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January 13, 2003

Mr. Bennett K. Horenstein
East Bay Municipal Utilities District
Environmental Services Division
PO Box 24055
Oakland, California 94623-1055

Alameda County
JAN 16 2003
Environmental Health

Subject: Shell-branded Service Station
610 Market Street
Oakland, California
Fourth Quarter 2002 Self-Monitoring Report
EBMUD Discharge Permit No. 5050671-1

Dear Mr. Horenstein:

During the current reporting period, the groundwater treatment and extraction system at the site referenced above did not operate. Therefore, the discharge was in compliance with the conditions specified in the above-referenced East Bay Municipal Utilities District Wastewater Discharge Permit.

I certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

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
Shell Oil Products US

C A M B R I A

January 13, 2003

Mr. Bennett K. Horenstein
Source Control Manager
c/o Mr. Florencio C. Gonzalez
East Bay Municipal Utilities District
Environmental Services Division
PO Box 24055
Oakland, California 94623-1055

Re: **Fourth Quarter 2002 Self-Monitoring Report**
Shell-branded Service Station
610 Market Street
Oakland, California
EBMUD Discharge Permit # 5050671-1
Cambria Project # 245-0594-004




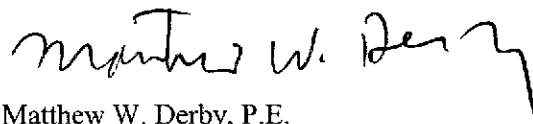
Dear Mr. Horenstein:

On behalf of Equilon Enterprises LLC dba Shell Oil Products US, Cambria Environmental Technology, Inc. (Cambria), is providing an update of activities for the groundwater extraction (GWE) system at the referenced site, in lieu of the Fourth Quarter 2002 Self-Monitoring Report. Discharge from the GWE system under the EBMUD wastewater discharge permit # 5050671-1 has not yet begun. Therefore, there is no data to report at this time, as specified by the permit. Cambria anticipates starting the GWE system by the end of January 2003. Cambria will provide the required notifications prior to start-up. The start-up information will be provided in the *First Quarter 2003 Self-Monitoring Report*.

Please contact Jacquelyn Jones at (510) 420-3316 if you require any additional information.

Sincerely,
Cambria Environmental Technology, Inc.


Jacquelyn Jones
Project Geologist


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

Oakland, CA
San Ramon, CA
Sonoma, CA

**Cambria
Environmental
Technology, Inc.**

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



C A M B R I A

Mr. Bennett K. Horenstein

January 13, 2003

cc: Karen Petryna, Shell Oil Products US, P.O. Box 7869, Burbank, CA 91510-7869
Barney Chan, ACHCSA, 1131 Harbor Bay Parkway, Suite 250, Alameda, California
94502-6577
Virginia R. Rawson, Tr., 1860 Tice Creek Drive #1353, Walnut Creek, CA 94595

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Report.doc



Po 493



Shell Oil Products US

March 4, 2003

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

Alameda County
MAR 07 2003
Environmental Health

Subject: Shell-branded Service Station
610 Market Street
Oakland, California

Dear Mr. Chan:

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

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

Sincerely,

Shell Oil Products US

A handwritten signature in cursive script that reads "Karen Petryna".

Karen Petryna
Sr. Environmental Engineer

March 4, 2003

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

Re: **Fourth Quarter 2002 Monitoring Report**
Shell-branded Service Station
610 Market Street
Oakland, California
Incident #99895750
Cambria Project #245-0594-002



Dear Mr. Chan:

On behalf of Equilon Enterprises LLC dba Shell Oil Products US, Cambria Environmental Technology, Inc. (Cambria) is submitting this groundwater monitoring report in accordance with the reporting requirements of 23 CCR 2652d. The site is located on Market Street between Sixth and Seventh Streets in Oakland, California (Figures 1 and 2).

REMEDIATION SUMMARY

Mobile Dual-Phase Vacuum Extraction Treatment (DVE): From March to October 2000, Cambria coordinated mobile DVE from wells MW-2 and MW-3. Mobile DVE is the process of applying high vacuum through an airtight well seal to simultaneously extract soil vapors from the vadose zone and enhance groundwater extraction from the saturated zone. Mobile DVE uses a vacuum truck to create the vacuum and contain extracted fluids. Mobile DVE equipment consists of a dedicated extraction "stinger" installed in the extraction well, a vacuum truck, and a carbon-vapor treatment system. DVE was discontinued in October 2000 due to low groundwater-extraction volumes. The estimated mass of total petroleum hydrocarbons as gasoline (TPHg) and methyl tertiary butyl ether (MTBE) removed by groundwater extraction during DVE events is summarized in Table 1, and the estimated mass removed by vapor extraction is summarized in Table 2.

**Cambria
Environmental
Technology, Inc.**

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

DVE and Soil Vapor Extraction (SVE) Pilot Test: On March 22, 2001, Cambria performed a short-term (1-day) DVE test on well MW-3 and a short-term (1-day) SVE test on tank backfill well T-1. The tests were conducted using an internal combustion engine for vapor abatement, as

opposed to the carbon treatment system used during mobile DVE. The estimated mass of TPHg and MTBE removed by groundwater extraction during the DVE test on well MW-3 is included in Table 1. The estimated mass of TPHg and MTBE removed by vapor extraction during the DVE pilot test on well MW-3 and the SVE pilot test on well T-1 is included in Table 2.

SVE Pilot Test: Between October 8 and 12, 2001, Cambria conducted a long-term (5-day) SVE pilot test on tank backfill well T-1. The cumulative mass removal of TPHg and MTBE during the SVE pilot test was approximately 14.7 pounds and 32.8 pounds, respectively. The estimated total mass removed by vapor extraction at the site is included on Table 2.



Mobile Groundwater Extraction (GWE): As recommended in the August 29, 2001 *Site Conceptual Model and Pilot Test Report*, Cambria began coordinating weekly GWE from well MW-3 using a vacuum truck in August 2001. Well MW-2 was added to the weekly GWE schedule at the site beginning in January 2002, as recommended in our December 19, 2001 *Soil Vapor Extraction Pilot Test Report and Investigation Work Plan*. The recommendation to extract from well MW-2 was approved in a January 2, 2002 Alameda County Health Care Services Agency (ACHCSA) letter.

Cumulative groundwater purge volume by GWE and previous DVE, and estimated mass removal data are presented in Table 1. The estimated mass of TPHg and MTBE removed through GWE during mobile GWE and previous DVE through the fourth quarter 2002 is 3.38 pounds and 70.63 pounds, respectively. Figure 3 shows MTBE concentrations and mass removal estimates over time for well MW-2. MTBE concentrations in well MW-2 show a decreasing trend over time, likely due to the combination of SVE and GWE completed at the site. Figure 4 shows MTBE concentrations and mass removal estimates over time for well MW-3. MTBE concentrations in well MW-3 have shown a decreasing trend since GWE was initiated at the site. The mass removal estimates shown on Figures 3 and 4 include liquid-phase and vapor-phase MTBE mass removed by GWE and by previous DVE. The total cumulative estimated mass of TPHg and MTBE removed to date at the site, including that removed by GWE, DVE and SVE, is 55.94 pounds and 113.70 pounds, respectively.

FOURTH QUARTER 2002 ACTIVITIES

Groundwater Monitoring: Blaine Tech Services, Inc. (Blaine) of San Jose, gauged and sampled the site wells, calculated groundwater elevations, and compiled the analytical data. Cambria prepared a vicinity map which 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.

Monthly Vapor Sampling: As described in our December 19, 2001 *Soil Vapor Extraction Pilot Test Report and Investigation Work Plan*, Cambria coordinated monthly vapor measurements in the tank backfill wells using a photo-ionization detector (PID). Due to the elevated concentrations detected on February 7, 2002, Cambria began collecting monthly samples from well T-2 to be submitted to an analytical laboratory in addition to collecting PID readings. Results of the vapor sampling are summarized on Table 3. Analytical laboratory reports for the vapor samples are included as Attachment B. Monthly vapor sampling was discontinued after November 2002 due to fixed GWE system installation activities (see below).

Investigation and Interim Remediation Work Plan: On August 19, 2002, Cambria submitted an *Investigation and Interim Remediation Work Plan* proposing further investigation and the installation of a fixed GWE system at the site. This work plan was approved in an August 23, 2002 ACHCSA letter. The scope of work included the installation of three onsite extraction/monitoring wells and one offsite monitoring well, and construction of a fixed GWE system at the site. The proposed onsite extraction/monitoring wells were installed in November 2002. As noted below, the proposed offsite well was installed during the first quarter 2003. In addition, fixed GWE system installation began in the December 2002.

ANTICIPATED FIRST QUARTER 2003 ACTIVITIES

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

Investigation and Interim Remediation Work Plan: The proposed offsite monitoring well was installed in January 2003, and fixed GWE system installation was completed in February 2003. A report detailing investigation procedures and results, and fixed GWE system installation and start-up will be submitted under separate cover.

Monthly Vapor Sampling: Following GWE system start-up, Cambria will reinitiate monthly vapor sampling from well T-2 only. Vapor samples collected from well T-2 will be submitted to an analytical laboratory, and results will be presented in subsequent quarterly monitoring reports.

Mobile GWE: Weekly GWE was discontinued after January 2003 pending fixed GWE system start-up.

CLOSING

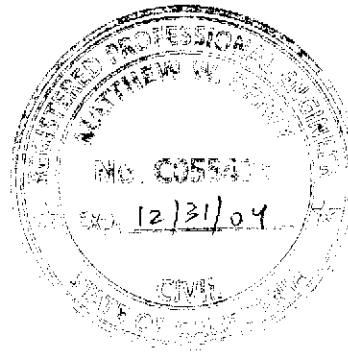
We appreciate the opportunity to work with you on this project. Please call Jacquelyn Jones at (510) 420-3316 if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc



Jacquelyn L. Jones
Project Geologist

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



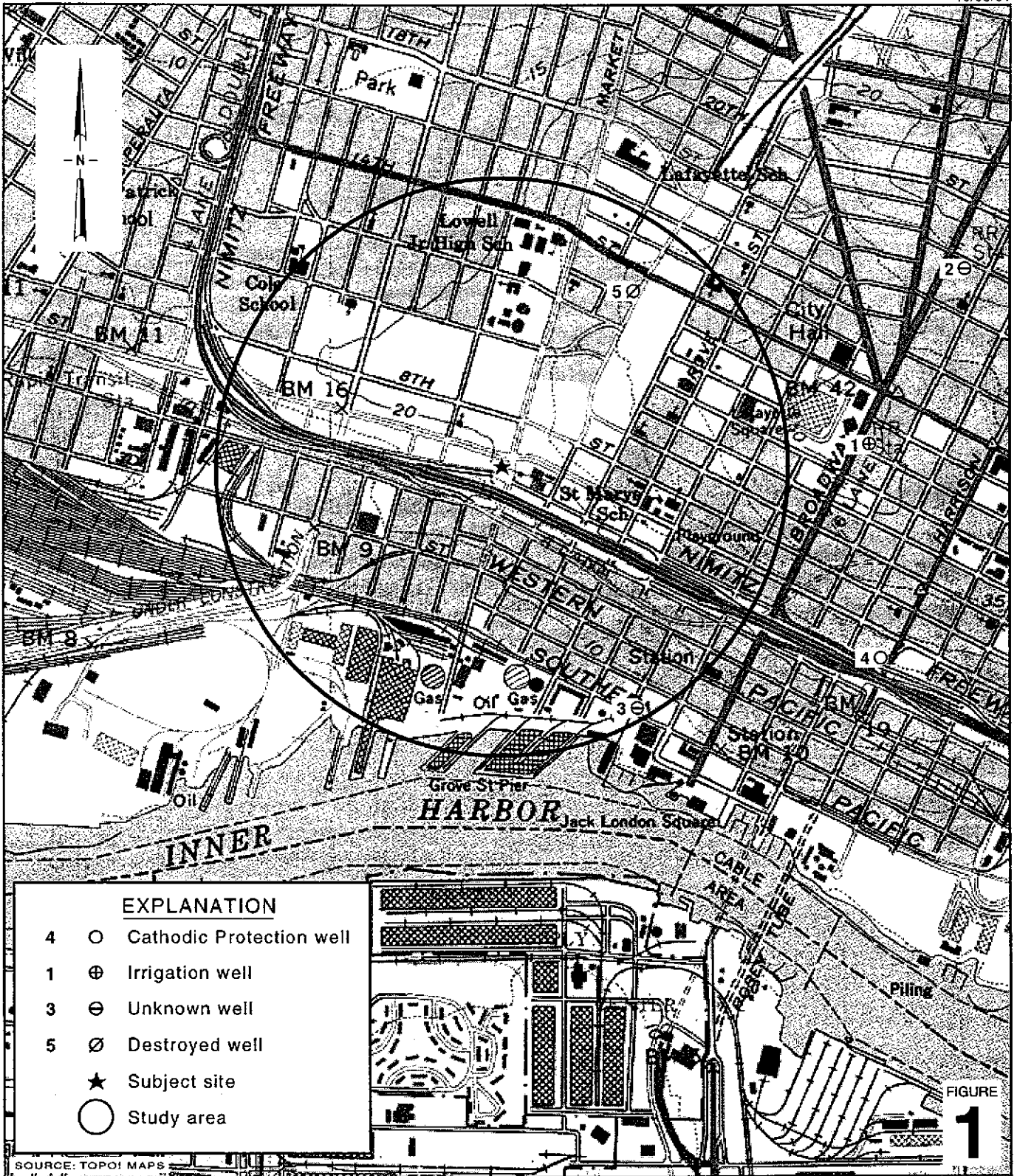
- Figures:
- 1 - Vicinity/Area Well Survey Map
 - 2 - Groundwater Elevation Contour Map
 - 3 - MTBE and Mass Removal – Well MW-2
 - 4 - MTBE and Mass Removal – Well MW-3

- Tables:
- 1 - Groundwater Extraction – Mass Removal Data
 - 2 - Vapor Extraction – Mass Removal Data
 - 3 - Tank Backfill Well Vapor Concentrations

- Attachments:
- A - Blaine Groundwater Monitoring Report and Field Notes
 - B - Vapor Sampling Analytical Laboratory Reports

cc: Karen Petryna, Shell Oil Products US, P.O. Box 7869, Burbank, CA 91510-7869
Virginia R. Rawson, Tr., 1860 Tice Creek Drive #1353, Walnut Creek, CA 94595

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SOURCE: TOPOI MAPS

Shell-branded Service Station
 610 Market Street
 Oakland, California
 Incident #98995750



C A M B R I A

**Vicinity / Area Well
 Survey Map**
 1/2 Mile Radius

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EXPLANATION

- MW-6 Extraction well location
- MW-1 Monitoring well location
- SB-A Geoprobe boring (3/31/98)
- SB-D Soil boring location (4/17/02)
- T1 Tank backfill well (dry)
- Data anomalous, not used for contouring
- Groundwater flow direction
- XX.XX Groundwater elevation contour, in feet above msl, approximately located; 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
- Storm Drain line (SD)
- Sanitary Sewer line (SS)
- Water Main (W)
- Gas line (G)
- Electrical line (E)
- Flow direction
- FL = 5.6 Flowline elevation, in feet above mean sea level (msl)
- MH Manhole

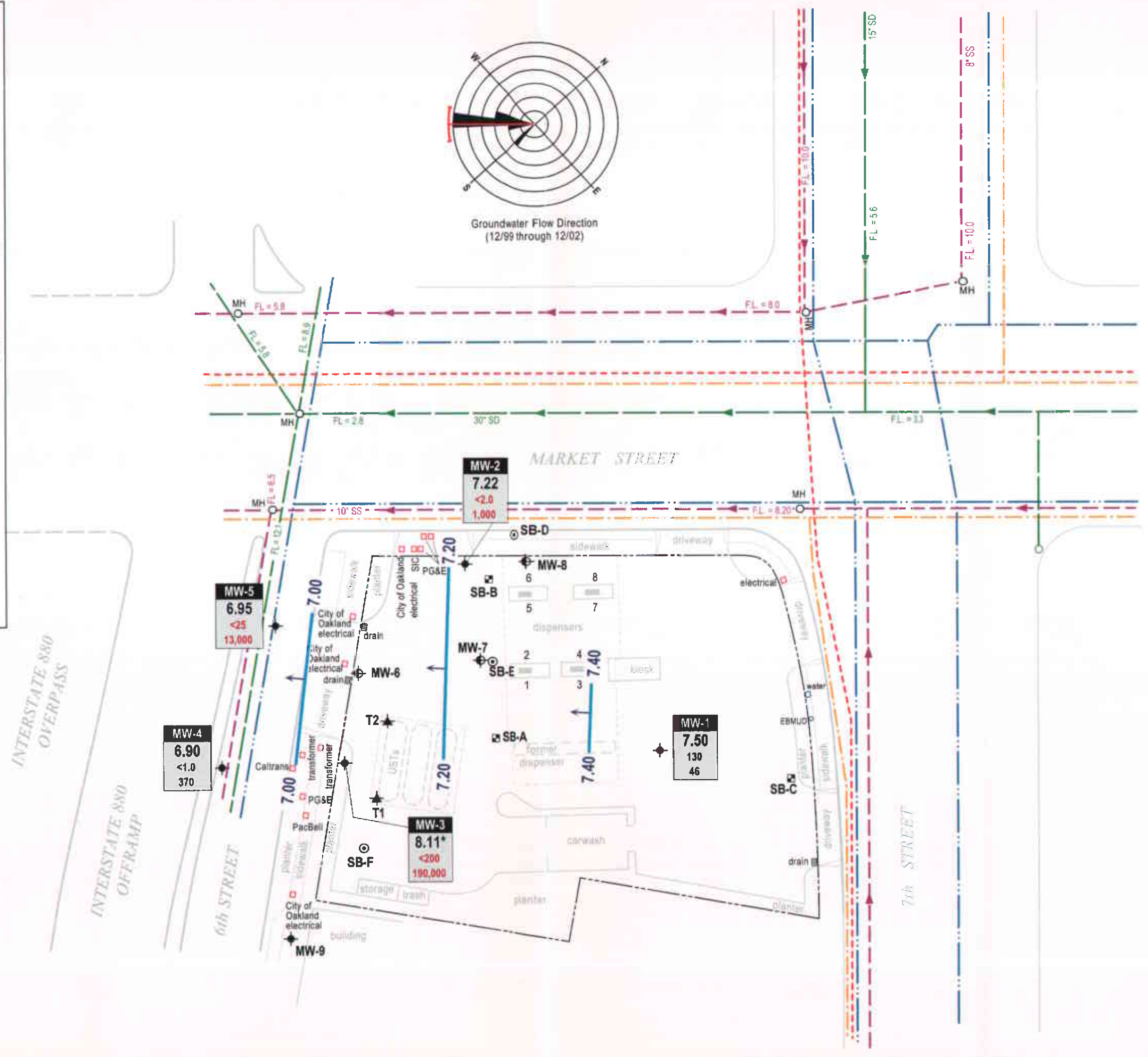
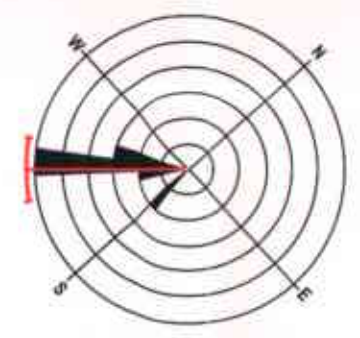


FIGURE 2

Figure 3
MTBE and Mass Removal
Well MW-2

Date	DTW - ft
03/09/99	11.46
06/16/99	12.26
09/29/99	12.51
12/22/99	13.40
06/20/00	11.12
09/21/00	11.95
11/30/00	12.48
03/06/01	11.10
06/28/01	12.40
09/12/01	12.45
10/23/01	12.62
12/12/01	12.14
03/08/02	11.68
06/06/02	11.95
09/09/02	12.38
12/12/02	12.40

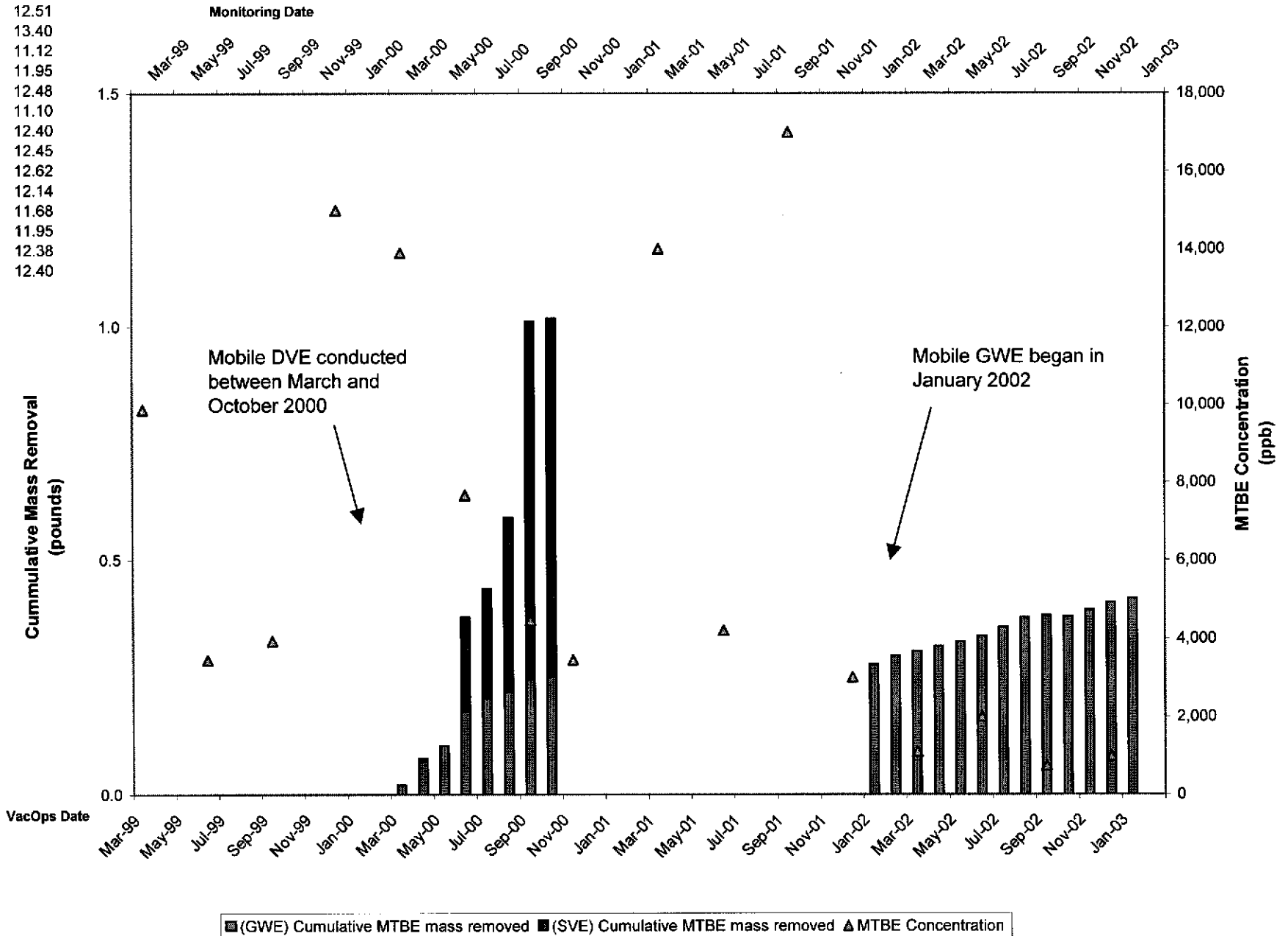


Figure 4
MTBE and Mass Removal
Well MW-3

Date	DTW - ft
03/09/99	11.03
06/16/99	11.89
09/29/99	12.35
12/22/99	13.45
03/21/00	10.00
06/20/00	11.15
09/21/00	11.58
11/30/00	12.10
03/06/01	11.00
06/28/01	11.96
09/12/01	12.05
10/23/01	12.62
12/12/01	11.83
03/08/02	11.26
06/06/02	11.50
09/09/02	11.92
12/12/02	10.95

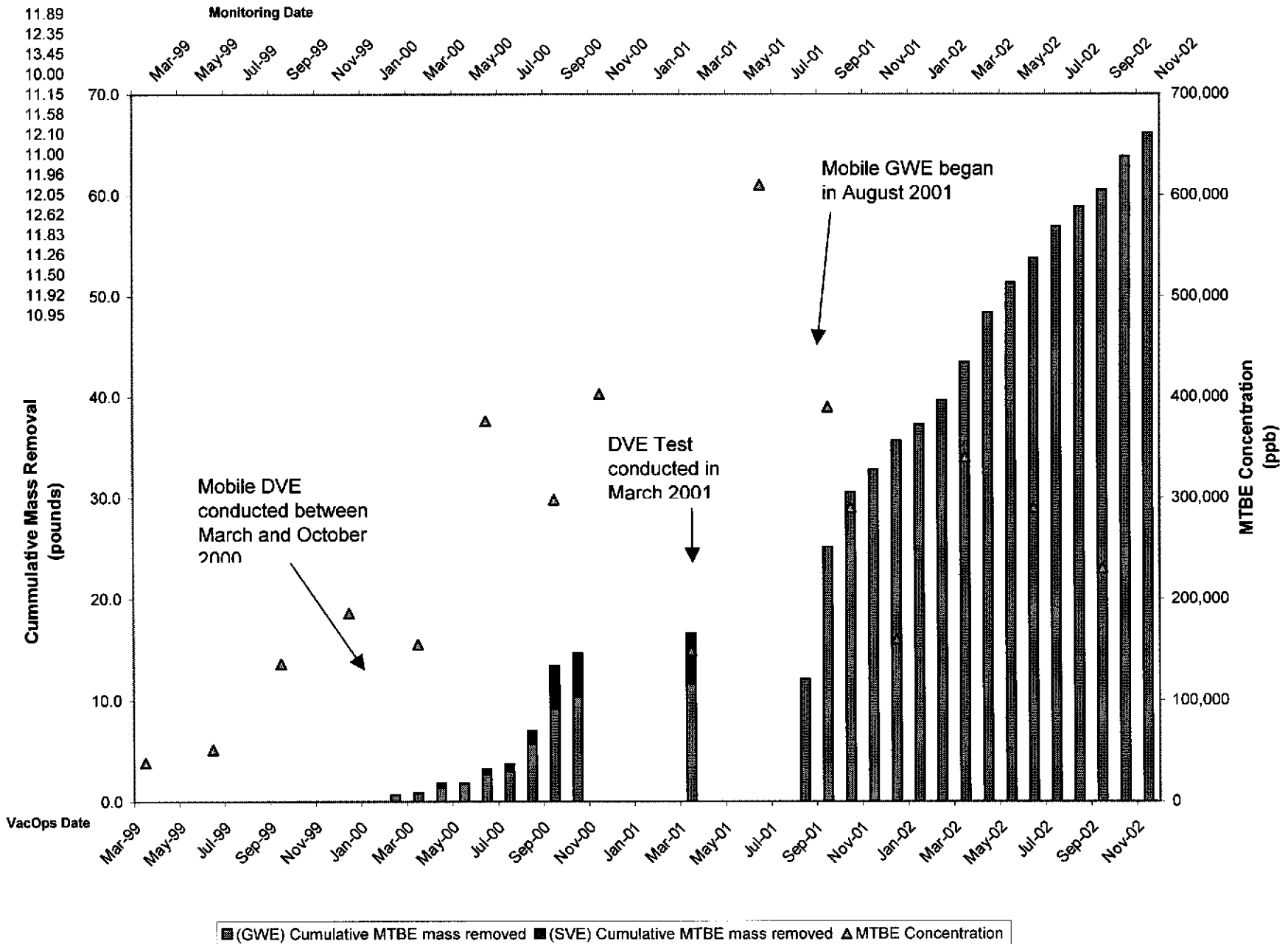


Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995750, 610 Market Street, Oakland, California

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

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

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

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

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

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

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

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

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

Abbreviations & Notes:

TPPH = Total purgeable hydrocarbons as gasoline

MtBE = Methyl tert-butyl ether

ppb = Parts per billion

lb = Pound

gal = Gallon

* = Groundwater volume pumped estimated; data not available

a = Dual-phase Vacuum Extraction (DVE) Pilot test using a RSI V3 Internal Combustion Engine with Bioslurp Tank on well MW-3 on March 22, 2001.

Details of mass removal estimates reported in Cambria's August 29, 2001 *Site Conceptual Model and Pilot Test Report*, Table 2.

Mass removed based on the formula: volume extracted (gal) x Concentration (µg/L) x (g/10⁶µg) x (pound/453.6g) x (3.785 L/gal)

Volume removal data based on the formula: density (in gms/cc) x 9.339 (ccxlbs/gmsxgals)

TPPH and benzene analyzed by EPA Method 8015/8020

Data in bold font analyzed by EPA Method 8260, all others analyzed by EPA Method 8020

Concentrations based on most recent groundwater monitoring results

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

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

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

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

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

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

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

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

Abbreviations and Notes:

CFM = Cubic feet per minute

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

ppmv = Parts per million by volume

= Pounds

NA = Not available

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

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

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

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

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

a = Dual-phase Vacuum Extraction (DVE) Pilot test using a RSI V3 Internal Combustion Engine with Bioslurp Tank on wells MW-3 and T-1 on March 22, 2001;

details of mass removal estimates reported in Cambria's August 29, 2001 *Site Conceptual Model and Pilot Test Report*, Table 3; daily averages included herein.

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

Table 3. Tank Backfill Well Vapor Concentrations -
Shell-branded Service Station, Incident # 98995750, 610 Market Street, Oakland, California.

Well I.D.	Date	OVA Reading	Laboratory Results					
			TPHg	MTBE	Benzene (ppmv)	Toluene	Ethylbenzene	Xylenes
T-1	11/19/01	240	--	--	--	--	--	--
	02/07/02	63,890	--	--	--	--	--	--
	02/12/02	--	--	--	--	--	--	--
	02/25/02	128	--	--	--	--	--	--
	03/01/02*	195	--	--	--	--	--	--
	04/19/02	1,024	--	--	--	--	--	--
	05/09/02	--	--	--	--	--	--	--
	06/05/02	400	--	--	--	--	--	--
	07/12/02	714	--	--	--	--	--	--
	08/02/02	982	--	--	--	--	--	--
	09/06/02	920	--	--	--	--	--	--
	10/05/02	>3,000	--	--	--	--	--	--
	11/01/02	>3,000	--	--	--	--	--	--
T-2	11/19/01	459	--	--	--	--	--	--
	02/07/02	63,930	--	--	--	--	--	--
	02/12/02	--	4,800	990	24	4.3	<3.3	<3.3
	02/25/02	154	--	--	--	--	--	--
	03/01/02*	650	2,600	1,100	15	<3.3	<3.3	5.0
	04/19/02	6,922	2,600	1,600	8.6	<4.0	<4.0	<4.0
	05/09/02	--	1,300	600	2.3	<2.0	<2.0	<2.0
	06/05/02	2,487	11	2.2	0.11	0.31	0.16	0.75
	07/12/02	1,889	51	87	0.098	0.070	0.17	0.60
	08/02/02	> 3,000	5,400	2,200	21	140	22	100
	09/06/02	> 3,000	710	500	14	53	3.8	17
	10/05/02	>3,000	200	160	4.1	12	0.78	3.7
	11/01/02	>3,000	3,600	22	24	230	35	230

Abbreviations and Notes:

Note: Five-day SVE test conducted 10/8/01 through 10/12/01

OVA = Organic Vapor Analyzer, typically Horiba model MEXA554JU

TPHg = Total petroleum hydrocarbons as gasoline, analyzed by modified EPA Method 8260B

Benzene, toluene, ethylbenzene and total xylenes, analyzed by EPA Method 8260B

MTBE = Methyl tertiary butyl ether, analyzed by EPA Method 8020 or EPA Method 8260B.

-- = measurements were not taken

* = On 3/1/02 sealant applied around outside edge of fill port spill bucket.

ATTACHMENT A
Blaine Groundwater Monitoring Report
and Field Notes

BLAINE
TECH SERVICES, INC.



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(408) 573-7771 FAX
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January 17, 2003

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

Fourth Quarter 2002 Groundwater Monitoring at
Shell-branded Service Station
610 Market Street
Oakland, CA

Monitoring performed on December 12, 2002

Groundwater Monitoring Report 021212-SS-3

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 Shell Martinez Manufacturing Complex.

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 Sheet

cc: Anni Kreml
Cambria Environmental
1144 65th St. Suite C
Oakland, CA 94608-2411

WELL CONCENTRATIONS
Shell-branded Service Station
610 Market 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)
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MW-1	12/17/1998	2,200	20	<10	110	420	<50	NA	21.70	13.71	7.99
MW-1	03/09/1999	4,320	25.8	<10.0	338	474	<100	NA	21.70	13.03	8.67
MW-1	06/16/1999	6,150	107	84.0	615	1,050	<250	NA	21.70	13.82	7.88
MW-1	09/29/1999	3,440	97.3	58.7	433	578	89.1	NA	21.70	14.45	7.25
MW-1	12/22/1999	1,370	34.5	4.38	196	49.1	29.3	NA	21.70	15.39	6.31
MW-1	03/21/2000	2,550	10.3	3.36	164	312	65.6	NA	21.70	11.94	9.76
MW-1	06/20/2000	4,770	64.3	18.6	387	732	51.3	NA	21.70	13.15	8.55
MW-1	09/21/2000	7,490	350	229	690	1,490	160	NA	21.70	13.65	8.05
MW-1	11/30/2000	5,410	420	168	494	1,170	167	NA	21.70	14.20	7.50
MW-1	03/06/2001	965	25.7	9.14	13.3	9.12	<25.0	NA	21.70	12.99	8.71
MW-1	06/28/2001	5,900	190	71	360	910	NA	110	21.70	13.98	7.72
MW-1	09/12/2001	7,400	240	110	460	1,300	NA	130	21.70	14.15	7.55
MW-1	12/12/2001	1,700	100	30	120	300	NA	98	21.70	13.75	7.95
MW-1	03/08/2002	1,100	63	12	74	83	NA	50	21.70	13.22	8.48
MW-1	06/06/2002	2,300	95	31	130	290	NA	49	21.70	13.57	8.13
MW-1	09/09/2002	3,600	150	44	200	590	NA	54	21.70	14.05	7.65
MW-1	12/12/2002	2,200	130	14	120	310	NA	46	21.70	14.20	7.50

MW-2	12/17/1998	<5,000	<50	<50	<50	<50	11,000	NA	19.61	12.07	7.54
MW-2	03/09/1999	<250	5.20	<2.50	<2.50	<2.50	9,870	NA	19.61	11.46	8.15
MW-2	06/16/1999	<50.0	0.569	<0.500	<0.500	<0.500	3,440	NA	19.61	12.26	7.35
MW-2	09/29/1999	58.6	2.51	0.978	<0.500	<0.500	3,930	NA	19.61	12.51	7.10
MW-2	12/22/1999	<2,000	50.4	<20.0	<20.0	<20.0	15,000	NA	19.61	13.40	6.21
MW-2	03/21/2000	<5,000	94.7	<50.0	<50.0	<50.0	13,900	NA	19.61	10.36	9.25
MW-2	06/20/2000	101	5.95	<0.500	<0.500	0.552	7,670	NA	19.61	11.12	8.49
MW-2	09/21/2000	<2,000	<20.0	<20.0	<20.0	<20.0	4,460	NA	19.61	11.95	7.66

WELL CONCENTRATIONS
Shell-branded Service Station
610 Market 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)
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MW-2	11/30/2000	81.1	4.46	0.924	0.841	3.23	3,450	NA	19.61	12.48	7.13
MW-2	03/06/2001	<500	183	<5.00	<5.00	<5.00	14,000	NA	19.61	11.10	8.51
MW-2	06/28/2001	<1,000	<10	<10	<10	<10	NA	4,200	19.61	12.40	7.21
MW-2	09/12/2001	<2,000	120	<20	<20	<20	NA	17,000	19.61	12.45	7.16
MW-2	12/12/2001	<1,000	<10	<10	<10	<10	NA	3,000	19.61	12.14	7.47
MW-2	03/08/2002	<250	<2.5	<2.5	<2.5	<2.5	NA	1,100	19.61	11.68	7.93
MW-2	06/06/2002	<500	<5.0	<5.0	<5.0	<5.0	NA	2,000	19.61	11.95	7.66
MW-2	09/09/2002	<200	<2.0	<2.0	<2.0	<2.0	NA	740	19.62	12.38	7.24
MW-2	12/12/2002	<200	<2.0	<2.0	<2.0	<2.0	NA	1,000	19.62	12.40	7.22

MW-3	12/17/1998	30,000	890	110	2,100	4,300	42,000	43,000	19.05	11.65	7.40
MW-3	03/09/1999	22,700	536	<200	1,030	1,510	35,400	38,500	19.05	11.03	8.02
MW-3	06/16/1999	19,300	625	129	805	1,210	42,400	51,600	19.05	11.89	7.16
MW-3	09/29/1999	20,200	727	155	1,000	1,180	84,100	136,000a	19.05	12.35	6.70
MW-3	12/22/1999	44,500	767	64.4	1,810	2,090	191,000	186,000a	19.05	13.45	5.60
MW-3	03/21/2000	<25,000	466	<250	727	2,280	126,000	155,000	19.05	10.00	9.05
MW-3	06/20/2000	16,200	1,140	98.8	1,140	1,410	579,000	376,000a	19.05	11.15	7.90
MW-3	09/21/2000	<50,000	712	<500	520	795	293,000	298,000	19.05	11.58	7.47
MW-3	11/30/2000	18,000	1,050	124	1,120	2,010	543,000a	403,000a	19.05	12.10	6.95
MW-3	03/06/2001	19,900	1,290	115	1,450	1,760	706,000	149,000	19.05	11.00	8.05
MW-3	06/28/2001	<50,000	1,200	<250	1,100	1,300	NA	610,000	19.05	11.96	7.09
MW-3	09/12/2001	<20,000	430	<200	230	480	NA	390,000	19.05	12.05	7.00
MW-3	10/23/2001	11,000	350	<100	210	440	NA	290,000	19.05	12.62	6.43
MW-3	12/12/2001	<20,000	280	<200	<200	<200	NA	160,000	19.05	11.83	7.22
MW-3	03/08/2002	<20,000	270	<200	<200	<200	NA	340,000	19.05	11.26	7.79
MW-3	06/06/2002	<50,000	290	<250	<250	<250	NA	290,000	19.05	11.50	7.55

WELL CONCENTRATIONS
Shell-branded Service Station
610 Market 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)
MW-3	09/09/2002	<20,000	<200	<200	<200	<200	NA	230,000	19.06	11.92	7.14
MW-3	12/12/2002	<50,000	<200	<200	<200	<500	NA	190,000	19.06	10.95	8.11
MW-4	05/13/2002	NA	NA	NA	NA	NA	NA	NA	NA	10.64	NA
MW-4	05/20/2002	<1,000	<10	<10	<10	<10	NA	4,600	NA	10.64	NA
MW-4	06/06/2002	<1,000	<10	<10	<10	<10	NA	4,800	NA	10.61	NA
MW-4	09/09/2002	Unable to sample		NA	NA	NA	NA	NA	18.03	11.07	6.96
MW-4	09/18/2002	<250	<2.5	<2.5	<2.5	<2.5	NA	1,000	18.03	11.15	6.88
MW-4	12/12/2002	<100	<1.0	<1.0	<1.0	<1.0	NA	370	18.03	11.13	6.90
MW-5	05/13/2002	NA	NA	NA	NA	NA	NA	NA	NA	10.40	NA
MW-5	05/20/2002	<2,500	<25	<25	<25	<25	NA	17,000	NA	10.41	NA
MW-5	06/06/2002	<5,000	<50	<50	<50	<50	NA	15,000	NA	10.36	NA
MW-5	09/09/2002	Unable to sample		NA	NA	NA	NA	NA	17.78	10.82	6.96
MW-5	09/18/2002	<2,500	<25	<25	<25	<25	NA	16,000	17.78	10.81	6.97
MW-5	12/12/2002	<2,500	<25	<25	<25	<25	NA	13,000	17.78	10.83	6.95

WELL CONCENTRATIONS
Shell-branded Service Station
610 Market 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)
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Abbreviations:

TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B; prior to June 28, 2001, analyzed by EPA Method 8015.

BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B; prior to June 28, 2001, analyzed by EPA Method 8020.

MTBE = Methyl-tertiary-butyl ether

TOC = Top of Casing Elevation

GW = Groundwater

ug/L = Parts per billion

MSL = Mean sea level

ft = Feet

<n = Below detection limit

NA = Not applicable

Notes:

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

Wells MW-1, MW-2, and MW-3 surveyed December 9, 1998, by Virgil Chavez Land Surveying of Vallejo, California.



Report Number : 30381

Date : 12/24/02

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

Subject : 5 Water Samples
Project Name : 610 Market Street, Oakland
Project Number : 021212-SS3
P.O. Number : 98995750

Dear Mr. Gearhart,

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

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

Sincerely,

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

Joel Kiff



Report Number : 30381

Date : 12/24/02

Project Name : 610 Market Street, Oakland

Project Number : 021212-SS3

Sample : MW-1

Matrix : Water

Lab Number : 30381-01

Sample Date :12/12/02

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	130	0.50	ug/L	EPA 8260B	12/17/02
Toluene	14	0.50	ug/L	EPA 8260B	12/17/02
Ethylbenzene	120	0.50	ug/L	EPA 8260B	12/17/02
Total Xylenes	310	0.50	ug/L	EPA 8260B	12/17/02
Methyl-t-butyl ether (MTBE)	46	5.0	ug/L	EPA 8260B	12/17/02
TPH as Gasoline	2200	50	ug/L	EPA 8260B	12/17/02
Toluene - d8 (Surr)	92.2		% Recovery	EPA 8260B	12/17/02
4-Bromofluorobenzene (Surr)	108		% Recovery	EPA 8260B	12/17/02

Sample : MW-2

Matrix : Water

Lab Number : 30381-02

Sample Date :12/12/02

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 2.0	2.0	ug/L	EPA 8260B	12/19/02
Toluene	< 2.0	2.0	ug/L	EPA 8260B	12/19/02
Ethylbenzene	< 2.0	2.0	ug/L	EPA 8260B	12/19/02
Total Xylenes	< 2.0	2.0	ug/L	EPA 8260B	12/19/02
Methyl-t-butyl ether (MTBE)	1000	20	ug/L	EPA 8260B	12/19/02
TPH as Gasoline	< 200	200	ug/L	EPA 8260B	12/19/02
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	12/19/02
4-Bromofluorobenzene (Surr)	99.6		% Recovery	EPA 8260B	12/19/02

Approved By:  Joel Kiff



Report Number : 30381

Date : 12/24/02

Project Name : 610 Market Street, Oakland

Project Number : 021212-SS3

Sample : MW-3

Matrix : Water

Lab Number : 30381-03

Sample Date :12/12/02

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 200	200	ug/L	EPA 8260B	12/20/02
Toluene	< 200	200	ug/L	EPA 8260B	12/20/02
Ethylbenzene	< 200	200	ug/L	EPA 8260B	12/20/02
Total Xylenes	< 500	500	ug/L	EPA 8260B	12/22/02
Methyl-t-butyl ether (MTBE)	190000	5000	ug/L	EPA 8260B	12/22/02
TPH as Gasoline	< 50000	50000	ug/L	EPA 8260B	12/22/02
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	12/20/02
4-Bromofluorobenzene (Surr)	97.9		% Recovery	EPA 8260B	12/20/02

Sample : MW-4

Matrix : Water

Lab Number : 30381-04

Sample Date :12/12/02

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 1.0	1.0	ug/L	EPA 8260B	12/19/02
Toluene	< 1.0	1.0	ug/L	EPA 8260B	12/19/02
Ethylbenzene	< 1.0	1.0	ug/L	EPA 8260B	12/19/02
Total Xylenes	< 1.0	1.0	ug/L	EPA 8260B	12/19/02
Methyl-t-butyl ether (MTBE)	370	10	ug/L	EPA 8260B	12/19/02
TPH as Gasoline	< 100	100	ug/L	EPA 8260B	12/19/02
Toluene - d8 (Surr)	99.8		% Recovery	EPA 8260B	12/19/02
4-Bromofluorobenzene (Surr)	102		% Recovery	EPA 8260B	12/19/02

Approved By:  Joel Kiff



Report Number : 30381

Date : 12/24/02

Project Name : 610 Market Street, Oakland

Project Number : 021212-SS3

Sample : MW-5

Matrix : Water

Lab Number : 30381-05

Sample Date :12/12/02

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 25	25	ug/L	EPA 8260B	12/19/02
Toluene	< 25	25	ug/L	EPA 8260B	12/19/02
Ethylbenzene	< 25	25	ug/L	EPA 8260B	12/19/02
Total Xylenes	< 25	25	ug/L	EPA 8260B	12/19/02
Methyl-t-butyl ether (MTBE)	13000	250	ug/L	EPA 8260B	12/19/02
TPH as Gasoline	< 2500	2500	ug/L	EPA 8260B	12/19/02
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	12/19/02
4-Bromofluorobenzene (Surr)	112		% Recovery	EPA 8260B	12/19/02

Approved By:  _____
Joel Kiff

Report Number : 30381

Date : 12/24/02

QC Report : Method Blank Data

Project Name : **610 Market Street, Oakland**

Project Number : **021212-SS3**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	12/18/02
Toluene	< 0.50	0.50	ug/L	EPA 8260B	12/18/02
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	12/18/02
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	12/18/02
Methyl-t-butyl ether (MTBE)	< 5.0	5.0	ug/L	EPA 8260B	12/18/02
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	12/18/02
Toluene - d8 (Surr)	99.8		%	EPA 8260B	12/18/02
4-Bromofluorobenzene (Surr)	109		%	EPA 8260B	12/18/02
Benzene	< 0.50	0.50	ug/L	EPA 8260B	12/16/02
Toluene	< 0.50	0.50	ug/L	EPA 8260B	12/16/02
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	12/16/02
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	12/16/02
Methyl-t-butyl ether (MTBE)	< 5.0	5.0	ug/L	EPA 8260B	12/16/02
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	12/16/02
Toluene - d8 (Surr)	97.4		%	EPA 8260B	12/16/02
4-Bromofluorobenzene (Surr)	103		%	EPA 8260B	12/16/02

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

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : 610 Market Street, Oakland

Project Number : 021212-SS3

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Recov. Limit	Relative Percent Diff. Limit
Benzene	30383-03	<0.50	39.9	39.9	36.9	36.2	ug/L	EPA 8260B	12/18/02	92.4	90.8	1.86	70-130	25
Toluene	30383-03	<0.50	39.9	39.9	36.0	35.1	ug/L	EPA 8260B	12/18/02	90.2	88.0	2.52	70-130	25
Tert-Butanol	30383-03	<5.0	200	200	187	185	ug/L	EPA 8260B	12/18/02	93.7	92.9	0.900	70-130	25
Methyl-t-Butyl Ether	30383-03	1.1	39.9	39.9	39.2	39.9	ug/L	EPA 8260B	12/18/02	95.6	97.1	1.58	70-130	25
Benzene	30365-02	<0.50	40.0	40.0	41.7	41.7	ug/L	EPA 8260B	12/16/02	104	104	0.0720	70-130	25
Toluene	30365-02	<0.50	40.0	40.0	39.9	38.9	ug/L	EPA 8260B	12/16/02	99.8	97.2	2.56	70-130	25
Tert-Butanol	30365-02	<5.0	200	200	215	207	ug/L	EPA 8260B	12/16/02	108	103	3.99	70-130	25
Methyl-t-Butyl Ether	30365-02	31	40.0	40.0	74.0	68.2	ug/L	EPA 8260B	12/16/02	108	93.2	14.5	70-130	25

KIFF ANALYTICAL, LLC

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

Approved By: Joel Kiff




QC Report : Laboratory Control Sample (LCS)

Project Name : 610 Market Street, Oakland

Project Number : 021212-SS3

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	12/18/02	97.6	70-130
Toluene	40.0	ug/L	EPA 8260B	12/18/02	95.5	70-130
Tert-Butanol	200	ug/L	EPA 8260B	12/18/02	93.5	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	12/18/02	99.4	70-130
Benzene	40.0	ug/L	EPA 8260B	12/16/02	101	70-130
Toluene	40.0	ug/L	EPA 8260B	12/16/02	99.6	70-130
Tert-Butanol	200	ug/L	EPA 8260B	12/16/02	97.9	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	12/16/02	98.3	70-130


Joel Kiff

SHELL WELL MONITORING DATA SHEET

BTS #: 021212-553	Site: Shell
Sampler: Sorcht	Date: 12/12/02
Well I.D.: MW-1	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 24.70	Depth to Water (DTW): 14.20
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]: 16.30	

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

7 (Gals.) X 3 = 21 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 ² * 0.163

Time	Temp (°F)	pH	Cond. (mS or μ S)	Turbidity (NTUs)	Gals. Removed	Observations
1338	20.8	6.8	883	82	7	ALMOST CLEAR
1340	21.0	6.7	899	38	14	CLEAR
1342	20.8	6.7	960	36	21	"

Did well dewater? Yes No Gallons actually evacuated: 21

Sampling Date: 12/12/02 Sampling Time: 1410 Depth to Water: 14.65

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

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

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

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

D.O. (if req'd):	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 #: <u>021212-SS3</u>	Site: <u>Shell</u>
Sampler: <u>Sorrelt</u>	Date: <u>12/12/02</u>
Well I.D.: <u>MW-2</u>	Well Diameter: 2 3 <u>(4)</u> 6 8
Total Well Depth (TD): <u>19.79</u>	Depth to Water (DTW): <u>12.40</u>
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]: <u>13.88</u>	

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

$\underline{5} \text{ (Gals.)} \times \underline{3} = \underline{15} \text{ Gals.}$ I Case Volume Specified Volumes Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														

Time	Temp (°F)	pH	Cond. (mS or μ S)	Turbidity (NTUs)	Gals. Removed	Observations
1330	20.8	6.9	815	56	5	CLEAR
well DEWATERED @ 6 gal.						DTW = 16.27
1358	20.2	7.0	726	25	→	CLEAR

Did well dewater? Yes No Gallons actually evacuated: 6

Sampling Date: 12/12/02 Sampling Time: 1400 Depth to Water: 12.50

Sample I.D.: MW-2 Laboratory: Kiff SPL Other _____

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

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

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

D.O. (if req'd):	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 #: 021212-SS3	Site: SHELL
Sampler: SORCH	Date: 12/12/02
Well I.D.: MW-3	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 18.65	Depth to Water (DTW): 10.95
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]: 12.49	

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

5 (Gals.) X	3	= 15 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 ² * 0.163

Time	Temp (°F)	pH	Cond. (mS or <u>µS</u>)	Turbidity (NTUs)	Gals. Removed	Observations
1350	21.2	6.9	566	42	5	GAS ODOOR
WELL DEWATERED @			6 gal.			DTW = 15.85
1413	20.6	6.9	568	30	—	CLEAR

Did well dewater? Yes No Gallons actually evacuated: 6

Sampling Date: 12/12/02 Sampling Time: 1415 Depth to Water: 11.25

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

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

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

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

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

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

SHELL WELL MONITORING DATA SHEET

BTS #: 0212-12-553	Site: SHELL
Sampler: SORCH	Date: 12/12/02
Well I.D.: MW-4	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 19.80	Depth to Water (DTW): 11.13
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]: 12.86	

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

$$\underline{6} \text{ (Gals.)} \times \underline{3} = \underline{18} \text{ Gals.}$$
 I Case Volume Specified Volumes Calculated Volume

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

Time	Temp (°F)	pH	Cond. (mS or <u>µS</u>)	Turbidity (NTUs)	Gals. Removed	Observations
1250	20.0	7.0	394	> 200	6	TURBID
1252	20.8	7.0	386	> 200	12	"
1254	20.8	6.9	378	> 200	18	"

Did well dewater? Yes No Gallons actually evacuated: 18

Sampling Date: 12/12/02 Sampling Time: 1258 Depth to Water: 15.55 (TRAFFIC)

Sample I.D.: MW-4 Laboratory: Kitt SPL Other _____

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

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

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

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

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

SHELL WELL MONITORING DATA SHEET

BTS #: 021212-553	Site: SHELL
Sampler: SORCH	Date: 12/12/02
Well I.D.: MW-5	Well Diameter: 2 3 (4) 6 8
Total Well Depth (TD): 20.15	Depth to Water (DTW): 10.83
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]: 12.69	

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

6 (Gals.) X 3 = 18 Gals.
 I Case Volume Specified Volumes Calculated Volume

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

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1311	20.5	6.8	1295	149	6	TURBID
WELL DEWATERED @ 7 gal.						DTW = 17.80
1318	20.8	6.9	1302	2200	—	TURBID

Did well dewater? **(Yes)** No Gallons actually evacuated: 7

Sampling Date: 12/12/02 Sampling Time: 1320 Depth to Water: 17.40 (TRAFFIC)

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

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

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

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

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

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

ATTACHMENT B

Vapor Sample Analytical Laboratory Reports



Report Number : 29039

Date : 10/8/2002

Jacquelyn Jones
Cambria Environmental Technology, Inc.
1144 65th Street, Suite B
Oakland, CA 94608

Subject : 1 Air Sample
Project Name : 610 Market St. Oakland, Ca
Project Number : 244-0594-006
P.O. Number : 98995750

Dear Ms. Jones,

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

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

Sincerely,

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

Joel Kiff



Report Number : 29039

Date : 10/8/2002

Project Name : 610 Market St. Oakland, Ca

Project Number : 244-0594-006

Sample : T-2

Matrix : Air

Lab Number : 29039-01

Sample Date :10/5/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	4.1	0.50	ppmv	EPA 8260B	10/6/2002
Toluene	12	0.50	ppmv	EPA 8260B	10/6/2002
Ethylbenzene	0.78	0.50	ppmv	EPA 8260B	10/6/2002
Total Xylenes	3.7	0.50	ppmv	EPA 8260B	10/6/2002
Methyl-t-butyl ether	160	1.0	ppmv	EPA 8260B	10/6/2002
TPH as Gasoline	200	50	ppmv	EPA 8260B	10/6/2002
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	10/6/2002
4-Bromofluorobenzene (Surr)	98.0		% Recovery	EPA 8260B	10/6/2002

Approved By:  Joel Kiff

SHELL Chain Of Custody Record

29039

720 Olive Drive, Suite D

Davis, CA 95616

(530) 297-4800 (530) 297-4803 fax

Shell Project Manager to be involved:

- SCIENCE & ENGINEERING
- TECHNICAL SERVICES
- CONFUSION

Karen Petryna

9 8 9 9 5 7 5 0

DATE: 10-5-02

PAGE: 1 of 1

SAMPLING COMPANY: Combris Environmental	LOG CODE:	SITE ADDRESS (Street and City): 610 Market St. Oakland, Ca	GLOBAL ID NO:
ADDRESS: 1144 65th St. Oakland, Ca	PROJECT CONTACT (Handcopy or PDF Report to): Jacquelyn Jones	DELIVERABLE TO (Responsible Party or Designer):	CONSULTANT PROJECT NO.: 244-0594-006
TELEPHONE: 510-420-3716	FAX: 510-420-9179	SAMPLER NAME(S) (Print): Survey Drill	

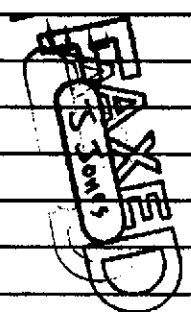
TURNAROUND TIME (BUSINESS DAYS):
 30 DAYS
 5 DAYS
 72 HOURS
 48 HOURS
 24 HOURS
 LESS THAN 24 HOURS

LA - RWQCB REPORT FORMAT UST AGENCY:

GCMS MTBE CONFIRMATION: HIGHEST _____ HIGHEST per BORING _____ ALL _____

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

Field Sample Identification	SAMPLING		MATRIX	NO. OF CONT.	TPH - Gas, Purgeable	BTEX	MTBE (8021B - 5ppb RL)	MTBE (8280B - 0.5ppb RL)	Oxypanates (5) by (8280B)	Ethanol (8280B)	Methanol	EDS & 1,2-DCA (8280B)	EPA 8088 Extraction for Volatiles	VOCs Halogenated/Aromatic (8021B)	TRPH (418.1)	Vapor VOCs BTEX/MTBE (70-16)	Vapor VOCs Full List (70-16)	Vapor TPH (ASTM 3416m)	Vapor Fixed Gases (ASTM D1946)	Test for Disposal (4B-)	TPH - Diesel, Extractable (8015m)	MTBE (8280B) Confirmation, See Note	TEMPERATURE ON RECEIPT °C	FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes	
	DATE	TIME																							
T-2	10-5-02	5:40	Air	1	X	X	X																		



Relinquished by: (Signature) <i>J. Jones</i>	Received by: (Signature) secure location	Date: 10-5-02	Time: 5:00pm
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature) <i>Kiff Analytical</i>	Date: 10-5-02	Time: 1120

O&G Graphic (714) 866-9702



Report Number : 29545

Date : 11/5/2002

Jacquelyn Jones
Cambria Environmental Technology, Inc.
1144 65th Street, Suite B
Oakland, CA 94608

Subject : 1 Air Sample
Project Name : 610 Market St. Oakland, Ca
Project Number : 244-0594-006
P.O. Number : 98995750

Dear Ms. Jones,

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

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

Sincerely,

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

Joel Kiff



Report Number : 29545

Date : 11/5/2002

Project Name : 610 Market St. Oakland, Ca

Project Number : 244-0594-006

Sample : T-2

Matrix : Air

Lab Number : 29545-01

Sample Date :11/1/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	24	1.0	ppmv	EPA 8260B	11/3/2002
Toluene	230	1.0	ppmv	EPA 8260B	11/3/2002
Ethylbenzene	35	1.0	ppmv	EPA 8260B	11/3/2002
Total Xylenes	230	1.0	ppmv	EPA 8260B	11/3/2002
Methyl-t-butyl ether	22	2.0	ppmv	EPA 8260B	11/3/2002
TPH as Gasoline	3600	100	ppmv	EPA 8260B	11/3/2002
Toluene - d8 (Surr)	103		% Recovery	EPA 8260B	11/3/2002
4-Bromofluorobenzene (Surr)	94.4		% Recovery	EPA 8260B	11/3/2002

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