



Shell Oil Products US

Ro 487

January 8, 2004

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

Alameda County
JAN 13 2004
Environmental Health

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

Dear Mr. Chan:

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

C A M B R I A

January 8, 2004

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

Re: Fourth Quarter 2003 Monitoring Report
Shell-branded Service Station
105 Fifth Street
Oakland, California
Incident #98995757
Cambria Project #246-0472-002

Alameda County
JAN 13 2004
Environmental Health



Dear Mr. Chan:

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

HISTORICAL REMEDIATION SUMMARY

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


FOURTH QUARTER 2003 ACTIVITIES

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

**Cambria
Environmental
Technology, Inc.**

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



GWE: Beginning in November 2001, Phillips Services Corporation of Benicia, California has conducted semi-monthly mobile GWE events from tank backfill well T-1. Mobile GWE vacuum operations consist of lowering dedicated stingers into selected monitoring wells and extracting fluids using a vacuum truck. The volume of extracted fluid is recorded and used to calculate the quantity of aqueous-phase hydrocarbon removed from the subsurface. These events were temporarily discontinued in anticipation of installation of a fixed GWE system. These events were resumed in May 2003. In June 2003, well MW-3 was added to the extraction program, and in July 2003 well MW-2 was added. We obtained an encroachment permit from the City of Oakland and began including off-site well MW-6 in the extraction program on August 21, 2003. Mass removal data from the GWE events is presented in Table 2. Through December 18, 2003, a total of 149,531 gallons of water have been extracted, resulting in removal of 7.7 lbs. of TPHg and 70.5 lbs. of MTBE.

GWE System Installation: We have received all necessary permits for construction of a fixed GWE system. Consistent with the sampling results from the previous three quarters, groundwater monitoring results presented in this report display trends which show a continued substantial decrease in MTBE concentrations. The concentration in tank backfill well T-1 has decreased from 29,000 parts per billion (ppb) during the fourth quarter 2002 to 140 ppb this quarter. Concentrations in monitoring well MW-3 have stabilized and were 14,000 ppb this quarter.

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

ANTICIPATED FIRST QUARTER 2004 ACTIVITIES

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

GWE: Semi-monthly extraction events from well MW-3 will continue. Well T-1 was removed from the extraction program after the September 18, 2003 event, and well MW-2 was removed after the November 20, 2003 event. Both wells were removed due to minimal remaining MTBE concentrations. Extraction from well MW-6 was discontinued after the October 2, 2003 event due to low groundwater production. We will continue to evaluate future groundwater sampling data from well MW-6 and whether further extraction from this well is warranted.

CLOSING

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

Sincerely,
Cambria Environmental Technology, Inc



Diane Lundquist, P.E.
Principal Engineer



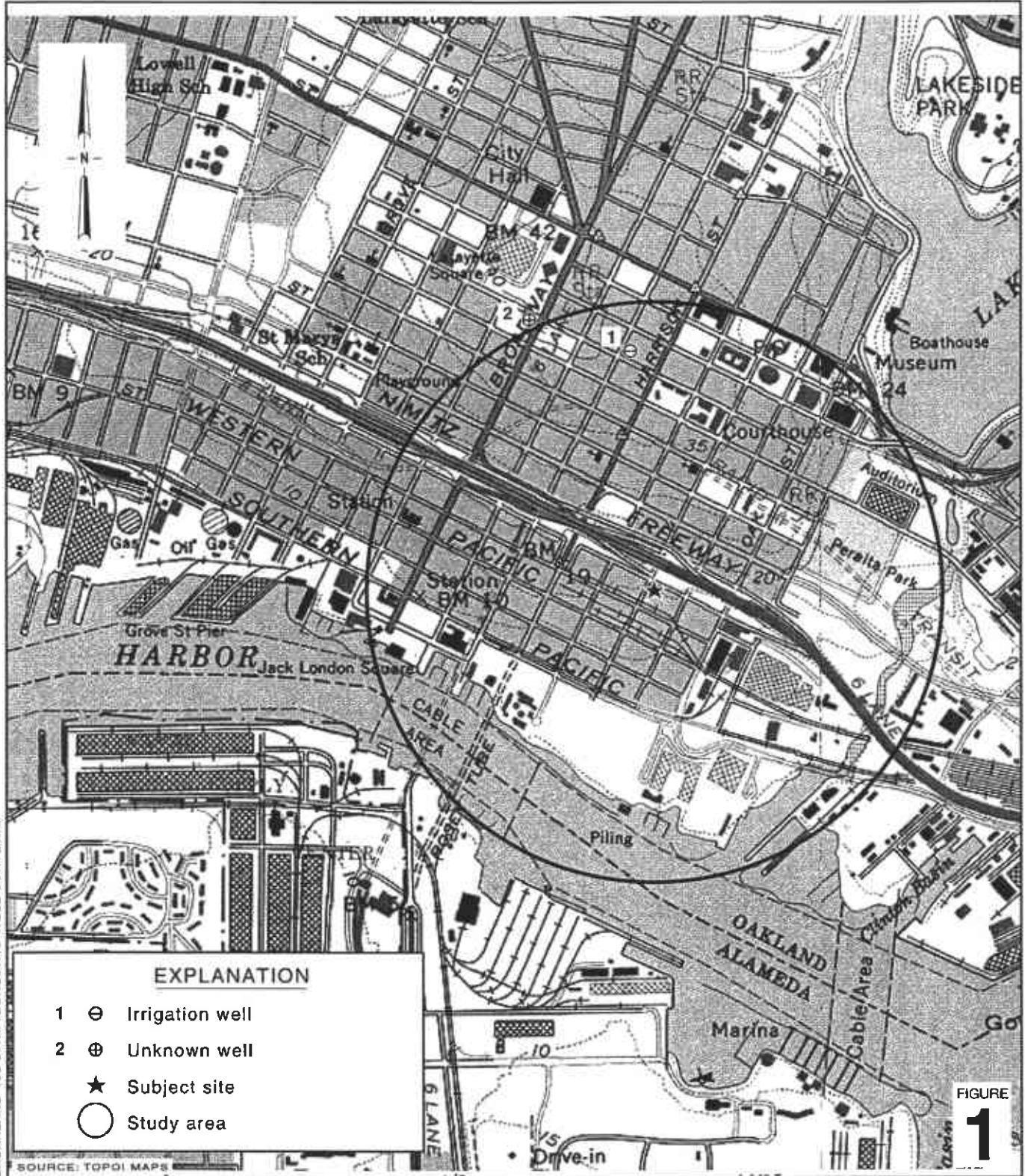
Figures: 1 - Vicinity/Well Survey Map
2 - Groundwater Elevation Contour Map

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

Attachment: A - Blaine Groundwater Monitoring Report and Field Notes

cc: Karen Petryna, Shell Oil Products US, 20945 S. Wilmington Ave., Carson, CA 90810
Arthur R. and Mary A. Hansen, Trs., et al, 820 Loyola Drive, Los Altos, CA 94024

G:\Oakland 105 Fifth\Qm\4q03\4q03qm.doc



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

SOURCE: TOPOI MAPS

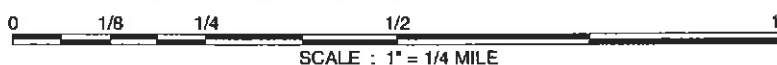
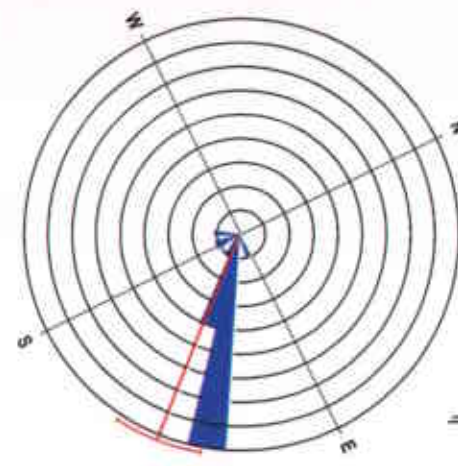


FIGURE 1

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

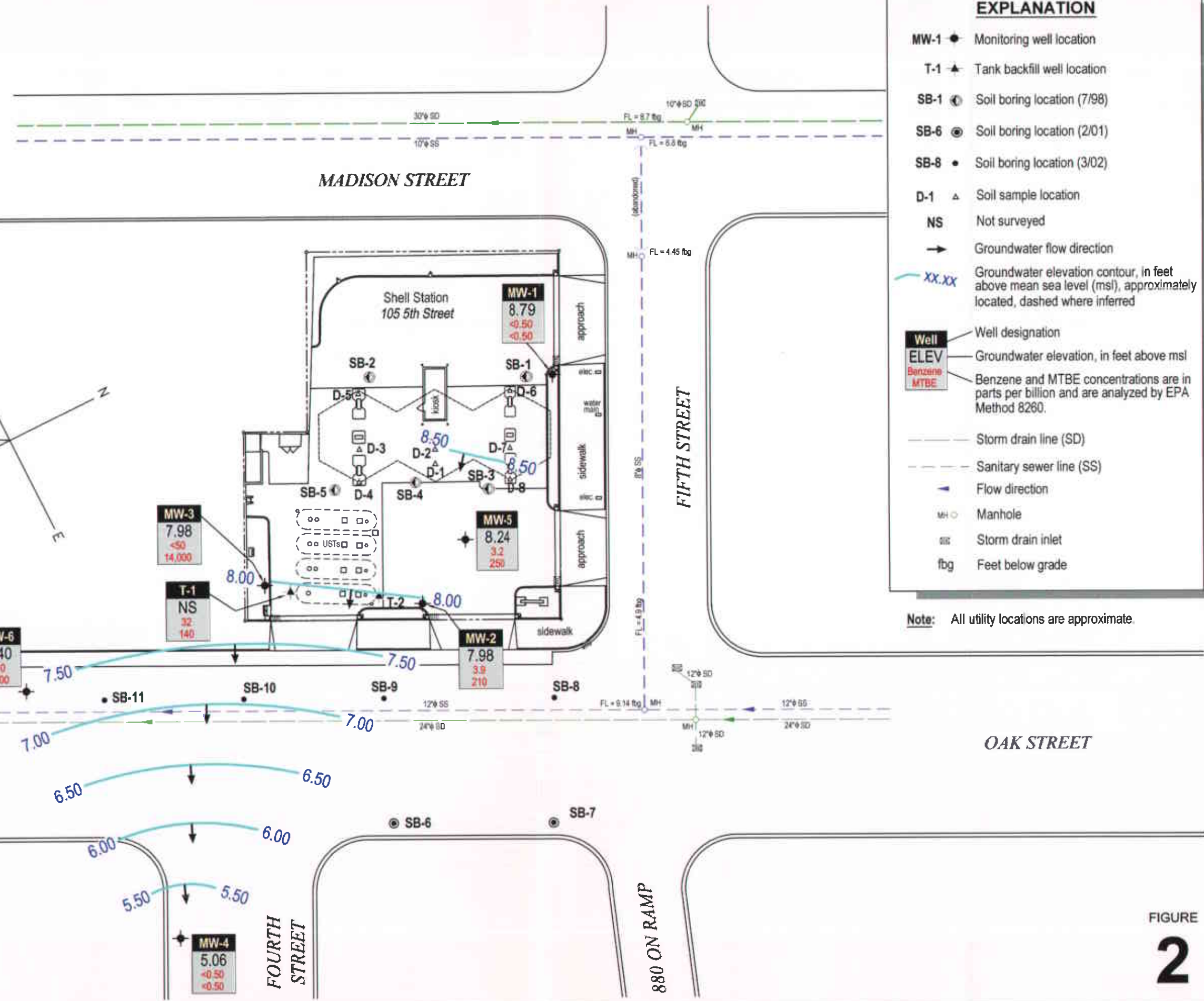


Vicinity / Well Survey Map
 (1/2 Mile Radius)



Groundwater Flow Direction
(07/23/99 to 10/09/03)

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



EXPLANATION

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

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

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

Note: All utility locations are approximate.

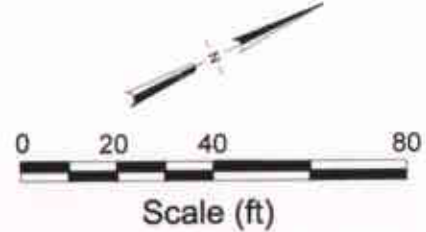


FIGURE
2

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

Sample ID	Date Sampled	MTBE	DIPE	ETBE	TAME (Concentrations in ppb)	TBA	Ethanol	1,2-DCA	EDB
MW-2	10/23/01	13,000	<25	<25	<25	820	<500	---	---
MW-3	10/23/01	180,000	<250	<250	<250	53,000	<5,000	---	---
	10/15/02	44,000	<100	---	<100	9,100	---	<100	<100
	01/29/03	19,000	<25	---	<25	14,000	---	<25	<25
	04/30/03	14,000	<1,000	---	<1,000	24,000	---	<250	<250
	07/22/03	17,000	<200	---	<200	21,000	---	<50	<50
	10/09/03	14,000	<200	---	<200	11,000	---	<50	<50

Abbreviations & Notes:

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

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

Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPPH			Benzene			MTBE		
					TPPH Concentration (ppb)	TPPH Removed (pounds)	TPPH Removed To Date (pounds)	Benzene Concentration (ppb)	Benzene Removed (pounds)	Benzene Removed To Date (pounds)	MTBE Concentration (ppb)	MTBE Removed (pounds)	MTBE Removed To Date (pounds)
04/21/00	MW-2	150	150	04/07/00	4,940	0.00618	0.00618	659	0.00082	0.00082	41,800	0.05232	0.05232
04/28/00	MW-2	100	250	04/07/00	4,940	0.00412	0.01031	659	0.00055	0.00137	41,800	0.03488	0.08720
05/05/00	MW-2	310	560	04/07/00	4,940	0.01278	0.02308	659	0.00170	0.00308	41,800	0.10813	0.19532
05/12/00	MW-2	350	910	04/07/00	4,940	0.01443	0.03751	659	0.00192	0.00500	41,800	0.12208	0.31740
06/02/00	MW-2	257	1,167	04/07/00	4,940	0.01059	0.04811	659	0.00141	0.00642	41,800	0.08964	0.40704
07/06/00	MW-2	334	1,501	04/07/00	4,940	0.01377	0.06187	659	0.00184	0.00825	41,800	0.11650	0.52354
09/12/00	MW-2	312	1,813	07/26/00	5,010	0.01304	0.07492	409	0.00106	0.00932	54,300	0.14137	0.66491
10/26/00	MW-2	56	1,869	07/26/00	5,010	0.00234	0.07726	409	0.00019	0.00951	54,300	0.02537	0.69028
07/29/03	MW-2	500	2,369	07/22/03	2,300	0.00960	0.08685	76	0.00032	0.00983	3,700	0.01544	0.70572
08/09/03	MW-2	250	2,619	07/22/03	2,300	0.00480	0.09165	76	0.00016	0.00999	3,700	0.00772	0.71344
08/21/03	MW-2	150	2,769	07/22/03	2,300	0.00288	0.09453	76	0.00010	0.01008	3,700	0.00463	0.71807
09/04/03	MW-2	687	3,456	07/22/03	2,300	0.01318	0.10771	76	0.00044	0.01052	3,700	0.02121	0.73928
09/18/03	MW-2	200	3,656	07/22/03	2,300	0.00384	0.11155	76	0.00013	0.01064	3,700	0.00617	0.74545
10/02/03	MW-2	234	3,890	07/22/03	2,300	0.00449	0.11604	76	0.00015	0.01079	3,700	0.00722	0.75268
10/16/03	MW-2	250	4,140	10/09/03	150	0.00031	0.11636	3.9	0.00001	0.01080	210	0.00044	0.75311
11/06/03	MW-2	250	4,390	10/09/03	150	0.00031	0.11667	3.9	0.00001	0.01081	210	0.00044	0.75355
11/20/03	MW-2	275	4,665	10/09/03	150	0.00034	0.11701	3.9	0.00001	0.01082	210	0.00048	0.75403
04/21/00	MW-3	100	100	04/07/00	<1,000	0.00042	0.00042	853	0.00071	0.00071	283,000	0.23615	0.23615
04/28/00	MW-3	100	200	04/07/00	<1,000	0.00042	0.00083	853	0.00071	0.00142	283,000	0.23615	0.47229
05/05/00	MW-3	50	250	04/07/00	<1,000	0.00021	0.00104	853	0.00036	0.00178	283,000	0.11807	0.59036
05/12/00	MW-3	150	400	04/07/00	<1,000	0.00063	0.00167	853	0.00107	0.00285	283,000	0.35422	0.94458
06/02/00	MW-3	550	950	04/07/00	<1,000	0.00229	0.00396	853	0.00391	0.00676	283,000	1.29880	2.24338
07/06/00	MW-3	528	1,478	04/07/00	<1,000	0.00220	0.00617	853	0.00376	0.01052	283,000	1.24685	3.49023
08/16/00	MW-3	849	2,327	07/26/00	<20,000	0.07084	0.07701	<200	0.00071	0.01123	320,000	2.26699	5.75722
09/12/00	MW-3	188	2,515	07/26/00	<20,000	0.01569	0.09270	<200	0.00016	0.01139	320,000	0.50200	6.25922
10/26/00	MW-3	156	2,671	07/26/00	<20,000	0.01302	0.10571	<200	0.00013	0.01152	320,000	0.41655	6.67577
05/27/03	MW-3	0	2,671	04/30/03	<25,000	0.00000	0.10571	<250	0.00000	0.01152	14,000	0.00000	6.67577

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

Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPPH			Benzene			MTBE		
					TPPH Concentration (ppb)	TPPH Removed (pounds)	TPPH To Date (pounds)	Benzene Concentration (ppb)	Benzene Removed (pounds)	Benzene To Date (pounds)	MTBE Concentration (ppb)	MTBE Removed (pounds)	MTBE To Date (pounds)
06/10/03	MW-3	200	2,871	04/30/03	<25,000	0.02086	0.12658	<250	0.00021	0.01172	14,000	0.02336	6.69913
06/24/03	MW-3	800	3,671	04/30/03	<25,000	0.08344	0.21002	<250	0.00083	0.01256	14,000	0.09346	6.79259
07/09/03	MW-3	990	4,661	04/30/03	<25,000	0.10326	0.31328	<250	0.00103	0.01359	14,000	0.11565	6.90824
07/29/03	MW-3	600	5,261	07/22/03	<5,000	0.01252	0.32580	<50	0.00013	0.01372	17,000	0.08511	6.99335
08/09/03	MW-3	500	5,761	07/22/03	<5,000	0.01043	0.33623	<50	0.00010	0.01382	17,000	0.07093	7.06428
08/21/03	MW-3	250	6,011	07/22/03	<5,000	0.00522	0.34144	<50	0.00005	0.01387	17,000	0.03546	7.09975
09/04/03	MW-3	687	6,698	07/22/03	<5,000	0.01433	0.35577	<50	0.00014	0.01402	17,000	0.09745	7.19720
09/18/03	MW-3	600	7,298	07/22/03	<5,000	0.01252	0.36829	<50	0.00013	0.01414	17,000	0.08511	7.28231
10/02/03	MW-3	233	7,531	07/22/03	<5,000	0.00486	0.37315	<50	0.00005	0.01419	17,000	0.03305	7.31536
10/16/03	MW-3	604	8,135	10/09/03	<5,000	0.01260	0.38575	<50	0.00013	0.01432	14,000	0.07056	7.38592
11/06/03	MW-3	459	8,594	10/09/03	<5,000	0.00958	0.39533	<50	0.00010	0.01441	14,000	0.05362	7.43954
11/20/03	MW-3	322	8,916	10/09/03	<5,000	0.00672	0.40204	<50	0.00007	0.01448	14,000	0.03762	7.47716
12/04/03	MW-3	590	9,506	10/09/03	<5,000	0.01231	0.41435	<50	0.00012	0.01460	14,000	0.06892	7.54609
12/18/03	MW-3	561	10,067	10/09/03	<5,000	0.01170	0.42605	<50	0.00012	0.01472	14,000	0.06554	7.61162
08/21/03	MW-6	50	50	07/22/03	<500	0.00010	0.00010	<5.0	0.00000	0.00000	1,300	0.00054	0.00054
09/04/03	MW-6	683	733	07/22/03	<500	0.00142	0.00153	<5.0	0.00001	0.00002	1,300	0.00741	0.00795
10/02/03	MW-6	234	967	07/22/03	<500	0.00049	0.00202	<5.0	0.00000	0.00002	1,300	0.00254	0.01049
10/16/03	MW-6	0	967	10/09/03	<1,000	0.00000	0.00202	<10	0.00000	0.00002	3,000	0.00000	0.01049
11/26/01	T-1 ^a	2,700	2,700	10/23/01	<50,000	0.56324	0.56324	<250	0.00282	0.00282	180,000	4.05536	4.05536
12/10/01	T-1 ^a	2,750	5,450	10/23/01	<50,000	0.57367	1.13692	<250	0.00287	0.00568	180,000	4.13046	8.18581
12/26/01	T-1 ^a	2,800	8,250	10/23/01	<50,000	0.58410	1.72102	<250	0.00292	0.00861	180,000	4.20556	12.39137
01/09/01	T-1	5,184	13,434	01/07/02	<20,000	0.43257	2.15359	310	0.01341	0.02201	92,000	3.97966	16.37103
01/23/02	T-1	4,250	17,684	01/07/02	<20,000	0.35464	2.50823	310	0.01099	0.03301	92,000	3.26264	19.63367
02/06/02	T-1	4,000	21,684	01/07/02	<20,000	0.33377	2.84200	310	0.01035	0.04336	92,000	3.07072	22.70439
02/20/02	T-1	3,000	24,684	01/07/02	<20,000	0.25033	3.09233	310	0.00776	0.05112	92,000	2.30304	25.00743

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

Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPPH			Benzene			MTBE		
					TPPH Concentration (ppb)	TPPH Removed (pounds)	TPPH To Date (pounds)	Benzene Concentration (ppb)	Benzene Removed (pounds)	Benzene To Date (pounds)	MTBE Concentration (ppb)	MTBE Removed (pounds)	MTBE To Date (pounds)
03/06/02	T-1	4,500	29,184	01/07/02	<20,000	0.37550	3.46783	310	0.01164	0.06276	92,000	3.45456	28.46200
03/20/02	T-1	5,000	34,184	01/07/02	<20,000	0.41722	3.88505	310	0.01293	0.07569	92,000	3.83840	32.30040
04/03/02	T-1	5,200	39,384	01/07/02	<20,000	0.43391	4.31896	310	0.01345	0.08914	92,000	3.99194	36.29234
04/17/02	T-1	4,800	44,184	04/12/02	<5,000	0.10013	4.41909	230	0.00921	0.09835	57,000	2.28302	38.57536
06/03/02	T-1	3,539	47,723	04/12/02	<5,000	0.07383	4.49291	230	0.00679	0.10515	57,000	1.68325	40.25861
06/17/02	T-1	5,000	52,723	04/12/02	<5,000	0.10430	4.59722	230	0.00960	0.11474	57,000	2.37814	42.63675
07/01/02	T-1	2,873	55,596	04/12/02	<5,000	0.05993	4.65715	230	0.00551	0.12026	57,000	1.36648	44.00323
07/15/02	T-1	4,000	59,596	07/10/02	<20,000	0.33377	4.99093	260	0.00868	0.12893	69,000	2.30304	46.30627
08/12/02	T-1	3,900	63,496	07/10/02	<20,000	0.32543	5.31636	260	0.00846	0.13739	69,000	2.24547	48.55174
08/26/02	T-1	2,367	65,863	07/10/02	<20,000	0.19751	5.51387	260	0.00514	0.14253	69,000	1.36283	49.91456
09/09/02	T-1	1,959	67,822	07/10/02	<20,000	0.16347	5.67733	260	0.00425	0.14678	69,000	1.12791	51.04248
09/23/02	T-1	5,000	72,822	07/10/02	<20,000	0.41722	6.09455	260	0.01085	0.15763	69,000	2.87880	53.92128
10/09/02	T-1	4,500	77,322	07/10/02	<20,000	0.37550	6.47005	260	0.00976	0.16739	69,000	2.59092	56.51220
10/22/02	T-1	4,500	81,822	10/15/02	<5,000	0.09387	6.56392	150	0.00563	0.17302	29,000	1.08894	57.60114
11/05/02	T-1	2,384	84,206	10/15/02	<5,000	0.04973	6.61365	150	0.00298	0.17601	29,000	0.57690	58.17804
11/19/02	T-1	4,375	88,581	10/15/02	<5,000	0.09127	6.70492	150	0.00548	0.18148	29,000	1.05869	59.23673
12/09/02	T-1	2,341	90,922	10/15/02	<5,000	0.04884	6.75376	150	0.00293	0.18441	29,000	0.56649	59.80322
12/23/02	T-1	2,341	93,263	10/15/02	<5,000	0.04884	6.80259	150	0.00293	0.18734	29,000	0.56649	60.36971
01/06/03	T-1 ^b	2,341	95,604	10/15/02	<5,000	0.04884	6.85143	1.5	0.00003	0.18737	29,000	0.56649	60.93620
01/28/03	T-1 ^b	4,500	100,104	10/15/02	<5,000	0.09387	6.94530	1.5	0.00006	0.18743	29,000	1.08894	62.02514
02/10/03	T-1	4,500	104,604	01/29/03	1,300	0.04881	6.99411	67	0.00252	0.18994	820	0.03079	62.05593
03/10/03	T-1	3,539	108,143	01/29/03	1,300	0.03839	7.03250	67	0.00198	0.19192	820	0.02422	62.08014
04/08/03	T-1	300	108,443	01/29/03	1,300	0.00325	7.03576	67	0.00017	0.19209	820	0.00205	62.08219
05/05/03	T-1	3,500	111,943	04/30/03	360	0.01051	7.04627	45	0.00131	0.19340	89	0.00260	62.08479
05/27/03	T-1	4,500	116,443	04/30/03	360	0.01352	7.05979	45	0.00169	0.19509	89	0.00334	62.08814
06/10/03	T-1	4,600	121,043	04/30/03	360	0.01382	7.07361	45	0.00173	0.19682	89	0.00342	62.09155
06/24/03	T-1	1,428	122,471	04/30/03	360	0.00429	7.07790	45	0.00054	0.19736	89	0.00106	62.09261
07/09/03	T-1	2,600	125,071	04/30/03	360	0.00781	7.08571	45	0.00098	0.19833	89	0.00193	62.09454

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

Date Purged	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPPH			Benzene			MTBE			
					TPPH Concentration (ppb)	TPPH Removed (pounds)	TPPH Removed To Date (pounds)	Benzene Concentration (ppb)	Benzene Removed (pounds)	Benzene Removed To Date (pounds)	MTBE Concentration (ppb)	MTBE Removed (pounds)	MTBE Removed To Date (pounds)	
07/29/03	T-1	2,492	127,563	07/22/03	1,200	0.02495	7.11066	170	0.00354	0.20187	150	0.00312	62.09766	
08/09/03	T-1	2,082	129,645	07/22/03	1,200	0.02085	7.13151	170	0.00295	0.20482	150	0.00261	62.10027	
08/21/03	T-1	2,500	132,145	07/22/03	1,200	0.02503	7.15654	170	0.00355	0.20837	150	0.00313	62.10340	
09/04/03	T-1	687	132,832	07/22/03	1,200	0.00688	7.16342	170	0.00097	0.20934	150	0.00086	62.10426	
09/18/03	T-1	1,000	133,832	07/22/03	1,200	0.01001	7.17343	170	0.00142	0.21076	150	0.00125	62.10551	
Total Gallons Extracted:			149,531	Total Pounds Removed:			7.71852	Total Pounds Removed:			0.23632	Total Pounds Removed:		70.48165
				Total Gallons Removed:			1.26533				0.03237			11.36801

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

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

Abbreviations & Notes:

TPPH = Total purgeable hydrocarbons as gasoline

MtBE = Methyl tert-butyl ether

ppb = Parts per billion

gal = Gallon

a = Concentrations for tank backfill well T-1 estimated from nearest monitoring well MW-3.

b = Tank backfill well T-1 sampled for BTEX (including benzene) on 1/2/03.

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, benzene analyzed by EPA Method 8015/8020

TPPH, benzene MTBE analyzed by EPA Method 8260 are in bold font, all other results analyzed by EPA Method 8020.

Concentrations based on most recent groundwater monitoring results

Groundwater extracted by vacuum trucks provided by Phillips Services. Water disposed of at a Martinez Refinery.

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

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 20, 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
105 5th Street
Oakland, CA

Monitoring performed on October 9, 2003

Groundwater Monitoring Report 031009-DA-2

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

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

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

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

Please call if you have any questions.

Yours truly,

Leon Gearhart
Project Coordinator

LG/jt

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

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

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

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft)	GW Elevation (MSL)	DO Reading (ppm)
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MW-1	07/20/1999	NA	NA	NA	NA	NA	NA	NA	NA	12.22	17.56	-5.34	NA
MW-1	07/23/1999	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<2.50	<2.00	12.22	6.45	5.77	NA
MW-1	11/01/1999	100	NA	15.6	3.12	4.04	12.6	6.69	NA	12.22	6.59	5.63	0.5/0.7
MW-1	01/05/2000	<50.0	<20.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	12.22	6.38	5.84	1.2/1.4
MW-1	04/07/2000	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	12.22	5.83	6.39	1.6/2.4
MW-1	07/26/2000	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	12.22	6.10	6.12	1.1/1.4
MW-1	10/28/2000	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	12.22	14.08	-1.86	2.2/2.7
MW-1	01/30/2001	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	12.22	10.71	1.51	1.2/1.6
MW-1	04/17/2001	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	12.22	6.61	5.61	2.4/4.4
MW-1	07/09/2001	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	12.22	6.31	5.91	1.4/3.4
MW-1	10/23/2001	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	12.22	6.24	5.98	2.6/4.1
MW-1	01/07/2002	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	12.22	5.25	6.97	NA
MW-1	04/12/2002	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	14.92	5.54	9.38	NA
MW-1	07/10/2002	<50	74	<0.50	<0.50	<0.50	<0.50	NA	<5.0	14.92	5.98	8.94	NA
MW-1	10/15/2002	<50	51	<0.50	<0.50	<0.50	<0.50	NA	<5.0	14.92	5.46	9.46	NA
MW-1	01/29/2003	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	14.92	5.03	9.89	NA
MW-1	04/30/2003	<50	110	<0.50	<0.50	<0.50	<1.0	NA	<5.0	14.92	4.70	10.22	NA
MW-1	07/22/2003	<50	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	14.92	6.05	8.87	NA
MW-1	10/09/2003	<50	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	14.92	6.13	8.79	NA

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

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

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft)	GW Elevation (MSL)	DO Reading (ppm)
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MW-2	01/30/2001	1,640	574	14.7	<5.00	40.1	58.1	3,670	NA	10.87	10.31	0.56	1.8/2.0
MW-2	04/17/2001	598	179	21.8	<2.00	16.9	10.8	5,630	NA	10.87	6.08	4.79	1.5/2.6
MW-2	07/09/2001	<1,000	<500	19	<10	33	15	NA	6,200	10.87	5.70	5.17	1.1/2.0
MW-2	10/23/2001	<5,000	<500	50	<25	92	<25	NA	13,000	10.87	5.72	5.15	2.0/3.2
MW-2	01/07/2002	<1,000	<200	<10	<10	<10	<10	NA	4,500	10.87	4.87	6.00	NA
MW-2	04/12/2002	<1,000	<100	14	<10	27	13	NA	6,200	13.57	5.14	8.43	NA
MW-2	07/10/2002	<1,000	290	<10	<10	14	<10	NA	6,100	13.57	5.45	8.12	NA
MW-2	10/15/2002	<100	85	1.2	<1.0	<1.0	<1.0	NA	640	13.57	5.38	8.19	NA
MW-2	01/29/2003	<500	<300	10	<5.0	16	6.3	NA	1,700	13.57	5.14	8.43	NA
MW-2	04/30/2003	<5,000	440	<50	<50	58	<100	NA	5,000	13.57	4.83	8.74	NA
MW-2	07/22/2003	2,300	1,000 c	76	<10	140	<20	NA	3,700	13.57	5.61	7.96	NA
MW-2	10/09/2003	150	120 c	3.9	<1.0	6.4	<2.0	NA	210	13.57	5.59	7.98	NA

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

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

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft)	GW Elevation (MSL)	DO Reading (ppm)
MW-3	10/15/2002	<10,000	120	<100	<100	<100	<100	NA	44,000	13.96	5.96	8.00	NA
MW-3	01/02/2003	NA	NA	<5.0	<5.0	<5.0	<10	NA	NA	13.96	5.40	8.56	NA
MW-3	01/29/2003	<2,500	96	<25	<25	<25	<25	NA	19,000	13.96	5.68	8.28	NA
MW-3	04/30/2003	<25,000	360	<250	<250	<250	<500	NA	14,000	13.96	5.34	8.62	NA
MW-3	07/22/2003	<5,000	230 c	<50	<50	<50	<100	NA	17,000	13.96	6.15	7.81	NA
MW-3	10/09/2003	<5,000	150 c	<50	<50	<50	<100	NA	14,000	13.96	5.98	7.98	NA
MW-4	03/23/2001	NA	NA	NA	NA	NA	NA	NA	NA	9.50	8.21	1.29	NA
MW-4	04/17/2001	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	9.50	5.08	4.42	2.4/2.6
MW-4	07/09/2001	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	9.50	4.64	4.86	2.0/1.5
MW-4	10/23/2001	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	9.50	7.90	1.60	2.8/1.8
MW-4	01/07/2002	<50	64	<0.50	<0.50	<0.50	<0.50	NA	<5.0	9.50	5.00	4.50	NA
MW-4	04/12/2002	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	12.17	7.49	4.68	NA
MW-4	07/10/2002	<50	67	<0.50	<0.50	<0.50	<0.50	NA	<5.0	12.17	4.75	7.42	NA
MW-4	10/15/2002	<50	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	12.17	4.56	7.61	NA
MW-4	01/29/2003	<50	73	<0.50	<0.50	<0.50	<0.50	NA	<5.0	12.17	4.34	7.83	NA
MW-4	04/30/2003	<50	140	<0.50	<0.50	<0.50	<1.0	NA	<5.0	12.17	5.45	6.72	NA
MW-4	07/22/2003	<50	63 c	<0.50	<0.50	<0.50	<1.0	NA	3.1	12.17	6.46	5.71	NA
MW-4	10/09/2003	<50	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	12.17	7.11	5.06	NA
MW-5	03/29/2002	NA	NA	NA	NA	NA	NA	NA	NA	14.78	5.86	8.92	NA
MW-5	04/12/2002	1,600	<50	25	3.5	44	110	NA	570	14.78	5.96	8.82	NA
MW-5	07/10/2002	930	<400	36	<2.0	93	8.8	NA	630	14.78	6.57	8.21	NA
MW-5	10/15/2002	200	90	9.9	<0.50	19	5.5	NA	180	14.78	6.17	8.61	NA
MW-5	01/29/2003	120	85	6.0	<0.50	2.9	2.6	NA	220	14.78	5.85	8.93	NA
MW-5	04/30/2003	<250	160	5.5	<2.5	7.2	7.7	NA	250	14.78	5.53	9.25	NA
MW-5	07/22/2003	520	190 c	63	<5.0	41	14	NA	810	14.78	6.45	8.33	NA

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

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft)	GW Elevation (MSL)	DO Reading (ppm)
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MW-5	10/09/2003	160	86 c	3.2	<1.0	7.0	3.9	NA	250	14.78	6.54	8.24	NA
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MW-6	09/25/2002	NA	NA	NA	NA	NA	NA	NA	NA	12.91	5.50	7.41	NA
MW-6	10/15/2002	<500	72	<5.0	<5.0	<5.0	<5.0	NA	2,600	12.91	5.45	7.46	NA
MW-6	01/29/2003	<250	350	<2.5	<2.5	<2.5	<2.5	NA	1,600	12.91	5.20	7.71	NA
MW-6	04/30/2003	<2,500	220	<25	<25	<25	<50	NA	5,900	12.91	5.11	7.80	NA
MW-6	07/22/2003	<500	<50	<5.0	<5.0	<5.0	<10	NA	1,300	12.91	5.46	7.45	NA
MW-6	10/09/2003	<1,000	<50	<10	<10	<10	<20	NA	3,000	12.91	5.51	7.40	NA

T-1	01/07/2002	<20,000	2,600	310	<200	<200	<200	NA	92,000	NA	4.86	NA	NA
T-1	04/12/2002	<5,000	1,000	230	<50	<50	<50	NA	57,000	NA	5.05	NA	NA
T-1	07/10/2002	<20,000	3,700	260	<200	<200	<200	NA	69,000	NA	5.84	NA	NA
T-1	10/15/2002	<5,000	2,100	150	62	<50	75	NA	29,000	NA	5.77	NA	NA
T-1	01/02/2003	NA	NA	1.5	<0.50	<0.50	<1.0	NA	NA	NA	5.10	NA	NA
T-1	01/29/2003	1,300	1,200	67	6.5	<2.0	5.2	NA	820	NA	5.49	NA	NA
T-1	04/30/2003	360	1,000	45	0.60	<0.50	2.3	NA	89	NA	4.91	NA	NA
T-1	07/22/2003	1,200	940 c	170	4.8	<2.5	18	NA	150	NA	5.70	NA	NA
T-1	10/09/2003	700	880 c	32	2.0	<1.0	9.8	NA	140	NA	5.79	NA	NA

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

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

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

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

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

MTBE = Methyl-tertiary-butyl ether

TOC = Top of Casing Elevation

GW = Groundwater

DO = Dissolved Oxygen

ug/L = Parts per billion

ppm = Parts per million

MSL = Mean sea level

ft = Feet

<n = Below detection limit

NA = Not applicable

n/h = Pre-purge/Post-purge

Notes:

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

b = Result was generated out of hold time.

c = Hydrocarbon does not match pattern of laboratory's standard.

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

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

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

Blaine Tech Services, Inc.

October 23, 2003

1680 Rogers Avenue
San Jose, CA 95112-1105
Attn.: Leon Gearhart
Project#: 031009-DA-2
Project: 98995757
Site: 105 5th Street, 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

Diesel (C10-C24) by 8015m

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue

San Jose, CA 95112-1105

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

Project: 031009-DA-2
98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-1	10/09/2003 13:35	Water	1
MW-2	10/09/2003 15:05	Water	2
MW-3	10/09/2003 15:15	Water	3
MW-4	10/09/2003 11:45	Water	4
MW-5	10/09/2003 13:50	Water	5
MW-6	10/09/2003 12:18	Water	6
T-1	10/09/2003 14:30	Water	7

Diesel (C10-C24) by 8015m

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

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

Project: 031009-DA-2
98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Prep(s):	3510/8015M	Test(s):	8015M
Sample ID:	MW-1	Lab ID:	2003-10-0458 - 1
Sampled:	10/09/2003 13:35	Extracted:	10/18/2003 10:04
Matrix:	Water	QC Batch#:	2003/10/18-2A 10

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Diesel	ND	50	ug/L	1.00	10/21/2003 12:38	
<i>Surrogate(s)</i> o-Terphenyl	74.6	50	%	1.00	10/21/2003 12:38	

Diesel (C10-C24) by 8015m

Blaine Tech Services, Inc.

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

Project: 031009-DA-2
98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Prep(s):	3510/8015M	Test(s):	8015M
Sample ID:	MW-2	Lab ID:	2003-10-0458 - 2
Sampled:	10/09/2003 15:05	Extracted:	10/18/2003 10:04
Matrix:	Water	GC Batch#:	2003/10/18-2A.10

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Diesel	120	50	ug/L	1.00	10/20/2003 21:14	ndp
<i>Surrogate(s)</i>						
o-Terphenyl	96.7	50	%	1.00	10/20/2003 21:14	

Diesel (C10-C24) by 8015m

Blaine Tech Services, Inc.

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Project: 031009-DA-2

98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Prep(s):	3510/8015M	Test(s):	8015M
Sample ID:	MW-3	Lab ID:	2003-10-0458-3
Sampled:	10/09/2003 15:15	Extracted:	10/18/2003 10:04
Matrix:	Water	QC Batch#:	2003/10/18-2A.10

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Diesel	150	50	ug/L	1.00	10/20/2003 21:45	ndp
<i>Surrogate(s)</i> o-Terphenyl	93.0	50	%	1.00	10/20/2003 21:45	

Diesel (C10-C24) by 8015m

Blaine Tech Services, Inc.

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Project: 031009-DA-2
98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Prep(s):	3510/8015M	Test(s):	8016M
Sample ID:	MW-4	Lab ID:	2003-10-0458-4
Sampled:	10/09/2003 11:45	Extracted:	10/18/2003 10:04
Matrix:	Water	QC Batch#:	2003/10/18-2A.10

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Diesel	ND	50	ug/L	1.00	10/20/2003 22:16	
<i>Surrogate(s)</i> o-Terphenyl	89.9	50	%	1.00	10/20/2003 22:16	

Diesel (C10-C24) by 8015m

Blaine Tech Services, Inc.

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Project: 031009-DA-2
98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Prep(s):	3510/8015M	Test(s):	8015M
Sample ID:	MW-5	Lab ID:	2003-10-0458 - 5
Sampled:	10/09/2003 13:50	Extracted:	10/18/2003 10:04
Matrix:	Water	QC Batch#:	2003/10/18-2A.10

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Diesel	86	50	ug/L	1.00	10/20/2003 22:46	ndp
<i>Surrogate(s)</i> o-Terphenyl	87.2	50	%	1.00	10/20/2003 22:46	

Diesel (C10-C24) by 8015m

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Project: 031009-DA-2

98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Prep(s):	3510/8015M	Test(s):	8015M
Sample ID:	MW-6	Lab ID:	2003-10-0458 - 6
Sampled:	10/09/2003 12:18	Extracted:	10/18/2003 10:04
Matrix:	Water	QC Batch#:	2003/10/18-2A.10

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Diesel	ND	50	ug/L	1.00	10/20/2003 23:17	
<i>Surrogate(s)</i> o-Terphenyl	89.1	50	%	1.00	10/20/2003 23:17	

Diesel (C10-C24) by 8015m

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Project: 031009-DA-2
98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Prep(s):	3510/8015M	Test(s):	8015M
Sample ID:	T-1	Lab ID:	2003-10-0458-7
Sampled:	10/09/2003 14:30	Extracted:	10/18/2003 10:04
Matrix:	Water	QC Batch#:	2003/10/18-2A.10

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Diesel	880	50	ug/L	1.00	10/20/2003 23:48	ndp
<i>Surrogate(s)</i>						
o-Terphenyl	89.3	50	%	1.00	10/20/2003 23:48	

Diesel (C10-C24) by 8015m

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Project: 031009-DA-2
98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Batch QC Report					
Prep(s): 3510/8015M			Test(s): 8015M		
Method Blank		Water		QC Batch # 2003/10/18-2A.10	
MB: 2003/10/18-2A.10-001			Date Extracted: 10/18/2003 10:04		
Compound	Conc.	RL	Unit	Analyzed	Flag
Diesel	ND	50	ug/L	10/20/2003 08:02	
Surrogates(s) o-Terphenyl	91.9	50-120	%	10/20/2003 08:02	

Diesel (C10-C24) by 8015m

Blaine Tech Services, Inc.

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Project: 031009-DA-2
98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Batch QC Report									
Prep(s): 3510/8015M					Test(s): 8015M				
Laboratory Control Spike			Water			QC Batch # 2003/10/18-2A.10			
LCS	2003/10/18-2A.10-002		Extracted: 10/18/2003			Analyzed: 10/20/2003 08:32			
LCSD	2003/10/18-2A.10-003		Extracted: 10/18/2003			Analyzed: 10/20/2003 09:03			

Compound	Conc. ug/L		Exp. Conc.	Recovery %		RPD	Ctrl. Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Diesel	839	859	1000	83.9	85.9	2.4	60-130	25		
Surrogates(s) o-Terphenyl	18.8	19.1	20.0	93.8	95.3		50-120			

Diesel (C10-C24) by 8015m

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Project: 031009-DA-2
98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Legend and Notes

Result Flag

ndp

Hydrocarbon reported does not match the pattern of our Diesel standard

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

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

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

Project: 031009-DA-2
98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-1	10/09/2003 13:35	Water	1
MW-2	10/09/2003 15:05	Water	2
MW-4	10/09/2003 11:45	Water	4
MW-5	10/09/2003 13:50	Water	5
MW-6	10/09/2003 12:18	Water	6
T-1	10/09/2003 14:30	Water	7

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

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

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

Project: 031009-DA-2
98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	MW-1	Lab ID:	2003-10-0458 - 1
Sampled:	10/09/2003 13:35	Extracted:	10/22/2003 11:31
Matrix:	Water	QG Batch#:	2003/10/22-1A.62

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	10/22/2003 11:31	
Benzene	ND	0.50	ug/L	1.00	10/22/2003 11:31	
Toluene	ND	0.50	ug/L	1.00	10/22/2003 11:31	
Ethylbenzene	ND	0.50	ug/L	1.00	10/22/2003 11:31	
Total xylenes	ND	1.0	ug/L	1.00	10/22/2003 11:31	
Methyl tert-butyl ether (MTBE)	ND	0.50	ug/L	1.00	10/22/2003 11:31	
Surrogate(s)						
1,2-Dichloroethane-d4	94.9	76	%	1.00	10/22/2003 11:31	
Toluene-d8	109.8	78	%	1.00	10/22/2003 11:31	

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

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

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

Project: 031009-DA-2

98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	MW-2	Lab ID:	2003-10-0458 - 2
Sampled:	10/09/2003 15:05	Extracted:	10/22/2003 12:22
Matrix:	Water	QC Batch#:	2003/10/22-1A.62
Analysis Flag: o (See Legend and Note Section)			

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	150	100	ug/L	2.00	10/22/2003 12:22	
Benzene	3.9	1.0	ug/L	2.00	10/22/2003 12:22	
Toluene	ND	1.0	ug/L	2.00	10/22/2003 12:22	
Ethylbenzene	6.4	1.0	ug/L	2.00	10/22/2003 12:22	
Total xylenes	ND	2.0	ug/L	2.00	10/22/2003 12:22	
Methyl tert-butyl ether (MTBE)	210	1.0	ug/L	2.00	10/22/2003 12:22	
Surrogate(s)						
1,2-Dichloroethane-d4	106.6	76	%	2.00	10/22/2003 12:22	
Toluene-d8	103.1	78	%	2.00	10/22/2003 12:22	

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

Blaine Tech Services, Inc.

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

Project: 031009-DA-2
98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	MW-4	Lab ID:	2003-10-0458 - 4
Sampled:	10/09/2003 11:45	Extracted:	10/22/2003 13:07
Matrix:	Water	QC Batch#:	2003/10/22-1A-62

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	10/22/2003 13:07	
Benzene	ND	0.50	ug/L	1.00	10/22/2003 13:07	
Toluene	ND	0.50	ug/L	1.00	10/22/2003 13:07	
Ethylbenzene	ND	0.50	ug/L	1.00	10/22/2003 13:07	
Total xylenes	ND	1.0	ug/L	1.00	10/22/2003 13:07	
Methyl tert-butyl ether (MTBE)	ND	0.50	ug/L	1.00	10/22/2003 13:07	
Surrogate(s)						
1,2-Dichloroethane-d4	105.1	76	%	1.00	10/22/2003 13:07	
Toluene-d8	106.0	78	%	1.00	10/22/2003 13:07	

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

Blaine Tech Services, Inc.

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Project: 031009-DA-2
98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	MW-5	Lab ID:	2003-10-0458 - 5
Sampled:	10/09/2003 13:50	Extracted:	10/22/2003 13:29
Matrix:	Water	QC Batch#:	2003/10/22-1A.62
Analysis Flag: o (See Legend and Note Section)			

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	160	100	ug/L	2.00	10/22/2003 13:29	
Benzene	3.2	1.0	ug/L	2.00	10/22/2003 13:29	
Toluene	ND	1.0	ug/L	2.00	10/22/2003 13:29	
Ethylbenzene	7.0	1.0	ug/L	2.00	10/22/2003 13:29	
Total xylenes	3.9	2.0	ug/L	2.00	10/22/2003 13:29	
Methyl tert-butyl ether (MTBE)	250	1.0	ug/L	2.00	10/22/2003 13:29	
Surrogate(s)						
1,2-Dichloroethane-d4	110.1	76	%	2.00	10/22/2003 13:29	
Toluene-d8	105.8	78	%	2.00	10/22/2003 13:29	

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

Blaine Tech Services, Inc.

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Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	MW-6	Lab ID:	2003-10-0458 - 6
Sampled:	10/09/2003 12:18	Extracted:	10/22/2003 13:51
Matrix:	Water	QC Batch#:	2003/10/22-1A.62
Analysis Flag: o (See Legend and Note Section)			

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1000	ug/L	20.00	10/22/2003 13:51	
Benzene	ND	10	ug/L	20.00	10/22/2003 13:51	
Toluene	ND	10	ug/L	20.00	10/22/2003 13:51	
Ethylbenzene	ND	10	ug/L	20.00	10/22/2003 13:51	
Total xylenes	ND	20	ug/L	20.00	10/22/2003 13:51	
Methyl tert-butyl ether (MTBE)	3000	10	ug/L	20.00	10/22/2003 13:51	
Surrogate(s)						
1,2-Dichloroethane-d4	104.1	76	%	20.00	10/22/2003 13:51	
Toluene-d8	108.1	78	%	20.00	10/22/2003 13:51	

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

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Project: 031009-DA-2
98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	T-1	Lab ID:	2003-10-0458-7
Sampled:	10/09/2003 14:30	Extracted:	10/22/2003 14:13
Matrix:	Water	QC Batch#:	2003/10/22-1A.62
Analysis Flag: 0 (See Legend and Note Section)			

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	700	100	ug/L	2.00	10/22/2003 14:13	
Benzene	32	1.0	ug/L	2.00	10/22/2003 14:13	
Toluene	2.0	1.0	ug/L	2.00	10/22/2003 14:13	
Ethylbenzene	ND	1.0	ug/L	2.00	10/22/2003 14:13	
Total xylenes	9.8	2.0	ug/L	2.00	10/22/2003 14:13	
Methyl tert-butyl ether (MTBE)	140	1.0	ug/L	2.00	10/22/2003 14:13	
Surrogate(s)						
1,2-Dichloroethane-d4	110.0	76	%	2.00	10/22/2003 14:13	
Toluene-d8	104.8	78	%	2.00	10/22/2003 14:13	

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

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98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Batch QC Report			
Prep(s): 5030B			Test(s): 8260B
Method Blank		Water	QC Batch # 2003/10/22-1A.62
MB: 2003/10/22-1A.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	
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/MTBE by 8260B (C6-C12)

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Project: 031009-DA-2
98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Batch QC Report			
Prep(s): 5030B		Test(s): 8260B	
Laboratory Control Spike		Water	
QC Batch # 2003/10/22-1A.62			
LCS	2003/10/22-1A.62-053	Extracted: 10/22/2003	Analyzed: 10/22/2003 11:53
LCSD	2003/10/22-1A.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
Benzene	20.4	21.8	25	81.6	87.2	6.6	69-129	20		
Toluene	21.7	22.9	25	86.8	91.6	5.4	70-130	20		
Methyl tert-butyl ether (MTBE)	21.6	25.5	25	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/MTBE by 8260B (C6-C12)

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Project: 031009-DA-2
98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Batch QC Report			
Prep(s):	5030B	Test(s):	8260B
Matrix Spike (MS / MSD)		Water	QC Batch # 2003/10/22-1A.62
M-4 >> MS		Lab ID:	2003-10-0458 - 004
MS: 2003/10/22-1A.62-024		Extracted:	10/22/2003
		Analyzed:	10/22/2003 18:24
		Dilution:	1.00
MSD: 2003/10/22-1A.62-046		Extracted:	10/22/2003
		Analyzed:	10/22/2003 18:46
		Dilution:	1.00

Compound	Conc. ug/L			Spk.Level ug/L	Recovery %			Limits %		Flags	
	MS	MSD	Sample		MS	MSD	RPD	Rec.	RPD	MS	MSD
Benzene	25.8	22.4	ND	25	103.2	89.6	14.1	69-129	20		
Toluene	26.3	23.0	ND	25	105.2	92.0	13.4	70-130	20		
Methyl tert-butyl ether	27.2	23.6	ND	25	108.8	94.4	14.2	65-165	20		
Surrogate(s)											
1,2-Dichloroethane-d4	534	516		500	106.8	103.2		76-130			
Toluene-d8	545	534		500	108.9	106.7		78-115			

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

Blaine Tech Services, Inc.

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

Project: 031009-DA-2

98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Legend and Notes

Analysis Flag

o

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



STL

Submission #: 2003-10-0458

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-2
98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-3	10/09/2003 15:15	Water	3

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

Blaine Tech Services, Inc.

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

Project: 031009-DA-2
98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	MW-3	Lab ID:	2003-10-0458 - 3
Sampled:	10/09/2003 15:15	Extracted:	10/22/2003 16:21
Matrix:	Water	QC Batch#:	2003/10/22-1A.64
Analysis Flag: o (See Legend and Note Section)			

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	5000	ug/L	100.00	10/22/2003 16:21	
Benzene	ND	50	ug/L	100.00	10/22/2003 16:21	
Toluene	ND	50	ug/L	100.00	10/22/2003 16:21	
Ethylbenzene	ND	50	ug/L	100.00	10/22/2003 16:21	
Total xylenes	ND	100	ug/L	100.00	10/22/2003 16:21	
tert-Butyl alcohol (TBA)	11000	500	ug/L	100.00	10/22/2003 16:21	
Methyl tert-butyl ether (MTBE)	14000	50	ug/L	100.00	10/22/2003 16:21	
Di-isopropyl Ether (DIPE)	ND	200	ug/L	100.00	10/22/2003 16:21	
tert-Amyl methyl ether (TAME)	ND	200	ug/L	100.00	10/22/2003 16:21	
1,2-DCA	ND	50	ug/L	100.00	10/22/2003 16:21	
EDB	ND	50	ug/L	100.00	10/22/2003 16:21	
Surrogate(s)						
1,2-Dichloroethane-d4	96.8	76	%	100.00	10/22/2003 16:21	
Toluene-d8	98.8	78	%	100.00	10/22/2003 16:21	

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

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

Project: 031009-DA-2

98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Batch QC Report			
Prep(s): 5030B			Test(s): 8260B
Method Blank		Water	QC Batch # 2003/10/22-1A.64
MB: 2003/10/22-1A.64-011			Date Extracted: 10/22/2003 11:11

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	10/22/2003 11:11	
Benzene	ND	0.5	ug/L	10/22/2003 11:11	
Toluene	ND	0.5	ug/L	10/22/2003 11:11	
Ethylbenzene	ND	0.5	ug/L	10/22/2003 11:11	
Total xylenes	ND	1.0	ug/L	10/22/2003 11:11	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	10/22/2003 11:11	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	10/22/2003 11:11	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	10/22/2003 11:11	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	10/22/2003 11:11	
1,2-DCA	ND	0.5	ug/L	10/22/2003 11:11	
EDB	ND	0.5	ug/L	10/22/2003 11:11	
Surrogates(s)					
1,2-Dichloroethane-d4	97.6	76-130	%	10/22/2003 11:11	
Toluene-d8	94.1	78-115	%	10/22/2003 11:11	

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

Blaine Tech Services, Inc.

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

Project: 031009-DA-2
98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Batch QC Report									
Prep(s): 5030B					Test(s): 8260B				
Laboratory Control Spike			Water			QC Batch # 2003/10/22-1A.64			
LCS	2003/10/22-1A.64-027		Extracted: 10/22/2003			Analyzed: 10/22/2003 10:27			
LCSD	2003/10/22-1A.64-049		Extracted: 10/22/2003			Analyzed: 10/22/2003 10:49			

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Benzene	19.9	21.1	25	79.6	84.4	5.9	69-129	20		
Toluene	22.9	24.2	25	91.6	96.8	5.5	70-130	20		
Methyl tert-butyl ether (MTBE)	19.7	21.9	25	78.8	87.6	10.6	65-165	20		
Surrogates(s)										
1,2-Dichloroethane-d4	493	498	500	98.6	99.6		76-130			
Toluene-d8	477	470	500	95.4	94.0		78-115			

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

Blaine Tech Services, Inc.

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San Jose, CA 95112-1105

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

Project: 031009-DA-2

98995757

Received: 10/10/2003 15:35

Site: 105 5th Street, Oakland

Legend and Notes

Analysis Flag

o

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

LAB: STL

SHELL Chain Of Custody Record

78248

Lab Identification (if necessary):

Address:

City, State, Zip:

Shell Project Manager to be invoiced:

- SCIENCE & ENGINEERING
- TECHNICAL SERVICES
- OMT-HOUSTON

Karen Petryna

2003-10-0458

INCIDENT NUMBER (S&E ONLY)

9 8 9 9 5 7 5 7

SAP or CRMT NUMBER (TS/CRMT)

DATE: 10/9/03

PAGE: 1 of 1

LABORATORY:	LAB CODE:	SITE ADDRESS (Street and City):	GLOBAL ID NO.:
Blaine Tech Services	BTSS	105 5th Street, Oakland	T0600102116
ADDRESS:		SHIP DELIVERABLE TO (Responsible Party or Company):	PHONE NO.:
1680 Rogers Avenue, San Jose, CA 95112		Ann Krenl	(510) 420-3335
PROJECT CONTACT (Personality or PDF Report to):		SAMPLE ID(S) (Print):	EMAIL:
Leon Gearhart		D. Allred, P. Carvish	ShellOaklandEDF@cambrin-env.com
TELEPHONE:	FAX:		CONSULTANT PROJECT NO.:
408-573-0555	408-573-7771		BTSS # 031009-DA2
E-MAIL:		LAB USE ONLY	
lgearhart@blainetech.com			

TURNAROUND TIME (BUSINESS DAYS):

10 DAYS 5 DAYS 72 HOURS 48 HOURS 24 HOURS LESS THAN 24 HOURS

LA - RWQCS REPORT FORMAT LIST AGENCY:

GGMS MTBE CONFIRMATION: HIGHEST _____ HIGHEST per ORDERING _____ ALL _____

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

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	NO. OF CONT.	TPH - Gas, Puff/Gas	BTEX	MTBE (8021B - Spill RL)	MTBE (6-7-06 - 0-5ppm RL)	Chlorinated (S) by (8260B)	Ethanol (8260B)	Methanol	1,2-DCA (8260B)	EDB (8260B)	TBA, DEPB, TAPB	TPH - Diesel, Extractable (80150)
		DATE	TIME													
<input checked="" type="checkbox"/>	M-1	10/9/03	1335	L	5	X	X	X							X	
<input checked="" type="checkbox"/>	M-2		1509			X	X	X							X	
<input checked="" type="checkbox"/>	M-3		1515			X	X	X				X	X	X	X	
<input checked="" type="checkbox"/>	M-4		1145			X	X	X							X	
<input checked="" type="checkbox"/>	M-5		1350			X	X	X							X	
<input checked="" type="checkbox"/>	M-6		1218			X	X	X							X	
<input checked="" type="checkbox"/>	T-1		1430			X	X	X							X	

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

2.5°C
TEMPERATURE ON RECEIPT C°

Requested by: (Signature) <i>D. Allred</i>	Received by: (Signature) <i>[Signature]</i>	Date: 10/10/03	Time: 1535
Requested by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Date: 10/10/03	Time: 1905

DISTRIBUTION: White with final report, Green to P&E, Yellow and Pink to Client

12/16/00 Revision

O&A Engineering (714) 882-9702

SHELL WELL MONITORING DATA SHEET

BTS #: 031009-0A2	Site: 105 5 th St., Oakland
Sampler: D. Albit, P. Cornish	Date: 10/9/03
Well I.D.: MW-1	Well Diameter: 2 3 4 6 8 _____
Total Well Depth (TD): 2354	Depth to Water (DTW): 6.13
Depth to Free Product:	Thickness of Free Product (feet): 9.61
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 8.91	

Purge Method: Bailer 17.41 Waterra Sampling Method: Bailer
 Disposable Bailer Peristaltic Disposable Bailer
 Positive Air Displacement Extraction Pump Extraction Port
 Electric Submersible Other _____ Dedicated Tubing

11.3	(Gals.) X	3	=	33.9	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	radius ² * 0.163

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1311	73.3	7.0	590	67.1	11.3	
1313	72.6	7.1	521	50.0	22.6	
1316	70.7	7.1	491	171	33.9	DTW 11.71

Did well dewater? Yes No Gallons actually evacuated: 34

Sampling Date: 10/9/03 Sampling Time: 1335 Depth to Water: 7.03

Sample I.D.: MW-1 Laboratory: STP 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 #: 031009042	Site: 105 5 th St., Oakland
Sampler: O. Albat, P. Cornish	Date: 10/9/03
Well I.D.: MW-2	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 22.31	Depth to Water (DTW): 5.59
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>8.93</u>	

Purge Method: Bailer 16-72 Waterra Sampling Method: Bailer
 Disposable Bailer Peristaltic Disposable Bailer
 Positive Air Displacement Extraction Pump Extraction Port
 Electric Submersible Other _____ Dedicated Tubing

Other: _____

$\frac{10.9 \text{ (Gals.)} \times 3}{\text{Specified Volumes}} = \frac{32.7}{\text{Calculated Volume}} \text{ Gals.}$	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>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 µS)	Turbidity (NTUs)	Gals. Removed	Observations
1444	74.0	6.9	306	16	11	odor
1446	75.1	6.7	343	12	22	clear
1449	74.0	6.8	361	10	33	clear

Did well dewater? Yes No Gallons actually evacuated: 33

Sampling Date: 10/9/03 Sampling Time: 1505 Depth to Water: 6.38

Sample I.D.: MW-2 Laboratory: STL Other: _____

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

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

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

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

SHELL WELL MONITORING DATA SHEET

BTS #: 0310090A2	Site: 1055 th St., Oakland
Sampler: D. Allbut, P. Cornish	Date: 10/9/03
Well I.D.: MW-3	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 24.98	Depth to Water (DTW): 5.98
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>DVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.78	

Purge Method: Bailer 19 Water Peristaltic Extraction Pump
 Disposable Bailer
 Positive Air Displacement
 Electric Submersible

Other: _____

Sampling Method: > Bailer
 Disposable Bailer
 Extraction Port
 Dedicated Tubing

Other: _____

$12.4 \text{ (Gals.)} \times 3 = 37.2 \text{ Gals.}$ Case Volume Specified Volumes Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>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 µS)	Turbidity (NTUs)	Gals. Removed	Observations
1501	69.6	6.8	1348	19	12.5	Clear
1503	69.2	6.8	1247	47	25	↓
1506	68.4	6.8	1046	13	37.5	

Did well dewater? Yes No Gallons actually evacuated: 37.5

Sampling Date: 10/9/03 Sampling Time: 1515 Depth to Water: 7.52

Sample I.D.: MW-3 Laboratory: STE Other: _____

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

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 #: 031009-DA2	Site: 105 5 th St., Oakland
Sampler: D. Albat, P. Cornish	Date: 10/9/03
Well I.D.: MW-4	Well Diameter: ② 3 4 6 8 _____
Total Well Depth (TD): 20.07	Depth to Water (DTW): 7.11
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]: 9.70	

Purge Method: <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Disposable Bailer <input type="checkbox"/> Positive Air Displacement <input type="checkbox"/> Electric Submersible	12.96 Waterra Peristaltic Extraction Pump Other _____	Sampling Method: <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Disposable Bailer <input type="checkbox"/> Extraction Port <input type="checkbox"/> Dedicated Tubing Other: _____
---	---	--

$2.1 \text{ (Gals.)} \times \frac{12.96}{3} = 6.3 \text{ Gals.}$ 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
1132	70.4	6.9	1736	7200	2.5	tan, cloudy
1137	69.3	6.9	1787	7200	5	"
1141	68.9	6.8	1781	7206	6.5	"

Did well dewater? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Gallons actually evacuated: 6.5		
Sampling Date: 10	Sampling Time: 1145	Depth to Water: 13.15	traffic well
Sample I.D.: MW-4	Laboratory: STL	Other: _____	
Analyzed for: <u>TPH-G BTEX MTBE TPH-D</u>	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 #: 031009-0A2	Site: 1055 ^m St., Oakland
Sampler: D. Albut, P. Cornish	Date: 10/9/03
Well I.D.: MW-5	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 23.19	Depth to Water (DTW): 6.54
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.87	

Purge Method: Bailer 16.65 Water
 Disposable Bailer Peristaltic
 Positive Air Displacement Extraction Pump
 Electric Submersible Other _____

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

$10.8 \text{ (Gals.)} \times 3 = 32.4 \text{ Gals.}$ I Case Volume Specified Volumes Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> <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> </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 µS)	Turbidity (NTUs)	Gals. Removed	Observations
1330	74.1	6.7	428	171	10.8	cloudy
1332	74.1	6.7	438	35	21.4	clearing
1334	72.9	6.7	453	35	32.4	"

Did well dewater? No Gallons actually evacuated: 32.5

Sampling Date: 10/9/03 Sampling Time: 1350 Depth to Water: 9.21

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

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

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

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

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

SHELL WELL MONITORING DATA SHEET

BTS #: 031009-DA2	Site: 105 5 th St., Oakland
Sampler: D. Mbat, P. Cornish	Date: 10/9/03
Well I.D.: MW-6	Well Diameter: <u>3</u> 4 6 8
Total Well Depth (TD): 24.14	Depth to Water (DTW): 5.51
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.2	

Purge Method: Bailer 18.63 Waterra Sampling Method: Bailer
 Disposable Bailer Peristaltic Disposable Bailer
 Positive Air Displacement Extraction Pump Extraction Port
 Electric Submersible Other _____ Dedicated Tubing

$\frac{3.0}{1 \text{ Case Volume}} (\text{Gals.}) \times \frac{3}{\text{Specified Volumes}} = \frac{9.0}{\text{Calculated Volume}} \text{ Gals.}$	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>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 µS)	Turbidity (NTUs)	Gals. Removed	Observations
12:12	73.0	7.2	247	>200	9	fan, already
12:14	71.4	7.1	234	>200	18	"
12:17	70.9	7.2	246	>200	27	"

Did well dewater? Yes No Gallons actually evacuated: 27

Sampling Date: 10/9/03 Sampling Time: 12:18 Depth to Water: 8.19

Sample I.D.: MW-6 Laboratory: 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 #: 031009-0A2	Site: 105 5 th St., Oakland
Sampler: D. Albat, P. Carmish	Date: 10/9/03
Well I.D.: T-1	Well Diameter: 2 3 4 6 8 12"
Total Well Depth (TD): 11.57	Depth to Water (DTW): 5.79
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]: 6.95	

Purge Method: Bailer 5.78 Water: Peristaltic Sampling Method: Bailer
 Disposable Bailer Peristaltic Disposable Bailer
 Positive Air Displacement Extraction Pump Extraction Port
 Electric Submersible Other _____ Dedicated Tubing

33.9

101.7

17 (Gals.) X 3 = 51 Gals.
 Case Volume Specified Volumes Calculated Volume

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

12" = 5.87

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1408 1418	75.9	6.7	1032	7	34	odor
1418	77.8	6.7	1048	2	68	↓ clear
1425	77.5	6.8	1049	2	102	↓ clear

Did well dewater? Yes Gallons actually evacuated: 102

Sampling Date: 10/9/03 Sampling Time: 14.30 Depth to Water: 5.79

Sample I.D.: ~~T-1~~ Laboratory: ST 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