R2 173

Shell Oil Products US

February 17, 2004

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

Subject: **Shell-branded Service Station**
2120 Montana Street
Oakland, California

Dear Mr. Hwang:

Attached for your review and comment is a copy of the *Fourth 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

20945 S. Wilmington Ave., Carson, CA 90810 Phone (559) 645-9306 Facsimile (559) 645-5643

CAMBRIA

February 17, 2004

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

Re: **Fourth Quarter 2003 Monitoring Report**
Shell-branded Service Station
2120 Montana Street
Oakland, California
Incident #98995740
Cambria Project #246-0733-002

Dear Mr. Hwang:

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. The site is located at the northwest corner of Montana Street and Fruitvale Avenue in Oakland, California (Figures 1 and 2).

REMEDIATION SUMMARY

Mobile Groundwater Extraction (GWE): As recommended in our August 15, 2001 *Agency Response*, Cambria began weekly GWE in August 2001 from wells MW-1 and TBW-N using a vacuum truck. Mobile GWE ended on March 5, 2003 due to construction of the fixed GWE system. As discussed below, weekly mobile GWE from wells MW-1 and TBW-N resumed on August 19, 2003 and stopped on January 6, 2004. The cumulative estimated mass of total petroleum hydrocarbons as gasoline (TPHg) and methyl tertiary butyl ether (MTBE) removed by mobile GWE at the site is 25.3 pounds and 8.13 pounds, respectively. Additionally, approximately 2.68 pounds of separate-phase hydrocarbons (SPH) have been removed at the site through manual bailing and GWE.

Fixed GWE System Installation: Our September 4, 2002 work plan proposed the installation of a fixed GWE system at the site. This work plan was approved in a September 19, 2002 Alameda County Health Care Services Agency letter. System construction began in early February 2003, and system start-up occurred on April 2, 2003.

Cambria Environmental Technology, Inc.

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

CAMBRIA

Don Hwang
February 17, 2004

FOURTH 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 that includes previously submitted well survey information (Figure 1) and a groundwater elevation contour map (Figure 2). Blaine's report, presenting the laboratory report and supporting field documents, is included as Attachment A.

Remedial Activities: Cambria started operation of the fixed GWE system on April 2, 2003. Wells MW-1 and TBW-N are used as extraction wells. Table 1 summarizes system analytical. Table 2 summarizes the field data and system operation and calculates mass removal. As of July 18, 2003, a total of 68,706 gallons of groundwater has been extracted. A total of 12.5 pounds of TPHg, 0.455 pounds of benzene, and 2.48 pounds of MTBE has been recovered. Mass removal data are presented in Table 2.

On July 23, 2003, Cambria observed SPH within the GWE system. The GWE system was not operating at that time. The GWE system had not operated since July 18, 2003. Cambria measured approximately 2 feet of SPH in the GWE system's transfer tank. Cambria also measured approximately 0.15 feet of SPH in tank backfill well TBW-N, and 2.25 feet in monitoring well MW-1. On August 8, 2003, a vacuum truck removed SPH from wells TBW-N and MW-1. Once the SPH was removed, the GWE system was cleaned, flushed, and rinsed. The SPH and groundwater mixture was off-hauled to the Martinez Refining Company in Martinez, California for disposal. Weekly mobile GWE (VacOps) resumed on August 19, 2003 to further address SPH. Table 3 summarizes the VacOps data. Weekly VacOps was stopped on January 6, 2004.

Cambria monitored SPH thickness prior to several VacOps events. SPH had not been present in backfill well TBW-N since December 8, 2003. However, 3.49 feet of SPH were measured in well MW-1 on this day. Blaine also measured no SPH in TBW-N and 0.07 feet of SPH in MW-1 during the quarterly sampling event on December 29, 2003.

In November 2003, Able Maintenance of Santa Rosa, California exposed the regular grade UST for inspection by the tank manufacturer (Xerxes Company). Xerxes Company found a small crack on the bottom of the tank. The crack was investigated, repaired with fiberglass resin, and then air tested for the City of Oakland Fire department by the Xerxes Company. After the Xerxes Company completed their air test, Able Maintenance called in a third-party tank tester to precision test the tank. Afford-a-Test completed that test, and the tank was certified as tight. Able has monitored the tank through Shell's Veeder-Root monitoring system since the repair, and it has passed the associated pressure tests.

ANTICIPATED FIRST QUARTER 2004 ACTIVITIES

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

Remedial Activities: Cambria will prepare a quarterly discharge compliance report in accordance with the East Bay Municipal Utility District wastewater discharge permit. Weekly VacOps has ceased as Cambria moves forward with supplementing the groundwater treatment system with an oil/water separator. The status of system modifications and startup will be provided in the first quarter 2004 quarterly monitoring report.

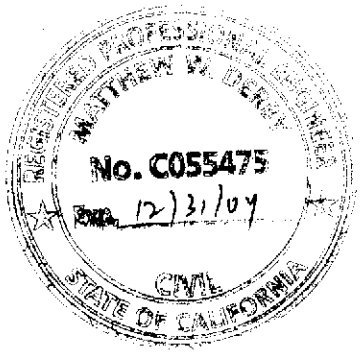
CLOSING

We appreciate the opportunity to work with you on this project. Please call Dan Lescure at (510) 420-3306 if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc

Dan Lescure
Senior Project Engineer

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



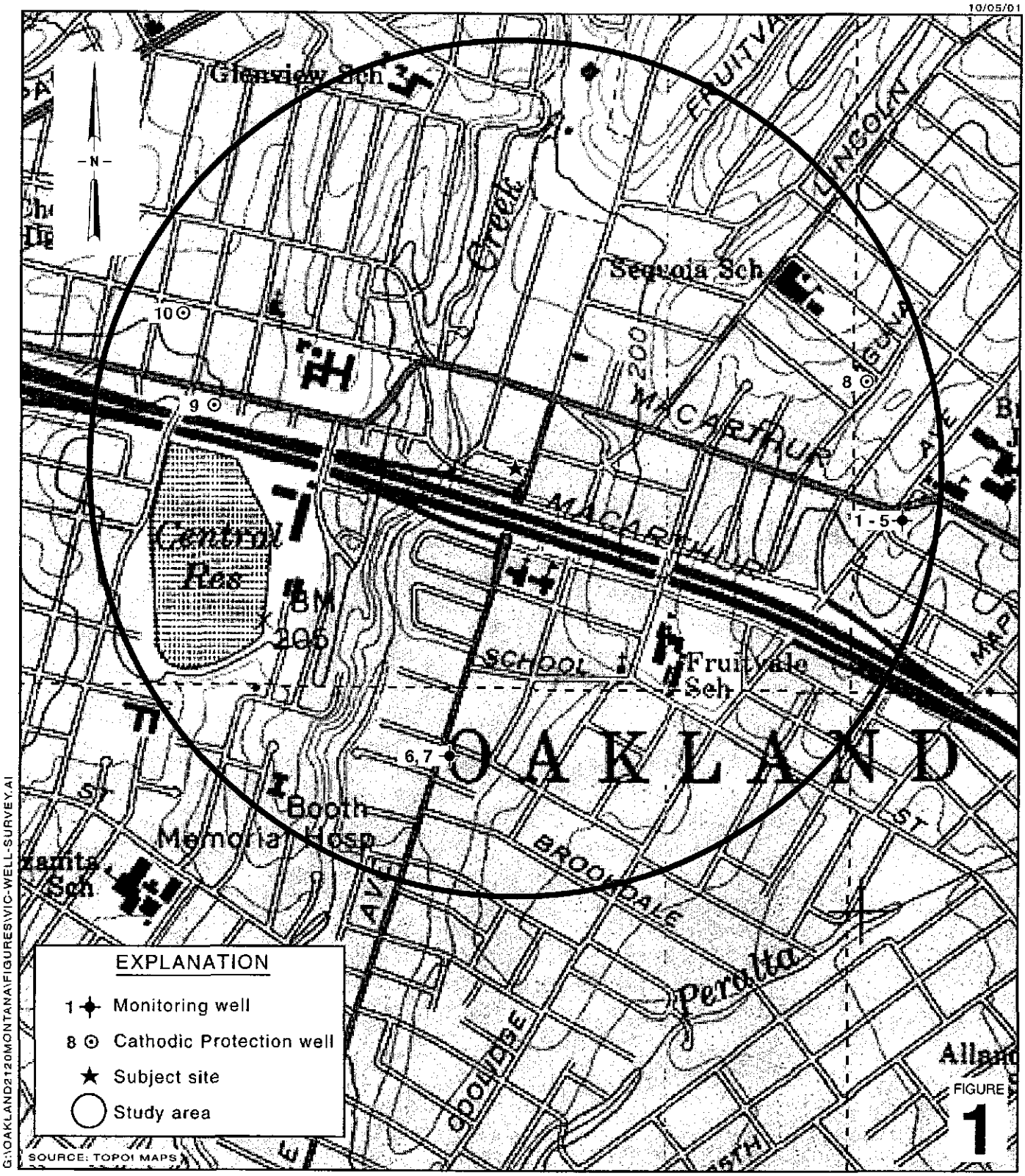
Figures: 1 - Vicinity/Area Well Survey Map
2 - Groundwater Elevation Contour Map

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

Attachment: A - Blaine Groundwater Monitoring Report and Field Notes

cc: Karen Petryna, Shell Oil Products US, 20945 S. Wilmington Ave., Carson, CA 90810

G:\Oakland 2120 Montana\Qm\4q03\4q03qm.doc



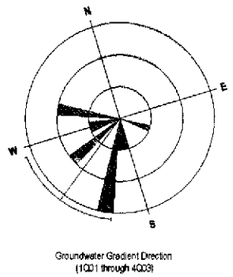
Shell-branded Service Station
2120 Montana Street
Oakland, California
Incident #98995740

CAMBRIA

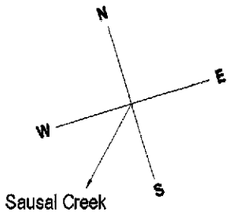
Vicinity / Area Well Survey Map
(1/2-Mile Radius)

EXPLANATION

- **MW-1** — Monitoring well location
- **TBW-N** — Tank backfill well location
- **SB-1** — Cambria soil boring location (10/99)
- **D-1** — Cambria soil sampling location (11/97)
- **SPH** — Separate-phase hydrocarbons present, well not sampled
- → Groundwater flow direction
- XX.XX — Groundwater elevation contour, in feet above mean sea level (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.
- Overhead electrical service
- Remediation piping
- Existing 10" Santiary sewer (SS)
- Discharge Pipe



Groundwater Gradient Direction
(1Q01 through 4Q03)



Sausal Creek
(730 ft. SW)

Location of Sensitive Receptor
Relative to Site

Commercial
property

sidewalk

power pole

sidewalk

10" SS

SLOAN STREET

air/water

storage

planter

Relocated
Trash
Enclosure

Remediation Compound

TBW-N
149.52
840
5,400

Shell Station
2120 Montana St.

MW-3
150.21
<0.50
0.70

149.00

150.00

150.00

TBW-W

TBW-E

canopy

USTs

SB-1

D-1

dispensers

D-2

D-3

kiosk

148.00

149.00

TBW-S

SB-3

SB-2

canopy

148.00

MW-1
147.89
SPH

planter

sidewalk

driveway

MW-4
147.38
10
420

147.00

147.00

MW-5
146.87
44
60

MW-2
146.81
240
1,000

2106 Montana

2116 Montana

FRUITVALE AVENUE

MONTANA STREET

INTERSTATE 580 ON-RAMP

0 15 30 60
Scale (ft)

G:\OAKLAND\2120MONTANA\FIGURES\MOM03.DWG

Groundwater Elevation Contour Map

December 29, 2003

CAMBRIA

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

FIGURE
2

Table 1: Groundwater Extraction - System Analytical Data
Shell-branded Service Station, Incident #98995740, 2120 Montana St, Oakland, California

	Influent			Midfluent 1			Midfluent 2			Effluent		
Sample Date (mm/dd/yy)	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)
04/02/2003	51,000	1,300	7,100	<50	<0.50	<0.50	<50	<0.50	<0.50	<50	<0.50	<0.50
04/08/2003	45,000	1,200	8,600	1,600	5.3	3.2	220	<0.50	<0.50	<50	<0.50	<0.50
04/22/2003	<50	<25	1,700	<50	<0.50	<0.50	<50	<0.50	<0.50	<50	<0.50	<0.50
05/01/2003	45,000	1,600	8,300	<50	<0.50	<0.50	<50	<0.50	<0.50	<50	<0.50	<0.50
05/21/2003	12,000	370	1,500	<50	<0.50	<0.50	<50	<0.50	<0.50	<50	<0.50	<0.50
06/03/2003	10,000	470	1,900	<50	<0.50	<0.50	<50	<0.50	<0.50	<50	<0.50	<0.50
06/17/2003	1,200	42	29	<50	<0.50	<0.50	<50	<0.50	<0.50	<50	<0.50	<0.50

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 #98995740, 2120 Montana Street, 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)
04/02/2003	0.0	393	0	0	0		0.000	0.000		0.000	0.000		0.000	0.000
04/02/2003	5.3	1,006	613	1.93	613	51,000	0.261	0.261	1,300	0.007	0.007	7,100	0.036	0.036
04/08/2003	11.4	2,010	1,004	2.74	1,617	45,000	0.377	0.638	1,200	0.010	0.017	8,600	0.072	0.108
04/22/2003	303.0	15,640	13,630	0.78	15,247	<50	0.003	0.641	<25	0.001	0.018	1,700	0.193	0.302
05/01/2003	399.0	17,840	2,200	0.38	17,447	45,000	0.826	1.47	1,600	0.029	0.047	8,300	0.152	0.454
05/20/2003	784.0	43,320	25,480	1.10	42,927		9.568	11.0		0.340	0.388		1.765	2.22
05/21/2003	808.5	44,639	1,319	0.90	44,246	12,000	0.132	11.2	370	0.004	0.392	1,500	0.017	2.24
06/03/2003	1116.9	59,813	15,174	0.82	59,420	10,000	1.266	12.4	470	0.060	0.451	1,900	0.241	2.48
06/17/2003	1455.5	64,741	4,928	0.24	64,348	1,200	0.049	12.5	42	0.002	0.453	29	0.001	2.48
07/01/2003	1697.4	68,668	3,927	0.27	68,275		0.039	12.5		0.001	0.454		0.001	2.48
07/18/2003	1867.0	69,099	431	0.04	68,706		0.004	12.5		0.000	0.455		0.000	2.48
	System Shutdown due to presence of SPH													
		Total Extracted Volume =			**68,706**	**Total Pounds Removed:**		**12.5**	**Total Pounds Removed:**		**0.455**	**Total Pounds Removed:**		**2.48**
		Average Operational Flow Rate =			**0.61**	**Total Gallons Removed:**		**2.06**	**Total Gallons Removed:**		**0.063**	**Total Gallons Removed:**		**0.401**

Abbreviations & Notes:

TPHg = Total purgeable hydrocarbons as gasoline
MTBE = Methyl tert-butyl ether
Conc. = Concentration
ppb = Parts per billion, equivalent to µg/L
µg/L = Micrograms per liter
L = Liter gal = Gallon g = Gram
Mass removed based on the formula: volume extracted (gal) x Concentration (µg/L) x (g/10^6µg) x (pound/453.6g) x (3.785 L/gal)
When constituents are not detected, the concentration is assumed to be equal to half the detection limit in subsequent calculations.
Volume removal data based on the formula: mass (pounds) x (density)$^{-1}$ (cc/g) x 453.6 (g/pound) x (L/1000 cc) * (gal/3.785 L)
Density inputs: TPHg = 0.73 g/cc, TPHd = 0.87 g/cc, MTBE = 0.74 g/cc
TPHg, BTEX, and MTBE analyzed by EPA Method 8260B

Table 3: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995740, 2120 Montana St., Oakland, California

					TPPH			Benzene			MTBE		
Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	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)
08/23/01	MW-1	100	100	03/23/01	16,600	0.01385	0.01385	753	0.00063	0.00063	27,500	0.02295	0.02295
08/30/01	MW-1	40	140	03/23/01	16,600	0.00554	0.01939	753	0.00025	0.00088	27,500	0.00918	0.03213
09/09/01	MW-1	500	640	03/23/01	16,600	0.06926	0.08865	753	0.00314	0.00402	27,500	0.11473	0.14686
09/21/01	MW-1	320	960	03/23/01	16,600	0.04433	0.13298	753	0.00201	0.00603	27,500	0.07343	0.22029
09/29/01	MW-1	600	1,560	03/23/01	16,600	0.08311	0.21609	753	0.00377	0.00980	27,500	0.13768	0.35797
10/05/01	MW-1	362	1,922	03/23/01	16,600	0.05014	0.26623	753	0.00227	0.01208	27,500	0.08307	0.44104
10/12/01	MW-1	700	2,622	03/23/01	16,600	0.09696	0.36319	753	0.00440	0.01647	27,500	0.16063	0.60167
10/19/01	MW-1	350	2,972	03/23/01	16,600	0.04848	0.41167	753	0.00220	0.01867	27,500	0.08031	0.68198
10/29/01	MW-1	1,995	4,967	03/23/01	16,600	0.27634	0.68801	753	0.01254	0.03121	27,500	0.45779	1.13978
11/02/01	MW-1	700	5,667	03/23/01	16,600	0.09696	0.78497	753	0.00440	0.03561	27,500	0.16063	1.30041
11/16/01	MW-1	800	6,467	03/23/01	16,600	0.11081	0.89579	753	0.00503	0.04063	27,500	0.18358	1.48398
11/30/01	MW-1	900	7,367	03/23/01	16,600	0.12466	1.02045	753	0.00565	0.04629	27,500	0.20652	1.69050
12/14/01	MW-1	300	7,667	03/23/01	16,600	0.04155	1.06200	753	0.00188	0.04817	27,500	0.06884	1.75934
12/28/01	MW-1	250	7,917	03/23/01	16,600	0.03463	1.09663	753	0.00157	0.04974	27,500	0.05737	1.81671
01/12/02	MW-1	1,300	9,217	03/23/01	16,600	0.18007	1.27670	753	0.00817	0.05791	27,500	0.29831	2.11502
02/14/02	MW-1	950	10,167	03/23/01	16,600	0.13159	1.40830	753	0.00597	0.06388	27,500	0.21800	2.33302
03/11/02*	MW-1	1,258	11,425	03/23/01	16,600	0.17425	1.58255	753	0.00790	0.07179	27,500	0.28867	2.62169
04/01/02	MW-1	791	12,216	03/23/01	16,600	0.10957	1.69212	753	0.00497	0.07676	27,500	0.18151	2.80320
05/01/02	MW-1	60	12,276	03/23/01	16,600	0.00831	1.70043	753	0.00038	0.07713	27,500	0.01377	2.81697
06/05/02	MW-1	643	12,919	03/23/01	16,600	0.08907	1.78949	753	0.00404	0.08117	27,500	0.14755	2.96452
07/11/02	MW-1	400	13,319	03/23/01	16,600	0.05541	1.84490	753	0.00251	0.08369	27,500	0.09179	3.05631
08/12/02	MW-1	1,300	14,619	03/23/01	16,600	0.18007	2.02497	753	0.00817	0.09186	27,500	0.29831	3.35462
09/09/02	MW-1	500	15,119	03/23/01	16,600	0.06926	2.09423	753	0.00314	0.09500	27,500	0.11473	3.46935
10/08/02	MW-1	117	15,236	03/23/01	16,600	0.01621	2.11043	753	0.00074	0.09573	27,500	0.02685	3.49620
11/09/02	MW-1	173	15,409	03/23/01	16,600	0.02396	2.13440	753	0.00109	0.09682	27,500	0.03970	3.53590
12/13/02	MW-1	885	16,294	03/23/01	16,600	0.12259	2.25698	753	0.00556	0.10238	27,500	0.20308	3.73898
01/08/03	MW-1	1,151	17,445	03/23/01	16,600	0.15943	2.41642	753	0.00723	0.10961	27,500	0.26412	4.00310
02/05/03	MW-1	0	17,445	03/23/01	16,600	0.00000	2.41642	753	0.00000	0.10961	27,500	0.00000	4.00310

Table 3: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995740, 2120 Montana St., Oakland, California

Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	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)
					TPPH			**Benzene**			**MTBE**		
02/19/03	MW-1	1,130	18,575	03/23/01	16,600	0.15652	2.57294	753	0.00710	0.11671	27,500	0.25930	4.26240
03/05/03	MW-1	600	19,175	03/23/01	16,600	0.08311	2.65605	753	0.00377	0.12048	27,500	0.13768	4.40008
08/19/03	MW-1	750	19,925	06/30/03	7,800	0.04881	2.70486	<25	0.00008	0.12056	2,000	0.01252	4.41260
08/26/03	MW-1	700	20,625	06/30/03	7,800	0.04556	2.75042	<25	0.00007	0.12063	2,000	0.01168	4.42428
09/02/03	MW-1	600	21,225	06/30/03	7,800	0.03905	2.78948	<25	0.00006	0.12070	2,000	0.01001	4.43430
09/09/03	MW-1	600	21,825	06/30/03	7,800	0.03905	2.82853	<25	0.00006	0.12076	2,000	0.01001	4.44431
09/16/03	MW-1	300	22,125	06/30/03	7,800	0.01953	2.84805	<25	0.00003	0.12079	2,000	0.00501	4.44932
09/23/03	MW-1	550	22,675	06/30/03	7,800	0.03580	2.88385	<25	0.00006	0.12085	2,000	0.00918	4.45849
09/30/03	MW-1	689	23,364	06/30/03	7,800	0.04484	2.92870	<25	0.00007	0.12092	2,000	0.01150	4.46999
10/07/03	MW-1	650	24,014	06/30/03	7,800	0.04231	2.97100	<25	0.00007	0.12099	2,000	0.01085	4.48084
10/14/03	MW-1	780	24,794	06/30/03	7,800	0.05077	3.02177	<25	0.00008	0.12107	2,000	0.01302	4.49386
10/21/03	MW-1	650	25,444	06/30/03	7,800	0.04231	3.06407	<25	0.00007	0.12114	2,000	0.01085	4.50470
10/28/03	MW-1	600	26,044	06/30/03	7,800	0.03905	3.10313	<25	0.00006	0.12120	2,000	0.01001	4.51472
11/04/03	MW-1	414	26,458	06/30/03	7,800	0.02695	3.13007	<25	0.00004	0.12124	2,000	0.00691	4.52163
11/11/03	MW-1	800	27,258	06/30/03	7,800	0.05207	3.18214	<25	0.00008	0.12133	2,000	0.01335	4.53498
11/18/03	MW-1	750	28,008	06/30/03	7,800	0.04881	3.23095	<25	0.00008	0.12140	2,000	0.01252	4.54749
11/25/03	MW-1	1,159	29,167	06/30/03	7,800	0.07543	3.30639	<25	0.00012	0.12152	2,000	0.01934	4.56684
12/02/03	MW-1	1,248	30,415	06/30/03	7,800	0.08123	3.38762	<25	0.00013	0.12165	2,000	0.02083	4.58766
12/09/03	MW-1	1,295	31,710	06/30/03	7,800	0.08429	3.47190	<25	0.00014	0.12179	2,000	0.02161	4.60928
12/17/03	MW-1	1,380	33,090	06/30/03	7,800	0.08982	3.56172	<25	0.00014	0.12193	2,000	0.02303	4.63231
12/23/03	MW-1	505	33,595	06/30/03	7,800	0.03287	3.59459	<25	0.00005	0.12199	2,000	0.00843	4.64073
12/30/03	MW-1	1,000	34,595	06/30/03	7,800	0.06509	3.65968	<25	0.00010	0.12209	2,000	0.01669	4.65742
01/06/04	MW-1	1,205	35,800	06/30/03	7,800	0.07843	3.73810	<25	0.00013	0.12222	2,000	0.02011	4.67753
08/23/01	TBW-N	85	85	09/25/01	120,000	0.08511	0.08511	3,200	0.00227	0.00227	31,000	0.02199	0.02199
08/30/01	TBW-N	0	85	09/25/01	120,000	0.00000	0.08511	3,200	0.00000	0.00227	31,000	0.00000	0.02199
09/09/01	TBW-N	0	85	09/25/01	120,000	0.00000	0.08511	3,200	0.00000	0.00227	31,000	0.00000	0.02199
09/21/01	TBW-N	200	285	09/25/01	120,000	0.20026	0.28538	3,200	0.00534	0.00761	31,000	0.05174	0.07372

Table 3: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995740, 2120 Montana St., Oakland, California

					TPPH			Benzene			MTBE		
Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	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)
09/29/01	TBW-N	0	285	09/25/01	120,000	0.00000	0.28538	3,200	0.00000	0.00761	31,000	0.00000	0.07372
10/05/01	TBW-N	0	285	09/25/01	120,000	0.00000	0.28538	3,200	0.00000	0.00761	31,000	0.00000	0.07372
10/12/01	TBW-N	100	385	09/25/01	120,000	0.10013	0.38551	3,200	0.00267	0.01028	31,000	0.02587	0.09959
10/19/01	TBW-N	0	385	09/25/01	120,000	0.00000	0.38551	3,200	0.00000	0.01028	31,000	0.00000	0.09959
10/29/01	TBW-N	5	390	09/25/01	120,000	0.00501	0.39052	3,200	0.00013	0.01041	31,000	0.00129	0.10088
11/02/01	TBW-N	10	400	09/25/01	120,000	0.01001	0.40053	3,200	0.00027	0.01068	31,000	0.00259	0.10347
11/16/01	TBW-N	400	800	09/25/01	120,000	0.40053	0.80106	3,200	0.01068	0.02136	31,000	0.10347	0.20694
11/30/01	TBW-N	1,100	1,900	11/20/01	72,000	0.66087	1.46193	2,200	0.02019	0.04155	35,000	0.32126	0.52820
12/14/01	TBW-N	2,000	3,900	12/05/01	76,000	1.26834	2.73027	1,600	0.02670	0.06826	30,000	0.50066	1.02886
12/28/01	TBW-N	800	4,700	12/05/01	76,000	0.50734	3.23761	1,600	0.01068	0.07894	30,000	0.20026	1.22912
01/12/02	TBW-N	1,300	6,000	12/05/01	76,000	0.82442	4.06203	1,600	0.01736	0.09629	30,000	0.32543	1.55455
02/14/02	TBW-N	582	6,582	12/05/01	76,000	0.36909	4.43112	1,600	0.00777	0.10406	30,000	0.14569	1.70025
03/11/02*	TBW-N	838	7,420	03/01/02	91,000	0.63632	5.06744	1,200	0.00839	0.11246	29,000	0.20278	1.90303
04/01/02	TBW-N	700	8,120	03/01/02	91,000	0.53154	5.59898	1,200	0.00701	0.11946	29,000	0.16939	2.07242
05/01/02	TBW-N	801	8,921	03/01/02	91,000	0.60823	6.20721	1,200	0.00802	0.12749	29,000	0.19383	2.26625
06/05/02	TBW-N	400	9,321	06/06/02	100,000	0.33377	6.54098	2,100	0.00701	0.13449	18,000	0.06008	2.32633
07/11/02	TBW-N	672	9,993	06/06/02	100,000	0.56074	7.10172	2,100	0.01178	0.14627	18,000	0.10093	2.42726
08/12/02	TBW-N	165	10,158	06/06/02	100,000	0.13768	7.23940	2,100	0.00289	0.14916	18,000	0.02478	2.45205
09/09/02	TBW-N	272	10,430	09/06/02	69,000	0.15661	7.39601	870	0.00197	0.15114	17,000	0.03858	2.49063
10/08/02	TBW-N	272	10,702	09/06/02	69,000	0.15661	7.55262	870	0.00197	0.15311	17,000	0.03858	2.52922
11/09/02	TBW-N	800	11,502	09/06/02	69,000	0.46061	8.01323	870	0.00581	0.15892	17,000	0.11348	2.64270
12/13/02	TBW-N	700	12,202	12/19/02	110,000	0.64252	8.65574	1,900	0.01110	0.17002	19,000	0.11098	2.75368
01/08/03	TBW-N	1,000	13,202	12/19/02	110,000	0.91788	9.57362	1,900	0.01585	0.18587	19,000	0.15854	2.91222
02/05/03	TBW-N	0	13,202	12/19/02	110,000	0.00000	9.57362	1,900	0.00000	0.18587	19,000	0.00000	2.91222
02/19/03	TBW-N	0	13,202	12/19/02	110,000	0.00000	9.57362	1,900	0.00000	0.18587	19,000	0.00000	2.91222
03/05/03	TBW-N	1,122	14,324	12/19/02	110,000	1.02986	10.60348	1,900	0.01779	0.20366	19,000	0.17788	3.09011
08/19/03	TBW-N	44	14,368	06/30/03	260,000	0.09546	10.69894	7,700	0.00283	0.20649	8,400	0.00308	3.09319
08/26/03	TBW-N	53	14,421	06/30/03	260,000	0.11499	10.81393	7,700	0.00341	0.20989	8,400	0.00371	3.09691

Table 3: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995740, 2120 Montana St., Oakland, California

Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	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)
					TPPH			**Benzene**			**MTBE**		
09/02/03	TBW-N	71	14,492	06/30/03	260,000	0.15404	10.96796	7,700	0.00456	0.21445	8,400	0.00498	3.10188
09/09/03	TBW-N	38	14,530	06/30/03	260,000	0.08244	11.05041	7,700	0.00244	0.21689	8,400	0.00266	3.10455
09/16/03	TBW-N	67	14,597	06/30/03	260,000	0.14536	11.19576	7,700	0.00430	0.22120	8,400	0.00470	3.10924
09/23/03	TBW-N	77	14,674	06/30/03	260,000	0.16705	11.36282	7,700	0.00495	0.22615	8,400	0.00540	3.11464
09/30/03	TBW-N	50	14,724	06/30/03	260,000	0.10848	11.47130	7,700	0.00321	0.22936	8,400	0.00350	3.11814
10/07/03	TBW-N	69	14,793	06/30/03	260,000	0.14970	11.62099	7,700	0.00443	0.23379	8,400	0.00484	3.12298
10/14/03	TBW-N	55	14,848	06/30/03	260,000	0.11932	11.74032	7,700	0.00353	0.23733	8,400	0.00386	3.12684
10/21/03	TBW-N	86	14,934	06/30/03	260,000	0.18658	11.92690	7,700	0.00553	0.24285	8,400	0.00603	3.13286
10/28/03	TBW-N	91	15,025	06/30/03	260,000	0.19743	12.12432	7,700	0.00585	0.24870	8,400	0.00638	3.13924
11/04/03	TBW-N	200	15,225	06/30/03	260,000	0.43391	12.55823	7,700	0.01285	0.26155	8,400	0.01402	3.15326
11/11/03	TBW-N	71	15,296	06/30/03	260,000	0.15404	12.71227	7,700	0.00456	0.26611	8,400	0.00498	3.15824
11/18/03	TBW-N	473	15,769	06/30/03	260,000	1.02619	13.73846	7,700	0.03039	0.29650	8,400	0.03315	3.19139
11/25/03	TBW-N	150	15,919	06/30/03	260,000	0.32543	14.06389	7,700	0.00964	0.30614	8,400	0.01051	3.20190
12/02/03	TBW-N	150	16,069	06/30/03	260,000	0.32543	14.38932	7,700	0.00964	0.31578	8,400	0.01051	3.21242
12/09/03	TBW-N	700	16,769	06/30/03	260,000	1.51867	15.90799	7,700	0.04498	0.36075	8,400	0.04906	3.26148
12/17/03	TBW-N	750	17,519	06/30/03	260,000	1.62715	17.53514	7,700	0.04819	0.40894	8,400	0.05257	3.31405
12/23/03	TBW-N	505	18,024	06/30/03	260,000	1.09561	18.63075	7,700	0.03245	0.44139	8,400	0.03540	3.34945
12/30/03	TBW-N	787	18,811	06/30/03	260,000	1.70742	20.33818	7,700	0.05057	0.49196	8,400	0.05516	3.40461
01/06/04	TBW-N	1,100	19,911	12/29/03	130,000	1.19324	21.53142	840	0.00771	0.49967	5,400	0.04957	3.45418
Total Gallons Extracted:			**55,711**		**Total Pounds Removed:**		**25.26952**			**0.62188**			**8.13171**
					Total Gallons Removed:		**4.14254**			**0.08519**			**1.31157**

Table 3: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995740, 2120 Montana St., Oakland, California

					TPPH			Benzene			MTBE		
Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	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)

Abbreviations & Notes:

TPPH = Total purgeable hydrocarbons as gasoline
MtBE = Methyl tert-butyl ether
ppb = Parts per billion
gal = Gallons
* = Volume pumped estimated.
Mass removed based on the formula: volume extracted (gal) x concentration (µg/L) x (g/10^6µg) x (pound/453.6g) x (3.785 L/gal)
Volume removal data based on the formula: density (in gms/cc) x 9.339 (ccxlbs/gmsxgals)
TPPH, benzene, and MTBE analyzed by EPA Method 8260
Concentrations based on most recent groundwater monitoring results
If concentration is less than the laboratory detection limit, one half of the detection limit concentration is used in the mass removal calculation.
Groundwater extracted by vacuum trucks provided by Onyx. Water disposed of at a Martinez Refinery.

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

January 12, 2004

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

Fourth Quarter 2003 Groundwater Monitoring at
Shell-branded Service Station
2120 Montana Street
Oakland, CA

Monitoring performed on December 29, 2003

Groundwater Monitoring Report **031229-DW-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/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
2120 Montana Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE *8020* (ug/L)	MTBE *8260* (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)
MW-1	03/19/3001	NA	NA	NA	NA	NA	NA	NA	159.59	12.14	147.45	ND
MW-1	03/23/2001	16,600	753	1,720	407	2,330	NA	27,500	159.59	12.25	147.34	ND
MW-1	05/31/2001	<20,000d	1,000d	920d	490d	2,000d	NA	54,000d	161.13	12.22	148.91	ND
MW-1	06/27/2001	NA	NA	NA	NA	NA	NA	NA	159.59	13.00b	NA	ND
MW-1	07/09/2001	NA	NA	NA	NA	NA	NA	NA	159.59	13.17	146.67	0.31
MW-1	09/25/2001	NA	NA	NA	NA	NA	NA	NA	159.59	14.27	145.66	0.43
MW-1	11/20/2001	NA	NA	NA	NA	NA	NA	NA	159.59	13.49	146.14	0.05
MW-1	12/05/2001	NA	NA	NA	NA	NA	NA	NA	159.59	11.32	148.31	0.05
MW-1	03/01/2002	NA	NA	NA	NA	NA	NA	NA	159.59	13.22	146.56	0.24
MW-1	06/06/2002	NA	NA	NA	NA	NA	NA	NA	159.59	12.99	147.00	0.50
MW-1	07/16/2002	NA	NA	NA	NA	NA	NA	NA	159.59	13.37	146.22	ND
MW-1	09/06/2002	NA	NA	NA	NA	NA	NA	NA	159.57	13.30	146.70	0.54
MW-1	12/12/2002	NA	NA	NA	NA	NA	NA	NA	159.57	13.78	146.61	1.03
MW-1	03/31/2003	NA	NA	NA	NA	NA	NA	NA	159.57	11.21	148.38	0.03
MW-1	06/30/2003	7,800	<25	37	<25	380	NA	2,000	159.57	12.20	147.37	ND
MW-1	09/09/2003	NA	NA	NA	NA	NA	NA	NA	159.08	15.70	145.28	2.38
MW-1	**12/29/2003**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**159.08**	**11.25**	**147.89**	**0.07**
MW-2	03/19/3001	NA	NA	NA	NA	NA	NA	NA	158.03	11.60	146.43	ND
MW-2	03/23/2001	4,450	280	41.0	62.1	63.0	NA	16,600	158.03	11.76	146.27	ND
MW-2	05/31/2001	<20,000a	820a	<200a	<200a	<200a	NA	63,000a	158.03	11.40	146.63	ND
MW-2	06/27/2001	<50,000	610	4.0	13	9.2	NA	47,000	158.03	12.65	145.38	ND
MW-2	09/25/2001	<2,000	41	<20	<20	<20	NA	6,400	158.03	12.89	145.14	ND
MW-2	12/05/2001	<2,000	74	<20	<20	<20	NA	8,400	158.03	10.40	147.63	ND
MW-2	03/01/2002	<1,000	<10	<10	<10	<10	NA	2,900	158.03	11.52	146.51	ND
MW-2	06/06/2002	<5,000	210	<50	<50	<50	NA	23,000	158.03	12.15	145.88	ND
MW-2	07/16/2002	NA	NA	NA	NA	NA	NA	NA	158.03	12.25	145.78	ND
MW-2	09/06/2002	<2,000	56	<20	<20	<20	NA	11,000	158.01	12.44	145.57	ND

WELL CONCENTRATIONS
Shell-branded Service Station
2120 Montana Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)
MW-2	12/12/2002	<2,500	80	<25	<25	<25	NA	13,000	158.01	12.53	145.48	ND
MW-2	03/31/2003	<5,000	230	1,200	95	150	NA	13,000	158.01	11.98	146.03	ND
MW-2	06/30/2003	<12,000	780	<120	170	250	NA	9,000	158.01	12.10	145.91	ND
MW-2	09/09/2003	140,000	4,600	40,000	4,800	32,000	NA	11,000	158.01	12.94	145.07	ND
MW-2	**12/29/2003**	**220,000**	**240**	**4,800**	**2,900**	**19,000**	**NA**	**1,000**	**158.01**	**11.20**	**146.81**	**ND**
MW-3	03/19/3001	NA	NA	NA	NA	NA	NA	NA	161.13	11.42	149.71	ND
MW-3	03/23/2001	<50.0	<0.500	<0.500	<0.500	<0.500	NA	1.26	161.13	11.42	149.71	ND
MW-3	05/31/2001	<50e	<0.50e	<0.50e	<0.50e	<0.50e	NA	<5.0e	159.59	13.00	146.59	ND
MW-3	06/27/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	161.13	12.32	148.81	ND
MW-3	09/25/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	161.13	12.50	148.63	ND
MW-3	12/05/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	161.13	10.13	151.00	ND
MW-3	03/01/2002	<50	<0.50	<0.50	<0.50	0.73	NA	<5.0	161.13	11.63	149.50	ND
MW-3	06/06/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	161.13	11.55	149.58	ND
MW-3	07/16/2002	NA	NA	NA	NA	NA	NA	NA	161.13	11.72	149.41	ND
MW-3	09/06/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	161.11	12.24	148.87	ND
MW-3	12/12/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	161.11	12.18	148.93	ND
MW-3	03/31/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	0.78	161.11	11.94	149.17	ND
MW-3	06/30/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	161.11	12.50	148.61	ND
MW-3	09/09/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	161.11	12.55	148.56	ND
MW-3	**12/29/2003**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**NA**	**0.70**	**161.11**	**10.90**	**150.21**	**ND**
MW-4	07/10/2002	NA	NA	NA	NA	NA	NA	NA	NM	13.19	NA	ND
MW-4	07/16/2002	800	1.1	1.1	2.6	2.4	NA	450	NM	13.56	NA	ND
MW-4	09/06/2002	1,100	3.0	1.8	8.0	4.6	NA	110	160.09	13.67	146.42	ND
MW-4	12/12/2002	130	<0.50	<0.50	<0.50	<0.50	NA	940	160.09	14.06	146.03	ND
MW-4	03/31/2003	<250	<2.5	<2.5	<2.5	<5.0	NA	500	160.09	13.69	146.40	ND
MW-4	06/30/2003	3,100	5.3	<5.0	7.1	<10	NA	420	160.09	14.12	145.97	ND

WELL CONCENTRATIONS
Shell-branded Service Station
2120 Montana Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)
MW-4	09/09/2003	1,400	2.4	2.0	2.6	3.2	NA	140	160.09	14.92	145.17	ND
MW-4	**12/29/2003**	**2,700**	**10**	**6.2**	**20**	**11**	**NA**	**420**	**160.09**	**12.71**	**147.38**	**ND**
MW-5	07/10/2002	NA	NA	NA	NA	NA	NA	NA	NM	12.22	NA	ND
MW-5	07/16/2002	6,100	65	7.2	100	130	NA	410	NM	12.50	NA	ND
MW-5	09/06/2002	5,900	100	8.1	41	32	NA	230	158.25	12.77	145.48	ND
MW-5	12/12/2002	4,900	70	5.7	25	17	NA	280	158.25	12.71	145.54	ND
MW-5	03/31/2003	6,400	61	4.9	23	13	NA	330	158.25	11.93	146.32	ND
MW-5	06/30/2003	3,400	18	<2.5	17	5.5	NA	47	158.25	11.97	146.28	ND
MW-5	09/09/2003	6,800	46	23	39	42	NA	67	158.25	12.44	145.81	ND
MW-5	**12/29/2003**	**8,400**	**44**	**6.2**	**36**	**16**	**NA**	**60**	**158.25**	**11.38**	**146.87**	**ND**
TBW-N	09/25/2001 c	120,000	3,200	2,800	4,000	18,000	NA	31,000	NM	12.25	NM	ND
TBW-N	11/20/2001	72,000	2,200	3,600	2,600	14,000	NA	35,000	NM	12.13	NM	ND
TBW-N	12/05/2001	76,000	1,600	3,200	2,900	15,000	NA	30,000	NM	11.51	NM	ND
TBW-N	03/01/2002	91,000	1,200	4,200	2,800	14,000	NA	29,000	NM	11.88	NM	ND
TBW-N	06/06/2002	100,000	2,100	8,200	3,400	17,000	NA	18,000	NM	12.48	NM	ND
TBW-N	07/16/2002	NA	NA	NA	NA	NA	NA	NA	NM	12.39	NM	ND
TBW-N	09/06/2002	69,000	870	4,800	2,300	11,000	NA	17,000	161.26	12.36	148.90	ND
TBW-N	12/12/2002	Well inaccessible		NA	NA	NA	NA	NA	161.26	NA	NA	NA
TBW-N	12/19/2002	110,000	1,900	13,000	3,100	18,000	NA	19,000	161.26	10.82	150.44	ND
TBW-N	03/31/2003	62,000	1,600	6,500	2,200	11,000	NA	11,000	161.26	10.63	150.63	ND
TBW-N	06/30/2003	260,000	7,700	<120	5,800	40,000	NA	8,400	161.26	11.51	149.75	ND
TBW-N	09/09/2003	NA	NA	NA	NA	NA	NA	NA	159.92	11.37	148.64	0.11
TBW-N	**12/29/2003**	**130,000**	**840**	**8,200**	**2,400**	**18,000**	**NA**	**5,400**	**159.92**	**10.40**	**149.52**	**ND**

WELL CONCENTRATIONS
Shell-branded Service Station
2120 Montana Street
Oakland, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)

Abbreviations:
TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B; prior to May 31, 2001, analyzed by EPA Method 8015.
BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B; prior to May 31, 2001, analyzed by EPA Method 8020.
MTBE = Methyl-tertiary-butyl ether
TOC = Top of Casing Elevation
GW = Groundwater
TBW-N = tank backfill well-north
NA = Not analyzed
ND = Not detected
NM = Not measured
ug/L = parts per billion
MSL = Mean sea level
ft = Feet
<n = Below detection limit

Notes:
a = Resampled on June 27, 2001, due to possible mislabeling.
b = Separate phase hydrocarbons encountered during purge; groundwater elevation may not be accurate.
c = Sample TBW-N was analyzed once within hold time, but the analyte concentrations all exceeded the instrument working ranges. The sample was diluted and re-analyzed out of hold time. The diluted analysis is reported because it more accurately reflects the concentrations present.
d = These results are listed as MW-3 on analytical report due to possible mislabeling in field or laboratory. Resampled on June 27, 2001, to confirm mislabeling.
e = These results are listed as MW-1 on analytical report due to possible mislabeling in field or laboratory. Resampled on June 27, 2001, to confirm mislabeling.
Survey data provided by Cambria Environmental Technology, May 2001.
Site surveyed February 12 and June 26, 2002, by Virgil Chavez Land Surveying of Vallejo, California.
Wells MW-1 and TBW-N surveyed September 23, 2003, by Virgil Chavez Land Surveying of Vallejo, California.
When separate phase hydrocarbons are present, ground water elevation is adjusted using the relation:
corrected ground water elevation = Top-of-casing elevation - depth to water + (0.8 x hydrocarbon thickness).

SEVERN TRENT STL

Submission#: 2003-12-0941

Blaine Tech Services, Inc.

January 09, 2004

1680 Rogers Avenue
San Jose, CA 95112-1105

Attn.: Leon Gearhart

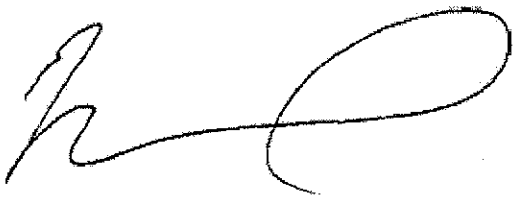
Project#: BTS#031229-DW-2
Project: 98995740
Site: 2120 Montana Street, Oakland

Dear Mr.Gearhart,

Attached is our report for your samples received on 12/30/2003 17:32
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 02/13/2004 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: vvancil@stl-inc.com

Sincerely,



Vincent Vancil
Project Manager

SEVERN TRENT STL

Submission #: 2003-12-0941

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: BTS#031229-DW-2
98995740

Received: 12/30/2003 17:32

Site: 2120 Montana Street, Oakland

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-2	12/29/2003 13:00	Water	1
MW-3	12/29/2003 11:58	Water	2
MW-4	12/29/2003 12:23	Water	3
MW-5	12/29/2003 12:39	Water	4
TBW-N	12/29/2003 13:20	Water	5

SEVERN TRENT STL

Submission #: 2003-12-0941

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: BTS#031229-DW-2
98995740

Received: 12/30/2003 17:32

Site: 2120 Montana Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-2**	Lab ID:	2003-12-0941 - 1
Sampled:	12/29/2003 13:00	Extracted:	1/7/2004 15:52
Matrix:	Water	QC Batch#:	2004/01/07-1B.64

Analysis Flag: o (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	220000	2500	ug/L	50.00	01/07/2004 15:52	
Benzene	240	25	ug/L	50.00	01/07/2004 15:52	
Toluene	4800	25	ug/L	50.00	01/07/2004 15:52	
Ethylbenzene	2900	25	ug/L	50.00	01/07/2004 15:52	
Total xylenes	19000	50	ug/L	50.00	01/07/2004 15:52	
Methyl tert-butyl ether (MTBE)	1000	25	ug/L	50.00	01/07/2004 15:52	
Surrogate(s)						
1,2-Dichloroethane-d4	92.5	76-130	%	50.00	01/07/2004 15:52	
Toluene-d8	91.1	78-115	%	50.00	01/07/2004 15:52	

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: BTS#031229-DW-2
98995740

Received: 12/30/2003 17:32

Site: 2120 Montana Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-3**	Lab ID:	2003-12-0941 - 2
Sampled:	12/29/2003 11:58	Extracted:	1/7/2004 20:57
Matrix:	Water	QC Batch#:	2004/01/07-1A.62

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	01/07/2004 20:57	
Benzene	ND	0.50	ug/L	1.00	01/07/2004 20:57	
Toluene	ND	0.50	ug/L	1.00	01/07/2004 20:57	
Ethylbenzene	ND	0.50	ug/L	1.00	01/07/2004 20:57	
Total xylenes	ND	1.0	ug/L	1.00	01/07/2004 20:57	
Methyl tert-butyl ether (MTBE)	0.70	0.50	ug/L	1.00	01/07/2004 20:57	
Surrogate(s)						
1,2-Dichloroethane-d4	89.7	76-130	%	1.00	01/07/2004 20:57	
Toluene-d8	98.8	78-115	%	1.00	01/07/2004 20:57	

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: BTS#031229-DW-2
98995740

Received: 12/30/2003 17:32

Site: 2120 Montana Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-4**	Lab ID:	2003-12-0941 - 3
Sampled:	12/29/2003 12:23	Extracted:	1/7/2004 19:38
Matrix:	Water	QC Batch#:	2004/01/07-2B.64

Analysis Flag: o (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	2700	250	ug/L	5.00	01/07/2004 19:38	
Benzene	10	2.5	ug/L	5.00	01/07/2004 19:38	
Toluene	6.2	2.5	ug/L	5.00	01/07/2004 19:38	
Ethylbenzene	20	2.5	ug/L	5.00	01/07/2004 19:38	
Total xylenes	11	5.0	ug/L	5.00	01/07/2004 19:38	
Methyl tert-butyl ether (MTBE)	420	2.5	ug/L	5.00	01/07/2004 19:38	
Surrogate(s)						
1,2-Dichloroethane-d4	100.0	76-130	%	5.00	01/07/2004 19:38	
Toluene-d8	91.1	78-115	%	5.00	01/07/2004 19:38	

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: BTS#031229-DW-2
98995740

Received: 12/30/2003 17:32

Site: 2120 Montana Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-5**	Lab ID:	2003-12-0941 - 4
Sampled:	12/29/2003 12:39	Extracted:	1/7/2004 20:00
Matrix:	Water	QC Batch#:	2004/01/07-2B.64

Analysis Flag: o (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	8400	500	ug/L	10.00	01/07/2004 20:00	
Benzene	44	5.0	ug/L	10.00	01/07/2004 20:00	
Toluene	6.2	5.0	ug/L	10.00	01/07/2004 20:00	
Ethylbenzene	36	5.0	ug/L	10.00	01/07/2004 20:00	
Total xylenes	16	10	ug/L	10.00	01/07/2004 20:00	
Methyl tert-butyl ether (MTBE)	60	5.0	ug/L	10.00	01/07/2004 20:00	
Surrogate(s)						
1,2-Dichloroethane-d4	96.5	76-130	%	10.00	01/07/2004 20:00	
Toluene-d8	91.3	78-115	%	10.00	01/07/2004 20:00	

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: BTS#031229-DW-2
98995740

Received: 12/30/2003 17:32

Site: 2120 Montana Street, Oakland

Prep(s): 5030B
Test(s): 8260B
Sample ID: **TBW-N**
Lab ID: 2003-12-0941 - 5
Sampled: 12/29/2003 13:20
Extracted: 1/7/2004 20:22
Matrix: Water
QC Batch#: 2004/01/07-2B.64
Analysis Flag: o (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	130000	5000	ug/L	100.00	01/07/2004 20:22	
Benzene	840	50	ug/L	100.00	01/07/2004 20:22	
Toluene	8200	50	ug/L	100.00	01/07/2004 20:22	
Ethylbenzene	2400	50	ug/L	100.00	01/07/2004 20:22	
Total xylenes	18000	100	ug/L	100.00	01/07/2004 20:22	
Methyl tert-butyl ether (MTBE)	5400	50	ug/L	100.00	01/07/2004 20:22	
Surrogate(s)						
1,2-Dichloroethane-d4	94.4	76-130	%	100.00	01/07/2004 20:22	
Toluene-d8	92.9	78-115	%	100.00	01/07/2004 20:22	

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: BTS#031229-DW-2
98995740

Received: 12/30/2003 17:32

Site: 2120 Montana Street, Oakland

Batch QC Report

Prep(s): 5030B — Test(s): 8260B

Method Blank — **Water** — **QC Batch # 2004/01/07-1A.62**

MB: 2004/01/07-1A.62-039 — Date Extracted: 01/07/2004 18:39

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	01/07/2004 18:39	
Benzene	ND	0.5	ug/L	01/07/2004 18:39	
Toluene	ND	0.5	ug/L	01/07/2004 18:39	
Ethylbenzene	ND	0.5	ug/L	01/07/2004 18:39	
Total xylenes	ND	1.0	ug/L	01/07/2004 18:39	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	01/07/2004 18:39	
Surrogates(s)					
1,2-Dichloroethane-d4	92.5	76-130	%	01/07/2004 18:39	
Toluene-d8	99.3	78-115	%	01/07/2004 18:39	

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: BTS#031229-DW-2
98995740

Received: 12/30/2003 17:32

Site: 2120 Montana Street, Oakland

Batch QC Report

Prep(s): 5030B — Test(s): 8260B

Method Blank — **Water** — **QC Batch # 2004/01/07-1B.64**

MB: 2004/01/07-1B.64-036 — Date Extracted: 01/07/2004 10:36

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	01/07/2004 10:36	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	01/07/2004 10:36	
Benzene	ND	0.5	ug/L	01/07/2004 10:36	
Toluene	ND	0.5	ug/L	01/07/2004 10:36	
Ethylbenzene	ND	0.5	ug/L	01/07/2004 10:36	
Total xylenes	ND	1.0	ug/L	01/07/2004 10:36	
Surrogates(s)					
1,2-Dichloroethane-d4	85.4	76-130	%	01/07/2004 10:36	
Toluene-d8	91.4	78-115	%	01/07/2004 10:36	

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: BTS#031229-DW-2
98995740

Received: 12/30/2003 17:32

Site: 2120 Montana Street, Oakland

Batch QC Report

Prep(s): 5030B — Test(s): 8260B

Method Blank — **Water** — **QC Batch # 2004/01/07-2B.64**

MB: 2004/01/07-2B.64-005 — Date Extracted: 01/07/2004 19:05

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	01/07/2004 19:05	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	01/07/2004 19:05	
Benzene	ND	0.5	ug/L	01/07/2004 19:05	
Toluene	ND	0.5	ug/L	01/07/2004 19:05	
Ethylbenzene	ND	0.5	ug/L	01/07/2004 19:05	
Total xylenes	ND	1.0	ug/L	01/07/2004 19:05	
Surrogates(s)					
1,2-Dichloroethane-d4	86.4	76-130	%	01/07/2004 19:05	
Toluene-d8	91.0	78-115	%	01/07/2004 19:05	

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: BTS#031229-DW-2
98995740

Received: 12/30/2003 17:32

Site: 2120 Montana Street, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Water** **QC Batch # 2004/01/07-1A.62**

LCS 2004/01/07-1A.62-055 Extracted: 01/07/2004 Analyzed: 01/07/2004 17:55

LCSD 2004/01/07-1A.62-017 Extracted: 01/07/2004 Analyzed: 01/07/2004 18:17

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	25.1	25.8	25	100.4	103.2	2.8	69-129	20		
Toluene	27.3	26.5	25	109.2	106.0	3.0	70-130	20		
Methyl tert-butyl ether (MTBE)	21.0	21.9	25	84.0	87.6	4.2	65-165	20		
Surrogates(s)										
1,2-Dichloroethane-d4	451	451	500	90.2	90.2		76-130			
Toluene-d8	513	516	500	102.6	103.2		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: BTS#031229-DW-2
98995740

Received: 12/30/2003 17:32

Site: 2120 Montana Street, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike | **Water** | **QC Batch # 2004/01/07-1B.64**

LCS 2004/01/07-1B.64-052 Extracted: 01/07/2004 Analyzed: 01/07/2004 09:52

LCSD 2004/01/07-1B.64-014 Extracted: 01/07/2004 Analyzed: 01/07/2004 10:14

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE)	22.5	24.9	25	90.0	99.6	10.1	65-165	20		
Benzene	23.3	26.6	25	93.2	106.4	13.2	69-129	20		
Toluene	23.9	27.2	25	95.6	108.8	12.9	70-130	20		
Surrogates(s)										
1,2-Dichloroethane-d4	420	418	500	84.0	83.6		76-130			
Toluene-d8	456	472	500	91.2	94.4		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: BTS#031229-DW-2
98995740

Received: 12/30/2003 17:32

Site: 2120 Montana Street, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Water** **QC Batch # 2004/01/07-2B.64**

LCS 2004/01/07-2B.64-020 Extracted: 01/07/2004 Analyzed: 01/07/2004 18:20

LCSD 2004/01/07-2B.64-043 Extracted: 01/07/2004 Analyzed: 01/07/2004 18:43

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE)	25.7	24.0	25	102.8	96.0	6.8	65-165	20		
Benzene	27.4	25.0	25	109.6	100.0	9.2	69-129	20		
Toluene	26.8	26.6	25	107.2	106.4	0.7	70-130	20		
Surrogates(s)										
1,2-Dichloroethane-d4	450	424	500	90.0	84.8		76-130			
Toluene-d8	452	467	500	90.4	93.4		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: BTS#031229-DW-2
98995740

Received: 12/30/2003 17:32

Site: 2120 Montana Street, Oakland

Legend and Notes

Analysis Flag

o

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

LAB: STL

Lab Identification (if necessary):

Address:

City, State, Zip:

2003-12-0941

SHELL Chain Of Custody Record

81614

Shell Project Manager to be invoiced:

☑ SCIENCE & ENGINEERING
☐ TECHNICAL SERVICES
☐ CRMT HOUSTON

Karen Petryna

INCIDENT NUMBER (S&E ONLY): 9 8 9 9 5 7 4 0

SAP or CRMT NUMBER (TS/CRMT):

DATE: 12-29-03

PAGE: 1 of 1

SAMPLING COMPANY: Blaine Tech Services	LOG CODE: BTSS	
ADDRESS: 1680 Rogers Avenue, San Jose, CA 95112		
PROJECT CONTACT (Hardcopy or PDF Report to): Leon Gearhart		
TELEPHONE: 408-573-0555	FAX: 408-573-7771	E-MAIL: lgearhart@blainetech.com

SITE ADDRESS (Street and City): 2120 Montana Street, Oakland		GLOBAL ID NO.: T0600101805	
EDF DELIVERABLE TO (Responsible Party or Designee): Anni Kreml	PHONE NO.: 510-420-3335	E-MAIL: ShellOaklandEDF@cambria-env.com	CONSULTANT PROJECT NO.: 031229-DW-2 BTS #
SAMPLER NAME(S) (Print): Dave Walter		LAB USE ONLY	

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

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY: ______

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

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

REQUESTED ANALYSIS

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

TEMPERATURE ON RECEIPT C°: 4.3

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH - Gas, Purgeable	BTEX	MTBE (8021B - 5ppb RL)	MTBE (8260B - 0.5ppb RL)	Oxygenates (5) by (8260B)	Ethanol (8260B)	Methanol	1,2-DCA (8260B)	EDB (8260B)		TPH - Diesel, Extractable (8015m)									FIELD NOTES
	MW-2	12-29	13:10	W	3	X	X		X																
	MW-3	↓	11:58	↓	↓	X	X		X																
	MW-4	↓	12:23	↓	↓	X	X		X																
	MW-5	↓	12:39	↓	↓	X	X		X																
	TBW-N	↓	13:20	↓	↓	X	X		X																

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
David C. Walter 1732	[signature]	12/30/03	1031
Relinquished by: (Signature) [signature] 12/30/03	Received by: (Signature) [signature]	12-30-03	1732
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

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

10/16/00 Revision

WELL GAUGING DATA

Project # 031229-DW-1 Date 12-29-03 Client Shell

Site 2120 Montana St. Oakland

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	
MW-1	2		11.18	.07	0	11.25	27.44		
MW-2	2	odor				11.20	20.00		
MW-3	2					10.90	20.11		
MW-4	4					12.71	19.85		
MW-5	2					11.38	20.00		
TBW-N	4					10.40	13.23		

SHELL WELL MONITORING DATA SHEET

BTS #: 031229-OW-2	Site: 2120 Montana St. Oakland
Sampler: Dave W.	Date: 12-29-03
Well I.D.: MW-1	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 27.44	Depth to Water (DTW): 11.25
Depth to Free Product: 11.18	Thickness of Free Product (feet): .07
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; Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other ____

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

____ (Gals.) X 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

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
	SPH in well No samples					

Did well dewater? Yes No Gallons actually evacuated:

Sampling Date: 12-29-03 Sampling Time: Depth to Water:

Sample I.D.: Laboratory: (STL) Other ____

Analyzed for: (TPH-G) (BTEX) (MTBE) (5260) 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 #: 031229-ON-2	Site: 2120 Montana St. Oakland
Sampler: Dave W.	Date: 12-29-03
Well I.D.: MW-2	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 20.00	Depth to Water (DTW): 11.20
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]: 12.96	

Purge Method: X Bailer / Disposable Bailer / Positive Air Displacement / Electric Submersible / Waterra / Peristaltic / Extraction Pump / Other_____

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

1.4 (Gals.) X 3 = 4.2 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
1250	61.8	6.9	609	>200	1.4	gray / heavy sheen
1252	63.2	6.8	624	>200	2.8	"
1254	63.5	6.8	632	>200	4.2	"
						⊕

Did well dewater? Yes (No) Gallons actually evacuated: 4.2

Sampling Date: 12-29-03 Sampling Time: 1300 Depth to Water: 12.87

Sample I.D.: MW-2 Laboratory: (STL) Other_____

Analyzed for: (TPH-G) (BTEX) (MTBE 8260) 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 #: 031229-DW-2	Site: 2120 Montana St. Oakland
Sampler: Dave W.	Date: 12-29-03
Well I.D.: MW-3	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 20.11	Depth to Water (DTW): 10.90
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]: 12.74	

Purge Method: (X Bailer) / Disposable Bailer / Positive Air Displacement / Electric Submersible / Waterra / Peristaltic / Extraction Pump / Other_____

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

1.7 (Gals.) X 3 = 5.1 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

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
11:50	62.3	6.6	536	>200	1.7	cloudy
11:52	65.5	6.5	506	>200	3.4	"
11:54	67.0	6.4	505	>200	5.1	"

Did well dewater? Yes (No) Gallons actually evacuated: 5.1

Sampling Date: 12-29-03 Sampling Time: 11:58 Depth to Water: 12.70

Sample I.D.: MW-3 Laboratory: (STL) Other_____

Analyzed for: (TPH-G) (BTEX) (MTBE) 5260 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 #: 031229-OW-2	Site: 2120 Montana St. Oakland
Sampler: Dave W.	Date: 12-29-03
Well I.D.: MW-4	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 19.85	Depth to Water (DTW): 12.71
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]: 14.13	

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other_____

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

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

4.6 (Gals.) X 3 = 13.8 Gals.
1 Case Volume; Specified Volumes; Calculated Volume

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
12:10	60.9	6.6	571	7	5	odor
12:16	well	dewatered @	5 gl			
12:18					15	
12:23	69.0	6.9	558	6		

Did well dewater? (Yes) (No) Gallons actually evacuated: 25

Sampling Date: 12-29-03 Sampling Time: 12:23 Depth to Water: 14.10

Sample I.D.: MW-4 Laboratory: (STL) Other_____

Analyzed for: (TPH-G) (BTEX) (MTBE) TPH-D (5260) 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 #: 031229-DW-2	Site: 2120 Montana St. Oakland
Sampler: Dave W.	Date: 12-29-03
Well I.D.: MW-5	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 20.06	Depth to Water (DTW): 11.38
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 13.10	

Purge Method: X Bailer / Disposable Bailer / Positive Air Displacement / Electric Submersible / Waterra / Peristaltic / Extraction Pump / Other_____

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

1.4 (Gals.) X	3 =	4.2 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
12:30	60.6	6.8	.558	>200	1.4	gray/silty/odor
12:32	62.3	6.8	568	>200	2.8	"
12:34	62.5	6.9	566	>200	4.2	"

Did well dewater? Yes (No) Gallons actually evacuated: 4.2

Sampling Date: 12-29-03 Sampling Time: 12:39 Depth to Water: 13.00

Sample I.D.: MW-5 Laboratory: (STL) Other_____

Analyzed for: (TPH-G) (BTEX) (MTBE) 8260 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 #: 031229-DW-2	Site: 2120 Montana St. Oakland
Sampler: Dave W.	Date: 12-29-03
Well I.D.: TBW-N	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 13.23	Depth to Water (DTW): 10.40
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: X Bailer; Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other_____

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

1.8 (Gals.) X	3 =	5.4 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	radius^2 * 0.163

Time	Temp (°F)	pH	Cond (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
13:05	60.6	6.6	776	18	1.8	strong odor/sheen
well dewatered @ 1.8 gl.						
13:20	64.5	6.7	1211	27	—	

Did well dewater? (Yes) No Gallons actually evacuated: 1.8

Sampling Date: 12-29-03 Sampling Time: 13:20 Depth to Water: 10.90

Sample I.D.: TBW-N Laboratory: (STL) Other_____

Analyzed for: (TPH-G) (BTEX) (MTBE) 8260 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