R0486

Shell Oil Products US

February 26, 2004

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

Subject: **Shell-branded Service Station**
4255 MacArthur Boulevard
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 26, 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**
Former Shell-branded Service Station
4255 MacArthur Boulevard
Oakland, California
Incident #98995758
Cambria Project #246-0524-002

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 referenced site is located at the intersection of MacArthur Boulevard and High Street in Oakland, California (Figures 1 and 2).

HYDROCARBON REMOVAL SUMMARY

Groundwater Extraction (GWE): Monthly GWE using a vacuum truck has been conducted intermittently at the site since April 1999. Mobile GWE vacuum operations consist of lowering dedicated stingers into selected monitoring wells and extracting fluids using a vacuum truck. The volume of extracted fluid is recorded and used to calculate the quantity of aqueous-phase hydrocarbon removed from the subsurface. To date, an estimated 15.1 pounds of liquid-phase hydrocarbons and 26.8 pounds of liquid-phase methyl tert-butyl ether (MTBE) have been removed from the site. GWE was discontinued at the site after September 2003 due to low pumping volumes. Liquid-phase mass removal data for the site are presented in Table 1.

Dual Phase Vapor Extraction (DVE): DVE is the process of applying high vacuum through an airtight well seal to simultaneously extract soil vapors from the vadose zone and enhance GWE from the saturated zone. For mobile DVE, a vacuum truck is used to create the vacuum and contain extracted fluids. Mobile DVE augmented hydrocarbon removal efforts from November 2000 to June 2001, from April 2002 through September 2002, and from July 2003 through September 2003. DVE was discontinued after September 2003 due to decreased mass removal.

Cambria Environmental Technology, Inc.

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

To date, the system has removed an estimated 26.4 pounds of vapor-phase hydrocarbons. Vapor-phase mass removal data for the site are presented in Table 2. DVE and quarterly monitoring data for MW-2 are depicted graphically in Figure 3.

Separate Phase Hydrocarbons (SPH): SPH were observed periodically in wells MW-2 and MW-3 between 1994 and 1997. During that time, an estimated total of 21.8 pounds of SPH was removed from monitoring wells by manual bailing. SPH were observed in well MW-3 in the third quarter of 2002 and the first quarter of 2003. During the fourth quarter of 2003, SPH were observed in wells MW-2 and MW-3.

The table below summarizes the aqueous-, separate-, and vapor-phase hydrocarbon removal data for the site.

Mass Removal	Cumulative MTBE (lbs)	Cumulative Hydrocarbons (lbs)
Aqueous-Phase	26.8	15.1
Separate-Phase	0.0	21.8
Vapor-Phase	0.3	26.4
Total	27.1	63.3

FOURTH QUARTER 2003 ACTIVITIES

Groundwater Monitoring: Blaine Tech Services, Inc. (Blaine) of San Jose, gauged and sampled the site wells, calculated groundwater elevations and compiled the gasoline constituents 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.

Joint Groundwater Sampling: Cambria coordinated joint groundwater sampling with the adjacent ConocoPhillips (COP) service station #1156, located at the corner of High and MacArthur, and used the coordinated sampling data to determine the groundwater elevation contours shown on Figure 2. The COP groundwater monitoring data and analytical results table are included as Attachment B.

Additional Oxygenate Analysis: In addition to the regular quarterly analysis for total petroleum hydrocarbons as gasoline, benzene, toluene, ethylbenzene, xylenes and MTBE, groundwater

samples were analyzed for tert-butyl alcohol (TBA). Analytical results for MTBE, di-isopropyl ether, ethyl tert-butyl ether, tert-amyl methyl ether, TBA, and ethanol are presented in Table 3.

DVE: In October 2003, Cambria evaluated DVE effectiveness, and determined that DVE should be discontinued due to decreased mass removal. Mass-removal data for the site are presented in Tables 1 and 2. GWE, DVE and quarterly monitoring data for MW-2 are depicted graphically in Figure 3.

Potential Off-Site Source: MTBE concentrations in upgradient COP wells MW-2 and MW-7 and in Shell's well MW-2 are depicted graphically in Figure 4. Shell wells MW-2 and MW-3 contained SPH during the fourth quarter 2003. An elevated MTBE concentration was observed in Shell well MW-2 in the second quarter of 2000; however, it declined steadily until the second quarter of 2002. The current rebound in MTBE concentrations in MW-2 might be attributed to the observed upgradient COP plume: beginning with COP well MW-2 in the third quarter of 2000, progressing to COP well MW-7 in the fourth quarter of 2001, and appearing to influence Shell well MW-2 beginning in the third quarter of 2002. It is clear from the concentrations observed in COP wells MW-2 and MW-7 that the COP plume has migrated in the direction of the former Shell station. Shell has inquired of COP about their plans to address their migrating plume, but has not yet received any information.

ANTICIPATED FIRST QUARTER 2004 ACTIVITIES

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

Joint Groundwater Sampling: Cambria will continue to coordinate joint sampling with the adjacent COP site and use the coordinated sampling data to determine groundwater elevation contours.

Work Plan Revision: Cambria will submit a revision to its September 22, 2003 *Subsurface Investigation Work Plan* to address the SPH discussed above.

CLOSING

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

Sincerely,
Cambria Environmental Technology, Inc

Caryl A. Weekley, R.G.
Senior Project Geologist

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

Figures:
1 - Vicinity/Area Well Survey Map
2 - Groundwater Elevation Contour Map
3 - VacOps/DVE Effect on MTBE Concentration (MW-2)
4 - MTBE Concentrations – MacArthur and High Streets, Oakland

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

Attachments:
A - Blaine Groundwater Monitoring Report and Field Notes
B - COP 76 Service Station #1156 Groundwater Monitoring Data and Analytical Results

cc: Karen Petryna, Shell Oil Products US, 20945 S. Wilmington Ave., Carson, CA 90810
Roland C. Malone, Jr., PO Box 2744, Castro Valley, CA 94546
Walt Parrish, MacArthur/High Trailer Park, PO Box 5561, Eugene, OR 97405
Thomas H. Kosel, ConocoPhilllps, 1232 Phillips Building, Bartlesville, OK 74004 (w/o Attachment B)

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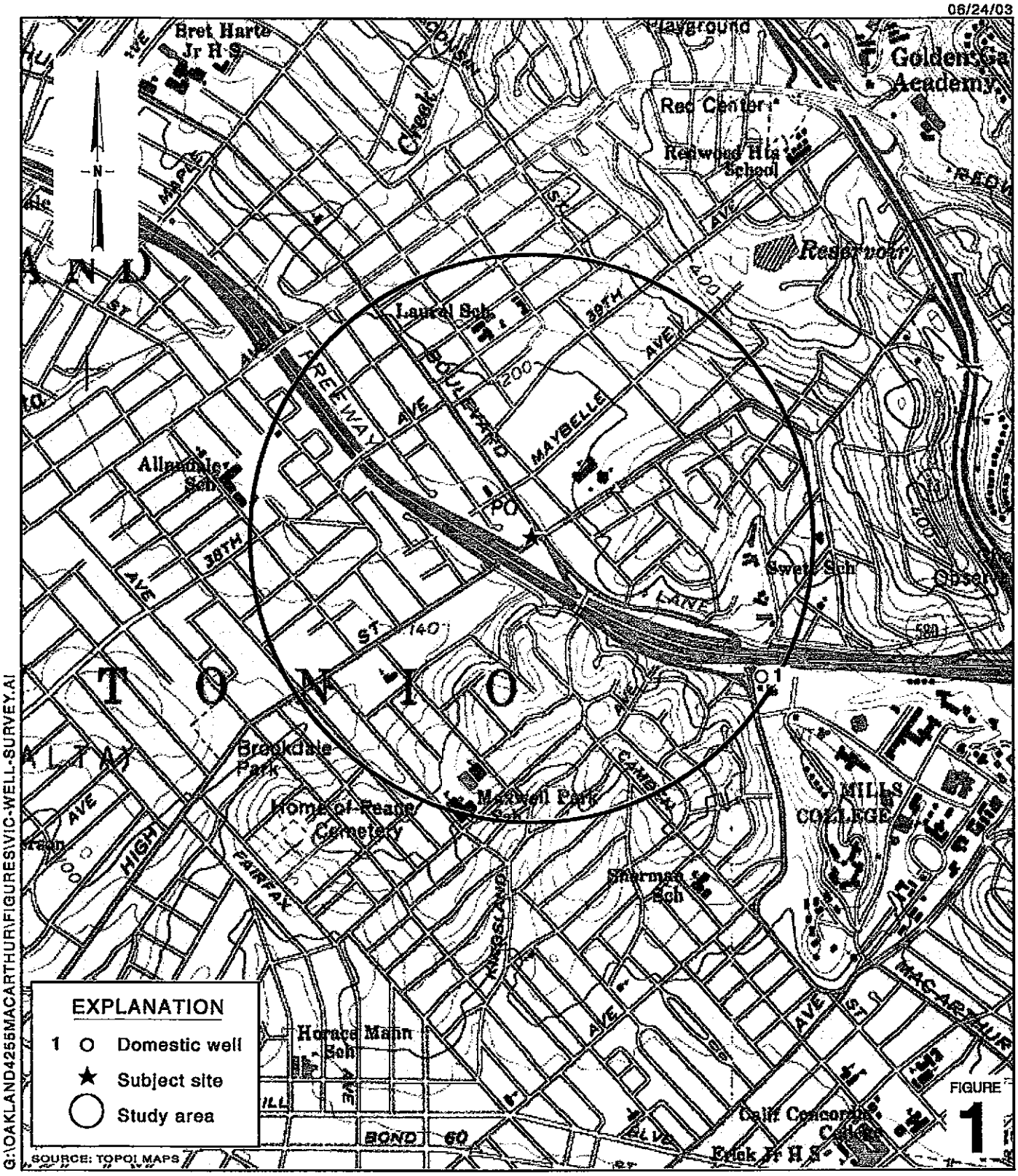
06/24/03



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Former Shell-branded Service Station
4255 MacArthur Boulevard
Oakland, California
Incident #98995758

CAMBRIA

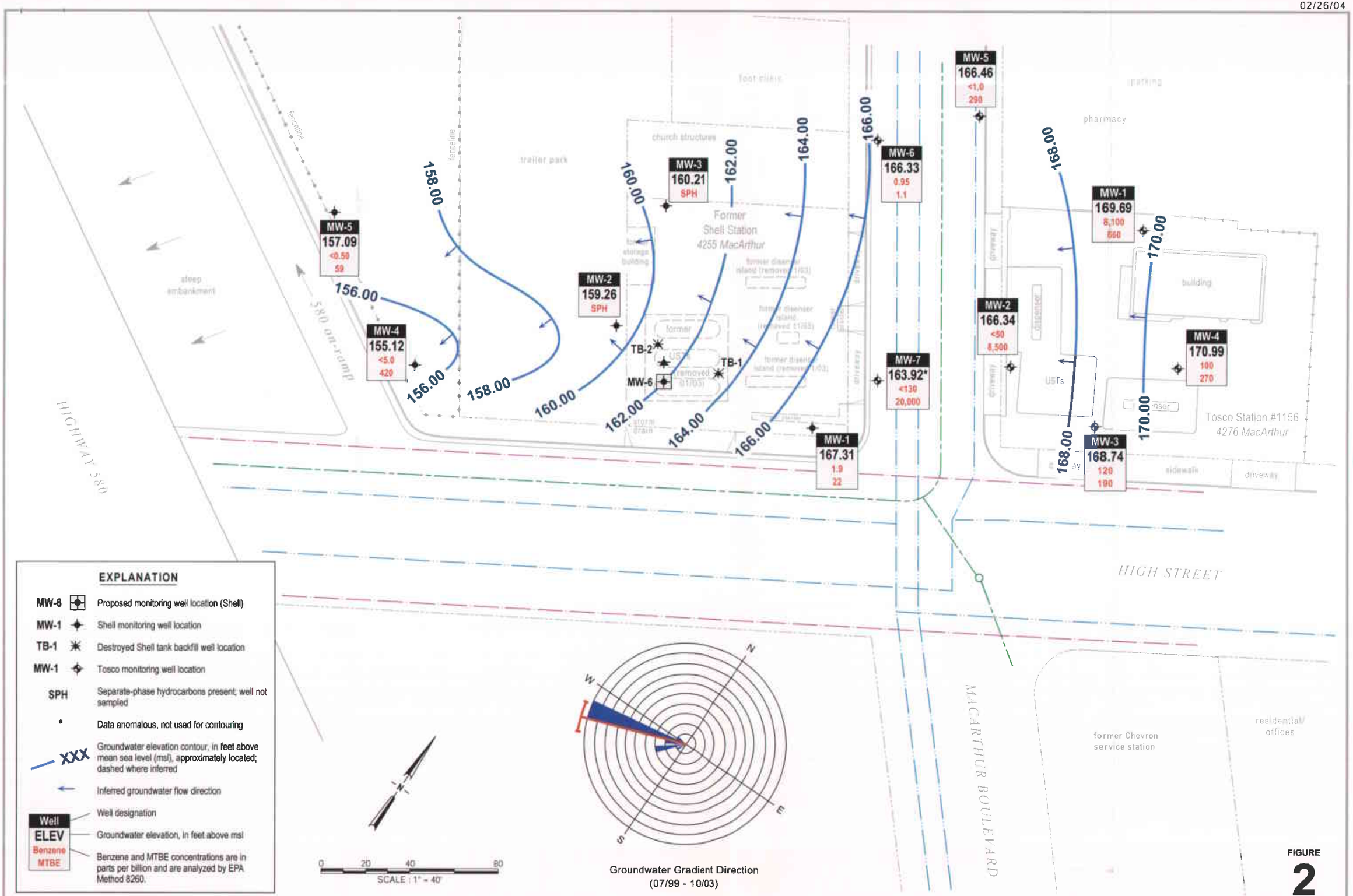
Vicinity/Area Well Survey Map
(1/2 Mile Radius)

02/26/04

Groundwater Elevation Contour Map

October 9, 2003

CAMBRIA



EXPLANATION

- MW-6 — Proposed monitoring well location (Shell)
- MW-1 — Shell monitoring well location
- TB-1 — Destroyed Shell tank backfill well location
- MW-1 — Tosco monitoring well location
- SPH — Separate-phase hydrocarbons present; well not sampled
- * — Data anomalous, not used for contouring
- XXX — Groundwater elevation contour, in feet above mean sea level (msl), approximately located; dashed where inferred
- Inferred groundwater flow direction
- Well designation
- ELEV — Groundwater elevation, in feet above msl
- Benzene / MTBE — Benzene and MTBE concentrations are in parts per billion and are analyzed by EPA Method 8260.

0 20 40 80

SCALE : 1" = 40'

Groundwater Gradient Direction
(07/99 - 10/03)

FIGURE

2

Former Shell-branded Service Station
4255 MacArthur Boulevard
Oakland, California
Incident #98995758

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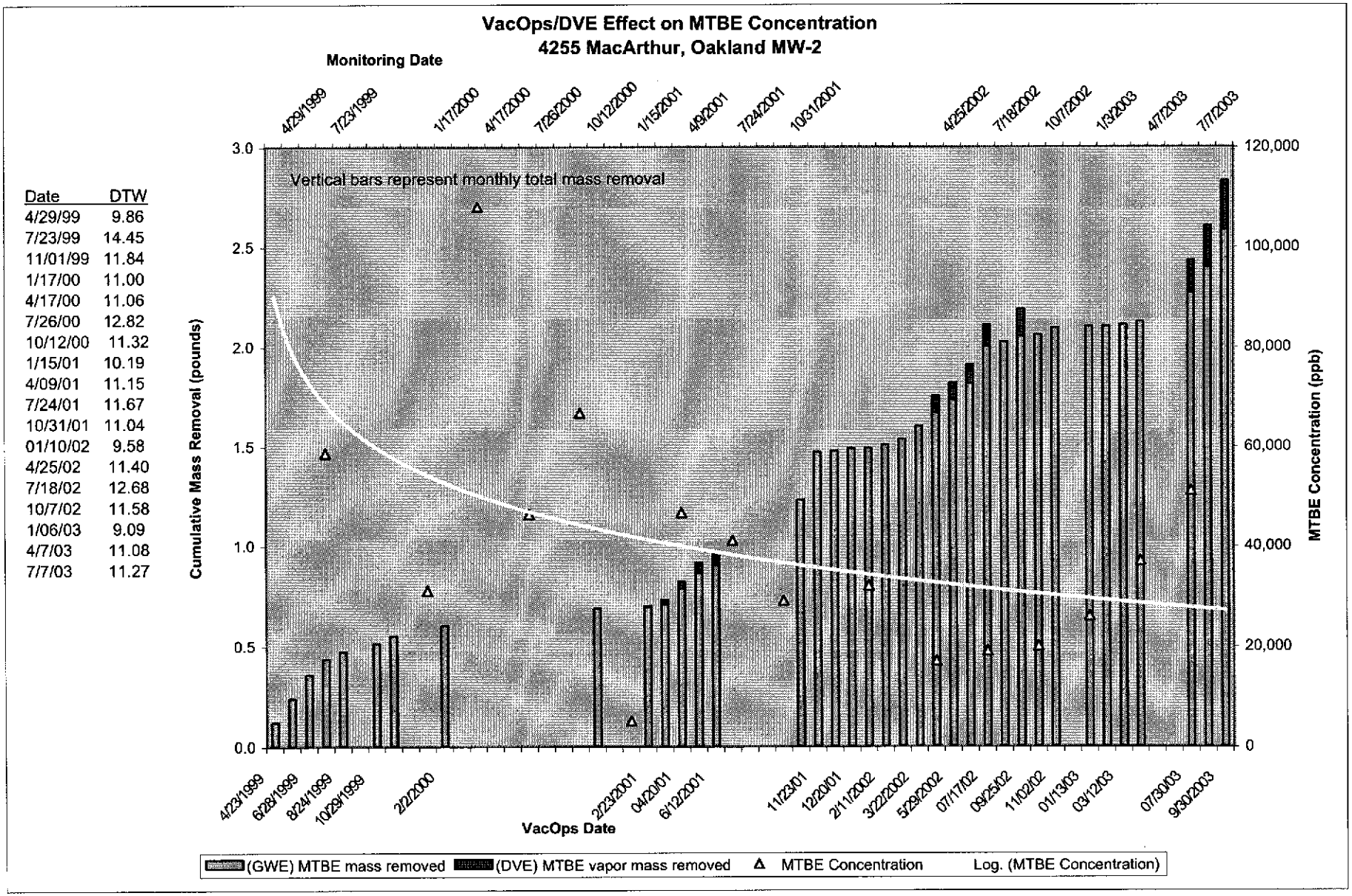

Date	DTW
4/29/99	9.86
7/23/99	14.45
11/01/99	11.84
1/17/00	11.00
4/17/00	11.06
7/26/00	12.82
10/12/00	11.32
1/15/01	10.19
4/09/01	11.15
7/24/01	11.67
10/31/01	11.04
01/10/02	9.58
4/25/02	11.40
7/18/02	12.68
10/7/02	11.58
1/06/03	9.09
4/7/03	11.08
7/7/03	11.27

G:\Oakland 4255 MacArthur\QM\3q03\4255 MacArhtur 3q03 graph.pdf

Figure 3

MTBE Concentrations
MacArthur & High Streets, Oakland

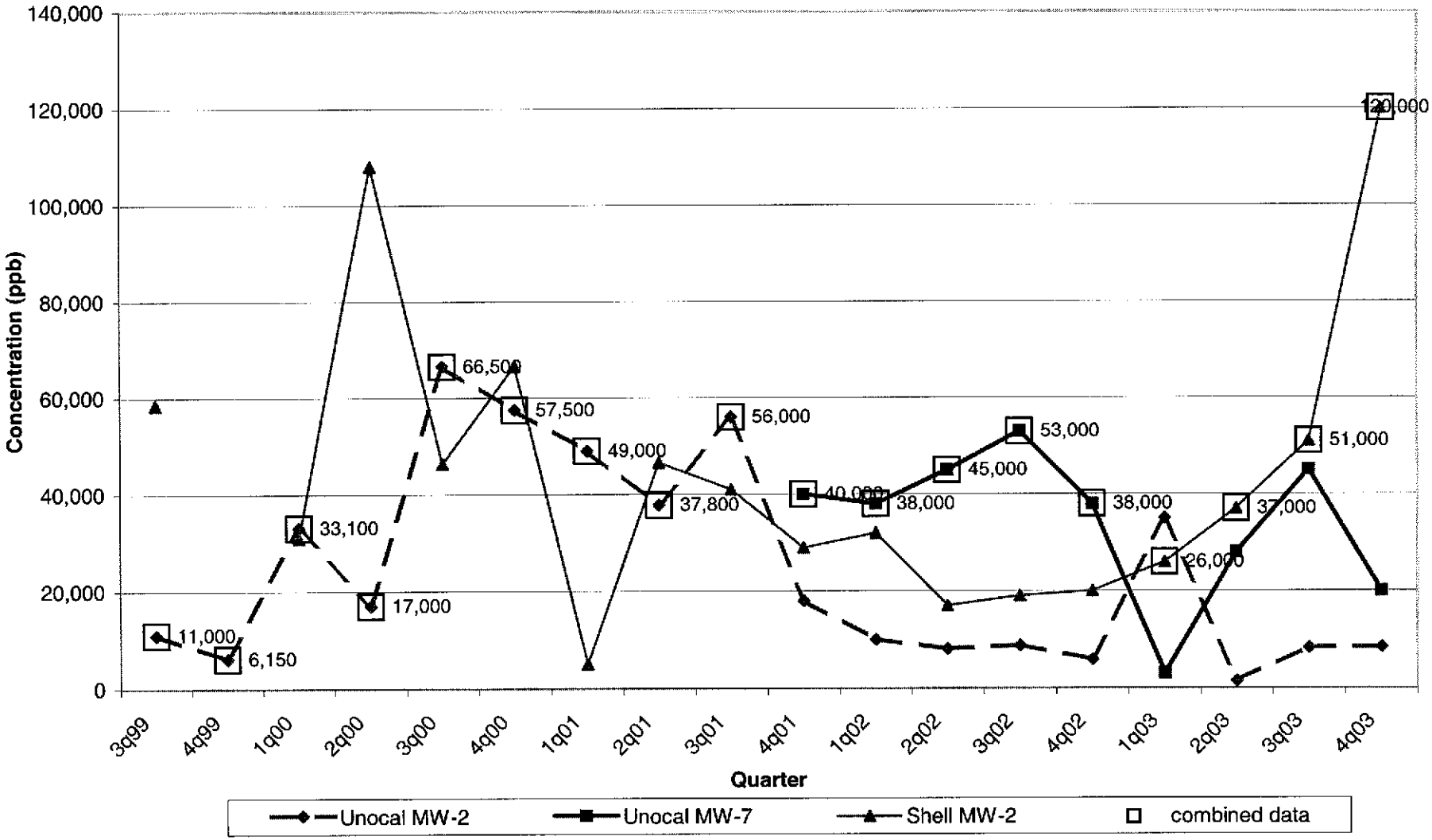

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Figure 4

Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995758, 4255 MacArthur Boulevard, Oakland, CA

					TPPH			Benzene			MTBE		
Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	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)
04/23/99	MW-2	200	200	04/13/98	180,000	0.30040	0.30040	2,800	0.00467	0.00467	71,000	0.11849	0.11849
05/24/99	MW-2	200	400	04/13/98	180,000	0.30040	0.60079	2,800	0.00467	0.00935	71,000	0.11849	0.23698
06/28/99	MW-2	200	600	04/13/98	180,000	0.30040	0.90119	2,800	0.00467	0.01402	71,000	0.11849	0.35547
07/30/99	MW-2	200	800	07/23/99	65,800	0.10981	1.01100	6,500	0.01085	0.02487	46,600	0.07777	0.43324
08/24/99	MW-2	100	900	07/23/99	65,800	0.05491	1.06591	6,500	0.00542	0.03029	46,600	0.03888	0.47212
10/29/99	MW-2	100	1,000	07/23/99	65,800	0.05491	1.12081	6,500	0.00542	0.03571	46,600	0.03888	0.51101
11/30/99	MW-2	100	1,100	07/23/99	65,800	0.05491	1.17572	6,500	0.00542	0.04114	46,600	0.03888	0.54989
02/02/00	MW-2	200	1,300	01/17/00	46,000	0.07677	1.25249	6,000	0.01001	0.05115	**31,000**	0.05174	0.60163
11/16/00	MW-2	150	1,450	10/12/00	63,200	0.07910	1.33159	5,840	0.00731	0.05846	**66,600**	0.08336	0.68499
02/23/01	MW-2	200	1,650	01/15/01	59,700	0.09963	1.43122	2,630	0.00439	0.06285	**5,080**	0.00848	0.69347
03/14/01	MW-2	300	1,950	01/15/01	59,700	0.14945	1.58067	2,630	0.00658	0.06943	**5,080**	0.01272	0.70618
04/20/01*	MW-2	200	2,150	04/09/01	56,900	0.09496	1.67563	1,860	0.00310	0.07254	**46,600**	0.07777	0.78395
05/30/01	MW-2	200	2,350	04/09/01	56,900	0.09496	1.77059	1,860	0.00310	0.07564	**46,600**	0.07777	0.86172
06/12/01	MW-2	100	2,450	04/09/01	56,900	0.04748	1.81807	1,860	0.00155	0.07719	**46,600**	0.03888	0.90061
11/06/01	MW-2	1,350	3,800	10/31/01	45,000	0.50692	2.32499	2,200	0.02478	0.10198	**29,000**	0.32668	1.22729
11/23/01	MW-2	1,000	4,800	10/31/01	45,000	0.37550	2.70048	2,200	0.01836	0.12033	**29,000**	0.24199	1.46927
12/04/01	MW-2	20	4,820	10/31/01	45,000	0.00751	2.70799	2,200	0.00037	0.12070	**29,000**	0.00484	1.47411
12/20/01	MW-2	50	4,870	10/31/01	45,000	0.01877	2.72677	2,200	0.00092	0.12162	**29,000**	0.01210	1.48621
01/14/02	MW-2	10	4,880	01/10/02	28,000	0.00234	2.72911	840	0.00007	0.12169	**32,000**	0.00267	1.48888
02/11/02	MW-2	62	4,942	01/10/02	28,000	0.01449	2.74359	840	0.00043	0.12212	**32,000**	0.01656	1.50544
02/25/02	MW-2	100	5,042	01/10/02	28,000	0.02336	2.76696	840	0.00070	0.12282	**32,000**	0.02670	1.53214
03/08/02*	MW-2	125	5,167	01/10/02	28,000	0.02921	2.79616	840	0.00088	0.12370	**32,000**	0.03338	1.56552
03/22/02	MW-2	125	5,292	01/10/02	28,000	0.02921	2.82537	840	0.00088	0.12458	**32,000**	0.03338	1.59890
04/10/02	MW-2	53	5,345	01/10/02	28,000	0.01238	2.83775	840	0.00037	0.12495	**32,000**	0.01415	1.61305
04/16/02	MW-2	100	5,445	01/10/02	28,000	0.02336	2.86111	840	0.00070	0.12565	**32,000**	0.02670	1.63975
04/24/02	MW-2	100	5,545	01/10/02	28,000	0.02336	2.88448	840	0.00070	0.12635	**32,000**	0.02670	1.66645
05/08/02	MW-2	29	5,574	04/25/02	41,000	0.00992	2.89440	1,900	0.00046	0.12681	**17,000**	0.00411	1.67057
05/22/02	MW-2	300	5,874	04/25/02	41,000	0.10264	2.99703	1,900	0.00476	0.13157	**17,000**	0.04256	1.71312
05/29/02	MW-2	122	5,996	04/25/02	41,000	0.04174	3.03877	1,900	0.00193	0.13350	**17,000**	0.01731	1.73043

Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995758, 4255 MacArthur Boulevard, Oakland, CA

					TPPH			Benzene			MTBE		
Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	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)
06/05/02	MW-2	30	6,026	04/25/02	41,000	0.01026	3.04904	1,900	0.00048	0.13398	**17,000**	0.00426	1.73468
06/19/02	MW-2	500	6,526	04/25/02	41,000	0.17106	3.22010	1,900	0.00793	0.14190	**17,000**	0.07093	1.80561
06/26/02	MW-2	50	6,576	04/25/02	41,000	0.01711	3.23720	1,900	0.00079	0.14270	**17,000**	0.00709	1.81270
07/10/02	MW-2	900	7,476	04/25/02	41,000	0.30791	3.54511	1,900	0.01427	0.15696	**17,000**	0.12767	1.94037
07/17/02	MW-2	400	7,876	04/25/02	41,000	0.13685	3.68196	1,900	0.00634	0.16331	**17,000**	0.05674	1.99711
08/21/02	MW-2	100	7,976	07/18/02	87,000	0.07260	3.75455	2,000	0.00167	0.16498	**19,000**	0.01585	2.01297
08/27/02	MW-2	50	8,026	07/18/02	87,000	0.03630	3.79085	2,000	0.00083	0.16581	**19,000**	0.00793	2.02089
09/25/02	MW-2	178	8,204	07/18/02	87,000	0.12922	3.92007	2,000	0.00297	0.16878	**19,000**	0.02822	2.04912
10/22/02	MW-2	50	8,254	10/07/02	110,000	0.04589	3.96596	3,900	0.00163	0.17041	**20,000**	0.00834	2.05746
11/01/02	MW-2	152	8,406	10/07/02	110,000	0.13952	4.10548	3,900	0.00495	0.17535	**20,000**	0.02537	2.08283
11/02/02	MW-2	56	8,462	10/07/02	110,000	0.05140	4.15688	3,900	0.00182	0.17718	**20,000**	0.00935	2.09217
01/13/03	MW-2	40	8,502	01/06/03	65,000	0.02170	4.17858	2,400	0.00080	0.17798	**26,000**	0.00868	2.10085
02/12/03	MW-2	0	8,502	01/06/03	65,000	0.00000	4.17858	2,400	0.00000	0.17798	**26,000**	0.00000	2.10085
03/12/03	MW-2	30	8,532	01/06/03	65,000	0.01627	4.19485	2,400	0.00060	0.17858	**26,000**	0.00651	2.10736
04/15/03	MW-2	70	8,602	04/07/03	57,000	0.03329	4.22814	1,900	0.00111	0.17969	**37,000**	0.02161	2.12897
07/22/03	MW-2	200	8,802	07/07/03	34,000	0.05674	4.28489	4,000	0.00668	0.18636	**51,000**	0.08511	2.21408
07/30/03	MW-2	125	8,927	07/07/03	34,000	0.03546	4.32035	4,000	0.00417	0.19054	**51,000**	0.05320	2.26728
08/05/03	MW-2	175	9,102	07/07/03	34,000	0.04965	4.37000	4,000	0.00584	0.19638	**51,000**	0.07447	2.34175
08/19/03	MW-2	127	9,229	07/07/03	34,000	0.03603	4.40603	4,000	0.00424	0.20062	**51,000**	0.05405	2.39580
09/02/03	MW-2	159	9,388	07/07/03	34,000	0.04511	4.45114	4,000	0.00531	0.20592	**51,000**	0.06766	2.46346
09/16/03	MW-2	156	9,544	07/07/03	34,000	0.04426	4.49540	4,000	0.00521	0.21113	**51,000**	0.06639	2.52985
09/30/03	MW-2	126	9,670	07/07/03	34,000	0.03575	4.53114	4,000	0.00421	0.21534	**51,000**	0.05362	2.58347
05/30/01	MW-3	50	50	04/09/01	33,800	0.01410	0.01410	7,100	0.00296	0.00296	13,000	0.00542	0.00542
06/12/01	MW-3	50	100	04/09/01	33,800	0.01410	0.02820	7,100	0.00296	0.00592	13,000	0.00542	0.01085
08/27/02	MW-3	300	400	07/18/02	56,000	0.14019	0.16839	3,300	0.00826	0.01419	8,400	0.02103	0.03188
09/25/02	MW-3	200	600	07/18/02	56,000	0.09346	0.26185	3,300	0.00551	0.01969	8,400	0.01402	0.04589
10/22/02	MW-3	125	725	07/18/02	56,000	0.05841	0.32026	3,300	0.00344	0.02313	8,400	0.00876	0.05466
11/01/02	MW-3	100	825	07/18/02	56,000	0.04673	0.36698	3,300	0.00275	0.02589	8,400	0.00701	0.06166

Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995758, 4255 MacArthur Boulevard, Oakland, CA

					TPPH			Benzene			MTBE		
Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	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)
11/02/02	MW-3	250	1,075	07/18/02	56,000	0.11682	0.48381	3,300	0.00688	0.03277	8,400	0.01752	0.07919
01/13/03	MW-3	60	1,135	01/06/03	57,000	0.02854	0.51234	3,200	0.00160	0.03437	5,100	0.00255	0.08174
02/12/03	MW-3	0	1,135	01/06/03	57,000	0.00000	0.51234	3,200	0.00000	0.03437	5,100	0.00000	0.08174
03/12/03	MW-3	52	1,187	01/06/03	57,000	0.02473	0.53708	3,200	0.00139	0.03576	5,100	0.00221	0.08395
04/15/03	MW-3	14	1,201	04/07/03	57,000	0.00666	0.54373	6,200	0.00072	0.03649	8,200	0.00096	0.08491
07/22/03	MW-3	66	1,267	07/07/03	28,000	0.01542	0.55916	4,900	0.00270	0.03919	7,900	0.00435	0.08926
07/30/03	MW-3	156	1,423	07/07/03	28,000	0.03645	0.59560	4,900	0.00638	0.04556	7,900	0.01028	0.09955
08/05/03	MW-3	74	1,497	07/07/03	28,000	0.01729	0.61289	4,900	0.00303	0.04859	7,900	0.00488	0.10442
08/19/03	MW-3	127	1,624	07/07/03	28,000	0.02967	0.64257	4,900	0.00519	0.05378	7,900	0.00837	0.11280
09/02/03	MW-3	100	1,724	07/07/03	28,000	0.02336	0.66593	4,900	0.00409	0.05787	7,900	0.00659	0.11939
09/16/03	MW-3	100	1,824	07/07/03	28,000	0.02336	0.68929	4,900	0.00409	0.06196	7,900	0.00659	0.12598
09/30/03	MW-3	126	1,950	07/07/03	28,000	0.02944	0.71873	4,900	0.00515	0.06711	7,900	0.00831	0.13429
09/05/01	TB-1	300	300	10/31/01	1,000	0.00250	0.00250	85	0.00021	0.00021	4,100	0.01026	0.01026
09/19/01	TB-1	1,400	1,700	10/31/01	1,000	0.01168	0.01419	85	0.00099	0.00121	4,100	0.04790	0.05816
10/16/01	TB-1	1,200	2,900	10/31/01	1,000	0.01001	0.02420	85	0.00085	0.00206	4,100	0.04105	0.09921
04/16/02	TB-1	1,111	4,011	10/31/01	5,000	0.04635	0.07055	410	0.00380	0.00586	9,000	0.08344	0.18265
04/23/99	TB-2	4,800	4,800	08/24/99	6,240	0.24993	0.24993	400	0.01602	0.01602	86,100	3.44856	3.44856
05/24/99	TB-2	4,800	9,600	08/24/99	6,240	0.24993	0.49986	400	0.01602	0.03204	86,100	3.44856	6.89711
06/28/99	TB-2	4,800	14,400	08/24/99	6,240	0.24993	0.74979	400	0.01602	0.04806	86,100	3.44856	10.34567
07/30/99	TB-2	4,800	19,200	08/24/99	6,240	0.24993	0.99972	400	0.01602	0.06408	86,100	3.44856	13.79422
08/24/99	TB-2	2,400	21,600	08/24/99	6,240	0.12497	1.12469	400	0.00801	0.07210	86,100	1.72428	15.51850
10/29/99	TB-2	2,255	23,855	10/29/99	7,460	0.14037	1.26506	656	0.01234	0.08444	442	0.00832	15.52682
11/30/99	TB-2	3,800	27,655	10/29/99	7,460	0.23655	1.50160	656	0.02080	0.10524	442	0.01402	15.54083
02/02/00	TB-2	4,500	32,155	01/31/00	2,070	0.07773	1.57933	108	0.00406	0.10930	6,550	0.24595	15.78678
11/16/00	TB-2	974	33,129	11/16/00	107,000	0.86963	2.44896	3,390	0.02755	0.13685	16,800	0.13654	15.92332
02/23/01	TB-2	2,506	35,635	02/23/01	80,600	1.68542	4.13439	2,410	0.05040	0.18724	38,100	0.79671	16.72003
03/14/01	TB-2	1,075	36,710	02/23/01	80,600	0.72300	4.85738	2,410	0.02162	0.20886	38,100	0.34176	17.06179

Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995758, 4255 MacArthur Boulevard, Oakland, CA

					TPPH			Benzene			MTBE		
Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	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)
04/20/01*	TB-2	1,760	38,470	04/09/01	46,600	0.68437	5.54175	1,240	0.01821	0.22707	31,300	0.45967	17.52147
05/30/01	TB-2	2,100	40,570	04/09/01	46,600	0.81658	6.35833	1,240	0.02173	0.24880	31,300	0.54847	18.06994
06/12/01	TB-2	2,400	42,970	04/09/01	46,600	0.93323	7.29156	1,240	0.02483	0.27363	31,300	0.62683	18.69677
08/07/01	TB-2	2,510	43,080	07/24/01	11,000	0.23039	7.52195	630	0.01319	0.28683	11,000	0.23039	18.92716
08/21/01	TB-2	2,700	45,670	07/24/01	11,000	0.24783	7.76978	630	0.01419	0.30102	11,000	0.24783	19.17499
09/05/01	TB-2	2,100	45,180	07/24/01	11,000	0.19275	7.96253	630	0.01104	0.31206	11,000	0.19275	19.36774
09/19/01	TB-2	1,500	47,170	07/24/01	11,000	0.13768	8.10022	630	0.00789	0.31995	11,000	0.13768	19.50542
10/16/01	TB-2	1,750	46,930	07/24/01	11,000	0.16063	8.26085	630	0.00920	0.32915	11,000	0.16063	19.66605
11/06/01	TB-2	1,500	48,670	10/31/01	7,500	0.09387	8.35472	530	0.00663	0.33578	2,500	0.03129	19.69734
11/23/01	TB-2	1,500	48,430	10/31/01	7,500	0.09387	8.44859	530	0.00663	0.34241	2,500	0.03129	19.72863
10/04/01	TB-2	2,900	51,570	10/31/01	7,500	0.18149	8.63008	530	0.01283	0.35524	2,500	0.06050	19.78913
12/20/01	TB-2	2,950	51,380	10/31/01	7,500	0.18462	8.81470	530	0.01305	0.36829	2,500	0.06154	19.85067
01/14/02	TB-2	2,542	54,112	01/10/02	<5,000	0.05303	8.86773	480	0.01018	0.37847	12,000	0.25454	20.10521
02/11/02	TB-2	1,300	52,680	01/10/02	<5,000	0.02712	8.89485	480	0.00521	0.38367	12,000	0.13017	20.23538
02/25/02	TB-2	2,400	56,512	01/10/02	<5,000	0.05007	8.94492	480	0.00961	0.39329	12,000	0.24032	20.47570
03/08/02*	TB-2	3,052	55,732	01/10/02	<5,000	0.06367	9.00858	480	0.01222	0.40551	12,000	0.30560	20.78130
03/22/02	TB-2	2,234	58,746	01/10/02	<5,000	0.04660	9.05519	480	0.00895	0.41446	12,000	0.22370	21.00499
04/10/02	TB-2	2,156	57,888	01/10/02	<5,000	0.04498	9.10016	480	0.00864	0.42309	12,000	0.21589	21.22088
04/24/02	TB-2	1,308	60,054	01/10/02	<5,000	0.02729	9.12745	480	0.00524	0.42833	12,000	0.13097	21.35185
05/08/02	TB-2	1,400	59,288	04/27/02	4,700	0.05491	9.18235	470	0.00549	0.43382	7,400	0.08645	21.43830
05/22/02	TB-2	1,707	61,761	04/27/02	4,700	0.06695	9.24930	470	0.00669	0.44052	7,400	0.10540	21.54370
05/29/02	TB-2	900	60,188	04/27/02	4,700	0.03530	9.28460	470	0.00353	0.44405	7,400	0.05557	21.59928
06/05/02	TB-2	1,615	63,376	04/27/02	4,700	0.06334	9.34793	470	0.00633	0.45038	7,400	0.09972	21.69900
06/19/02	TB-2	400	60,588	04/27/02	4,700	0.01569	9.36362	470	0.00157	0.45195	7,400	0.02470	21.72370
06/26/02	TB-2	1,027	64,403	04/27/02	4,700	0.04028	9.40390	470	0.00403	0.45598	7,400	0.06342	21.78712
07/10/02	TB-2	165	60,753	04/27/02	4,700	0.00647	9.41037	470	0.00065	0.45662	7,400	0.01019	21.79730
07/17/02	TB-2	315	64,718	04/27/02	4,700	0.01235	9.42272	470	0.00124	0.45786	7,400	0.01945	21.81676
08/21/02	TB-2	634	61,387	07/18/02	7,500	0.03968	9.46240	630	0.00333	0.46119	44,000	0.23277	22.04953
08/27/02	TB-2	34	64,752	07/18/02	7,500	0.00213	9.46453	630	0.00018	0.46137	44,000	0.01248	22.06201

Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995758, 4255 MacArthur Boulevard, Oakland, CA

					TPPH			Benzene			MTBE		
Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	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)
09/25/02	TB-2	1,200	62,587	07/18/02	7,500	0.07510	9.53963	630	0.00631	0.46768	**44,000**	0.44058	22.50259
10/22/02	TB-2	1,520	66,272	10/07/02	<10,000	0.06342	9.60305	580	0.00736	0.47504	**30,000**	0.38050	22.88310
11/01/02	TB-2	1,952	64,539	10/07/02	<10,000	0.08144	9.68449	580	0.00945	0.48448	**30,000**	0.48865	23.37174
11/02/02	TB-2	2,000	68,272	10/07/02	<10,000	0.08344	9.76793	580	0.00968	0.49416	**30,000**	0.50066	23.87240
01/13/03	TB-2	2,616	67,155	01/06/03	120	0.00262	9.77055	4.8	0.00010	0.49427	**220**	0.00480	23.87721
02/12/03	TB-2	0	68,272	01/06/03	120	0.00000	9.77055	4.8	0.00000	0.49427	**220**	0.00000	23.87721
Total Gallons Extracted:			**110,488**		**Total Pounds Removed:**		**15.09098**			**0.78257**			**26.77761**
					Total Gallons Removed:		**2.47393**			**0.10720**			**4.31897**

Abbreviations & Notes:

TPPH = Total purgeable hydrocarbons as gasoline, analyzed by EPA Method 8015
MtBE = Methyl tert-butyl ether by EPA Method 8020; MTBE results in bold are analyzed by EPA Method 8260
ppb = Parts per billion
lb = Pound
gal = Gallon
* = Purge volume 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)
Benzene analyzed by EPA Method 8020

Table 2: Vapor Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995758, 4255 MacArthur Boulevard, Oakland, CA

Date	Well ID	Interval Hours of Operation (hours)	System Flow Rate (CFM)	Hydrocarbon Concentrations (Concentrations in ppmv) TPHg	Benzene	MTBE	TPHg Removal Rate (#/hour)	TPHg Cumulative TPHg Removed (#)	Benzene Removal Rate (#/hour)	Benzene Cumulative Benzene Removed (#)	MTBE Removal Rate (#/hour)	MTBE Cumulative MTBE Removed (#)
							TPHg		**Benzene**		**MTBE**	
11/16/00	MW-2	0.67	0.5	663.0	7.00	42.0	0.004	0.003	0.000	0.000	0.000	0.000
02/23/01	MW-2	7.00	3.2	24.1	0.93	11.9	0.001	0.010	0.000	0.000	0.001	0.004
03/14/01	MW-2	6.00	4.0	203	4.13	51.9	0.011	0.075	0.000	0.001	0.003	0.021
04/20/01*	MW-2	4.00	6.2	310	4.4	49	0.026	0.178	0.000	0.003	0.004	0.037
05/30/01	MW-2	3.00	7.7	360	4.4	50	0.037	0.289	0.000	0.004	0.005	0.053
06/12/01	MW-2	3.00	5.1	56	0.33	2.0	0.004	0.301	0.000	0.004	0.000	0.054
04/16/02	MW-2	6.00	7.7	1,600	7.2	47	0.165	1.289	0.001	0.008	0.005	0.083
05/22/02	MW-2	2.00	7.5	160	1.3	13	0.016	1.321	0.000	0.008	0.001	0.086
06/19/02	MW-2	5.00	11.5	95	0.94	10	0.015	1.394	0.000	0.009	0.002	0.094
07/17/02	MW-2	6.00	10.0	420	3.2	18	0.056	1.731	0.000	0.011	0.002	0.109
09/25/02	MW-2	4.00	27.3	980	4.0	20	0.358	3.161	0.001	0.017	0.007	0.139
07/22/03	MW-2	3.00	NA	NA	NA	NA	0.000	3.161	0.000	0.017	0.000	0.139
07/30/03	MW-2	3.00	4.1	3,500	23	140	0.192	3.737	0.001	0.020	0.008	0.162
08/05/03	MW-2	2.83	5.8	8,000	57	110	0.620	5.492	0.004	0.031	0.009	0.187
08/19/03	MW-2	3.17	6.9	3,300	11	71	0.304	6.457	0.001	0.034	0.007	0.208
09/02/03	MW-2	3.00	6.9	2,400	13	81	0.221	7.121	0.001	0.038	0.008	0.231
09/16/03	MW-2	3.00	2.9	2,000	14	71	0.078	7.354	0.000	0.039	0.003	0.239
09/30/03	MW-2	3.17	2.9	3,500	14	46	0.136	7.784	0.000	0.041	0.002	0.245
05/30/01	MW-3	3.00	4.0	4,200	7.1	14	0.225	0.674	0.000	0.001	0.001	0.002
06/12/01	MW-3	3.00	3.3	2,400	5.8	9.8	0.106	0.991	0.000	0.002	0.000	0.004
09/25/02	MW-3	3.00	18.7	8,800	11	14	2.200	7.591	0.002	0.009	0.004	0.014
07/22/03	MW-3	3.00	NA	NA	NA	NA	0.000	7.591	0.000	0.009	0.000	0.014
07/30/03	MW-3	3.00	5.2	17,000	60	18	1.182	11.136	0.004	0.021	0.001	0.018

Table 2: Vapor Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995758, 4255 MacArthur Boulevard, Oakland, CA

Date	Well ID	Interval Hours of Operation (hours)	System Flow Rate (CFM)	Hydrocarbon Concentrations (Concentrations in ppmv) TPHg	Benzene	MTBE	TPHg Removal Rate (#/hour)	TPHg Cumulative TPHg Removed (#)	Benzene Removal Rate (#/hour)	Benzene Cumulative Benzene Removed (#)	MTBE Removal Rate (#/hour)	MTBE Cumulative MTBE Removed (#)
							TPHg		**Benzene**		**MTBE**	
08/05/03	MW-3	3.00	5.3	18,000	84	35	1.275	14.962	0.005	0.037	0.003	0.026
08/19/03	MW-3	3.33	6.1	6,800	12	14	0.554	16.808	0.001	0.040	0.001	0.030
09/02/03	MW-3	3.50	6.1	2,200	15	120	0.179	17.436	0.001	0.044	0.010	0.065
09/16/03	MW-3	2.92	3.0	4,800	21	15	0.192	17.998	0.001	0.046	0.001	0.067
09/30/03	MW-3	3.25	3.0	4,800	13	9.9	0.192	18.624	0.000	0.047	0.000	0.068
Total Pounds Removed:							**TPHg =**	**26.408**	**Benzene =**	**0.088**	**MTBE =**	**0.313**

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

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

* = Interval hours of operation estimated.

Table 3. **Groundwater Analytical Data - Oxygenates** - Shell-branded Service Station, Incident #98995758, 4255 MacArthur, Oakland, California

Sample ID	Date Sampled	MTBE	DIPE	ETBE	TAME	TBA	Ethanol
		← (Concentrations in ppb) →					
MW-1	04/07/03	12	---	---	---	<5.0	---
	07/07/03	8.1	---	---	---	<5.0	---
	10/09/03	**22**	---	---	---	**<5.0**	---
MW-2	10/31/01	29,000	<50	<50	<50	51,000	<500
	04/07/03	37,000	---	---	---	34,000	---
	07/07/03	51,000	---	---	---	44,000	---
MW-3	10/31/01	9,800	<20	<20	<20	5,200	<500
	04/07/03	8,200	---	---	---	3,900	---
	07/07/03	7,900	---	---	---	4,700	---
MW-4	04/07/03	1,700	---	---	---	5,900	---
	07/07/03	860	---	---	---	6,900	---
	10/09/03	**420**	---	---	---	**6,700**	---
MW-5	04/07/03	77	---	---	---	28	---
	07/07/03	32	---	---	---	23	---
	10/09/03	**59**	---	---	---	**40**	---

Table 3. **Groundwater Analytical Data - Oxygenates** - Shell-branded Service Station, Incident #98995758, 4255 MacArthur, Oakland, California

Sample ID	Date Sampled	MTBE	DIPE	ETBE	TAME	TBA	Ethanol
		← (Concentrations in ppb) →					

Abbreviations:

MTBE = Methyl tert-butyl ether, analyzed by EPA Method 8260
DIPE = Di-isopropyl ether, analyzed by EPA Method 8260
ETBE = Ethyl tert-butyl ether, analyzed by EPA Method 8260
TAME = Tert-amyl methyl ether, analyzed by EPA Method 8260
TBA = Tert-butyl alcohol, analyzed by EPA Method 8260
Ethanol analyzed by EPA Method 8260
ppb = Parts per billion
--- = not analyzed

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

November 13, 2003

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

Fourth Quarter 2003 Groundwater Monitoring at
Shell-branded Service Station
4255 MacArthur Boulevard
Oakland, CA

Monitoring performed on October 9 and 20, 2003

Groundwater Monitoring Report **031009-DA-1**

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

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

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

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

Please call if you have any questions.

Yours truly,

Leon Gearhart
Project Coordinator

LG/jt

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

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

WELL CONCENTRATIONS
Shell-branded Service Station
4255 MacArthur Boulevard
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.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)	ORP Reading (mV)
MW-1	11/17/1993	410	21	11	7.9	47	NA	NA	175.79	8.59	NA	167.20	NA	NA	NA
MW-1	01/20/1994	1,200	180	19	48	47	NA	NA	175.79	8.22	NA	167.57	NA	NA	NA
MW-1	04/25/1994	3,100	610	<10	130	27	NA	NA	175.79	7.63	NA	168.16	NA	NA	NA
MW-1	07/07/1994	2,400	1,000	10	250	20	NA	NA	175.79	8.31	NA	167.48	NA	NA	NA
MW-1	10/27/1994	2,200	500	3.1	72	1.8	NA	NA	175.79	8.84	NA	166.95	NA	NA	NA
MW-1	11/17/1994	NA	NA	NA	NA	NA	NA	NA	175.79	7.60	NA	168.19	NA	NA	NA
MW-1	11/28/1994	NA	NA	NA	NA	NA	NA	NA	175.79	7.56	NA	168.23	NA	NA	NA
MW-1	01/13/1995	570	75	2.5	6.7	11	NA	NA	175.79	7.11	NA	168.68	NA	NA	NA
MW-1	04/12/1995	1,800	480	<5.0	79	<5.0	NA	NA	175.79	7.08	NA	168.71	NA	NA	NA
MW-1	07/25/1995	120	15	1.1	2.1	2.9	NA	NA	175.79	7.73	NA	168.06	NA	NA	NA
MW-1 (D)	07/25/1995	300	88	2.4	11	6.5	NA	NA	175.79	7.73	NA	168.06	NA	NA	NA
MW-1	10/18/1995	130	9.5	0.8	1.3	1.7	NA	NA	175.79	8.42	NA	167.37	NA	NA	NA
MW-1 (D)	10/18/1995	120	11	0.8	1.4	1.8	NA	NA	175.79	8.42	NA	167.37	NA	NA	NA
MW-1	01/17/1996	250	22	0.9	1.6	2.3	NA	NA	175.79	7.83	NA	167.96	NA	NA	NA
MW-1	04/25/1996	<50	4.6	<0.5	<0.5	0.6	500b	NA	175.79	7.35	NA	168.44	NA	NA	NA
MW-1	07/17/1996	<250	15	<2.5	<2.5	<2.5	540	NA	175.79	7.70	NA	168.09	NA	NA	NA
MW-1	10/01/1996	1,200	500	12	57	82	1,900	NA	175.79	8.07	NA	167.72	NA	NA	NA
MW-1	01/22/1997	640	170	4.3	33	33	1,200	NA	175.79	7.21	NA	168.58	NA	NA	NA
MW-1	04/08/1997	<200	34	<2.0	3.3	4.3	950	NA	175.79	7.75	NA	168.04	NA	NA	NA
MW-1 (D)	04/08/1997	<200	66	<2.0	6.4	8	740	NA	175.79	7.75	NA	168.04	NA	NA	NA
MW-1	07/08/1997	190	49	1.2	5.8	8.6	560	NA	175.79	8.01	NA	167.78	NA	NA	NA
MW-1	10/08/1997	<100	7	<1.0	<1.0	<1.0	620	NA	175.79	8.10	NA	167.69	NA	NA	NA
MW-1	01/09/1998	970	390	12	48	71	1,200	NA	175.79	7.14	NA	168.65	NA	NA	NA
MW-1	04/13/1998	<50	136	<0.50	1.5	1.8	170	NA	175.79	6.78	NA	169.01	NA	NA	NA
MW-1	07/17/1998	2,500	750	11	88	67	150	NA	175.79	7.28	NA	168.51	NA	NA	NA
MW-1	10/02/1998	8,000	970	36	270	440	35	NA	175.79	7.77	NA	168.02	NA	NA	NA

WELL CONCENTRATIONS
Shell-branded Service Station
4255 MacArthur Boulevard
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.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)	ORP Reading (mV)
MW-1	02/03/1999	210	56	0.82	<0.50	3.2	220	NA	175.79	7.45	NA	168.34	NA	1.4	NA
MW-1	04/29/1999	<50	4.5	<0.50	0.56	<0.50	140	196	175.79	7.58	NA	168.21	NA	1.2	140
MW-1	07/23/1999	<50.0	<0.500	<0.500	<0.500	<0.500	120	111*	175.79	8.51	NA	167.28	NA	1.0	NA
MW-1	11/01/1999	<50.0	<0.500	<0.500	<0.500	<0.500	2.90	NA	175.79	8.30	NA	167.49	NA	1.4	-71
MW-1	01/17/2000	<50	<0.50	<0.50	<0.50	<0.50	3.30	NA	175.79	8.04	NA	167.75	NA	16.9	64
MW-1	04/17/2000	<50.0	1.08	<0.500	<0.500	<0.500	<2.50	NA	175.79	8.00	NA	167.79	NA	1.8	112
MW-1	07/26/2000	125	54.3	2.16	5.45	9.86	33.1	NA	175.79	7.52	NA	168.27	NA	13.2	-140
MW-1	10/12/2000	101	40.7	2.68	3.00	5.18	25.0	NA	175.79	7.71	NA	168.08	NA	>20	534
MW-1	01/15/2001	<50.0	0.633	<0.500	0.505	1.74	<2.50	NA	175.79	7.33	NA	168.46	NA	16.9	-127
MW-1	04/09/2001	<50.0	<0.500	<0.500	<0.500	0.927	<2.50	NA	175.79	7.68	NA	168.11	NA	12.8	-117
MW-1	07/24/2001	<50	4.0	0.65	0.53	1.3	NA	<5.0	175.79	8.00	NA	167.79	NA	>20	43
MW-1	10/31/2001	<50	4.4	<0.50	<0.50	0.98	NA	<5.0	175.79	7.94	NA	167.85	NA	13.6	123
MW-1	01/10/2002	<50	2.2	<0.50	<0.50	1.2	NA	6.1	175.79	7.63	NA	168.16	NA	0.1	63
MW-1	04/25/2002	<50	2.0	<0.50	<0.50	<0.50	NA	<5.0	175.79	7.76	NA	168.03	NA	0.3	54
MW-1	07/18/2002	<50	6.1	<0.50	<0.50	0.98	NA	<5.0	175.79	8.29	NA	167.50	NA	1.1	32
MW-1	10/07/2002	500	17	14	11	60	NA	9.0	175.76	8.34	NA	167.42	NA	2.8	-26
MW-1	01/06/2003	<50	12	<0.50	0.73	0.58	NA	14	175.76	7.18	NA	168.58	NA	0.5	-22
MW-1	04/07/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	12	175.76	7.75	NA	168.01	NA	0.7	-24
MW-1	07/07/2003	<50	6.6	<0.50	<0.50	<1.0	NA	8.1	175.76	7.75	NA	168.01	NA	0.5	16
MW-1	**10/09/2003**	**<50**	**1.9**	**<0.50**	**<0.50**	**<1.0**	**NA**	**22**	**175.76**	**8.45**	**NA**	**167.31**	**NA**	**0.7**	**80**
MW-2	11/17/1993	31,000	9,400	4,600	1,000	3,900	NA	NA	170.91	12.31	NA	158.60	NA	NA	NA
MW-2	01/20/1994	40,000	6,900	5,600	780	4,100	NA	NA	170.91	11.48	NA	159.43	NA	NA	NA
MW-2 (D)	01/20/1994	41,000	7,200	6,200	900	4,800	NA	NA	170.91	11.48	NA	159.43	NA	NA	NA
MW-2	04/25/1994	60,000	9,300	6,100	1,400	6,200	NA	NA	170.91	10.84	NA	160.07	NA	NA	NA
MW-2	07/07/1994	280,000a	40,000	26,000	8,100	32,000	NA	NA	170.91	11.89	NA	159.02	NA	NA	NA
MW-2 (D)	07/07/1994	53,000	13,000	6,600	2,000	8,400	NA	NA	170.91	11.89	NA	159.02	NA	NA	NA

WELL CONCENTRATIONS
Shell-branded Service Station
4255 MacArthur Boulevard
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.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)	ORP Reading (mV)
MW-2	10/27/1994	130,000	14,000	12,000	2,400	13,000	NA	NA	170.91	12.89	NA	158.02	NA	NA	NA
MW-2 (D)	10/27/1994	390,000	8,800	7,000	1,700	11,000	NA	NA	170.91	12.89	NA	158.02	NA	NA	NA
MW-2	11/17/1994	NA	NA	NA	NA	NA	NA	NA	170.91	9.11	NA	161.80	NA	NA	NA
MW-2	11/28/1994	NA	NA	NA	NA	NA	NA	NA	170.91	9.22	NA	161.69	NA	NA	NA
MW-2	01/13/1995	75,000	5,900	12,000	3,100	17,000	NA	NA	170.91	8.10	NA	162.81	NA	NA	NA
MW-2	04/12/1995	100,000	8,500	11,000	2,400	12,000	NA	NA	170.91	10.12	NA	160.79	NA	NA	NA
MW-2 (D)	04/12/1995	80,000	4,200	9,300	2,500	12,000	NA	NA	170.91	10.12	NA	160.79	NA	NA	NA
MW-2	07/25/1995	NA	NA	NA	NA	NA	NA	NA	170.91	11.53	NA	159.80	0.52	NA	NA
MW-2	10/18/1995	NA	NA	NA	NA	NA	NA	NA	170.91	14.02	NA	156.99	0.13	NA	NA
MW-2	01/17/1996	NA	NA	NA	NA	NA	NA	NA	170.91	10.27	NA	160.78	0.17	NA	NA
MW-2	04/25/1996	NA	NA	NA	NA	NA	NA	NA	170.91	11.68	NA	159.25	0.03	NA	NA
MW-2	07/17/1996	NA	NA	NA	NA	NA	NA	NA	170.91	12.78	NA	158.81	0.48	NA	NA
MW-2	10/01/1996	NA	NA	NA	NA	NA	NA	NA	170.91	14.21	NA	156.70	0.28	NA	NA
MW-2	01/22/1997	NA	NA	NA	NA	NA	NA	NA	170.91	10.92	NA	160.08	0.11	NA	NA
MW-2	04/08/1997	NA	NA	NA	NA	NA	NA	NA	170.91	14.12	NA	156.95	0.20	NA	NA
MW-2	07/08/1997	NA	NA	NA	NA	NA	NA	NA	170.91	14.98	NA	156.08	0.19	NA	NA
MW-2	10/08/1997	NA	NA	NA	NA	NA	NA	NA	170.91	12.97	NA	157.98	0.05	NA	NA
MW-2	01/08/1998	NA	NA	NA	NA	NA	NA	NA	170.91	12.54	NA	158.43	0.08	NA	NA
MW-2	04/13/1998	180,000	2,800	5,200	2,400	13,000	71,000	NA	170.91	10.05	NA	160.86	NA	NA	NA
MW-2	07/17/1998	NA	NA	NA	NA	NA	NA	NA	170.91	11.75	NA	159.24	0.10	NA	NA
MW-2	10/02/1998	NA	NA	NA	NA	NA	NA	NA	170.91	16.78	NA	154.22	0.11	NA	NA
MW-2	02/03/1999	NA	NA	NA	NA	NA	NA	NA	170.91	9.90	9.82	161.07	0.08	NA	NA
MW-2	04/29/1999	NA	NA	NA	NA	NA	NA	NA	170.91	9.86	9.81	161.09	0.05	NA	NA
MW-2	07/23/1999	65,800	6,500	4,480	1,960	8,960	46,600	58,500*	170.91	14.45	NA	156.46	NA	1.4	NA
MW-2	11/01/1999	NA	NA	NA	NA	NA	NA	NA	170.91	11.84	11.81	159.09	0.03	NA	NA
MW-2	01/17/2000	46,000	6,000	2,400	1,500	5,500	50,000	31,000	170.91	11.00	NA	159.91	NA	1.3	-54
MW-2	04/17/2000	96,300	8,150	10,200	2,820	14,900	112,000	108,000	170.91	11.06	NA	159.85	NA	2.6	125

WELL CONCENTRATIONS
Shell-branded Service Station
4255 MacArthur Boulevard
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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.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)	ORP Reading (mV)
MW-2	07/26/2000	72,400	8,680	5,620	2,810	13,400	66,200	46,300	170.91	12.82	NA	158.09	NA	2.2	113
MW-2	10/12/2000	63,200	5,840	4,180	2,310	11,100	61,200	66,600	170.91	11.32	NA	159.59	NA	0.4	55
MW-2	01/15/2001	59,700	2,630	4,800	2,050	11,500	44,400	5,080	170.91	10.19	NA	160.72	NA	1.1	-22
MW-2	04/09/2001	56,900	1,860	2,550	1,810	9,720	40,000	46,600	170.91	11.15	NA	159.76	NA	1.0	-55
MW-2	07/24/2001	84,000	3,000	4,600	2,500	13,000	NA	41,000	170.91	11.67	NA	159.24	NA	0.2	53
MW-2	10/31/2001	45,000	2,200	3,000	1,500	7,700	NA	29,000	170.91	11.04	NA	159.87	NA	1.2	-17
MW-2	01/10/2002	28,000	840	740	760	3,300	NA	32,000	170.91	9.58	NA	161.33	NA	2.1	-76
MW-2	04/25/2002	41,000	1,900	2,000	1,200	6,900	NA	17,000	170.91	11.40	NA	159.51	NA	0.8	-95
MW-2	07/18/2002	87,000	2,000	2,200	1,400	10,000	NA	19,000	170.91	12.68	NA	158.23	NA	0.7	-34
MW-2	10/07/2002	110,000	3,900	6,700	2,700	15,000	NA	20,000	170.88	11.58	NA	159.30	NA	1.4	-52
MW-2	01/06/2003	65,000	2,400	3,500	1,400	8,600	NA	26,000	170.88	9.09	NA	161.79	NA	0.4	40
MW-2	04/07/2003	57,000	1,900	2,500	1,700	8,600	NA	37,000	170.88	11.08	NA	159.80	NA	1.0	60
MW-2	07/07/2003	34,000	4,000	4,200	1,600	8,500	NA	51,000	170.88	11.27	NA	159.61	NA	1.3	-17
MW-2	**10/09/2003**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**170.88**	**11.64**	**11.61**	**159.26**	**0.03**	**NA**	**NA**
MW-2	**10/20/2003**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**170.88**	**11.88**	**11.84**	**159.03**	**0.04**	**NA**	**NA**
MW-3	11/17/1993	18,000	5,400	660	720	2,200	NA	NA	174.61	15.40	NA	159.21	NA	NA	NA
MW-3	01/20/1994	55,000	13,000	2,600	2,200	6,500	NA	NA	174.61	14.61	NA	160.00	NA	NA	NA
MW-3	04/25/1994	96,000	11,000	1,600	3,100	9,900	NA	NA	174.61	13.12	NA	161.49	NA	NA	NA
MW-3 (D)	04/25/1994	78,000	12,000	1,900	2,600	7,300	NA	NA	174.61	13.12	NA	161.49	NA	NA	NA
MW-3	07/07/1994	NA	NA	NA	NA	NA	NA	NA	174.61	14.54	NA	160.07	0.02	NA	NA
MW-3	10/27/1994	NA	NA	NA	NA	NA	NA	NA	174.61	15.62	NA	159.03	0.05	NA	NA
MW-3	11/17/1994	NA	NA	NA	NA	NA	NA	NA	174.61	13.83	NA	160.78	NA	NA	NA
MW-3	11/28/1994	NA	NA	NA	NA	NA	NA	NA	174.61	14.02	NA	160.59	NA	NA	NA
MW-3	01/13/1995	180,000	3,200	2,700	1,700	5,200	NA	NA	174.61	12.13	NA	162.48	NA	NA	NA
MW-3 (D)	01/13/1995	23,000	4,000	690	960	3,000	NA	NA	174.61	12.13	NA	162.48	NA	NA	NA
MW-3	04/12/1995	56,000	8,700	1,500	2,100	6,300	NA	NA	174.61	12.96	NA	161.65	NA	NA	NA

WELL CONCENTRATIONS
Shell-branded Service Station
4255 MacArthur Boulevard
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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)	Depth to SPH (ft)	GW Elevation (MSL)	SPH Thickness (ft)	DO Reading (ppm)	ORP Reading (mV)
MW-3	07/25/1995	NA	NA	NA	NA	NA	NA	NA	174.61	14.28	NA	160.38	0.06	NA	NA
MW-3	10/18/1995	NA	NA	NA	NA	NA	NA	NA	174.61	15.88	NA	158.77	0.05	NA	NA
MW-3	01/17/1996	NA	NA	NA	NA	NA	NA	NA	174.61	13.86	NA	160.94	0.24	NA	NA
MW-3	04/25/1996	NA	NA	NA	NA	NA	NA	NA	174.61	13.82	NA	160.81	0.02	NA	NA
MW-3	07/17/1996	NA	NA	NA	NA	NA	NA	NA	174.61	16.11	NA	158.52	0.03	NA	NA
MW-3	10/01/1996	46,000	7,300	530	1,700	3,900	3,200	NA	174.61	16.56	NA	158.05	NA	NA	NA
MW-3 (D)	10/01/1996	47,000	7,100	530	1,700	4,000	2,900	NA	174.61	16.56	NA	158.05	NA	NA	NA
MW-3	01/22/1997	82,000	5,200	1,300	2,800	8,900	1,100	NA	174.61	13.07	NA	161.54	NA	NA	NA
MW-3 (D)	01/22/1997	61,000	8,400	1,100	2,300	7,000	2,700	NA	174.61	13.07	NA	161.54	NA	NA	NA
MW-3	04/08/1997	NA	NA	NA	NA	NA	NA	NA	174.61	17.09	NA	157.54	0.03	NA	NA
MW-3	07/08/1997	56,000	8,800	580	2,000	4,900	2,800	NA	174.61	15.85	NA	158.76	NA	NA	NA
MW-3	10/08/1997	48,000	8,000	590	1,700	3,400	5,100	NA	174.61	16.22	NA	158.39	NA	NA	NA
MW-3	01/08/1998	47,000	9,400	810	2,300	4,700	6,300	NA	174.61	13.80	NA	160.81	NA	NA	NA
MW-3 (D)	01/08/1998	48,000	8,100	750	2,000	4,100	5,800	NA	174.61	13.80	NA	160.81	NA	NA	NA
MW-3	04/13/1998	32,000	6,800	540	1,400	3,400	4,000	NA	174.61	12.97	NA	161.64	NA	NA	NA
MW-3 (D)	04/13/1998	36,000	7,300	660	1,600	3,700	4,000	NA	174.61	12.97	NA	161.64	NA	NA	NA
MW-3	07/17/1998	71,000	11,000	590	2,200	6,900	3,900	NA	174.61	11.51	NA	163.10	NA	NA	NA
MW-3 (D)	07/17/1998	76,000	12,000	700	2,600	8,000	3,000	NA	174.61	11.51	NA	163.10	NA	NA	NA
MW-3	10/02/1998	66,000	8,900	510	2,000	4,900	4,600	NA	174.61	16.50	NA	158.11	NA	NA	NA
MW-3 (D)	10/02/1998	59,000	9,400	460	2,000	4,900	4,700	NA	174.61	16.50	NA	158.11	NA	NA	NA
MW-3	02/03/1999	36,000	6,800	300	1,600	2,900	18,000	NA	174.61	15.21	NA	159.40	NA	1.3	NA
MW-3	04/29/1999	45,000	8,100	580	2,200	5,800	4,700	5,150	174.61	15.43	NA	159.18	NA	1.5	-68
MW-3	07/23/1999	29,400	3,540	215	810	3,800	4,720	6,950*	174.61	14.95	NA	159.66	NA	1.3	NA
MW-3	11/01/1999	20,000	4,190	294	1,060	1,740	5,540	8,590	174.61	14.66	NA	159.95	NA	0.6	-110
MW-3	01/17/2000	17,000	3,900	89	1,100	1,200	7,900	NA	174.61	13.94	NA	160.67	NA	1.3	-40
MW-3	04/17/2000	28,100	5,240	247	1,540	2,750	16,600	NA	174.61	14.00	NA	160.61	NA	1.1	-86
MW-3	07/26/2000	24,300	6,680	159	1,610	1,640	17,100	NA	174.61	13.72	NA	160.89	NA	0.9	-70

WELL CONCENTRATIONS
Shell-branded Service Station
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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.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)	ORP Reading (mV)
MW-3	10/12/2000	14,300	2,630	86.7	241	1,360	16,300	NA	174.61	14.15	NA	160.46	NA	0.9	50
MW-3	01/15/2001	22,100	4,400	266	977	2,990	13,200	NA	174.61	13.05	NA	161.56	NA	1.3	-40
MW-3	04/09/2001	33,800	7,100	147	1,700	2,660	13,000	NA	174.61	13.59	NA	161.02	NA	0.6	-56
MW-3	07/24/2001	220,000	5,600	1,900	4,400	19,000	NA	12,000	174.61	14.43	NA	160.18	NA	0.4	29
MW-3	10/31/2001	65,000	2,700	510	1,800	7,200	NA	9,800	174.61	14.59	NA	160.02	NA	0.9	-27
MW-3	01/10/2002	66,000	2,400	490	1,700	6,600	NA	5,500	174.61	12.65	NA	161.96	NA	1.7	-76
MW-3	04/25/2002	55,000	4,600	460	2,400	6,900	NA	8,100	174.61	14.13	NA	160.48	NA	1.2	-96
MW-3	07/18/2002	56,000	3,300	270	1,700	5,000	NA	8,400	174.61	15.48	15.45	159.15	0.03	0.8	-41
MW-3	10/07/2002	NA	NA	NA	NA	NA	NA	NA	174.59	14.60	14.40	160.15	0.20	NA	NA
MW-3	01/06/2003	57,000	3,200	330	1,800	5,400	NA	5,100	174.59	11.62	11.60	162.99	0.02	0.4	33
MW-3	04/07/2003	57,000	6,200	500	2,400	6,700	NA	8,200	174.59	13.80	NA	160.79	NA	0.5	61
MW-3	07/07/2003	28,000	4,900	300	1,500	4,100	NA	7,900	174.59	14.00	NA	160.59	NA	1.0	-11
MW-3	**10/09/2003**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**174.59**	**14.44**	**14.36**	**160.21**	**0.08**	**NA**	**NA**
MW-3	**10/20/2003**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**174.59**	**14.68**	**14.61**	**159.97**	**0.07**	**NA**	**NA**
MW-4	11/17/1994	NA	NA	NA	NA	NA	NA	NA	164.06	6.62	NA	157.44	NA	NA	NA
MW-4	11/28/1994	2,900	200	17	76	260	NA	NA	164.06	6.11	NA	157.95	NA	NA	NA
MW-4	01/13/1995	1,900	130	5.6	13	40	NA	NA	164.06	6.05	NA	158.01	NA	NA	NA
MW-4	04/12/1995	680	150	<2.0	10	13	NA	NA	164.06	6.31	NA	157.75	NA	NA	NA
MW-4	07/25/1995	340	100	0.8	8.8	3	NA	NA	164.06	7.36	NA	156.70	NA	NA	NA
MW-4	10/18/1995	150	31	<0.5	3.5	0.8	NA	NA	164.06	8.54	NA	155.52	NA	NA	NA
MW-4	01/17/1996	290	14	<0.5	1.8	0.8	NA	NA	164.06	8.48	NA	155.58	NA	NA	NA
MW-4	04/25/1996	<500	65	<5	<5	<5	1,700	NA	164.06	7.40	NA	156.66	NA	NA	NA
MW-4 (D)	04/25/1996	<500	66	<5	8.7	<5	1,500	NA	164.06	7.40	NA	156.66	NA	NA	NA
MW-4	07/17/1996	<500	84	<5.0	6.5	<5.0	1,500	NA	164.06	7.75	NA	156.31	NA	NA	NA
MW-4 (D)	07/17/1996	<500	54	<5.0	<5.0	<5.0	1,700	2,100	164.06	7.75	NA	156.31	NA	NA	NA
MW-4	10/01/1996	<500	1.9	<5.0	<5.0	<5.0	3,000	NA	164.06	8.82	NA	155.24	NA	NA	NA

WELL CONCENTRATIONS
Shell-branded Service Station
4255 MacArthur Boulevard
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.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)	ORP Reading (mV)
MW-4	01/22/1997	580	130	<2.5	18	5.2	1,200	NA	164.06	7.51	NA	156.55	NA	NA	NA
MW-4	04/08/1997	770	200	7	26	55	1,500	8	164.06	7.18	NA	156.88	NA	NA	NA
MW-4	07/08/1997	570	78	<5.0	14	11	1,200	NA	164.06	9.00	NA	155.06	NA	NA	NA
MW-4 (D)	07/08/1997	640	81	<5.0	16	19	1,600	NA	164.06	9.00	NA	155.06	NA	NA	NA
MW-4	10/08/1997	<500	40	<5.0	7.4	5.4	1,400	NA	164.06	8.97	NA	155.09	NA	NA	NA
MW-4 (D)	10/08/1997	<500	36	<5.0	5.9	<5.0	1,400	NA	164.06	8.97	NA	155.09	NA	NA	NA
MW-4	01/08/1998	<1,000	55	<10	13	<10	2,000	NA	164.06	7.90	NA	156.16	NA	NA	NA
MW-4	04/13/1998	350	110	2.4	20	26	<2.5	NA	164.06	7.35	NA	156.71	NA	NA	NA
MW-4	07/17/1998	210	66	0.78	5.4	9.8	1,700	NA	164.06	6.95	NA	157.11	NA	NA	NA
MW-4	10/02/1998	<50	0.69	<0.50	<0.50	<0.50	2,900	NA	164.06	7.35	NA	156.71	NA	NA	NA
MW-4	02/03/1999	560	120	2.5	29	34	6,800	NA	164.06	7.71	NA	156.35	NA	0.9	NA
MW-4	04/29/1999	390	80	1.9	13	19	7,000	8,360	164.06	7.83	NA	156.23	NA	1.1	-125
MW-4	07/23/1999	460	93.6	8.40	25.2	28.8	3,760	6,000*	164.06	11.33	NA	152.73	NA	0.9	NA
MW-4	11/01/1999	77.3	0.520	<0.500	<0.500	<0.500	539	NA	164.06	10.66	NA	153.40	NA	2.8	3
MW-4	01/17/2000	160	27	<0.50	12	6.3	12,000	NA	164.06	10.15	NA	153.91	NA	3.9	-17
MW-4	04/17/2000	<500	26	6.38	9.35	10.4	9,070	NA	164.06	10.10	NA	153.96	NA	1.7	-129
MW-4	07/26/2000	<500	22.7	<5.00	7.59	6.96	7,660	NA	164.06	10.09	NA	153.97	NA	1.4	-137
MW-4	10/12/2000	172	19.8	<0.500	7.47	4.50	8,290	NA	164.06	9.35	NA	154.71	NA	3.5	529
MW-4	01/15/2001	53.6	1.50	<0.500	2.45	1.80	9,260	NA	164.06	8.77	NA	155.29	NA	2.3	53
MW-4	04/09/2001	<500	<5.00	<5.00	<5.00	5.52	10,300	NA	164.06	7.75	NA	156.31	NA	1.0	-133
MW-4	07/24/2001	58	3.8	<0.50	3.2	2.9	NA	1,700	164.06	10.07	NA	153.99	NA	0.5	106
MW-4	10/31/2001	<1,000	<10	<10	<10	<10	NA	7,400	164.06	9.97	NA	154.09	NA	0.8	22
MW-4	01/10/2002	<2,000	<20	<20	<20	<20	NA	12,000	164.06	8.53	NA	155.53	NA	8.9	224
MW-4	04/25/2002	<2,000	<20	<20	<20	<20	NA	7,900	164.06	7.33	NA	156.73	NA	3.6	-84
MW-4	07/18/2002	<2,000	<20	<20	<20	<20	NA	7,200	164.06	9.05	NA	155.01	NA	1.7	120
MW-4	10/07/2002	<1,000	<10	<10	<10	<10	NA	3,300	164.03	9.06	NA	154.97	NA	2.5	33
MW-4	01/06/2003	<500	21	<5.0	<5.0	<5.0	NA	2,500	164.03	7.09	NA	156.94	NA	0.5	55

WELL CONCENTRATIONS
Shell-branded Service Station
4255 MacArthur Boulevard
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.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)	ORP Reading (mV)
MW-4	04/07/2003	<2,500	<25	<25	<25	<50	NA	1,700	164.03	8.26	NA	155.77	NA	1.2	69
MW-4	07/07/2003	<2,500	<25	<25	<25	<50	NA	860	164.03	8.92	NA	155.11	NA	0.5	-3
MW-4	**10/09/2003**	**<500**	**<5.0**	**<5.0**	**<5.0**	**<10**	**NA**	**420**	**164.03**	**8.91**	**NA**	**155.12**	**NA**	**0.7**	**171**
MW-5	01/04/2002	NA	NA	NA	NA	NA	NA	NA	NA	5.62	NA	NA	NA	NA	NA
MW-5	01/10/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	110	164.06	5.88	NA	158.18	NA	3.3	172
MW-5	04/25/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	73	164.06	6.81	NA	157.25	NA	0.3	-44
MW-5	07/18/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	75	164.06	7.38	NA	156.68	NA	0.4	170
MW-5	10/07/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	41	164.14	6.75	NA	157.39	NA	1.5	16
MW-5	01/06/2003	<50	<0.50	<0.50	<0.50	<0.50	NA	81	164.14	5.96	NA	158.18	NA	0.6	166
MW-5	04/07/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	77	164.14	6.51	NA	157.63	NA	0.8	174
MW-5	07/07/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	32	164.14	6.44	NA	157.70	NA	0.3	-17
MW-5	**10/09/2003**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**NA**	**59**	**164.14**	**7.05**	**NA**	**157.09**	**NA**	**0.9**	**17**
TB-1	04/29/1999	NA	NA	NA	NA	NA	NA	NA	NA	6.00	NA	NA	NA	3.8	-132
TB-1	11/01/1999	NA	NA	NA	NA	NA	NA	NA	NA	12.65	NA	NA	NA	0.2	-165
TB-1	01/17/2000	NA	NA	NA	NA	NA	NA	NA	NA	7.72	NA	NA	NA	0.8	-178
TB-1	04/17/2000	NA	NA	NA	NA	NA	NA	NA	NA	7.65	NA	NA	NA	0.5	-152
TB-1	07/26/2000	NA	NA	NA	NA	NA	NA	NA	NA	5.13	NA	NA	NA	1.0	-124
TB-1	10/12/2000	NA	NA	NA	NA	NA	NA	NA	NA	5.20	NA	NA	NA	0.7	-73
TB-1	01/15/2001	NA	NA	NA	NA	NA	NA	NA	NA	5.09	NA	NA	NA	1.2	-118
TB-1	04/09/2001	NA	NA	NA	NA	NA	NA	NA	NA	4.96	NA	NA	NA	1.0	-72
TB-1	07/24/2001	NA	NA	NA	NA	NA	NA	NA	NA	6.03	NA	NA	NA	1.4	31
TB-1	10/31/2001	1,000	85	<10	<10	42	NA	4,100	NA	5.89	NA	NA	NA	1.8	88
TB-1	01/10/2002	5,000	410	390	65	620	NA	9,000	NA	7.47	NA	NA	NA	2.0	95
TB-1	04/25/2002	5,000	780	60	49	91	NA	6,000	NA	11.71	NA	NA	NA	1.7	-136
TB-1	07/18/2002	Insufficient water		NA	NA	NA	NA	NA	NA	13.50	NA	NA	NA	NA	NA

WELL CONCENTRATIONS
Shell-branded Service Station
4255 MacArthur Boulevard
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)	Depth to SPH (ft)	GW Elevation (MSL)	SPH Thickness (ft)	DO Reading (ppm)	ORP Reading (mV)
TB-1	10/07/2002	4,600	480	36	98	200	NA	4,000	NA	12.95	NA	NA	NA	1.6	-48
TB-1	01/06/2003	130	30	<0.50	<0.50	0.78	NA	330	NA	5.56	NA	NA	NA	0.4	-20
TB-2	04/29/1999	NA	NA	NA	NA	NA	NA	NA	NA	4.76	NA	NA	NA	4.2	-108
TB-2	11/01/1999	NA	NA	NA	NA	NA	NA	NA	NA	11.33	NA	NA	NA	0.5	-148
TB-2	01/17/2000	NA	NA	NA	NA	NA	NA	NA	NA	9.79	NA	NA	NA	0.7	-162
TB-2	04/17/2000	NA	NA	NA	NA	NA	NA	NA	NA	9.75	NA	NA	NA	0.9	-121
TB-2	07/26/2000	NA	NA	NA	NA	NA	NA	NA	NA	4.73	NA	NA	NA	0.9	-85
TB-2	10/12/2000	NA	NA	NA	NA	NA	NA	NA	NA	4.05	NA	NA	NA	0.6	-47
TB-2	01/15/2001	NA	NA	NA	NA	NA	NA	NA	NA	3.87	NA	NA	NA	0.7	-91
TB-2	04/09/2001	46,600	1,240	1,310	1,110	12,100	31,300	NA	NA	3.76	NA	NA	NA	0.8	-24
TB-2	07/24/2001	11,000	630	<25	310	200	NA	11,000	NA	4.75	NA	NA	NA	0.4	-51
TB-2	10/31/2001	7,500	530	1,500	100	500	NA	2,500	NA	4.24	NA	NA	NA	0.6	-7
TB-2	01/10/2002	<5,000	480	47	34	110	NA	12,000	NA	6.26	NA	NA	NA	1.3	-81
TB-2	04/25/2002	4,700	470	140	<20	80	NA	7,400	NA	11.78	NA	NA	NA	0.9	-107
TB-2	07/18/2002	7,500	630	650	<25	390	NA	44,000	NA	12.34	NA	NA	NA	0.9	-67
TB-2	10/07/2002	<10,000	580	<100	<100	180	NA	30,000	NA	11.62	NA	NA	NA	1.0	-41
TB-2	01/06/2003	120	4.8	<0.50	<0.50	2.0	NA	220	NA	4.35	NA	NA	NA	0.5	-515

WELL CONCENTRATIONS
Shell-branded Service Station
4255 MacArthur Boulevard
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.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)	ORP Reading (mV)

Abbreviations:
TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B; prior to July 24, 2001, analyzed by EPA Method 8015.
BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B; prior to July 24, 2001, analyzed by EPA Method 8020.
MTBE = Methyl-tertiary-butyl ether
TOC = Top of Casing Elevation
SPH = Separate-Phase Hydrocarbons
GW = Groundwater
ug/L = Parts per billion
MSL = Mean sea level
ft = Feet
<n = Below detection limit
D = Duplicate sample
NA = Not applicable
DO = Dissolved Oxygens
ppm = Parts per million
ORP = Oxidation Reduction Potential
mV = Millivolts

Notes:
* = Sample analyzed outside the EPA recommended holding time.
a = Ground water surface had a sheen when sampled.
b = MTBE value is estimated by Sequoia Analytical of Redwood City, California.
Site surveyed March 14, 2002, 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#: 2003-10-0459

Blaine Tech Services, Inc.

October 26, 2003

1680 Rogers Avenue
San Jose, CA 95112-1105

Attn.: Leon Gearhart

Project#: 031009-DA-1
Project: 98995758
Site: 4255 MacArthur Boulevard, Oakland

Dear Mr.Gearhart,

Attached is our report for your samples received on 10/10/2003 15:35
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 11/24/2003 unless you have requested otherwise.
We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.
You can also contact me via email. My email address is: vvancil@stl-inc.com

Sincerely,

Vincent Vancil
Project Manager

SEVERN TRENT STL

Submission #: 2003-10-0459

Gas/BTEX Fuel Oxygenates 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: 031009-DA-1
98995758

Received: 10/10/2003 15:35

Site: 4255 MacArthur Boulevard, Oakland

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-1	10/09/2003 10:07	Water	1
MW-4	10/09/2003 09:30	Water	2
MW-5	10/09/2003 09:30	Water	3

Gas/BTEX Fuel Oxygenates 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: 031009-DA-1
98995758

Received: 10/10/2003 15:35

Site: 4255 MacArthur Boulevard, Oakland

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	MW-1	Lab ID:	2003-10-0459 - 1
Sampled:	10/09/2003 10:07	Extracted:	10/22/2003 16:04
Matrix:	Water	QC Batch#:	2003/10/22-01.62

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	10/22/2003 16:04	
Benzene	1.9	0.50	ug/L	1.00	10/22/2003 16:04	
Toluene	ND	0.50	ug/L	1.00	10/22/2003 16:04	
Ethylbenzene	ND	0.50	ug/L	1.00	10/22/2003 16:04	
Total xylenes	ND	1.0	ug/L	1.00	10/22/2003 16:04	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	1.00	10/22/2003 16:04	
Methyl tert-butyl ether (MTBE)	22	0.50	ug/L	1.00	10/22/2003 16:04	
Surrogate(s)						
1,2-Dichloroethane-d4	106.5	76-130	%	1.00	10/22/2003 16:04	
Toluene-d8	108.2	78-115	%	1.00	10/22/2003 16:04	

Gas/BTEX Fuel Oxygenates 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: 031009-DA-1
98995758

Received: 10/10/2003 15:35

Site: 4255 MacArthur Boulevard, Oakland

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	MW-4	Lab ID:	2003-10-0459 - 2
Sampled:	10/09/2003 09:30	Extracted:	10/23/2003 15:33
Matrix:	Water	QC Batch#:	2003/10/23-1B.62

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	500	ug/L	10.00	10/23/2003 15:33	
Benzene	ND	5.0	ug/L	10.00	10/23/2003 15:33	
Toluene	ND	5.0	ug/L	10.00	10/23/2003 15:33	
Ethylbenzene	ND	5.0	ug/L	10.00	10/23/2003 15:33	
Total xylenes	ND	10	ug/L	10.00	10/23/2003 15:33	
tert-Butyl alcohol (TBA)	6700	50	ug/L	10.00	10/23/2003 15:33	
Methyl tert-butyl ether (MTBE)	420	5.0	ug/L	10.00	10/23/2003 15:33	
Surrogate(s)						
1,2-Dichloroethane-d4	105.6	76-130	%	10.00	10/23/2003 15:33	
Toluene-d8	111.3	78-115	%	10.00	10/23/2003 15:33	

Gas/BTEX Fuel Oxygenates 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: 031009-DA-1
98995758

Received: 10/10/2003 15:35

Site: 4255 MacArthur Boulevard, Oakland

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	MW-5	Lab ID:	2003-10-0459 - 3
Sampled:	10/09/2003 09:30	Extracted:	10/22/2003 19:09
Matrix:	Water	QC Batch#:	2003/10/22-01.62

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	10/22/2003 19:09	
Benzene	ND	0.50	ug/L	1.00	10/22/2003 19:09	
Toluene	ND	0.50	ug/L	1.00	10/22/2003 19:09	
Ethylbenzene	ND	0.50	ug/L	1.00	10/22/2003 19:09	
Total xylenes	ND	1.0	ug/L	1.00	10/22/2003 19:09	
tert-Butyl alcohol (TBA)	40	5.0	ug/L	1.00	10/22/2003 19:09	
Methyl tert-butyl ether (MTBE)	59	0.50	ug/L	1.00	10/22/2003 19:09	
Surrogate(s)						
1,2-Dichloroethane-d4	112.1	76-130	%	1.00	10/22/2003 19:09	
Toluene-d8	106.2	78-115	%	1.00	10/22/2003 19:09	

Gas/BTEX Fuel Oxygenates 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: 031009-DA-1
98995758

Received: 10/10/2003 15:35

Site: 4255 MacArthur Boulevard, Oakland

Batch QC Report

Prep(s): 5030B — Test(s): 8260FAB

Method Blank — **Water** — **QC Batch # 2003/10/22-01.62**

MB: 2003/10/22-01.62-009 — Date Extracted: 10/22/2003 11:09

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	10/22/2003 11:09	
Benzene	ND	0.5	ug/L	10/22/2003 11:09	
Toluene	ND	0.5	ug/L	10/22/2003 11:09	
Ethylbenzene	ND	0.5	ug/L	10/22/2003 11:09	
Total xylenes	ND	1.0	ug/L	10/22/2003 11:09	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	10/22/2003 11:09	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	10/22/2003 11:09	
Surrogates(s)					
1,2-Dichloroethane-d4	114.0	76-130	%	10/22/2003 11:09	
Toluene-d8	109.7	78-115	%	10/22/2003 11:09	

Gas/BTEX Fuel Oxygenates 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: 031009-DA-1
98995758

Received: 10/10/2003 15:35

Site: 4255 MacArthur Boulevard, Oakland

Batch QC Report

Prep(s): 5030B — Test(s): 8260FAB

Method Blank — **Water** — **QC Batch # 2003/10/23-1B.62**

MB: 2003/10/23-1B.62-000 — Date Extracted: 10/23/2003 10:00

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	10/23/2003 10:00	
Benzene	ND	0.5	ug/L	10/23/2003 10:00	
Toluene	ND	0.5	ug/L	10/23/2003 10:00	
Ethylbenzene	ND	0.5	ug/L	10/23/2003 10:00	
Total xylenes	ND	1.0	ug/L	10/23/2003 10:00	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	10/23/2003 10:00	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	10/23/2003 10:00	
Surrogates(s)					
1,2-Dichloroethane-d4	102.2	76-130	%	10/23/2003 10:00	
Toluene-d8	101.1	78-115	%	10/23/2003 10:00	

Gas/BTEX Fuel Oxygenates 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: 031009-DA-1
98995758

Received: 10/10/2003 15:35

Site: 4255 MacArthur Boulevard, Oakland

Batch QC Report

Prep(s): 5030B — Test(s): 8260FAB

Laboratory Control Spike — **Water** — **QC Batch # 2003/10/22-01.62**

LCS 2003/10/22-01.62-053 — Extracted: 10/22/2003 — Analyzed: 10/22/2003 11:53

LCSD 2003/10/22-01.62-047 — Extracted: 10/22/2003 — Analyzed: 10/22/2003 10:47

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	20.4	21.8	25.0	81.6	87.2	6.6	69-129	20		
Toluene	21.7	22.9	25.0	86.8	91.6	5.4	70-130	20		
Methyl tert-butyl ether (MTBE)	21.6	25.5	25.0	86.4	102.0	16.6	65-165	20		
Surrogates(s)										
1,2-Dichloroethane-d4	522	566	500	104.4	113.2		76-130			
Toluene-d8	527	562	500	105.4	112.4		78-115			

Gas/BTEX Fuel Oxygenates 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: 031009-DA-1
98995758

Received: 10/10/2003 15:35

Site: 4255 MacArthur Boulevard, Oakland

Batch QC Report

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

Laboratory Control Spike **Water** **QC Batch # 2003/10/23-1B.62**

LCS 2003/10/23-1B.62-015 Extracted: 10/23/2003 Analyzed: 10/23/2003 09:15

LCSD 2003/10/23-1B.62-038 Extracted: 10/23/2003 Analyzed: 10/23/2003 09:38

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	21.7	19.6	25	86.8	78.4	10.2	69-129	20		
Toluene	23.8	23.7	25	95.2	94.8	0.4	70-130	20		
Methyl tert-butyl ether (MTBE)	23.4	23.3	25	93.6	93.2	0.4	65-165	20		
Surrogates(s)										
1,2-Dichloroethane-d4	533	509	500	106.6	101.8		76-130			
Toluene-d8	566	553	500	113.2	110.6		78-115			

LAB: STL

Lab Identification (if necessary):

Address:

City, State, Zip:

SHELL Chain Of Custody Record

78349

Shell Project Manager to be invoiced:

☑ SCIENCE & ENGINEERING
☐ TECHNICAL SERVICES
☐ CRMT HOUSTON

Karen Petryna

2003-10-0459

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

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

DATE: 10/9/03

PAGE: 1 of 1

SAMPLING COMPANY: Blaine Tech Services	LOG CODE: BTSS	SITE ADDRESS (Street and City): 4255 MacArthur Boulevard, Oakland	GLOBAL ID NO.: T0600101261
ADDRESS: 1680 Rogers Avenue, San Jose, CA 95112		EDF DELIVERABLE TO (Responsible Party or Designee): Anni Kreml; PHONE NO.: (510)420-3335	E-MAIL: ShellOaklandEDF@cambria-env.com; CONSULTANT PROJECT NO.: BTS# 031009-DA1
PROJECT CONTACT (Hardcopy or PDF Report to): Leon Gearhart		SAMPLER NAME(S) (Print): D. Allbut, P. Cornish	LAB USE ONLY
TELEPHONE: 408-573-0555	FAX: 408-573-7771	E-MAIL: lgearhart@blainetech.com	

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°: 2.5°C

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)	TBA-8260	TPH - Diesel, Extractable (8015m)		Total Alkalinity	Ferrous Iron	Nitrate as Nitrate	Sulfate		MTBE (8260B) Confirmation, See Note			FIELD NOTES
	MW-1	10/9/03	1007	W	3	X	X		X						X											
	MW-4	↓	0930	↓	3	X	X		X						X											
	MW-5	↓	0930	↓	3	X	X		X						X											

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
[signature]	[signature]	10/10/03	1535
[signature] 1705 10/10/03			
	[signature]	10/10/03	1705

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

10/16/00 Revision

WELL GAUGING DATA

Project # 071020-M01 Date 10/20/03 Client 98995758

Site 4255 MacArthur Blvd., Oakland

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	
MW-1	4		11.84	.04	≈ 100ml	11.88	19.71		
MW-3	4		14.61	.07	≈ 150ml	14.68	21.94		

SHELL WELL MONITORING DATA SHEET

BTS #: 031020-MD1	Site: 9899575 8
Sampler: John DeJong	Date: 10/20/03
Well I.D.: MW-2	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 19.71	Depth to Water (DTW): 11.58
Depth to Free Product: 11.54	Thickness of Free Product (feet): .04
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: Bailer, Disposable Bailer, Extraction Port, Dedicated Tubing, Other: ____

Bailed Free Product (Gals.) X ____ = ____ 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
	Bailed 4 liters of SPH					

Did well dewater? Yes No Gallons actually evacuated:

Sampling Date: Sampling Time: Depth to Water:

Sample I.D.: Laboratory: STL Other ____

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

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

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

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

SHELL WELL MONITORING DATA SHEET

BTS #: 031020-MO1	Site: 98995758
Sampler: John DeJong	Date: 10/20/03
Well I.D.: MW-3	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): ~~21~~ 21.74	Depth to Water (DTW): 14.68
Depth to Free Product: 14.61	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: Bailer / (Disposable Bailer) / Extraction Port / Dedicated Tubing / Other:

____ (Gals.) X ____ = ____ 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
	Bailed SPH - 2			150ml		

Did well dewater? Yes No		Gallons actually evacuated:	
Sampling Date:	Sampling Time:	Depth to Water:	
Sample I.D.:		Laboratory: STL Other	
Analyzed for: TPH-G BTEX MTBE TPH-D Other:			
EB I.D. (if applicable): @ Time		Duplicate I.D. (if applicable):	
Analyzed for: TPH-G BTEX MTBE TPH-D Other:			
D.O. (if req'd): Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd): Pre-purge:	mV	Post-purge:	mV

WELL GAUGING DATA

Project # 031009-DA1 Date 10/9/03 Client Equiva/Shell

Site 4255 MacArthur Blvd., Oakland

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	
MW-1	4					8.45	22.18	TOC	
MW-2	4		11.61	.03	~~0~~	11.64	19.71		
MW-3	4		14.36	.08	~~0~~	14.44	21.94		
MW-4	2					8.91	30.49		
MW-5	2					7.05	20.07	↓	
* Checked for SPH w/ interface probe. No SPH observed on site									

SHELL WELL MONITORING DATA SHEET

BTS #: 031009-NA1	Site: 4255 MacArthur Blvd., Oakland
Sampler: D. Allbut, P. Cornish	Date: 10/9/03
Well I.D.: MW-1	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 22.13	Depth to Water (DTW): 8.45
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 11.26	

Purge Method: Bailer, Disposable Bailer, Positive Air Displacement, (Electric Submersible), Waterra, Peristaltic, Extraction Pump, Other ___

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

1 Case Volume	Specified Volumes	Calculated Volume
8.9 (Gals.) X	3	= 26.7 Gals.

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
1003	70.5	7.0	1149	4.3	8.9	clear
~~1005~~			Dewatered at		10 gals	14.70 = PTW
~~1007~~						
1004	67.7	7.2	1193	5.7	-	

Did well dewater? (Yes) No — Gallons actually evacuated: 10 @ 14.70 Site

Sampling Date: 10/9/03 — Sampling Time: 1004 — Depth to Water: ~~14.70~~ Dry

Sample I.D.: MW-1 — Laboratory: (STL) Other ___

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

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

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

D.O. (if req'd):	Pre-purge:	0.7 mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	80 mV	Post-purge:	mV

SHELL WELL MONITORING DATA SHEET

BTS #: 031009-DM1	Site: 1255 MacArthur Blvd, Oakland
Sampler: D. Allbut, P. Cornish	Date: 10/9/03
Well I.D.: MW-2	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 19.71	Depth to Water (DTW): 11.64
Depth to Free Product: 11.61	Thickness of Free Product (feet): .03
Referenced to: (TOC) 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: Bailer, Disposable Bailer, Extraction Port, Dedicated Tubing, Other: ___

___ (Gals.) X ___ = ___ 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 detected w/ thickness 0.03 ft.					
	- No drum on site					
	- No bail - No sample					

Did well dewater? Yes No Gallons actually evacuated:

Sampling Date: Sampling Time: Depth to Water:

Sample I.D.: Laboratory: STL Other ___

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

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

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

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

SHELL WELL MONITORING DATA SHEET

BTS #: 031009-DM1	Site: 4255 MacArthur Blvd, Oakland
Sampler: D. Allbut, P. Cornish	Date: 10/9/03
Well I.D.: MW-3	Well Diameter: 2 3 4 6 8
Total Well Depth (TD): 21.94	Depth to Water (DTW): 14.44
Depth to Free Product: 14.36	Thickness of Free Product (feet): .08
Referenced to: TOC 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: Bailer, Disposable Bailer, Extraction Port, Dedicated Tubing, Other:

_____ (Gals.) X _____ = _____ 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 detected w/ thickness 0.08ft					
	- No drum on site					
	- No bail. No sample					

Did well dewater? Yes No Gallons actually evacuated:

Sampling Date: Sampling Time: Depth to Water:

Sample I.D.: Laboratory: STL Other

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

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

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

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

SHELL WELL MONITORING DATA SHEET

BTS #: 031009-DA1	Site: 4255 MacArthur Blvd., Oakland
Sampler: D. Allbut, P. Cornish	Date: 10/9/03
Well I.D.: MW-4	Well Diameter: (2) 3 4 6 8
Total Well Depth (TD): 30.49	Depth to Water (DTW): 8.91
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]: 13.23	

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

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

3.5 (Gals.) X 3 = 10.5 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
0917	67.4	6.7	1102	7200	3.5	tan, turbid
0921	67.2	6.6	1057	7200	7	"
0925	66.5	6.7	1101	7200	10.5	"

Did well dewater? Yes (No) Gallons actually evacuated: 10.5

Sampling Date: 10/9/03 Sampling Time: 0930 Depth to Water: 12.63

Sample I.D.: MW-4 Laboratory: STL Other

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

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

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

D.O. (if req'd):	Pre-purge:	0.7	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	171	mV	Post-purge:	mV

SHELL WELL MONITORING DATA SHEET

BTS #: 031009-MW1	Site: 4255 MacArthur Blvd, Oakland
Sampler: D. Aitkat, P. Cornish	Date: 10/9/03
Well I.D.: MW-5	Well Diameter: ② 3 4 6 8
Total Well Depth (TD): 20.07	Depth to Water (DTW): 7.65
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.65	

Purge Method: ~~Bailer~~ Waterra
~~Disposable Bailer~~ Peristaltic
Positive Air Displacement Extraction Pump
Electric Submersible Other:

Sampling Method: ~~Bailer~~
~~Disposable Bailer~~
Extraction Port
Dedicated Tubing
Other:

1.3 (Gals.) X 3 = 3.9 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
921	67.1	6.3	746	>200	1.3	Tan, cloudy
924	67.2	6.4	737	↓	2.6	"
927	66.9	6.5	729	↓	3.9	"

Did well dewater? Yes ~~No~~ Gallons actually evacuated: 3.9

Sampling Date: 10/9/03 Sampling Time: 930 Depth to Water: 9.60

Sample I.D.: MW-5 Laboratory: ~~STL~~ Other:

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

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

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

D.O. (if req'd):	Pre-purge:	0.9 mg/l	Post-purge:	mg/l
O.R.P. (if req'd):	Pre-purge:	17 mV	Post-purge:	mV

ATTACHMENT B

COP 76 Service Station #1156

Groundwater Monitoring Data and Analytical Results

Table 1

SUMMARY OF GROUNDWATER LEVELS AND CHEMICAL ANALYSIS RESULTS

October 9, 2003

76 Station 1156

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
MW-1		**(Screen Interval in feet: 5.0-25.0)**												
10/9/2003	177.54	7.85	0.00	169.69	--	91000	81000	8100	17000	3200	14000	--	660	Sampled for TPH-G by 8015M on 11/14/03.
MW-2		**(Screen Interval in feet: 5.0-25.0)**												
10/9/2003	173.50	7.16	0.00	166.34	--	3500	ND<5000	ND<50	ND<50	ND<50	ND<100	--	8500	Sampled for TPH-G by 8015M on 11/14/03.
MW-3		**(Screen Interval in feet: 5.0-25.0)**												
10/9/2003	178.13	9.39	0.00	168.74	--	3800	6000	120	260	390	1200	--	190	Sampled for TPH-G by 8015M on 11/14/03.
MW-4		**(Screen Interval in feet: 5.0-25.0)**												
10/9/2003	178.96	7.97	0.00	170.99	--	530	700	100	2.2	5.4	14	--	270	Sampled for TPH-G by 8015M on 11/14/03.
MW-5		**(Screen Interval in feet: DNA)**												
10/9/2003	169.18	2.72	0.00	166.46	--	560	210	ND<1.0	ND<1.0	ND<1.0	ND<2.0	--	290	Sampled for TPH-G by 8015M on 11/14/03.
MW-6		**(Screen Interval in feet: DNA)**												
10/9/2003	169.04	2.71	0.00	166.33	--	ND<50	ND<50	0.95	3.0	1.5	5.5	--	1.1	Sampled for TPH-G by 8015M on 11/14/03.
MW-7		**(Screen Interval in feet: DNA)**												
10/9/2003	171.64	7.72	0.00	163.92	--	6800	ND<13000	ND<130	ND<130	ND<130	ND<250	--	20000	Sampled for TPH-G by 8015M on 11/14/03.

Table 2

HISTORIC GROUNDWATER LEVELS AND CHEMICAL ANALYSIS RESULTS

October 9, 2003

76 Station 1156

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
MW-1	**(Screen Interval in feet: 5.0-25.0)**													
10/9/2003	177.54	7.85	0.00	169.69	--	91000	81000	8100	17000	3200	14000	--	660	Sampled for TPH-G by 8015M on 11/14/03.
MW-2	**(Screen Interval in feet: 5.0-25.0)**													
10/9/2003	173.50	7.16	0.00	166.34	--	3500	ND<5000	ND<50	ND<50	ND<50	ND<100	--	8500	Sampled for TPH-G by 8015M on 11/14/03.
MW-3	**(Screen Interval in feet: 5.0-25.0)**													
10/9/2003	178.13	9.39	0.00	168.74	--	3800	6000	120	260	390	1200	--	190	Sampled for TPH-G by 8015M on 11/14/03.
MW-4	**(Screen Interval in feet: 5.0-25.0)**													
10/9/2003	178.96	7.97	0.00	170.99	--	530	700	100	2.2	5.4	14	--	270	Sampled for TPH-G by 8015M on 11/14/03.
MW-5	**(Screen Interval in feet: DNA)**													
10/9/2003	169.18	2.72	0.00	166.46	--	560	210	ND<1.0	ND<1.0	ND<1.0	ND<2.0	--	290	Sampled for TPH-G by 8015M on 11/14/03.
MW-6	**(Screen Interval in feet: DNA)**													
10/9/2003	169.04	2.71	0.00	166.33	--	ND<50	ND<50	0.95	3.0	1.5	5.5	--	1.1	Sampled for TPH-G by 8015M on 11/14/03.
MW-7	**(Screen Interval in feet: DNA)**													
10/9/2003	171.64	7.72	0.00	163.92	--	6800	ND<13000	ND<130	ND<130	ND<130	ND<250	--	20000	Sampled for TPH-G by 8015M on 11/14/03.

Table 3
SUMMARY OF ADDITIONAL CHEMICAL ANALYSIS RESULTS
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Date Sampled	TPH-D	EDC	EDB	TAME 8260B	TBA 8260B	DIPE 8260B	ETBE 8260B	Ethanol 8260B
	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
MW-1								
10/9/2003	4300	ND<400	ND<400	ND<400	ND<20000	ND<400	ND<400	ND<100000
MW-2								
10/9/2003	--	ND<200	ND<200	ND<200	ND<10000	ND<200	ND<200	ND<50000
MW-3								
10/9/2003	--	ND<20	ND<20	ND<20	ND<1000	ND<20	ND<20	ND<5000
MW-4								
10/9/2003	--	ND<4.0	ND<4.0	ND<4.0	ND<200	ND<4.0	ND<4.0	ND<1000
MW-5								
10/9/2003	--	ND<4.0	ND<4.0	ND<4.0	ND<200	ND<4.0	ND<4.0	ND<1000
MW-6								
10/9/2003	--	ND<2.0	ND<2.0	ND<2.0	ND<100	ND<2.0	ND<2.0	ND<500
MW-7								
10/9/2003	--	ND<500	ND<500	ND<500	ND<25000	ND<500	ND<500	ND<130000