichloroethane-d4	90.2	76-114	%	5.00	05/06/2003 16:27	
Toluene-d8	96.4	88-110	%	5.00	05/06/2003 16:27	



**Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)**

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Project: 030430-3A1  
98995757

Received: 05/01/2003 15:20

Site: 105 5th Street, Oakland

Prep(s): 5030B	Test(s): 8260FAB
Sample ID: MW-6	Lab ID: 2003-05-0032 - 6
Sampled: 04/30/2003 10:00	Extracted: 5/6/2003 14:36
Matrix: Water	QC Batch#: 2003/05/06-V1.62
Analysis Flag: o ( See Legend and Note Section )	

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	2500	ug/L	50.00	05/06/2003 14:36	
Benzene	ND	25	ug/L	50.00	05/06/2003 14:36	
Toluene	ND	25	ug/L	50.00	05/06/2003 14:36	
Ethylbenzene	ND	25	ug/L	50.00	05/06/2003 14:36	
Total xylenes	ND	50	ug/L	50.00	05/06/2003 14:36	
Methyl tert-butyl ether (MTBE)	5900	250	ug/L	50.00	05/06/2003 14:36	
<b>Surrogates(s)</b>						
1,2-Dichloroethane-d4	94.6	76-114	%	50.00	05/06/2003 14:36	
Toluene-d8	97.7	88-110	%	50.00	05/06/2003 14:36	

**Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)**

Blaine Tech Services, Inc.

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San Jose, CA 95112-1105

Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030430-3A1

98995757

Received: 05/01/2003 15:20

Site: 105 5th Street, Oakland

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	T-1	Lab ID:	2003-05-0032 - 7
Sampled:	04/30/2003 11:30	Extracted:	5/6/2003 15:20
Matrix:	Water	QC Batch#:	2003/05/06-V1.62

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	360	50	ug/L	1.00	05/06/2003 15:20	
Benzene	45	0.50	ug/L	1.00	05/06/2003 15:20	
Toluene	0.60	0.50	ug/L	1.00	05/06/2003 15:20	
Ethylbenzene	ND	0.50	ug/L	1.00	05/06/2003 15:20	
Total xylenes	2.3	1.0	ug/L	1.00	05/06/2003 15:20	
Methyl tert-butyl ether (MTBE)	89	5.0	ug/L	1.00	05/06/2003 15:20	
<b>Surrogates(s)</b>						
1,2-Dichloroethane-d4	96.9	76-114	%	1.00	05/06/2003 15:20	
Toluene-d8	94.7	88-110	%	1.00	05/06/2003 15:20	

**Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)**

Blaine Tech Services, Inc.

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Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030430-3A1  
98995757

Received: 05/01/2003 15:20

Site: 105 5th Street, Oakland

Batch QC Report					
Prep(s): 5030B				Test(s): 8260FAB	
Method Blank		Water		QC Batch # 2003/05/05-1c.65	
MB: 2003/05/05-1c.65-003				Date Extracted: 05/05/2003 10:53	

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	05/05/2003 10:53	
Benzene	ND	0.5	ug/L	05/05/2003 10:53	
Toluene	ND	0.5	ug/L	05/05/2003 10:53	
Ethylbenzene	ND	0.5	ug/L	05/05/2003 10:53	
Total xylenes	ND	1.0	ug/L	05/05/2003 10:53	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	05/05/2003 10:53	
Methyl tert-butyl ether (MTBE)	ND	5.0	ug/L	05/05/2003 10:53	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	05/05/2003 10:53	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	05/05/2003 10:53	
1,2-DCA	ND	0.5	ug/L	05/05/2003 10:53	
EDB	ND	0.5	ug/L	05/05/2003 10:53	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	108.4	76-130	%	05/05/2003 10:53	
Toluene-d8	97.6	78-115	%	05/05/2003 10:53	

**Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)**

Blaine Tech Services, Inc.

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Project: 030430-3A1  
98995757

Received: 05/01/2003 15:20

Site: 105 5th Street, Oakland

Batch QC Report		
Prep(s): 5030B		Test(s): 8260FAB
Method Blank	Water	QC Batch # 2003/05/06-V1.62
MB: 2003/05/06-V1.62-031		Date Extracted: 05/06/2003 10:31

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	05/06/2003 10:31	
Benzene	ND	0.5	ug/L	05/06/2003 10:31	
Toluene	ND	0.5	ug/L	05/06/2003 10:31	
Ethylbenzene	ND	0.5	ug/L	05/06/2003 10:31	
Total xylenes	ND	1.0	ug/L	05/06/2003 10:31	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	05/06/2003 10:31	
Methyl tert-butyl ether (MTBE)	ND	5.0	ug/L	05/06/2003 10:31	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	05/06/2003 10:31	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	05/06/2003 10:31	
1,2-DCA	ND	0.5	ug/L	05/06/2003 10:31	
EDB	ND	0.5	ug/L	05/06/2003 10:31	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	93.8	76-130	%	05/06/2003 10:31	
Toluene-d8	97.7	78-115	%	05/06/2003 10:31	

**Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)**

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98995757

Received: 05/01/2003 15:20

Site: 105 5th Street, Oakland

Batch QC Report										
Prep(s): 5030B						Test(s): 8260FAB				
Laboratory Control Spike				Water			QC Batch # 2003/05/05-1c.65			
LCS	2003/05/05-1c.65-002			Extracted: 05/05/2003			Analyzed: 05/05/2003 11:15			
LCSD	2003/05/05-1c.65-001			Extracted: 05/05/2003			Analyzed: 05/05/2003 10:32			
Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Benzene	22.9	24.2	25	91.6	96.8	5.5	69-129	20		
Toluene	22.5	23.6	25	90.0	94.4	4.8	70-130	20		
Methyl tert-butyl ether (MTBE)	30.4	29.4	25	121.6	117.6	3.3	65-165	20		
<b>Surrogates(s)</b>										
1,2-Dichloroethane-d4	526	515	500	105.2	103.0		76-130			
Toluene-d8	479	491	500	95.8	98.2		78-115			

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

05/06/2003 17:01

**Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)**

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

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Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 030430-3A1  
98995757

Received: 05/01/2003 15:20

Site: 105 5th Street, Oakland

Batch QC Report										
Prep(s): 5030B						Test(s): 8260FAB				
Laboratory Control Spike				Water			QC Batch # 2003/05/06-V1.62			
LCS	2003/05/06-V1.62-046			Extracted: 05/06/2003			Analyzed: 05/06/2003 09:46			
LCSD	2003/05/06-V1.62-009			Extracted: 05/06/2003			Analyzed: 05/06/2003 10:09			
Compound	Conc. ug/L		Exp. Conc.	Recovery		RPD	Ctrl. Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Benzene	28.1	26.4	25	112.4	105.6	6.2	69-129	20		
Toluene	26.4	24.2	25	105.6	96.8	8.7	70-130	20		
Methyl tert-butyl ether (MTBE)	28.3	27.5	25	113.2	110.0	2.9	65-165	20		
<b>Surrogates(s)</b>										
1,2-Dichloroethane-d4	469	473	500	93.8	94.6		76-130			
Toluene-d8	505	495	500	101.0	99.0		78-115			

**Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)**

Blaine Tech Services, Inc.

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Project: 030430-3A1  
98995757

Received: 05/01/2003 15:20

Site: 105 5th Street, Oakland

Batch QC Report			
Prep(s):	5030B	Test(s):	8260FAB
<b>Matrix Spike ( MS / MSD )</b>		<b>Water</b>	<b>QC Batch # 2003/05/05-1c.65</b>
MW-1 >> MS		Lab ID:	2003-05-0032-001
MS: 2003/05/05-1c.65-031		Extracted:	05/05/2003
		Analyzed:	05/05/2003 19:11
		Dilution:	1.00
MSD: 2003/05/05-1c.65-032		Extracted:	05/05/2003
		Analyzed:	05/05/2003 19:34
		Dilution:	1.00

Compound	Conc.		Sample	Spk.Level	Recovery			Limits %		Flags	
	MS	MSD			ug/L	MS	MSD	RPD	Rec.	RPD	MS
Benzene	20.0	20.9	ND	25	80.0	83.6	4.4	69-129	20		
Toluene	19.3	20.8	ND	25	77.2	83.2	7.5	70-130	20		
Methyl tert-butyl ether	28.2	26.9	ND	25	112.8	107.6	4.7	65-165	20		
<b>Surrogate(s)</b>											
1,2-Dichloroethane-d4	525	504		500	105.0	100.8		76-130			
Toluene-d8	487	486		500	97.4	97.2		78-115			

**Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)**

Blaine Tech Services, Inc.

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98995757

Received: 05/01/2003 15:20

Site: 105 5th Street, Oakland

**Legend and Notes**

**Analysis Flag**

o

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







## SHELL WELL MONITORING DATA SHEET

BTS #: 030430-BAI	Site: 105 5th St, OAKLAND
Sampler: BRIAN ALORN	Date: 4/30/03
Well I.D.: MW-1	Well Diameter: 2 3 (4) 6 8
Total Well Depth (TD): 23.57	Depth to Water (DTW): 4.70
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]: 8.47	

Purge Method: Bailer Disposable Bailer Middleburg Electric Submersible	Water: Peristaltic Extraction Pump Other:	Sampling Method: Bailer Disposable Bailer Extraction Port Dedicated Tubing Other:
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$\frac{12.5 \text{ (Gals.)} \times 3}{\text{Specified Volume}} = \frac{37.5 \text{ Gals.}}{\text{Calculated Volume}}$	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius <sup>2</sup> * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius <sup>2</sup> * 0.163														

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1022	64.1	7.7	439	80	12.5	clear
1024	64.5	7.4	465	94	25.0	"
1026	64.5	7.3	451	130	37.5	" DTW 13.24

Did well dewater? Yes  No  Gallons actually evacuated: 37.5

Sampling Date: 4/30/03 Sampling Time: 1110 Depth to Water: 4.90

Sample I.D.: MW-1 Laboratory: Kiff SPL Other: <sup>SAN</sup> STE FRANCISCO

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

IB I.D. (if applicable): <sup>Time</sup> Duplicate I.D. (if applicable):

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

D.O. (if req'd): Pre-purge: <sup>mg/L</sup> Post-purge: <sup>mg/L</sup>

D.R.P. (if req'd): Pre-purge: <sup>mV</sup> Post-purge: <sup>mV</sup>

## SHELL WELL MONITORING DATA SHEET

BTS #: 030430-BA1	Site: 105 5th St, OAKLAND
Sampler: BRIAN ALLEN	Date: 4/30/03
Well I.D.: MW-2	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 23.51	Depth to Water (DTW): 4.93
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.57	

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

<u>12.5</u> (Gals.) X <u>3</u> = <u>37.5</u> Gals.		
Case Volume	Specified Volumes	Calculated Volume

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

Time	Temp (°F)	pH	Cond. (mS or <u>µS</u> )	Turbidity (NTUs)	Gals. Removed	Observations
1054	67.8	6.7	527	34	12.5	clear water
1056	68.6	6.7	642	37	25.0	"
1058	68.5	6.8	457	48	37.5	" DTW 13.60

Did well dewater? Yes No Gallons actually evacuated: 37.5

Sampling Date: 4/30/03 Sampling Time: 1145 Depth to Water: 4.97

Sample I.D.: MW-2 Laboratory: KIF SPL Other STL SAN FRANCISCO

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

## SHELL WELL MONITORING DATA SHEET

BTS #: 030430-BA1	Site: 105 5th St, OAKLAND
Sampler: BRIAN ALLEN	Date: 4/30/03
Well I.D.: MW-3	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 24.99	Depth to Water (DTW): 5.34
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.27	

Purge Method: <u>Bailer</u> Disposable Bailer Middleburg <u>Electric Submersible</u>	Water Peristaltic Extraction Pump Other _____	Sampling Method: <u>Bailer</u> Disposable Bailer Extraction Port Dedicated Tubing Other: _____
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$\frac{13.0 \text{ (Gals.)} \times 3}{\text{Specified Volume}} = \frac{39.0}{\text{Calculated Volume}} \text{ Gals.}$	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius <sup>2</sup> * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius <sup>2</sup> * 0.163														

Time	Temp (°F)	pH	Cond. (mS or <u>µS</u> )	Turbidity (NTUs)	Gals. Removed	Observations
1145	68.3	7.1	1,390	22	13.0	clear, odor
1150	67.6	7.1	1,363	27	26.0	"
1155	66.7	7.1	1,175	21	39.0	"

Note: Obstruction in well prevented ES from getting to bottom - partial string @ 10'  
 Did well dewater? Yes No Gallons actually evacuated: 39

Sampling Date: 4/30/03    Sampling Time: 1200    Depth to Water: 7.15

Sample I.D.: MW-3    Laboratory: KIFF    SPL    Other STL SAN FRANCISCO

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

EB I.D. (if applicable): \_\_\_\_\_ Duplicate I.D. (if applicable): \_\_\_\_\_

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

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

## SHELL WELL MONITORING DATA SHEET

BTS #: 030430-BA1	Site: 105 5th St, OAKLAND
Sampler: BRIAN ALLEN	Date: 4/30/03
Well I.D.: MW-4	Well Diameter: (2) 3 4 6 8
Total Well Depth (TD): 19.98	Depth to Water (DTW): 5.45
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]: 8.36	

Purge Method: Bailer Disposable Bailer (Middleburg) Electric Submersible	Water: Peristaltic Extraction Pump Other _____	Sampling Method: (Bailer) Disposable Bailer Extraction Port Dedicated Tubing Other: _____
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$2.5$  (Gals.) X  $3$  =  $7.5$  Gals.  
 Case Volume      Specified Volumes      Calculated Volume

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

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
0911	63.1	8.3	1,705	156	2.5	cloudy gray
0913	63.0	7.8	1,756	141	5.0	"
0915	62.9	7.3	1,756	96	7.5	" DTW 15.44

Did well dewater? Yes (No) Gallons actually evacuated: 7.5

Sampling Date: 4/30/03      Sampling Time: 0920      Depth to Water: 15.44 <sup>DUE TO TRAFFIC</sup>

Sample I.D.: MW-4      Laboratory: KIF      SPL      Other: <sup>SAN</sup> STL FRANCISCO

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

SB 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

D.R.P. (if req'd): Pre-purge: \_\_\_\_\_ mV      Post-purge: \_\_\_\_\_ mV

## SHELL WELL MONITORING DATA SHEET

BTS #: 030430-BA1	Site: 105 5th St, CARLAND
Sampler: BRIAN ALLORN	Date: 4/30/03
Well I.D.: MW-5	Well Diameter: 2 3 (4) 6 8
Total Well Depth (TD): 24.22	Depth to Water (DTW): 5.53
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]: 9.27	

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

$12.5 \text{ (Gals.)} \times \frac{3}{\text{Specified Volumes}} = \frac{37.5}{\text{Calculated Volume}} \text{ Gals.}$	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius <sup>2</sup> * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius <sup>2</sup> * 0.163														

Time	Temp (°F)	pH	Cond. (mS or (uS))	Turbidity (NTUs)	Gals. Removed	Observations
1037	66.1	7.2	313	32	12.5	clear, odor
1039	66.8	7.0	364	90	25.0	"
1041	67.1	7.0	381	133	37.5	" DTW 16.41

Did well dewater? Yes No Gallons actually evacuated: 37.5

Sampling Date: 4/30/03 Sampling Time: 1120 Depth to Water: 5.91

Sample I.D.: MW-5 Laboratory: Kiff SPL Other <sup>SAN</sup> STL FRANCISCO

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

IB 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
D.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

## SHELL WELL MONITORING DATA SHEET

BTS #: 030430-BAI	Site: 105 5th St, OAKLAND
Sampler: BRIAN ALLEN	Date: 4/30/03
Well I.D.: MW-6	Well Diameter: (2) 3 4 6 8
Total Well Depth (TD): 24.10	Depth to Water (DTW): 5.11
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grnde	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 8.91	

Purge Method: Bailer Disposable Bailer (Middleburg) Electric Submersible	Water: Peristaltic Extraction Pump Other:	Sampling Method: (Bailer) Disposable Bailer Extraction Port Dedicated Tubing Other:
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$$\frac{3.0 \text{ (Gals.)} \times 3 \text{ Specified Volumes}}{\text{Case Volume}} = 9.0 \text{ Gals. Calculated Volume}$$

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

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
0950	64.5	7.8	267	950	3.0	cloudy brown, odor
0953	64.8	7.9	277	623	6.0	"
0956	65.3	7.8	293	540	9.0	" DTW 9.29

Did well dewater? Yes  No  Gallons actually evacuated: 9.

Sampling Date: 4/30/03 Sampling Time: 1000 Depth to Water: 9.29 <sup>DUE TO TRAFFIC</sup>

Sample I.D.: MW-6 Laboratory: Kiff SPL Other: <sup>SAN FRANCISCO</sup> STL

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

Lab 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
D.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV



## SHELL WELL MONITORING DATA SHEET

BTS #: 030430-BA1	Site: 105 5th St, OAKLAND
Sampler: BRIAN ALLEN	Date: 4/30/03
Well I.D.: T-1	Well Diameter: 2 3 4 6 8 <u>12</u>
Total Well Depth (TD): 11.57	Depth to Water (DTW): 4.91
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grnde	D.O. Meter (if req'd): YSI HACH

DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 6.24

Purge Method: <u>Bailer</u> Disposable Bailer Middleburg <u>Electric Submersible</u>	Waterwa Peristaltic Extraction Pump Other _____	Sampling Method: <u>Bailer</u> Disposable Bailer Extraction Port Dedicated Tubing Other: _____
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$39.0 \text{ (Gals.)} \times 3 = 117.0 \text{ Gals.}$	Case Volume      Specified Volumes      Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius <sup>2</sup> * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier															
1"	0.04	4"	0.65															
2"	0.16	6"	1.47															
3"	0.37	Other	radius <sup>2</sup> * 0.163															

Time	Temp (°F)	pH	Cond. (mS or <u>µS</u> )	Turbidity (NTUs)	Gals. Removed	Observations
1113	68.8	6.8	960	19	39.0	clear, odor
1123	69.0	7.0	973	15	78.0	"
1129	68.2	6.9	971	14	117.0	" DTW 4.95

Did well dewater? Yes No Gallons actually evacuated: 117

Sampling Date: 4/30/03 Sampling Time: 1130 Depth to Water: 4.95

Sample I.D.: ~~T-1~~ T-1 Laboratory: Kiff SPL Other: SIL <sup>SAN FRANCISCO</sup>

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

IB I.D. (if applicable): \_\_\_\_\_ Duplicate I.D. (if applicable): \_\_\_\_\_

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

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