

C A M B R I A

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3646 / 223

September 5, 2001

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

Re: **Second Quarter 2001 Monitoring Report**  
Shell-branded Service Station  
540 Hegenberger Road  
Oakland, California  
Incident #98995752  
Cambria Project #243-0414-002



Dear Mr. Chan:

On behalf of Equiva Services LLC, Cambria Environmental Technology, Inc. (Cambria) is submitting this groundwater monitoring report in accordance with the reporting requirements of 23 CCR 2652d.

## SECOND QUARTER 2001 ACTIVITIES

**Groundwater Monitoring:** Blaine Tech Services, Inc. (Blaine) of San Jose, California gauged water levels, sampled the monitoring wells, calculated groundwater elevations, and compiled the analytical data. Cambria prepared a groundwater elevation contour map (Figure 1). Blaine's report, presenting the laboratory report and supporting field documents, is included as Attachment A.

**Interim Remedial Action:** From July 1999 through June 2000, groundwater extraction (GWE) was performed at the site to extract dissolved-phase hydrocarbons and methyl tert butyl ether (MTBE) in groundwater. In June through December 2000, dual-phase vacuum extraction (DVE) was performed at the site to enhance GWE and to extract vapor-phase hydrocarbon and MTBE from the soil. DVE was discontinued after the December 2000 event. ~~As a result of the Alameda County Health Care Services Agency (ACHCSA), monthly events were resumed in May 2001.~~ Wells MW-1 and MW-3 are used for extraction. Hydrocarbon mass removal data for liquid and vapor phase are presented in Tables 1 and 2, respectively.

Oakland, CA  
San Ramon, CA  
Sonoma, CA

**Cambria  
Environmental  
Technology, Inc.**

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

**ANTICIPATED THIRD QUARTER 2001 ACTIVITIES**

**Groundwater Monitoring:** Blaine will gauge water levels, sample the monitoring wells using the non-purging method, and tabulate the data. Cambria will prepare a report documenting those activities.

**Surface Water and Storm Drain Sampling:** As proposed in our *First Quarter 2001 Monitoring Report* and in response to ACHCSA's March 13, 2001 letter, we will sample storm drain and canal points. Results of this sampling will be reported in the third quarter 2001 monitoring report.

**Interim Remedial Action:** Monthly DVE events will continue and will be reported in the third quarter report

*I don't recall this proposal*



**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

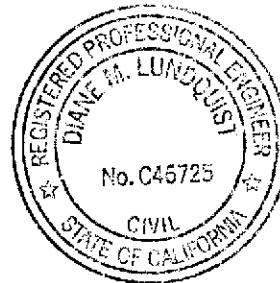


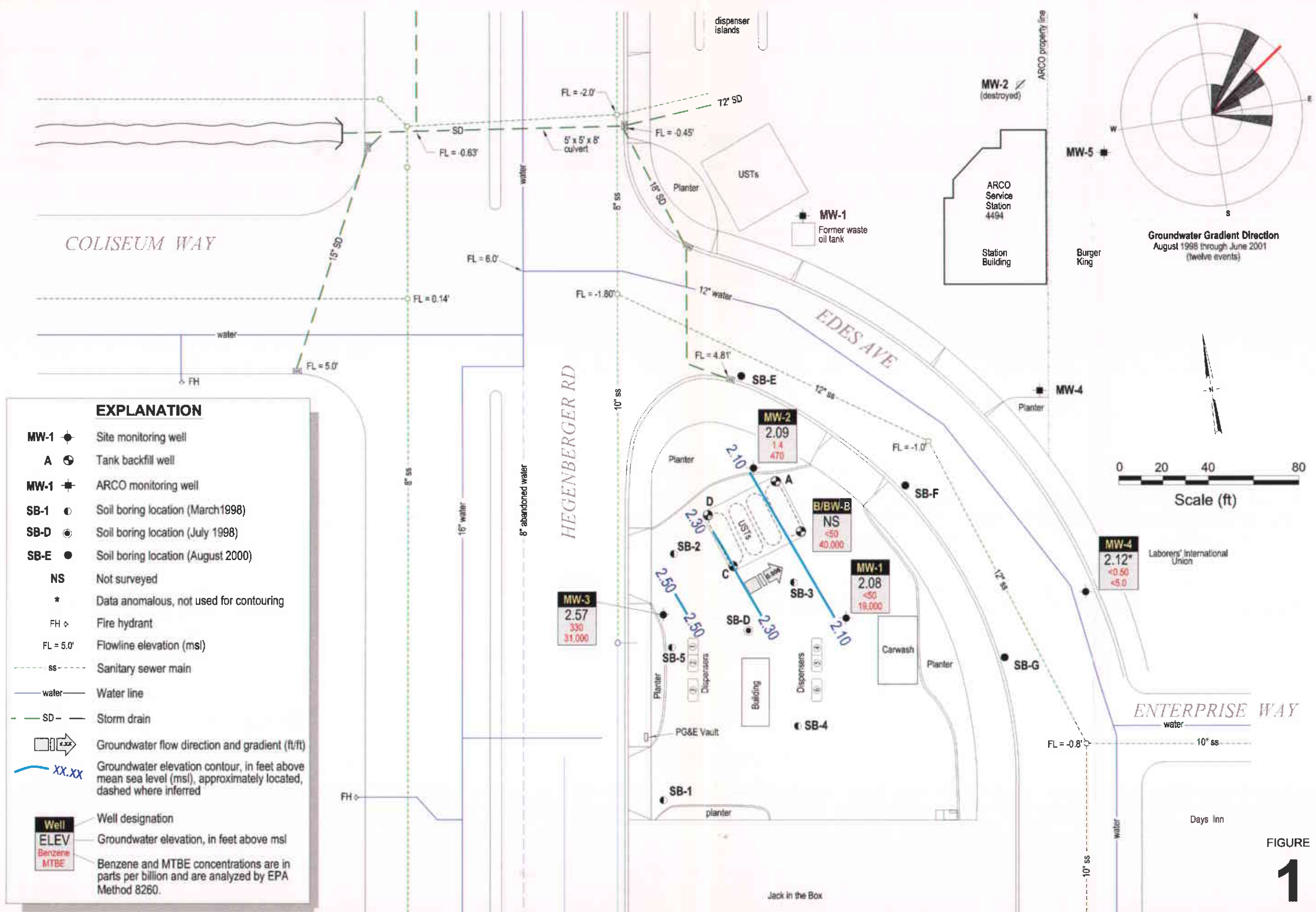
Figure: 1 - Groundwater Elevation Contour Map

Tables: 1 - Groundwater Extraction - Mass Removal Data  
2 - Vapor Extraction - Mass Removal Data

Attachment: A - Blaine Groundwater Monitoring Report and Field Notes

cc: Karen Petryna, Equiva Services LLC, P.O. Box 7869, Burbank, California 91510-7869

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**Underground Utility Map with Monitoring Well and Soil Boring Locations and Groundwater Sampling Results for**

June 27, 2001



C A M B R I A

**Shell-branded Service Station**

540 Hegenberger Road  
Oakland, California  
Incident #98995752

FIGURE  
**1**

**Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995752, 540 Hegenberger Road, 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)
07/29/99	BW-A	400	400	06/22/99	318	0.00106	0.00106	<0.50	0.00000	0.00000	4,470	0.01492	0.01492
08/04/99	BW-A	2,000	2,400	06/22/99	318	0.00531	0.00637	<0.50	0.00000	0.00001	4,470	0.07460	0.08952
08/11/99	BW-A	2,437	4,837	06/22/99	318	0.00647	0.01284	<0.50	0.00001	0.00001	4,470	0.09090	0.18042
08/20/99	BW-A	1,213	6,050	06/22/99	318	0.00322	0.01605	<0.50	0.00000	0.00001	4,470	0.04524	0.22566
08/30/99	BW-A	2,673	8,723	06/22/99	318	0.00709	0.02315	<0.50	0.00001	0.00002	4,470	0.09970	0.32536
09/03/99*	BW-A	325	9,048	06/22/99	318	0.00086	0.02401	<0.50	0.00000	0.00002	4,470	0.01212	0.33748
09/10/99*	BW-A	425	9,148	06/22/99	318	0.00113	0.02514	<0.50	0.00000	0.00002	4,470	0.01585	0.35334
09/23/99	BW-A	615	9,763	06/22/99	318	0.00163	0.02677	<0.50	0.00000	0.00002	4,470	0.02294	0.37628
09/29/99	BW-A	800	10,563	06/22/99	318	0.00212	0.02889	<0.50	0.00000	0.00002	4,470	0.02984	0.40611
11/05/99	BW-A	675	11,238	06/22/99	318	0.00179	0.03068	<0.50	0.00000	0.00002	4,470	0.02518	0.43129
07/29/99	BW-B	1,000	1,000	06/22/99	<250	0.00104	0.00104	2.5	0.00002	0.00002	8,600	0.07176	0.07176
08/04/99	BW-B	800	1,800	06/22/99	<250	0.00083	0.00188	2.5	0.00002	0.00106	8,600	0.05741	0.12917
08/11/99	BW-B	2,213	4,013	06/22/99	<250	0.00231	0.00419	2.5	0.00005	0.00192	8,600	0.15881	0.28798
08/20/99	BW-B	1,213	5,226	06/22/99	<250	0.00127	0.00545	2.5	0.00003	0.00421	8,600	0.08705	0.37503
08/30/99	BW-B	877	6,103	06/22/99	<250	0.00091	0.00637	2.5	0.00002	0.00547	8,600	0.06293	0.43796
09/03/99*	BW-B	325	6,428	06/22/99	<250	0.00034	0.00670	2.5	0.00001	0.00637	8,600	0.02332	0.46128
09/10/99*	BW-B	425	6,853	06/22/99	<250	0.00044	0.00715	2.5	0.00001	0.00671	8,600	0.03050	0.49178
09/23/99	BW-B	750	7,603	06/22/99	<250	0.00078	0.00793	2.5	0.00002	0.00716	8,600	0.05382	0.54560
09/29/99	BW-B	600	8,203	06/22/99	<250	0.00063	0.00856	2.5	0.00001	0.00794	8,600	0.04306	0.58866
11/05/99	BW-B	650	8,853	06/22/99	<250	0.00068	0.00923	2.5	0.00001	0.00857	8,600	0.04664	0.63530
07/29/99	BW-C	300	300	06/22/99	<50	0.00006	0.00006	<0.50	0.00000	0.00000	11,000	0.02754	0.02754
08/04/99	BW-C	700	1,000	06/22/99	<50	0.00015	0.00021	<0.50	0.00000	0.00000	11,000	0.06425	0.09179
08/11/99	BW-C	0	1,000	06/22/99	<50	0.00000	0.00021	<0.50	0.00000	0.00000	11,000	0.00000	0.09179
08/20/99	BW-C	1,013	2,013	06/22/99	<50	0.00021	0.00042	<0.50	0.00000	0.00000	11,000	0.09298	0.18477
08/30/99	BW-C	375	2,388	06/22/99	<50	0.00008	0.00050	<0.50	0.00000	0.00000	11,000	0.03442	0.21919
09/03/99*	BW-C	325	2,713	06/22/99	<50	0.00007	0.00057	<0.50	0.00000	0.00001	11,000	0.02983	0.24902
09/10/99*	BW-C	425	3,138	06/22/99	<50	0.00009	0.00065	<0.50	0.00000	0.00001	11,000	0.03901	0.28803

**Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995752, 540 Hegenberger Road, 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)
09/23/99	BW-C	750	3,888	06/22/99	<50	0.00016	0.00081	<0.50	0.00000	0.00001	11,000	0.06884	0.35687
09/29/99	BW-C	700	4,588	06/22/99	<50	0.00015	0.00096	<0.50	0.00000	0.00001	11,000	0.06425	0.42112
11/05/99	BW-C	550	5,138	06/22/99	<50	0.00011	0.00107	<0.50	0.00000	0.00001	11,000	0.05048	0.47161
06/06/00	BW-C	926	6,064	06/22/99	<50	0.00019	0.00127	<0.50	0.00000	0.00001	11,000	0.08500	0.55660
09/07/00	BW-C	1,000	7,064	06/22/99	<50	0.00021	0.00147	<0.50	0.00000	0.00001	11,000	0.09179	0.64839
07/29/99	BW-D	1,500	1,500	06/22/99	<50	0.00031	0.00031	<0.500	0.00000	0.00000	2,190	0.02741	0.02741
08/04/99	BW-D	250	1,750	06/22/99	<50	0.00005	0.00037	<0.500	0.00000	0.00000	2,190	0.00457	0.03198
08/11/99	BW-D	0	1,750	06/22/99	<50	0.00000	0.00037	<0.500	0.00000	0.00000	2,190	0.00000	0.03198
08/20/99	BW-D	1,213	2,963	06/22/99	<50	0.00025	0.00062	<0.500	0.00000	0.00001	2,190	0.02217	0.05415
08/30/99	BW-D	280	3,243	06/22/99	<50	0.00006	0.00068	<0.500	0.00000	0.00001	2,190	0.00512	0.05926
09/03/99*	BW-D	325	3,568	06/22/99	<50	0.00007	0.00074	<0.500	0.00000	0.00001	2,190	0.00594	0.06520
09/10/99*	BW-D	425	3,993	06/22/99	<50	0.00009	0.00083	<0.500	0.00000	0.00001	2,190	0.00777	0.07297
09/23/99	BW-D	750	4,743	06/22/99	<50	0.00016	0.00099	<0.500	0.00000	0.00001	2,190	0.01371	0.08667
09/29/99	BW-D	700	5,443	06/22/99	<50	0.00015	0.00114	<0.500	0.00000	0.00001	2,190	0.01279	0.09947
11/05/99	BW-D	625	6,068	06/22/99	<50	0.00013	0.00127	<0.500	0.00000	0.00001	2,190	0.01142	0.11089
07/29/99	MW-1	150	150	06/22/99	20,000	0.02503	0.02503	100	0.00013	0.00013	150,000	0.18775	0.18775
08/04/99	MW-1	150	300	06/22/99	20,000	0.02503	0.05007	100	0.00013	0.00025	150,000	0.18775	0.37550
08/11/99	MW-1	15	315	06/22/99	20,000	0.00250	0.05257	100	0.00001	0.00026	150,000	0.01877	0.39427
08/20/99	MW-1	44	359	06/22/99	20,000	0.00734	0.05991	100	0.00004	0.00030	150,000	0.05507	0.44934
08/30/99	MW-1	218	577	06/22/99	20,000	0.03638	0.09629	100	0.00018	0.00048	150,000	0.27286	0.72220
09/03/99*	MW-1	125	702	06/22/99	20,000	0.02086	0.11715	100	0.00010	0.00059	150,000	0.15646	0.87866
09/10/99*	MW-1	75	777	06/22/99	20,000	0.01252	0.12967	100	0.00006	0.00065	150,000	0.09387	0.97253
09/23/99	MW-1	175	952	06/22/99	20,000	0.02921	0.15888	100	0.00015	0.00079	150,000	0.21904	1.19157
09/29/99	MW-1	50	1,002	06/22/99	20,000	0.00834	0.16722	100	0.00004	0.00084	150,000	0.06258	1.25416
11/05/99	MW-1	50	1,052	09/30/99	<2,500	0.00052	0.16774	<25.0	0.00001	0.00084	30,900	0.01289	1.26705
11/19/99	MW-1	22.5	1,075	09/30/99	<2,500	0.00023	0.16798	<25.0	0.00000	0.00084	30,900	0.00580	1.27285
11/24/99	MW-1	25	1,100	09/30/99	<2,500	0.00026	0.16824	<25.0	0.00000	0.00085	30,900	0.00645	1.27930

**Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995752, 540 Hegenberger Road, 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)
12/02/99	MW-1	25	1,125	09/30/99	<2,500	0.00026	0.16850	<25.0	0.00000	0.00085	30,900	0.00645	1.28574
12/17/99	MW-1	25	1,150	12/10/99	<50.0	0.00001	0.16850	29.7	0.00001	0.00086	76,300	0.01592	1.30166
01/03/00	MW-1	40	1,190	12/10/99	<50.0	0.00001	0.16851	29.7	0.00001	0.00086	76,300	0.02547	1.32713
01/07/00	MW-1	0	1,190	12/10/99	<50.0	0.00000	0.16851	29.7	0.00000	0.00086	76,300	0.00000	1.32713
01/13/00	MW-1	45	1,235	12/10/99	<50.0	0.00001	0.16852	29.7	0.00001	0.00088	76,300	0.02865	1.35578
01/12/00	MW-1	35	1,270	12/10/99	<50.0	0.00001	0.16853	29.7	0.00001	0.00088	76,300	0.02228	1.37806
01/25/00	MW-1	35	1,305	12/10/99	<50.0	0.00001	0.16854	29.7	0.00001	0.00089	76,300	0.02228	1.40034
02/01/00	MW-1	22	1,327	12/10/99	<50.0	0.00000	0.16854	29.7	0.00001	0.00090	76,300	0.01401	1.41435
02/11/00	MW-1	28	1,355	12/10/99	<50.0	0.00001	0.16855	29.7	0.00001	0.00091	76,300	0.01783	1.43218
02/15/00	MW-1	25	1,380	12/10/99	<50.0	0.00001	0.16855	29.7	0.00001	0.00091	76,300	0.01592	1.44809
02/23/00	MW-1	20	1,400	12/10/99	<50.0	0.00000	0.16856	29.7	0.00000	0.00092	76,300	0.01273	1.46083
03/02/00	MW-1	7.5	1,407	03/02/00	<2,500	0.00008	0.16863	<25.0	0.00000	0.00092	27,600	0.00173	1.46255
03/10/00	MW-1	40	1,447	03/02/00	<2,500	0.00042	0.16905	<25.0	0.00000	0.00092	27,600	0.00921	1.47177
03/15/00	MW-1	25	1,472	03/02/00	<2,500	0.00026	0.16931	<25.0	0.00000	0.00092	27,600	0.00576	1.47752
03/21/00	MW-1	25	1,497	03/02/00	<2,500	0.00026	0.16957	<25.0	0.00000	0.00093	27,600	0.00576	1.48328
03/27/00	MW-1	30	1,527	03/02/00	<2,500	0.00031	0.16989	<25.0	0.00000	0.00093	27,600	0.00691	1.49019
04/07/00	MW-1	45	1,572	03/02/00	<2,500	0.00047	0.17036	<25.0	0.00000	0.00094	27,600	0.01036	1.50056
04/13/00	MW-1	30	1,602	03/02/00	<2,500	0.00031	0.17067	<25.0	0.00000	0.00094	27,600	0.00691	1.50746
04/20/00	MW-1	25	1,627	03/02/00	<2,500	0.00026	0.17093	<25.0	0.00000	0.00094	27,600	0.00576	1.51322
04/26/00	MW-1	25	1,652	03/02/00	<2,500	0.00026	0.17119	<25.0	0.00000	0.00094	27,600	0.00576	1.51898
05/04/00	MW-1	28	1,680	03/02/00	<2,500	0.00029	0.17148	<25.0	0.00000	0.00095	27,600	0.00645	1.52543
05/09/00	MW-1	45	1,725	03/02/00	<2,500	0.00047	0.17195	<25.0	0.00000	0.00095	27,600	0.01036	1.53579
05/17/00	MW-1	27	1,752	03/02/00	<2,500	0.00028	0.17223	<25.0	0.00000	0.00095	27,600	0.00622	1.54201
05/22/00	MW-1	25	1,777	03/02/00	<2,500	0.00026	0.17249	<25.0	0.00000	0.00096	27,600	0.00576	1.54777
06/01/00	MW-1	25	1,802	03/02/00	<2,500	0.00026	0.17275	<25.0	0.00000	0.00096	27,600	0.00576	1.55353
06/06/00	MW-1	175	1,977	03/02/00	<2,500	0.00183	0.17458	<25.0	0.00002	0.00098	27,600	0.04030	1.59383
06/08/00	MW-1	43	2,020	03/02/00	<2,500	0.00045	0.17503	<25.0	0.00000	0.00098	27,600	0.00990	1.60373
06/15/00	MW-1	29	2,049	06/08/00	<2,000	0.00024	0.17527	<20.0	0.00000	0.00098	67,600	0.01636	1.62009
07/10/00	MW-1	169	2,218	06/08/00	<2,000	0.00141	0.17668	<20.0	0.00001	0.00100	67,600	0.09533	1.71542

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					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)
09/07/00	MW-1	100	2,318	09/05/00	<10,000	0.00417	0.18085	411	0.00034	0.00134	115,000	0.09596	1.81138
10/23/00*	MW-1	100	2,418	09/05/00	<10,000	0.00417	0.18502	411	0.00034	0.00168	71,100	0.05933	1.87071
11/30/00	MW-1	160	2,578	09/05/00	<10,000	0.00668	0.19170	411	0.00055	0.00223	71,100	0.09493	1.96563
12/21/00	MW-1	125	2,703	12/15/00	35,600	0.03713	0.22883	1,310	0.00137	0.00360	136,000	0.14185	2.10749
05/11/01	MW-1	150	2,853	03/09/01	<10,000	0.00626	0.23509	1,390	0.00174	0.00534	161,000	0.14185	2.10749
06/27/01	MW-1	100	2,953	03/09/01	<10,000	0.00417	0.23926	1,390	0.00116	0.00650	161,000	0.14185	2.10749
07/29/99	MW-3	100	100	06/22/99	58,000	0.04840	0.04840	6,600	0.00551	0.00551	653,000	0.54489	0.54489
08/04/99	MW-3	100	200	06/22/99	58,000	0.04840	0.09679	6,600	0.00551	0.01101	653,000	0.54489	1.08977
08/11/99	MW-3	45	245	06/22/99	58,000	0.02178	0.11857	6,600	0.00248	0.01349	653,000	0.24520	1.33497
08/20/99	MW-3	55	300	06/22/99	58,000	0.02662	0.14519	6,600	0.00303	0.01652	653,000	0.29969	1.63466
08/30/99	MW-3	77	377	06/22/99	58,000	0.03727	0.18246	6,600	0.00424	0.02076	653,000	0.41956	2.05422
09/03/99*	MW-3	50	427	06/22/99	58,000	0.02420	0.20666	6,600	0.00275	0.02352	653,000	0.27244	2.32667
09/10/99*	MW-3	40	467	06/22/99	58,000	0.01936	0.22602	6,600	0.00220	0.02572	653,000	0.21795	2.54462
09/23/99	MW-3	10	477	06/22/99	58,000	0.00484	0.23085	6,600	0.00055	0.02627	653,000	0.05449	2.59911
09/29/99	MW-3	50	527	06/22/99	58,000	0.02420	0.25505	6,600	0.00275	0.02902	653,000	0.27244	2.87155
11/05/99	MW-3	50	577	09/30/99	4,360	0.00182	0.25687	121	0.00005	0.02907	35,600	0.01485	2.88640
11/19/99	MW-3	22.5	600	09/30/99	4,360	0.00082	0.25769	121	0.00002	0.02910	35,600	0.00668	2.89309
11/24/99	MW-3	28	628	09/30/99	4,360	0.00102	0.25871	121	0.00003	0.02912	35,600	0.00832	2.90141
12/02/99	MW-3	25	653	09/30/99	4,360	0.00091	0.25962	121	0.00003	0.02915	35,600	0.00743	2.90883
12/17/99	MW-3	35	688	12/10/99	4,220	0.00123	0.26085	973	0.00028	0.02943	88,200	0.02576	2.93459
01/03/00	MW-3	40	728	12/10/99	4,220	0.00141	0.26226	973	0.00032	0.02976	88,200	0.02944	2.96403
01/07/00	MW-3	0	728	12/10/99	4,220	0.00000	0.26226	973	0.00000	0.02976	88,200	0.00000	2.96403
01/13/00	MW-3	45	773	12/10/99	4,220	0.00158	0.26385	973	0.00037	0.03012	88,200	0.03312	2.99715
01/21/00	MW-3	35	808	12/10/99	4,220	0.00123	0.26508	973	0.00028	0.03041	88,200	0.02576	3.02291
01/25/00	MW-3	38	846	12/10/99	4,220	0.00134	0.26642	973	0.00031	0.03072	88,200	0.02797	3.05088
02/01/00	MW-3	23	869	12/10/99	4,220	0.00081	0.26723	973	0.00019	0.03090	88,200	0.01693	3.06780
02/11/00	MW-3	22	891	12/10/99	4,220	0.00077	0.26800	973	0.00018	0.03108	88,200	0.01619	3.08399
02/15/00	MW-3	22	913	12/10/99	4,220	0.00077	0.26877	973	0.00018	0.03126	88,200	0.01619	3.10019

**Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995752, 540 Hegenberger Road, 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)
02/23/00	MW-3	30	943	12/10/99	4,220	0.00106	0.26983	973	0.00024	0.03150	88,200	0.02208	3.12226
03/02/00	MW-3	7	950	03/02/00	65,300	0.00381	0.27365	5,210	0.00030	0.03181	59,800	0.00349	3.12576
03/10/00	MW-3	42	992	03/02/00	65,300	0.02289	0.29653	5,210	0.00183	0.03363	59,800	0.02096	3.14672
03/15/00	MW-3	20	1,012	03/02/00	65,300	0.01090	0.30743	5,210	0.00087	0.03450	59,800	0.00998	3.15670
03/21/00	MW-3	25	1,037	03/02/00	65,300	0.01362	0.32105	5,210	0.00109	0.03559	59,800	0.01247	3.16917
03/27/00	MW-3	40	1,077	03/02/00	65,300	0.02180	0.34285	5,210	0.00174	0.03733	59,800	0.01996	3.18913
04/07/00	MW-3	45	1,122	03/02/00	65,300	0.02452	0.36737	5,210	0.00196	0.03929	59,800	0.02245	3.21158
04/13/00	MW-3	30	1,152	03/02/00	65,300	0.01635	0.38371	5,210	0.00130	0.04059	59,800	0.01497	3.22655
04/20/00	MW-3	25	1,177	03/02/00	65,300	0.01362	0.39733	5,210	0.00109	0.04168	59,800	0.01247	3.23903
04/26/00	MW-3	30	1,207	03/02/00	65,300	0.01635	0.41368	5,210	0.00130	0.04298	59,800	0.01497	3.25400
05/04/00	MW-3	26	1,233	03/02/00	65,300	0.01417	0.42785	5,210	0.00113	0.04411	59,800	0.01297	3.26697
05/09/00	MW-3	45	1,278	03/02/00	65,300	0.02452	0.45237	5,210	0.00196	0.04607	59,800	0.02245	3.28943
05/17/00	MW-3	27	1,305	03/02/00	65,300	0.01471	0.46708	5,210	0.00117	0.04724	59,800	0.01347	3.30290
05/22/00	MW-3	25	1,330	03/02/00	65,300	0.01362	0.48070	5,210	0.00109	0.04833	59,800	0.01247	3.31537
06/01/00	MW-3	25	1,355	03/02/00	65,300	0.01362	0.49432	5,210	0.00109	0.04942	59,800	0.01247	3.32785
06/06/00	MW-3	240	1,595	03/02/00	65,300	0.13077	0.62510	5,210	0.01043	0.05985	59,800	0.11976	3.44761
06/08/00	MW-3	42	1,637	03/02/00	65,300	0.02289	0.64798	5,210	0.00183	0.06168	59,800	0.02096	3.46857
06/15/00	MW-3	29	1,666	06/08/00	72,700	0.01759	0.66557	3,570	0.00086	0.06254	44,400	0.01074	3.47931
07/10/00	MW-3	101	1,767	06/08/00	72,700	0.06127	0.72684	3,570	0.00301	0.06555	44,400	0.03742	3.51673
09/07/00	MW-3	265	2,032	09/05/00	26,100	0.05771	0.78456	959	0.00212	0.06767	24,000	0.05307	3.56980
10/23/00*	MW-3	250	2,282	09/05/00	26,100	0.05445	0.83901	959	0.00200	0.06967	24,000	0.05007	3.61987
11/30/00	MW-3	210	2,492	09/05/00	26,100	0.04574	0.88474	959	0.00168	0.07135	24,000	0.04206	3.66192
12/21/00	MW-3	150	2,642	12/15/00	5,190	0.00650	0.89124	438	0.00055	0.07190	11,800	0.01477	3.67669
05/16/01	MW-3	500	3,142	03/09/01	5,880	0.02453	0.91577	472	0.00197	0.07387			
06/19/01	MW-3	100	3,242	03/09/01	5,880	0.00491	0.92068	472	0.00039	0.07426			
<b>Total Gallons Extracted:</b>		<b>39,743</b>			<b>Total Pounds Removed:</b>		<b>1.20259</b>			<b>0.08100</b>	<b>Total Pounds Removed:</b>		<b>8.16145</b>
					<b>Total Gallons Removed:</b>		<b>0.19715</b>			<b>0.01110</b>			<b>1.31636</b>



**Table 1: Groundwater Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995752, 540 Hegenberger Road, Oakland, California**

Date	Well ID	Volume Pumped (gal)	Cumulative Volume Pumped (gal)	Date Sampled	TPPH			Benzene			MTBE		
					Concentration (ppb)	Removed (pounds)	TPPH Removed To Date (pounds)	Concentration (ppb)	Benzene Removed (pounds)	Benzene Removed To Date (pounds)	Concentration (ppb)	Removed (pounds)	MTBE Removed To Date (pounds)

**Abbreviations & Notes:**

TPPH = Total purgeable hydrocarbons as gasoline  
 MtBE = Methyl tert-butyl ether  
 µg/L = Micrograms per liter  
 ppb = Parts per billion, equivalent to µg/L  
 L = Liter  
 gal = Gallon  
 g = Gram  
 \* = Groundwater extracted per well estimated; subcontractor did not report individual well volumes  
 Mass removed based on the formula: volume extracted (gal) x Concentration (µg/L) x (g/10<sup>6</sup>µg) 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  
 MTBE analyzed by EPA Method 8260 in bold font, all other MTBE analyzed by EPA Method 8020  
 Concentrations based on most recent groundwater monitoring results  
 If concentration is less than the laboratory detection limit, one half of the detection limit concentration is used in the mass removal calculation.  
 Groundwater extracted by vacuum trucks provided by ACTI. Water disposed of at a Martinez Refinery.

# CAMBRIA

**Table 2: Vapor Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995752, 540 Hegenberger Road, Oakland, California**

Date	Well ID	Interval Hours of Operation (hours)	System Flow Rate (CFM)	Hydrocarbon Concentrations			TPHg		Benzene		MTBE	
				TPHg	Benzene	MTBE	Removal Rate	Cumulative TPHg	Removal Rate	Cumulative Benzene	Removal Rate	Cumulative MTBE
				(Concentrations in ppmv)			(#/hour)	(#)	(#/hour)	(#)	(#/hour)	(#)
06/06/00	MW-1	3.00	12.76	4.4	0.192	20.7	0.001	0.002	0.000	0.000	0.004	0.011
07/10/00	MW-1	3.00	11	<28	<0.31	30	0.002	0.008	0.000	0.000	0.005	0.024
09/07/00	MW-1	2.00	2.4	25.4	2.51	138	0.001	0.010	0.000	0.000	0.005	0.033
10/23/00	MW-1	4.00	0.7	1,650	61.6	392	0.015	0.072	0.001	0.002	0.004	0.048
11/30/00	MW-1	4.00	7.0	561	<1.57	62.8	0.052	0.282	0.000	0.003	0.006	0.073
12/21/00	MW-1	3.60	2.1	<2.838	<0.031	<0.277	0.000	0.282	0.000	0.003	0.000	0.073
05/16/01	MW-1	4.00	28.4	400	0.26	44	0.152	0.889	0.000	0.003	<del>0.017</del>	0.141
06/19/01	MW-1	3.83	5.8	350	<0.40	52	0.027	0.993	0.000	0.003	<del>0.004</del>	0.157
<i>2.016#</i>												
06/06/00	MW-3	3.50	9.35	1,371	27.6	32	0.171	0.600	0.003	0.011	0.004	0.014
07/10/00	MW-3	2.00	11	564	8.9	76	0.083	0.766	0.001	0.013	0.011	0.037
09/07/00	MW-3	4.00	4.7	2,832	109	244	0.178	1.477	0.006	0.038	0.016	0.100
10/23/00	MW-3	4.00	1.4	3,040	45.6	323	0.057	1.705	0.001	0.041	0.006	0.125
11/30/00	MW-3	2.00	2.5	23,800	59.9	974	0.795	3.296	0.002	0.045	0.033	0.191
12/21/00	MW-3	4.50	3.0	<2.838	<0.031	<0.277	0.000	3.296	0.000	0.045	0.000	0.191
05/16/01	MW-3	4.25	0.9	21,000	64	270	0.253	4.370	0.001	0.048	<del>0.035</del>	0.335
06/19/01	MW-3	5.83	2.4	14,000	62	300	0.449	6.988	0.002	0.058	<del>0.002</del>	0.058
<i>0.058#</i>												
<b>Total Pounds Removed:</b>							<b>TPHg =</b>	<b>7.982</b>	<b>Benzene =</b>	<b>0.062</b>	<b>MTBE =</b>	<b>0.420</b>

*eg, 205 + 523 (.01)  
+ .058  
= .263 ✓*

**Table 2: Vapor Extraction - Mass Removal Data - Shell-branded Service Station, Incident #98995752, 540 Hegenberger Road, Oakland, California**

**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/386ft<sup>3</sup>) x molecular weight (86 lb/lb-mole for TPHg, 78 lb/lb-mole for benzene, 88 lb/lb-mole for MTBE)  
x 60 min/hour x 1/1,000,000)

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

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

**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  
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July 23, 2001

Karen Petryna  
Equiva Services LLC  
P.O. Box 7869  
Burbank, CA 91510-7869

Second Quarter 2001 Groundwater Monitoring at  
Shell-branded Service Station  
540 Hegenberger Road  
Oakland, CA

Monitoring performed on June 27, 2001

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Groundwater Monitoring Report 010627-R-3

This report covers the routine monitoring of groundwater wells at this Shell-branded facility. In accordance with standard procedures that conform to Regional Water Quality Control Board requirements, routine field data collection includes depth to water, total well depth, thickness of any separate immiscible layer, water column volume, calculated purge volume (if applicable), elapsed evacuation time (if applicable), total volume of water removed (if applicable), and standard water parameter instrument readings. Sample material is collected, contained, stored, and transported to the laboratory in conformance with EPA standards. Purgewater (if applicable) is, likewise, collected and transported to the 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. In order to avoid compromising the objectivity necessary for the proper and disinterested performance of this work, Blaine Tech Services, Inc. concentrates on objective data collection and does not participate in the interpretation of analytical results, the definition of geological or hydrological conditions, the formulation of recommendations, or the marketing of remedial systems.

Please call if you have any questions.

Yours truly,



Nick Sudano  
Project Coordinator

NS/mb

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

cc: Anni Kreml  
Cambria Environmental Technology, Inc.  
1144 65<sup>th</sup> Street  
Oakland, CA 94608-2411

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**540 Hegenberger Road**  
**Oakland, CA**  
**WIC #204-5508-5900**

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
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MW-1 (a)	08/26/1998	2,700	28	55	59	39	33,000	NA	10.54	7.91	2.63	1.8
MW-1 (b)	08/26/1998	<1,000	22	<10	<10	<10	17,000	NA	10.54	7.91	2.63	2.2
MW-1	12/28/1998	<5,000	<50.0	<50.0	<50.0	<50.0	153,000	33,000	10.54	8.75	1.79	1.9
MW-1	03/29/1999	<2,000	<20.0	<20.0	<20.0	<20.0	693,000	NA	10.54	8.32	2.22	2.0
MW-1	06/22/1999	20,000	<200	<200	<200	<200	150,000	NA	10.54	9.05	1.49	1.7
MW-1	09/30/1999	<2,500	<25.0	<25.0	<25.0	<25.0	30,900	NA	10.54	8.35	2.19	2.6
MW-1	11/19/1999	NA	NA	NA	NA	NA	NA	NA	10.54	9.58	0.96	NA
MW-1	11/24/1999	NA	NA	NA	NA	NA	NA	NA	10.54	9.65	0.89	NA
MW-1	12/02/1999	NA	NA	NA	NA	NA	NA	NA	10.54	9.55	0.99	NA
MW-1	12/10/1999	<50.0	29.7	<20.0	<20.0	<20.0	76,300	NA	10.54	8.86	1.68	1.2
MW-1	03/02/2000	<2,500	<25.0	<25.0	<25.0	<25.0	27,600	NA	10.54	8.83	1.71	3.2
MW-1	06/08/2000	<2,000	<20.0	<20.0	<20.0	<20.0	59,000	67,600	10.54	7.78	2.76	1.9
MW-1	09/05/2000	<10,000	411	<100	<100	<100	71,100	115,000e	10.54	7.84	2.70	NA
MW-1	12/15/2000	35,600	1,310	<50.0	<50.0	<50.0	136,000	f	10.54	7.65	2.89	NA
MW-1	03/09/2001	<10,000	1,390	<100	<100	<100	89,600	164,000	10.54	6.44	4.10	NA
MW-1	06/27/2001	<5,000	<50	<50	<50	<50	NA	19,000	10.54	8.46	2.08	NA

MW-2 (a)	08/26/1998	<250	3.2	<2.5	<2.5	<2.5	4,000	NA	9.21	7.18	2.03	2.4
MW-2 (b)	08/26/1998	<250	3.1	<2.5	<2.5	<2.5	4,800	NA	9.21	7.18	2.03	2.7
MW-2 (D)(b)	08/26/1998	<250	4.8	<2.5	<2.5	6.0	3,300	NA	9.21	7.18	2.03	2.7
MW-2	12/28/1998	<50.0	<0.500	<0.500	<0.500	<0.500	28.8	NA	9.21	7.34	1.87	2.1
MW-2	03/29/1999	235	<0.500	<0.500	<0.500	3.4	101	NA	9.21	6.85	2.36	2.0
MW-2	06/22/1999	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	9.21	7.10	2.11	1.9
MW-2	09/30/1999	<50.0	<0.500	<0.500	<0.500	<0.500	1,700	NA	9.21	8.06	1.15	1.0
MW-2	12/10/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	9.21	8.61	0.60	1.4
MW-2	03/02/2000	<500	11.5	<5.00	<5.00	<5.00	5,280	NA	9.21	6.33	2.88	0.4

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**540 Hegenberger Road**  
**Oakland, CA**  
**WIC #204-5508-5900**

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
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MW-2	06/08/2000	<50.0	0.670	<0.500	<0.500	<0.500	3,160	NA	9.21	6.87	2.34	1.6
MW-2	09/05/2000	<1,000	<10.0	<10.0	<10.0	<10.0	9,600	NA	9.21	6.79	2.42	NA
MW-2	12/15/2000	<200	<2.00	<2.00	<2.00	<2.00	6,320	NA	9.21	6.76	2.45	NA
MW-2	03/09/2001	<500	<5.00	<5.00	<5.00	<5.00	17,200	NA	9.21	6.28	2.93	NA
<b>MW-2</b>	<b>06/27/2001</b>	<b>&lt;100</b>	<b>1.4</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;2.0</b>	<b>NA</b>	<b>470</b>	<b>9.21</b>	<b>7.12</b>	<b>2.09</b>	<b>NA</b>

MW-3 (a)	08/26/1998	2,300	180	330	<0.50	420	44,000	NA	9.45	6.52	2.93	1.8
MW-3 (b)	08/26/1998	<50	<0.50	<0.50	<0.50	<0.50	52,000	75,000	9.45	6.52	2.93	2.3
MW-3	12/28/1998	<5,00	139	<50.0	<50.0	<50.0	15,100	NA	9.45	6.73	2.72	1.7
MW-3	03/29/1999	52,500	5,500	6,900	1,360	6,250	508,000	630,000 <sup>(c)</sup>	9.45	6.21	3.24	2.1
MW-3	06/22/1999	58,000	6,600	9,850	1,640	6,950	677,000	653,000	9.45	7.00	2.45	1.3
MW-3	09/30/1999	4,360	121	122	36.1	647	33,700	35,600	9.45	6.84	2.61	0.6
MW-3	11/19/1999	NA	NA	NA	NA	NA	NA	NA	9.45	7.93	1.52	NA
MW-3	11/24/1999	NA	NA	NA	NA	NA	NA	NA	9.45	8.25	1.20	NA
MW-3	12/02/1999	NA	NA	NA	NA	NA	NA	NA	9.45	7.55	1.90	NA
MW-3	12/10/1999	4,220	973	26.3	273	584	88,200	NA	9.45	7.28	2.17	2.5
MW-3	03/02/2000	65,300	5,210	10,300	2,650	15,100	56,800	59,800 <sup>e</sup>	9.45	5.87	3.58	d
MW-3	06/08/2000	72,700	3,570	10,200	2,100	13,400	44,400	NA	9.45	5.32	4.13	1.1
MW-3	09/05/2000	26,100	959	2,910	1,090	5,640	24,000	NA	9.45	5.60	3.85	NA
MW-3	12/15/2000	5,190	438	8.39	483	530	19,100	11,800 <sup>f</sup>	9.45	6.27	3.18	NA
MW-3	03/09/2001	5,880	472	42.2	392	1,290	41,800	NA	9.45	5.71	3.74	NA
<b>MW-3</b>	<b>06/27/2001</b>	<b>9,100</b>	<b>330</b>	<b>79</b>	<b>140</b>	<b>1,600</b>	<b>NA</b>	<b>31,000</b>	<b>9.45</b>	<b>6.88</b>	<b>2.57</b>	<b>NA</b>

MW-4	09/25/2000	NA	NA	NA	NA	NA	NA	NA	9.88	7.64	2.24	NA
MW-4	12/15/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	9.88	7.55	2.33	NA
MW-4	03/09/2001	<50.0	<0.500	0.730	<0.500	0.529	3.16	NA	9.88	7.04	2.84	NA



**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**540 Hegenberger Road**  
**Oakland, CA**  
**WIC #204-5508-5900**

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-4	06/27/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	9.88	7.76	2.12	NA
BW-B	06/27/2001	<5,000	<50	<50	<50	<50	NA	40,000	NA	5.83	NA	NA
A	06/22/1999	318	<0.50	<0.50	0.590	1.48	4,470	NA	NA	4.71	NA	1.1
B	06/22/1999	<250	<2.5	<2.5	<2.5	<2.5	8,600	NA	NA	5.90	NA	1.2
C	06/22/1999	<50	<0.50	<0.50	<0.50	0.98	11,000	NA	NA	5.91	NA	1.6
D	06/22/1999	<50.0	<0.500	<0.500	<0.500	<0.500	2,190	NA	NA	4.78	NA	1.4

**Abbreviations:**

TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B; prior to June 27, 2001, analyzed by EPA method 8015.

BTEX = benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B; prior to June 27, 2001, analyzed by EPA method 8020.

MTBE = methyl-tertiary-butyl ether

TOC = Top of Casing Elevation

GW = Groundwater

DO = Dissolved Oxygen

ppm = parts per million

ug/L = parts per billion

msl = Mean sea level

ft = Feet

<n = Below detection limit

D = Duplicate sample

NA = Not applicable

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**540 Hegenberger Road**  
**Oakland, CA**  
**WIC #204-5508-5900**

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

Notes:

a = pre-purge

b = post purge

c = Lab confirmed MTBE by mistake. MTBE value at MW-1 should have been confirmed instead.

d = DO reading not taken.

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

f = The second highest MTBE hit was mistakenly confirmed. MTBE for MW-1 should have been confirmed.

Site surveyed September 21, 2000 by Virgil Chavez Land Surveying of Vallejo, California.



Report Number : 21035

Date : 7/12/2001

Nick Sudano  
Blaine Tech Services  
1680 Rogers Avenue  
San Jose, CA 95112-1105

Subject : 5 Water Samples  
Project Name : 540 Hegenberger Road, Oakland  
Project Number : 010627-K3  
P.O. Number : 98995752

Dear Mr. Sudano,

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

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

Sincerely,

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

Joel Kiff



Report Number : 21035

Date : 7/12/2001

Project Name : 540 Hegenberger Road, Oakland

Project Number : 010627-K3

Sample : MW-1

Matrix : Water

Lab Number : 21035-01

Sample Date :6/27/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	< 50	50	ug/L	EPA 8260B	7/6/2001
<b>Toluene</b>	< 50	50	ug/L	EPA 8260B	7/6/2001
<b>Ethylbenzene</b>	< 50	50	ug/L	EPA 8260B	7/6/2001
<b>Total Xylenes</b>	< 50	50	ug/L	EPA 8260B	7/6/2001
<b>Methyl-t-butyl ether (MTBE)</b>	<b>19000</b>	50	ug/L	EPA 8260B	7/6/2001
<b>TPH as Gasoline</b>	< <b>5000</b>	5000	ug/L	EPA 8260B	7/6/2001
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	7/6/2001
4-Bromofluorobenzene (Surr)	99.5		% Recovery	EPA 8260B	7/6/2001

Sample : MW-2

Matrix : Water

Lab Number : 21035-02

Sample Date :6/27/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	<b>1.4</b>	1.0	ug/L	EPA 8260B	7/6/2001
<b>Toluene</b>	< <b>1.0</b>	1.0	ug/L	EPA 8260B	7/6/2001
<b>Ethylbenzene</b>	< <b>1.0</b>	1.0	ug/L	EPA 8260B	7/6/2001
<b>Total Xylenes</b>	< <b>2.0</b>	2.0	ug/L	EPA 8260B	7/6/2001
<b>Methyl-t-butyl ether (MTBE)</b>	<b>470</b>	20	ug/L	EPA 8260B	7/6/2001
<b>TPH as Gasoline</b>	< <b>100</b>	100	ug/L	EPA 8260B	7/6/2001
Toluene - d8 (Surr)	95.5		% Recovery	EPA 8260B	7/6/2001
4-Bromofluorobenzene (Surr)	111		% Recovery	EPA 8260B	7/6/2001

Approved By:  Joel Kiff



Report Number : 21035

Date : 7/12/2001

Project Name : 540 Hegenberger Road, Oakland

Project Number : 010627-K3

Sample : MW-3

Matrix : Water

Lab Number : 21035-03

Sample Date :6/27/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	330	50	ug/L	EPA 8260B	7/6/2001
Toluene	79	50	ug/L	EPA 8260B	7/6/2001
Ethylbenzene	140	50	ug/L	EPA 8260B	7/6/2001
Total Xylenes	1600	50	ug/L	EPA 8260B	7/6/2001
Methyl-t-butyl ether (MTBE)	31000	500	ug/L	EPA 8260B	7/6/2001
TPH as Gasoline	9100	5000	ug/L	EPA 8260B	7/6/2001
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	7/6/2001
4-Bromofluorobenzene (Surr)	102		% Recovery	EPA 8260B	7/6/2001

Sample : MW-4

Matrix : Water

Lab Number : 21035-04

Sample Date :6/27/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	7/6/2001
Toluene	< 0.50	0.50	ug/L	EPA 8260B	7/6/2001
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	7/6/2001
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	7/6/2001
Methyl-t-butyl ether (MTBE)	< 5.0	5.0	ug/L	EPA 8260B	7/6/2001
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	7/6/2001
Toluene - d8 (Surr)	99.6		% Recovery	EPA 8260B	7/6/2001
4-Bromofluorobenzene (Surr)	100		% Recovery	EPA 8260B	7/6/2001

Approved By:  Joel Kiff



Report Number : 21035

Date : 7/12/2001

Project Name : 540 Hegenberger Road, Oakland

Project Number : 010627-K3

Sample : BW-B

Matrix : Water

Lab Number : 21035-05

Sample Date :6/27/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	< 50	50	ug/L	EPA 8260B	7/6/2001
<b>Toluene</b>	< 50	50	ug/L	EPA 8260B	7/6/2001
<b>Ethylbenzene</b>	< 50	50	ug/L	EPA 8260B	7/6/2001
<b>Total Xylenes</b>	< 50	50	ug/L	EPA 8260B	7/6/2001
<b>Methyl-t-butyl ether (MTBE)</b>	<b>40000</b>	50	ug/L	EPA 8260B	7/6/2001
<b>TPH as Gasoline</b>	< 5000	5000	ug/L	EPA 8260B	7/6/2001
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	7/6/2001
4-Bromofluorobenzene (Surr)	101		% Recovery	EPA 8260B	7/6/2001

Approved By:  \_\_\_\_\_  
Joel Kiff

Report Number : 21035

Date : 7/12/2001

Project Name : **540 Hegenberger Road,**

Project Number : **010627-K3**

21035 Quality Control Data - Method Blank

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	< 0.50	0.50	ug/L	EPA 8260B	7/5/2001
<b>Toluene</b>	< 0.50	0.50	ug/L	EPA 8260B	7/5/2001
<b>Ethylbenzene</b>	< 0.50	0.50	ug/L	EPA 8260B	7/5/2001
<b>Total Xylenes</b>	< 0.50	0.50	ug/L	EPA 8260B	7/5/2001
<b>Methyl-t-butyl ether (MTBE)</b>	< 0.50	0.50	ug/L	EPA 8260B	7/5/2001
<b>TPH as Gasoline</b>	< 50	50	ug/L	EPA 8260B	7/5/2001
Toluene -d8 (Surr)	101		% Recovery	EPA 8260B	7/5/2001
4-Bromofluorobenzene (Surr)	99.8		% Recovery	EPA 8260B	7/5/2001

Approved By:  Joel Kiff

Report Number : 21035

Date : 7/12/2001

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : 540 Hegenberger Road,

Project Number : 010627-K3

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Spike Recovery Data														
Benzene	21036-01	340	19.8	19.4	324	310	ug/L	EPA 8260B	7/4/2001	0.00	0.00	0.00	70-130	25
Toluene	21036-01	4.0	19.8	19.4	21.2	20.8	ug/L	EPA 8260B	7/4/2001	86.8	86.6	0.334	70-130	25
Tert-Butanol	21036-01	4100	98.8	97.2	2810	2770	ug/L	EPA 8260B	7/4/2001	0.00	0.00	0.00	70-130	25
Methyl-t-Butyl Ether	21036-01	6300	19.8	19.4	4200	3920	ug/L	EPA 8260B	7/4/2001	0.00	0.00	0.00	70-130	25

KIFF ANALYTICAL, LLC

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

Approved By:  Joel Kiff



Report Number : 21035

Date : 7/12/2001

QC Report : Laboratory Control Sample (LCS)

Project Name : 540 Hegenberger Road,

Project Number : 010627-K3

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	19.5	ug/L	EPA 8260B	7/3/2001	94.2	70-130
Toluene	19.5	ug/L	EPA 8260B	7/3/2001	98.1	70-130
Tert-Butanol	97.5	ug/L	EPA 8260B	7/3/2001	95.8	70-130
Methyl-t-Butyl Ether	19.5	ug/L	EPA 8260B	7/3/2001	101	70-130

KIFF ANALYTICAL, LLC

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

Approved By:  Joel Kiff

LAB: KIFF

EQUIVA Services LLC Chain Of Custody Record 20135

Lab Identification (if necessary):

Address:

City, State, Zip:

Equiva Project Manager to be Invoiced:

- SCIENCE & ENGINEERING
- TECHNICAL SERVICES
- OINT. HOUSTON

Karen Petryna

9	8	9	9	5	7	5	2
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DATE: 6/27/01  
PAGE: 1 of 1

CONSULTANT COMPANY:  
**Blaine Tech Services**  
ADDRESS:  
**1880 Rogers Avenue**  
CITY:  
**San Jose, CA 95112**  
TELEPHONE:  
**408-573-0565** FAX:  
**408-573-7771** E-MAIL:  
**nsudano@blainetech.com**

SITE ADDRESS (Street and City):  
**540 Hegenberger Road, Oakland**

PROJECT CONTACT (Report):  
**Nick Sudano** CONSULTANT PROJECT NO.:  
**016627-R3**

SAMPLER NAME(S) (Pkg):  
**Tree-**

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

LA - RWQCB REPORT FORMAT  UST AGENCY:

OCMS MTBE CONFIRMATION: HIGHEST \_\_\_\_\_ HIGHEST per BORING \_\_\_\_\_ ALL \_\_\_\_\_

SPECIAL INSTRUCTIONS OR NOTES: TEMPERATURE ON RECEIPT

REQUESTED ANALYSIS

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

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	NO. OF CONT.	TPH - Gas, Purgeable (2015m)	BTEX (2021B)	MTBE (2021B)	MTBE (2020B)	TPH - Diesel, Extractable (2015m)	Oxygenates (B) by (2020B)	Ethanol (2020B)	Methanol	MTBE (2020B) Confirmation. See Note	FIELD NOTES
		DATE	TIME												
	MW-1	6/27	1705	W	6	X	X	X	X						-01
	MW-2	1	1625			X	X	X							-02
	MW-3		1646			X	X	X							-03
	MW-4		1630			X	X	X							-04
	<del>BW-B</del>	<del>6/27</del>	<del>1715</del>	<del>W</del>	<del>6</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>						
	BW-B	6/27	1745	W	6	X	X	X							-05

Relinquished by: (Signature)  
*[Signature]*

Received by: (Signature)  
*[Signature]*

Date: 6/27/01 Time: 1912

Relinquished by: (Signature)  
*[Signature]*

Received by: (Signature)  
*[Signature]*

Date: 062001 Time: 1148

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

10/18/00 Revision

G&A Graphs (714) 886-8700

WELL GAUGING DATA

Project # 010627-R3 Date 6/27/01 Client EJ 98995752

Site 540 Hegenberger - 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-3	2		Stinger in well see MW-4			8.46	23.63	TOC
MW-2	2					7.12	19.57	
MW-3	2		Stinger in well removed	Stinger to gauge	6.88	19.46		
MW-4	4		Stinger in well removed	Stinger to gauge	7.76	18.53		TOC
BW-B	4					5.83	11.74	

## EQUIVA WELL MONITORING DATA SHEET

BTS #: <u>010627-23</u>	Site: <u>98995752</u>
Sampler: <u>Trei</u>	Date: <u>6/27/01</u>
Well I.D.: <u>MW-1</u>	Well Diameter: <u>3</u> 4 6 8
Total Well Depth: <del>19.57</del> <u>23.63</u>	Depth to Water: <u>8.46</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:

- Bailer
- Disposable Bailer
- Middleburg
- Electric Submersible
- Waterra
- Peristaltic
- Extraction Pump
- Other \_\_\_\_\_

Sampling Method:

- Bailer
- Disposable Bailer
- Extraction Port
- Dedicated Tubing

Other: \_\_\_\_\_

<u>2.4</u>	(Gals.) X	<u>3</u>	=	<u>7</u>	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 <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
<u>1648</u>	<u>66.8</u>	<u>7.4</u>	<u>4650</u>	<u>&gt;200</u>	<u>3</u>	<u>Turbid</u>
<u>1652</u>	<u>66.4</u>	<u>7.3</u>	<u>6753</u>	<u>&gt;200</u>	<u>5</u>	<u>"</u>
<u>1658</u>	<u>66.0</u>	<u>7.3</u>	<u>9350</u>	<u>&gt;200</u>	<u>7</u>	<u>"</u>

Did well dewater? Yes  No  Gallons actually evacuated: 7

Sampling Time: 1705 Sampling Date: 6/27/01

Sample I.D.: MW-1 Laboratory: Sequoia Columbia  Other KIFR

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

## EQUIVA WELL MONITORING DATA SHEET

BTS #: 010627-R3	Site: 98995752
Sampler: Hawk	Date: 6-27-01
Well I.D.: MW-2	Well Diameter: ② 3 4 6 8
Total Well Depth: 19.57	Depth to Water: 7.12
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:

- Bailer  
 Disposable Bailer  
 Middleburg  
 Electric Submersible
- Waterra  
 Peristaltic  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method:

- Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing  
 Other: \_\_\_\_\_

1.9 (Gals.)	X 3	= 5.7 Gals.
I Case Volume	Specified Volumes	Calculated Volume

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

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
1610	70.7	6.8	1004	>200	2	
1614	70.4	6.7	1019	>200	4	
1618	70.1	6.7	1024	>200	6	

Did well dewater? Yes  No  Gallons actually evacuated: 6

Sampling Time: 1623 Sampling Date: 6-27-01

Sample I.D.: MW-2 Laboratory: Sequoia Columbia  Other: KIFF

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

## EQUIVA WELL MONITORING DATA SHEET

BTS #: 010627-123	Site: 98995752
Sampler: Hank	Date: 6-27-01
Well I.D.: MW-3	Well Diameter: (2) 3 4 6 8
Total Well Depth: 19.46	Depth to Water: 6.88
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:

- Bailer  
 Disposable Bailer  
 Middleburg  
 Electric Submersible  
 Waterra  
 Peristaltic  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method:

- Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing  
 Other: \_\_\_\_\_

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

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

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
1635	69.6	7.0	8477	>200	2	
1638	69.4	7.1	7989	>200	4	
1641	69.2	7.1	7997	>200	6	

Did well dewater? Yes  No  Gallons actually evacuated: 6

Sampling Time: 1646      Sampling Date: 6-27-01

Sample I.D.: MW-3      Laboratory: Sequoia Columbia Other KIFF

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

## EQUIVA WELL MONITORING DATA SHEET

BTS #: <u>010627-R1</u>	Site: <u>98995752</u>
Sampler: <u>Trei</u>	Date: <u>6/27/01</u>
Well I.D.: <u>MW-4</u>	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: <u>18.53</u>	Depth to Water: <u>7.76</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:

- Bailer  
 Disposable Bailer  
 Middleburg  
 Electric Submersible  
 Waterra  
 Peristaltic  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method:

- Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing  
 Other: \_\_\_\_\_

<u>2.0</u> (Gals.) X	<u>3</u>	= <u>21</u> 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 <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
<u>1620</u>	<u>68.5</u>	<u>7.3</u>	<u>4749</u>	<u>&gt;200</u>	<u>7</u>	<u>Turbid</u>
<u>1623</u>	<u>68.3</u>	<u>7.3</u>	<u>4778</u>	<u>&gt;200</u>	<u>14</u>	<u>"</u>
<u>1625</u>	<u>68.0</u>	<u>7.34</u>	<u>4863</u>	<u>&gt;200</u>	<u>21</u>	<u>"</u>

Did well dewater? Yes  No  Gallons actually evacuated: 21

Sampling Time: 1630 Sampling Date: 6/27/01

Sample I.D.: MW-4 Laboratory: Sequoia Columbia  Other KIEE

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

# EQUIVA WELL MONITORING DATA SHEET

SEP 10 2001

BTS #: 010627-R3	Site: 98995752
Sampler: Teei-	Date: 6/27/01
Well I.D.: BW-B	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: 11.74	Depth to Water: 5.83
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:

- Bailer
- Disposable Bailer
- Middleburg
- Electric Submersible
- Waterra
- Peristaltic
- Extraction Pump
- Other \_\_\_\_\_

Sampling Method:

- Bailer
- Disposable Bailer
- Extraction Port
- Dedicated Tubing

Other: \_\_\_\_\_

3.8 (Gals.) X 3 = 11 Gals.  
 I Case Volume      Specified Volumes      Calculated Volume

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

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
1730	73.5	6.9	5332	> 200	4	Turbid
1732	75.7	6.6	1036	126	8	Clear
1734	76.9	6.6	983.0	24.7	11	"
* 1735	77.0	6.6	980.0	9	14	"

Did well dewater? Yes  No  Gallons actually evacuated: 14

Sampling Time: 1743      Sampling Date: 6/27/01

Sample I.D.: BW-B      Laboratory: Sequoia Columbia Other KIFF

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