July 12, 2006

Peter Van Alyea
Redwood Oil Company
50 Professional Center Drive, Suite 100
Rohnert Park, CA 94928

Groundwater Monitoring Report
May 2006
Redwood Oil Service Station #102
7716 Old Redwood Highway
Cotati, California
ECM Project # 98-516-14

Dear Mr. Van Alyea:

This report provides the results of the quarterly groundwater monitoring at Redwood Oil Service Station #102, located at 7716 Old Redwood Highway in Cotati, California (Figure 1, Appendix A). On May 23, 2006, ECM personnel visited the site. Groundwater elevations were measured and groundwater samples were collected from the ten monitoring wells (MW-1A through MW-6, MW-7A, MW-7B, MW-8A, and MW-8B) in accordance with the site monitoring program. The well locations are provided on Figure 2 (Appendix A).

Groundwater levels were measured in each of the wells. Free-phase hydrocarbons were not observed in any of the wells. Wellheads and well vaults were observed to be in good condition. Water level data and well construction details are provided in Table 1 (Appendix B). Groundwater monitoring was conducted concurrently at 7675 Old Redwood Highway. Ground water elevation data for the adjacent site at 7675 Old Redwood Highway are included in Table 4 (Appendix B). A ground water elevation contour map is included as Figure 2 (Appendix A).

The groundwater samples were forwarded under chain of custody record to Entech Analytical Labs of Santa Clara, California for analysis. Analytical results for ground water are included in Tables 2 and 3 (Appendix B). Groundwater samples were collected in accordance with ECM Standard Operating Procedure - Groundwater Sampling (Appendix E). The chain of custody document and laboratory analytical reports are included in Appendix C. The water sampling data sheets are included in Appendix D. Purge water and decon rinseate were transported to an ROC holding tank for appropriate disposal.

Wells MW-1A, MW-2A, and MW-3 represent the most impacted areas of the site. Gasoline, BTEX hydrocarbons, and the oxygenates TBA and MTBE have consistently been reported in

samples from wells MW-1A through MW-3. Concentrations of gasoline and BTEX compounds have decreased significantly in MW-1A since sampling began. Concentrations of xylenes, MTBE, and TBA detected in the May 2006 sample from MW-1A were significantly lower than in previous samples from MW-1A. No other analytes were detected in the sample from MW-1A.

Contaminant concentrations detected in the May 2006 sample from MW-2 were consistent with concentrations detected in previous samples from MW-2.

Concentrations of gasoline, BTEX hydrocarbons, TBA, and MTBE detected in the May 2006 samples from MW-3 were significantly lower than concentrations detected in previous samples from MW-3.

Wells MW-4, MW-5, and MW-6 are located off site. Wells MW-5 and MW-6 are sampled quarterly and well MW-4 is sampled on a semi-annual basis in May and November. Concentrations have consistently been low or below detection limits for all contaminants of concern in samples from wells MW-4 through MW-6. Very low concentrations of xylenes were detected in the May 2006 samples from wells MW-4 and MW-5. No other analytes were detected in the samples. Very low concentrations of BTEX compounds and MTBE were detected in the sample from MW-6. No other analytes were detected in the sample from MW-6.

Wells MW-7A and MW-8A were installed in April, 2005 to monitor groundwater at approximately 40-55 ft bgs. Wells MW-7B and MW-8B were installed in April, 2005 to monitor groundwater at approximately 60-75 ft bgs. Wells MW-7A and MW-7B are nested, and wells MW-8A and MW-8B are nested, in order to evaluate the vertical extent of contamination at each location.

Contaminant concentrations reported in samples from MW-7A have generally been consistent with samples from other on-site monitoring wells. Samples from the May 2006 monitoring event were consistent with previous samples. The oxygenates MTBE and TBA were detected in the sample. Detection limits were raised for other contaminants due to the concentration of MTBE present in the sample. No other contaminants were detected in the sample from MW-7A at the increased detection limits. MTBE was detected in the sample from MW-7B at a concentration several orders of magnitude lower than the concentration in the sample from well MW-7A. A very low concentration of benzene was also detected in the sample. No other analytes were detected in the sample from MW-7B.

Low concentrations of TPH(G), BTEX compounds, and MTBE were detected in the May, 2006 sample from MW-8A. Concentrations were consistent with concentrations reported in previous samples. The concentrations of BTEX hydrocarbons and MTBE detected in the sample from MW-8B were lower than the concentrations detected in the sample from MW-8A. No TPH(G) or other fuel oxygenates were detected in the sample from MW-8B.

The next groundwater monitoring event at this site is scheduled for August, 2006.

Thank you for the opportunity to provide environmental services to Redwood Oil Company. Please call if you have any questions.

Sincerely,
ECM Group

David Hazard
Environmental Scientist

Chris Bramer
Professional Engineer #C048846

Appendices:
- A - Figures
- B - Tables
- C - Chain of Custody and Laboratory Analytical Report
- D - Water Sampling Data Sheets
- E - Standard Operating Procedure

cc: Darcy Bering, Sonoma County Department of Health Services

C1:ECMQMs\51614.May06

APPENDIX A

FIGURES

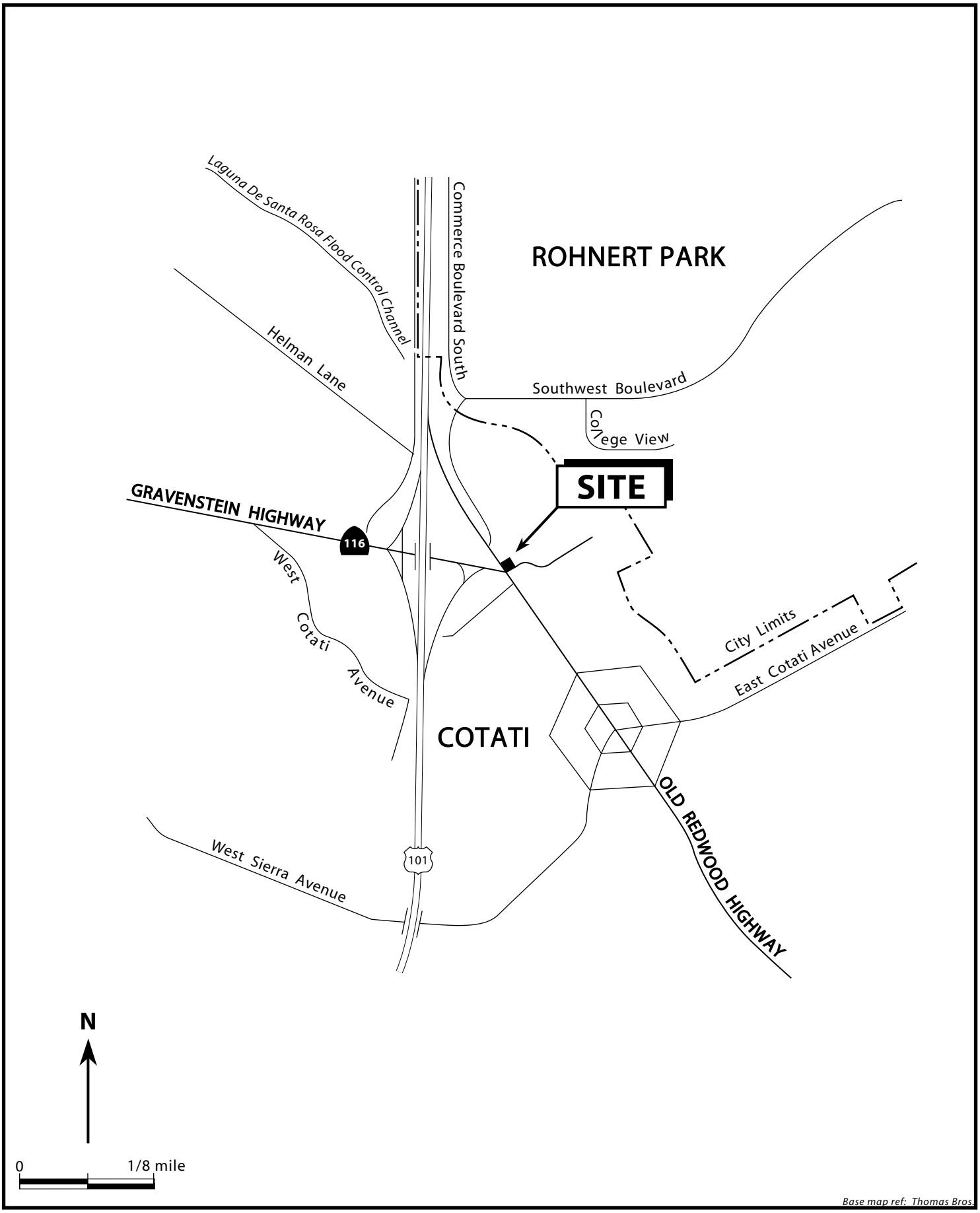

Figure 1. Site Location Map – Redwood Oil Service Station #102, 7716 Old Redwood Highway, Cotati, California

98-516 [site loc map] 10-03

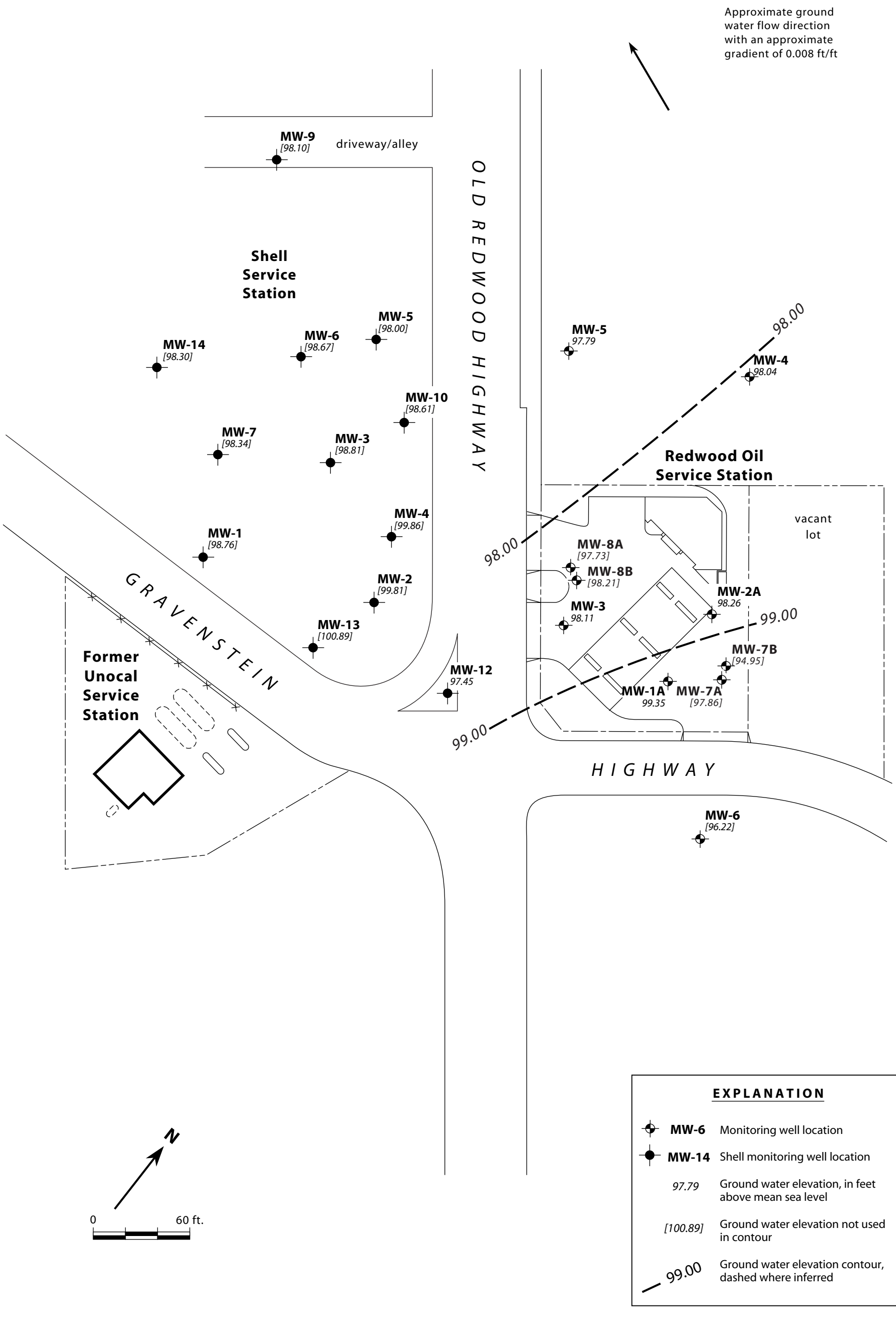

Figure 2. Monitoring Well Locations and Ground Water Elevation Contour Map - May 15, 2006 - Redwood Oil Service Station #102, 7716 Old Redwood, Cotati, California

98-516-14 [GW 5-06] 7/7/06

APPENDIX B

TABLES

Table 1. Water Level Data Well Construction Details - Redwood Oil Service Station #102 7716 Old Redwood Highway, Cotati, California

Well ID	Sample Date	DTW (Ft)	TOC (Ft, msl)	GWE (Ft, msl)	Product Thickness (ft)	Screen Interval	Sand Pack Interval	Bentonite/ Grout Interval	Notes
MW-1	9/26/1991	15.89	101.59	85.70	0.00	10 - 25	8 - 25	0 - 8	
	12/19/1991	18.30		83.29	0.00				
	3/16/1992	7.61		93.98	0.00				
	6/24/1992	9.27		92.32	0.00				
	9/23/1992	14.16		87.43	0.00				
	12/18/1992	9.31		92.28	0.00				
	3/22/1993	4.60		96.99	0.00				
	6/22/1993	8.50		93.09	0.00				
	9/24/1993	10.65		90.94	0.00				
	12/28/1993	9.66		91.93	0.00				
	3/25/1994	8.16		93.43	0.00				
	6/20/1994	9.06		92.53	0.00				
	9/8/1994	10.35		91.24	0.00				
	12/12/1994	8.44		93.15	0.00				
	3/15/1995	3.95		97.64	0.00				
	7/6/1995	6.93		94.66	0.00				
	9/19/1995	9.39		92.20	0.00				
	12/20/1995	12.70		88.89	0.00				
	3/28/1996	6.39		95.20	0.00				
	6/24/1996	9.36		93.75	1.90				Note 1: GWE corrected for the presence of free phase hydrocarbons.
	9/26/1996	12.88		91.93	4.02				See Note 1
	12/31/1996	4.51		97.26	0.22				See Note 1
	3/18/1997	6.84		94.77	0.02				See Note 1
	6/30/1997	9.33		92.26	trace				
	9/26/1997	11.25		90.62	0.35				See Note 1
	12/10/1997	5.96		95.72	0.11				See Note 1
	3/9/1998	3.79		97.80	0.00				
	6/16/1998	7.00		94.59	0.00				
	9/14/1998	9.22		92.37	0.00				
	12/15/1998	7.30		94.32	0.04				See Note 1
	3/24/1999	5.65		95.94	0.00				
	6/11/1999	8.10		93.49	0.00				
	9/9/1999	—		—	---				Well damaged during UST removal.

Table 1. Water Level Data Well Construction Details - Redwood Oil Service Station #102 7716 Old Redwood Highway, Cotati, California

Well ID	Sample Date	DTW (Ft)	TOC (Ft, msl)	GWE (Ft, msl)	Product Thickness (ft)	Screen Interval	Sand Pack Interval	Bentonite/ Grout Interval	Notes
MW-1A	3/26/2001	5.93	101.45	95.52	0.00	5 - 20	4 - 20	0 - 4	
	6/19/2001	6.75		94.70	0.00				
	9/7/2001	10.47		90.98	0.00				
	12/4/2001	6.41		95.04	0.00				
	2/26/2002	5.62	103.85	98.23	0.00				Monitoring well surveyed for EDF compliance, November 5, 2001.
	5/17/2002	6.52		97.33	0.00				
	8/29/2002	9.47		94.38	0.00				
	11/26/2002	7.07		96.78	0.00				
	2/20/2003	4.92		98.93	0.00				
	5/23/2003	6.76		97.09	0.00				
	8/20/2003	8.66		95.19	0.00				
	11/20/2003	7.15		96.70	0.00				
	2/23/2004	5.67		98.18	0.00				
	5/12/2004	6.02		97.83	0.00				
	8/23/2004	8.64		95.21	0.00				
	11/10/2004	6.80		97.05	0.00				
	2/22/2005	3.92		99.93	0.00				
	5/11/2005	4.75		99.10	0.00				
	8/11/2005	6.29		97.56	0.00				
	11/9/2005	6.79		97.06	0.00				
	2/28/2006	3.50		100.35	0.00				
	5/15/2006	**4.50**		**99.35**	**0.00**				
MW-2	9/26/1991	15.90	101.59	85.69	0.00	10 - 25	8 - 25	0 - 8	
	12/19/1991	18.19		83.40	0.00				
	3/16/1992	7.91		93.68	0.00				
	6/24/1992	9.47		92.12	0.00				
	9/23/1992	14.41		87.18	0.00				
	12/18/1992	10.31		91.28	0.00				
	3/22/1993	6.48		95.11	0.00				
	6/22/1993	7.61		93.98	0.00				
	9/24/1993	10.82		90.77	0.00				
	12/28/1993	10.24		91.35	0.00				

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Well ID	Sample Date	DTW (Ft)	TOC (Ft, msl)	GWE (Ft, msl)	Product Thickness (ft)	Screen Interval	Sand Pack Interval	Bentonite/ Grout Interval	Notes
MW-2 cont.	3/25/1994	7.85	101.59	93.74	0.00	10 - 25	8 - 25	0 - 8	
	6/20/1994	8.94		92.65	0.00				
	9/8/1994	10.62		90.97	0.00				
	12/12/1994	8.80		92.79	0.00				
	3/15/1995	4.07		97.52	0.00				
	7/6/1995	7.25		94.34	0.00				
	9/19/1995	9.30		92.29	0.00				
	12/20/1995	8.81		92.78	0.00				
	3/28/1996	6.34		95.25	0.00				
	6/24/1996	7.64		93.95	0.00				
	9/26/1996	13.07		91.50	3.72				See Note 1
	12/31/1996	5.79		95.95	0.19				See Note 1
	3/18/1997	7.14		94.56	0.14				See Note 1
	6/30/1997	9.85		92.43	0.86				See Note 1
	9/26/1997	11.83		90.66	1.12				See Note 1
	12/10/1997	7.71		94.30	0.52				See Note 1
	3/9/1998	4.88		96.71	0.00				
	6/16/1998	6.63		94.98	0.03				See Note 1
	9/14/1998	9.96		91.64	0.01				See Note 1
	12/15/1998	9.63		92.86	1.13				See Note 1
	3/24/1999	6.25		95.36	0.02				See Note 1
	6/11/1999	7.53		94.08	0.02				See Note 1
	9/9/1999	9.51		92.28	0.25				See Note 1
	3/21/2000	—		—	---				Well abandoned on January 24, 2000.
MW-2A	3/26/2001	7.17	102.00	94.83	0.00	5 - 20	4 - 20	0 - 4	
	6/19/2001	8.75		93.25	0.00				
	9/7/2001	7.04		94.96	0.00				
	12/4/2001	8.75		93.25	0.00				
	2/26/2002	6.10	104.40	98.30	0.00				Monitoring well surveyed for EDF compliance, November 5, 2001.
	5/17/2002	7.88		96.52	0.00				
	8/29/2002	6.85		97.55	0.00				
	11/26/2002	9.49		94.91	0.00				

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Well ID	Sample Date	DTW (Ft)	TOC (Ft, msl)	GWE (Ft, msl)	Product Thickness (ft)	Screen Interval	Sand Pack Interval	Bentonite/ Grout Interval	Notes
MW-2A	2/20/2003	5.85	104.40	98.55	0.00	5 - 20	4 - 20	0 - 4	
	5/23/2003	5.42		98.98	0.00				
	8/20/2003	6.84		97.56	0.00				
	11/20/2003	10.08		94.32	0.00				
	2/23/2004	3.74		100.66	0.00				
	5/12/2004	7.37		97.03	0.00				
	8/23/2004	6.89		97.51	0.00				
	11/10/2004	8.48		95.92	0.00				
	2/22/2005	5.57		98.83	0.00				
	5/11/2005	6.74		97.66	0.00				
	8/11/2005	7.47		96.93	0.00				
	11/9/2005	8.08		96.32	0.00				
	2/28/2006	5.53		98.87	0.00				
	5/15/2006	**6.14**		**98.26**	**0.00**				
MW-3	9/26/1991	13.88	101.13	87.25	0.00	10 - 25	8 - 25	0 - 8	
	12/19/1991	16.04		85.09	0.00				
	3/16/1992	7.14		93.99	0.00				
	6/24/1992	8.25		92.88	0.00				
	9/23/1992	12.46		88.67	0.00				
	12/18/1992	9.25		91.88	0.00				
	3/22/1993	6.02		95.11	0.00				
	6/22/1993	7.00		94.13	0.00				
	9/24/1993	9.36		91.77	0.00				
	12/28/1993	8.99		92.14	0.00				
	3/25/1994	6.96		94.17	0.00				
	6/20/1994	7.83		93.30	0.00				
	9/8/1994	9.11		92.02	0.00				
	12/12/1994	7.75		93.38	0.00				
	3/15/1995	3.62		97.51	0.00				
	7/6/1995	6.63		94.50	0.00				
	9/19/1995	8.31		92.82	0.00				
	12/20/1995	7.70		93.43	0.00				
	3/28/1996	5.77		95.36	0.00				

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Well ID	Sample Date	DTW (Ft)	TOC (Ft, msl)	GWE (Ft, msl)	Product Thickness (ft)	Screen Interval	Sand Pack Interval	Bentonite/ Grout Interval	Notes
MW-3	6/24/1996	6.81	101.13	94.32	0.00	10 - 25	8 - 25	0 - 8	
	9/26/1996	8.90		92.23	0.00				
	12/31/1996	5.16		95.97	0.00				
	3/18/1997	6.22		94.91	0.00				
	6/30/1997	8.01		93.12	0.00				
	9/26/1997	9.33		91.80	0.00				
	12/10/1997	6.64		94.49	0.00				
	3/9/1998	4.53		96.60	0.00				
	6/16/1998	6.74		94.39	0.00				
	9/14/1998	7.34		93.79	0.00				
	12/15/1998	5.60		95.53	0.00				
	3/24/1999	4.86		96.27	0.00				
	6/11/1999	6.50	100.87	94.63	0.00				
	9/9/1999	7.91		93.22	0.00				
	3/21/2000	5.58		95.55	0.00				
	10/2/2000	8.11		93.02	0.00				
	3/26/2001	5.80	103.27	95.07	0.00				Monitoring well surveyed for EDF compliance, November 5, 2001.
	6/19/2001	7.17		93.70	0.00				
	9/7/2001	8.80		92.07	0.00				
	12/4/2001	7.40		93.47	0.00				
	2/26/2002	4.97		98.30	0.00				
	5/17/2002	6.46		96.81	0.00				
	8/29/2002	7.95		95.32	0.00				
	11/26/2002	8.70		94.57	0.00				
	2/20/2003	4.79		98.48	0.00				
	5/23/2003	5.39		97.88	0.00				
	8/20/2003	7.35		95.92	0.00				
	11/20/2003	8.55		94.72	0.00				
	2/23/2004	4.20		99.07	0.00				
	5/12/2004	6.05		97.22	0.00				
	8/23/2004	7.34		95.93	0.00				
	11/10/2004	7.47		95.80	0.00				
	2/22/2005	4.31		98.96	0.00				

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Well ID	Sample Date	DTW (Ft)	TOC (Ft, msl)	GWE (Ft, msl)	Product Thickness (ft)	Screen Interval	Sand Pack Interval	Bentonite/ Grout Interval	Notes
MW-3 cont.	5/11/2005	4.60	103.27	98.67	0.00	10 - 25	8 - 25	0 - 8	
	8/11/2005	6.06		97.21	0.00				
	11/9/2005	6.89		96.38	0.00				
	2/28/2006	4.32		98.95	0.00				
	5/15/2006	**5.16**		**98.11**	**0.00**				
MW-4	5/4/2000	4.02	99.49	---	0.00	5 - 25	4 - 25	0 - 4	
	10/2/2000	8.18		---	0.00				
	3/26/2001	4.28		95.21	0.00				
	6/19/2001	6.97		92.52	0.00				
	9/7/2001	9.51		89.98	0.00				
	12/4/2001	6.75		92.74	0.00				
	2/26/2002	3.45	101.89	98.44	0.00				Monitoring well surveyed for EDF compliance, November 5, 2001.
	5/17/2002	5.35		96.54	0.00				
	8/29/2002	8.41		93.48	0.00				
	11/26/2002	9.47		92.42	0.00				
	2/20/2003	3.65		98.24	0.00				
	5/23/2003	4.27		97.62	0.00				
	8/20/2003	7.40		94.49	0.00				
	11/20/2003	9.00		92.89	0.00				
	2/23/2004	2.32		99.57	0.00				
	5/12/2004	4.86		97.03	0.00				
	8/23/2004	7.34		94.55	0.00				
	11/10/2004	6.62		95.27	0.00				
	2/22/2005	1.37		100.52	0.00				
	5/11/2005	2.48		99.41	0.00				
	8/11/2005	5.86		96.03	0.00				
	11/9/2005	6.13		95.76	0.00				
	2/28/2006	1.98		99.91	0.00				
	5/15/2006	**3.85**		**98.04**	**0.00**				

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Well ID	Sample Date	DTW (Ft)	TOC (Ft, msl)	GWE (Ft, msl)	Product Thickness (ft)	Screen Interval	Sand Pack Interval	Bentonite/ Grout Interval	Notes
MW-5	11/26/2002	8.81	102.41	93.60	0.00	5 - 25	4 - 25	0 - 4	Monitoring well surveyed for EDF compliance, November 16, 2002.
	2/20/2003	3.45		98.96	0.00				
	5/23/2003	4.02		98.39	0.00				
	8/20/2003	—		—	---				Well inaccessible.
	11/20/2003	8.48		93.93	0.00				
	2/23/2004	2.88		99.53	0.00				
	5/12/2004	5.30		97.11	0.00				
	8/23/2004	7.20		95.21	0.00				
	11/10/2004	6.46		95.95	0.00				
	2/22/2005	2.84		99.57	0.00				
	5/11/2005	4.35		98.06	0.00				
	8/11/2005	5.76		96.65	0.00				
	11/9/2005	6.44		95.97	0.00				
	2/28/2006	3.05		99.36	0.00				
	5/15/2006	**4.62**		**97.79**	**0.00**				
MW-6	11/26/2002	10.48	104.26	93.78	0.00	5 - 25	4 - 25	0 - 4	Monitoring well surveyed for EDF compliance, on November 16, 2002.
	2/20/2003	7.32		96.94	0.00				
	5/23/2003	7.65		96.61	0.00				
	8/20/2003	8.49		95.77	0.00				
	11/20/2003	9.88		94.38	0.00				
	2/23/2004	7.01		97.25	0.00				
	5/12/2004	7.90		96.36	0.00				
	8/23/2004	8.61		95.65	0.00				
	11/10/2004	8.85		95.41	0.00				
	2/22/2005	6.42		97.84	0.00				
	5/11/2005	7.64		96.62	0.00				
	8/11/2005	7.80		96.46	0.00				
	11/9/2005	8.20		96.06	0.00				
	2/28/2006	6.53		97.73	0.00				
	5/15/2006	**8.04**		**96.22**	**0.00**				

Table 1. Water Level Data Well Construction Details - Redwood Oil Service Station #102 7716 Old Redwood Highway, Cotati, California

Well ID	Sample Date	DTW (Ft)	TOC (Ft, msl)	GWE (Ft, msl)	Product Thickness (ft)	Screen Interval	Sand Pack Interval	Bentonite/ Grout Interval	Notes
MW-7A	4/27/2005	6.98	104.20	97.22	0.00	45 - 55	44 - 55	0 - 44	
	8/11/2005	7.89		96.31	0.00				
	11/9/2005	9.12		95.08	0.00				
	2/28/2006	6.30		97.90	0.00				
	5/15/2006	**6.34**		**97.86**	**0.00**				
MW-7B	4/27/2005	9.32	104.27	94.95	0.00	67 - 77	66 - 77	0 - 66	
	8/11/2005	10.22		94.05	0.00				
	11/9/2005	12.24		92.03	0.00				
	2/28/2006	9.94		94.33	0.00				
	5/15/2006	**9.32**		**94.95**	**0.00**				
MW-8A	4/27/2005	11.97	103.55	91.58	0.00	42 - 52	41 - 52	0 - 41	
	8/11/2005	6.44		97.11	0.00				
	11/9/2005	9.15		94.40	0.00				
	2/28/2006	4.81		98.74	0.00				
	5/15/2006	**5.82**		**97.73**	**0.00**				
MW-8B	4/27/2005	8.69	103.70	95.01	0.00	62 - 72	61 - 73	0 - 61	
	8/11/2005	7.29		96.41	0.00				
	11/9/2005	9.90		93.80	0.00				
	2/28/2006	5.07		98.63	0.00				
	5/15/2006	**5.49**		**98.21**	**0.00**				

Explanation:

DTW	Depth to Water
ft	feet
TOC	Top of Casing
msl	Mean Sea Level
GWE	Ground Water Elevation

Table 2. Analytic Results for Ground Water - Redwood Oil Service Station #102, 7716 Old Redwood Highway, Cotati, California

Well ID	Date Sampled	TPPH/TPH (G)	Benzene	Toluene	Ethyl benzene	Xylenes	Notes
		<---------- ppb ---------->					
MW-1	9/26/1991	50,000	17,000	3,600	1,200	4,700	Analyzed for Or. Pb. No Or. Pb was detected.
	12/19/1991	34,000	17,000	4,000	2,500	4,400	
	3/16/1992	77,000	16,000	23,000	2,900	13,000	
	6/24/1992	78,000	19,000	19,000	3,100	12,000	
	9/23/1992	110,000	25,000	31,000	2,400	16,000	
	12/18/1992	68,000	7,700	8,300	480	7,000	
	3/22/1993	3,600	150	250	46	310	
	6/22/1993	75,000	12,000	11,000	2,500	10,000	
	9/24/1993	680	180	37	10	20	
	3/25/1994	89,000	13,000	12,000	1,600	5,800	
	9/8/1994	570,000	18,000	11,000	2,000	4,200	
	3/15/1995	85,000	12,000	17,000	2,000	9,400	Sample was flagged by lab. See laboratory analytical reports.
	9/19/1995	100,000	13,000	9,300	2,800	12,000	
	3/28/1996	---	---	---	---	---	Separate phase product present in well.
	9/26/1996	---	---	---	---	---	Separate phase product present in well.
	3/18/1997	---	---	---	---	---	Separate phase product present in well.
	9/26/1997	---	---	---	---	---	Separate phase product present in well.
	3/9/1998	270,000	15,000	32,000	4,100	20,000	
	9/14/1998	1,700,000	20,000	59,000	19,000	130,000	
	3/25/1999	210,000	24,000	35,000	5,900	42,000	Analyzed for HVOCs. HVOCs not detected
	9/9/1999	---	---	---	---	----	Well damaged during UST excavation. Well was abandoned on February 11, 2000.
MW-1A	3/26/2001	28,000	200	780	290	3,100	
	6/19/2001	3,300	38	10	67	20	
	9/7/2001	45,000	3,600	4,800	2,900	8,300	
	12/4/2001	4,500	240	<25	62	53	
	2/26/2002	<2,500	150	<25	<25	<25	
	5/17/2002	600	180	13	22	16	
	8/29/2002	29,000	1,800	1,200	1,900	2,600	Sample was flagged by lab. See laboratory analytical reports.
	11/26/2002	320	4	4	1	5	
	2/20/2003	<250	140	10	9	10	
	5/23/2003	13,000	690	380	860	1,000	
	8/20/2003	4,200	840	110	730	235	
	11/20/2003	980	170	12	22	15	

Table 2. Analytic Results for Ground Water - Redwood Oil Service Station #102, 7716 Old Redwood Highway, Cotati, California

Well ID	Date Sampled	TPPH/TPH (G)	Benzene	Toluene	Ethyl benzene	Xylenes	Notes
		<---------- ppb ---------->					
MW-1A	5/12/2004	160	<2.5	<2.5	<2.5	<5	
	11/10/2004	170	<2.5	<2.5	<2.5	<5	
	5/11/2005	260	9.0	25	14	25	
	11/9/2005	<500	5.1	6.7	<5.0	<5.0	
	5/15/2006	**<50**	**<0.50**	**<0.50**	**<0.50**	**1.1**	
MW-2	9/26/1991	300	59	0.6	<0.5	4.1	Analyzed for oil & grease, Or. Pb and HVOCs. No O&G, Or. Pb, or HVOCs were detected.
	12/19/1991	2,400	1,200	46	11	47	
	3/16/1992	4,200	2,500	<0.5	100	45	
	6/24/1992	5,300	2,600	<0.5	120	53	
	9/23/1992	530	190	0.9	2.9	<0.5	
	12/18/1992	3,100	1,600	5	40	17	
	3/22/1993	1,400	1,100	2.1	24	5.6	
	6/22/1993	850	450	4.8	16	4.2	
	9/24/1993	68,000	14,000	11,000	2,300	8,400	
	3/25/1994	1,500	510	94	30	40	
	9/8/1994	1,400	400	130	26	45	
	3/15/1995	5,900	2,500	5,300	160	7,200	Sample was flagged by lab. See laboratory analytical reports.
	9/19/1995	12,000	2,800	150	130	520	
	3/28/1996	24,000	3,000	3,400	490	2,100	
	9/26/1996	---	---	---	---	---	Separate phase product present in well.
	3/18/1997	---	---	---	---	---	Separate phase product present in well.
	9/26/1997	---	---	---	---	---	Separate phase product present in well.
	3/9/1998	73,000	7,300	5,400	770	3,100	
	9/14/1998	---	---	---	---	---	Separate phase product present in well.
	3/25/1999	---	---	---	---	---	Separate phase product present in well.
	9/9/1999	---	---	---	---	---	Separate phase product present in well. Well MW-2 was abandoned on January 24, 2000.
MW-2A	3/26/2001	110,000	8,000	30,000	2,900	17,000	
	6/19/2001	80,000	4,100	16,000	3,400	15,000	
	9/7/2001	1,800	35	14	16	32	
	12/4/2001	29,000	2,400	2,800	2,300	3,400	
	2/26/2002	60,000	3,700	6,800	3,100	7,300	

Table 2. Analytic Results for Ground Water - Redwood Oil Service Station #102, 7716 Old Redwood Highway, Cotati, California

Well ID	Date Sampled	TPPH/TPH (G)	Benzene	Toluene	Ethyl benzene	Xylenes	Notes
		<---------- ppb ---------->					
MW-2A cont.	5/17/2002	39,000	2,400	4,200	2,900	5,300	
	8/29/2002	2,500	190	16	21	<25	Sample was flagged by lab. See laboratory analytical reports.
	11/26/2002	8,400	600	170	1,200	561	
	2/20/2003	9,200	760	930	1,300	1,810	
	5/23/2003	1,100	57	9	9	9	
	8/20/2003	140	2	<1	<1	1	
	11/20/2003	9,900	630	110	990	290	
	5/12/2004	5,900	160	59	350	260	
	11/10/2004	11,000	630	350	930	1,000	
	5/11/2005	5,400	160	150	380	460	
	11/9/2005	7,100	400	110	770	1,100	
	5/15/2006	**3,200**	**69**	**46**	**150**	**180**	
MW-3	9/26/1991	510	52	5.5	1.8	17	Analyzed for Or. Pb. No Or. Pb was detected.
	12/19/1991	9,400	3,700	310	140	280	
	3/16/1992	8,200	4,400	320	240	720	
	6/24/1992	21,000	11,000	770	730	2,500	
	9/23/1992	22,000	9,100	920	720	1,900	
	12/18/1992	9,600	2,600	73	180	130	
	3/22/1993	62,000	35,000	3,900	2,300	12,000	
	6/22/1993	32,000	13,000	940	1,100	3,800	
	9/24/1993	13,000	5,500	240	420	1,300	
	3/25/1994	24,000	11,000	530	610	2,300	
	9/8/1994	22,000	7,700	170	590	1,600	
	3/15/1995	110,000	33,000	2,800	2,000	8,000	Sample was flagged by lab. See laboratory analytical reports.
	9/19/1995	300,000	19,000	590	1,300	3,200	
	3/28/1996	55,000	19,000	420	1,600	3,000	
	9/26/1996	25,000	7,200	26	480	340	
	3/18/1997	36,000	14,000	240	950	1,000	
	9/26/1997	28,000	11,000	42	810	570	
	3/9/1998	71,000	28,000	580	1,800	3,200	
	9/14/1998	49,000	27,000	400	<100	1,700	
	3/25/1999	85,000	25,000	370	2,300	2,800	Samples were analyzed for HVOCs. HVOCs were not detected
	9/9/1999	53,000	29,000	<250	2,000	870	
	3/21/2000	160,000	12,000	<50	2,000	1,700	

Table 2. Analytic Results for Ground Water - Redwood Oil Service Station #102, 7716 Old Redwood Highway, Cotati, California

Well ID	Date Sampled	TPPH/TPH (G)	Benzene	Toluene	Ethyl benzene	Xylenes	Notes
		<---------- ppb ---------->					
MW-3	10/2/2000	100,000	31,000	<50	1,600	1,300	
	3/26/2001	51,000	22,000	55	540	130	
	6/19/2001	73,000	27,000	<250	1,600	730	
	9/7/2001	53,000	17,000	<250	1,200	<250	
	12/4/2001	170,000	34,000	<1,250	2,900	<1,250	
	2/26/2002	96,000	30,000	<500	1,700	<500	
	5/17/2002	48,000	29,000	<100	2,600	670	
	8/29/2002	93,000	44,000	<500	2,500	<1,000	Sample was flagged by lab. See laboratory analytical reports.
	11/26/2002	61,000	40,000	94	3,900	960	
	2/20/2003	36,000	24,000	67	1,500	137	
	5/23/2003	52,000	23,000	53	2,200	316	
	8/20/2003	33,000	24,000	38	1,100	110	
	11/20/2003	86,000	22,000	<500	2,000	<1,000	
	5/12/2004	59,000	26,000	<250	2,400	<500	
	11/10/2004	42,000	24,000	<200	690	<400	
	5/11/2005	42,000	25,000	<250	970	<250	TPH(G) value is result of MTBE and Benzene within TPH(G) range.
	11/9/2005	35,000	27,000	<250	1,100	260	
	5/15/2006	**5,900**	**3,400**	**<50**	**57**	**<50**	
MW-4	5/4/2000	<50	<0.5	<0.5	<0.5	<0.5	
	10/2/2000	<50	<0.5	<0.5	<0.5	<0.5	
	3/26/2001	<50	<0.5	<0.5	<0.5	<0.5	
	6/19/2001	<50	<0.5	0.84	<0.5	<0.5	
	2/26/2002	<50	2.7	0.83	0.58	0.57	
	5/24/2002	52	5.4	6.8	2	7.1	
	8/29/2002	78	9.1	5.9	1.5	6.5	
	11/26/2002	<50	3	5	1	5	
	2/20/2003	<50	8	10	1	8	
	5/23/2003	170	3	5	<1	2	
	8/20/2003	<50	4	<1	<1	1	
	11/20/2003	64	3.9	9.8	1.4	7.2	
	5/12/2004	<25	<0.5	<0.5	<0.5	<1	
	11/10/2004	<25	<0.5	0.62	<0.5	<1	
	5/11/2005	82	3.7	23	3.6	22	

Table 2. Analytic Results for Ground Water - Redwood Oil Service Station #102, 7716 Old Redwood Highway, Cotati, California

Well ID	Date Sampled	TPPH/TPH (G)	Benzene	Toluene	Ethyl benzene	Xylenes	Notes
		<---------- ppb ---------->					
MW-4 cont.	11/9/2005	<50	3.0	4.4	0.81	5.8	
	5/15/2006	**<50**	**<0.50**	**<0.50**	**<0.50**	**0.94**	
MW-5	11/26/2002	50	4	6	1	7	
	2/20/2003	52	15	14	2	11	
	5/23/2003	75	3	5	<1	2	
	8/20/2003	—	—	—	—	---	
	11/20/2003	120	19	11	5.3	8.9	
	2/23/2004	120	6.5	16	2.2	15	
	5/12/2004	<25	<0.5	<0.5	<0.5	<1	
	8/23/2004	<25	<0.5	<0.5	<0.5	<1	
	11/10/2004	<25	<0.5	0.57	<0.5	<1	
	2/22/2005	<50	0.5	<0.5	<0.5	<0.5	
	5/11/2005	90	4.9	30	4.2	26	
	8/11/2005	130	5.9	22	3.3	26	
	11/9/2005	<50	4.0	5.0	0.91	6.5	
	2/28/2006	<50	1.5	0.70	<0.50	2.7	
	5/15/2006	**<50**	**<0.50**	**<0.50**	**<0.50**	**1.2**	
MW-6	11/26/2002	76	8	10	2	9	
	2/20/2003	80	29	25	3	17	
	5/23/2003	140	8	10	<1	5	
	8/20/2003	<50	5	1	<1	2	
	11/20/2003	140	13	22	2.4	13	
	2/23/2004	180	13	26	3.2	21	
	5/12/2004	<25	<0.5	<0.5	<0.5	<1	
	8/23/2004	<25	<0.5	<0.5	<0.5	<1	
	11/10/2004	<25	<0.5	0.74	<0.5	<1	
	2/22/2005	<50	0.88	<0.5	<0.5	<0.5	
	5/11/2005	150	12	57	6.5	38	
	8/11/2005	200	11	33	4.6	36	
	11/9/2005	<50	7.5	7.6	1.2	8.4	
	2/28/2006	<50	2.6	1.0	<0.50	3.9	
	5/15/2006	**<50**	**0.65**	**0.54**	**<0.50**	**2.1**	

Table 2. Analytic Results for Ground Water - Redwood Oil Service Station #102, 7716 Old Redwood Highway, Cotati, California

Well ID	Date Sampled	TPPH/TPH (G)	Benzene	Toluene	Ethyl benzene	Xylenes	Notes
		<---------- ppb ---------->					
MW-7A	4/27/2005	39,000	<250	<250	<250	<250	
	8/11/2005	<50,000	<500	<500	<500	<500	Detection limits raised due to the high concentration of MTBE
	11/9/2005	<12,000	<120	<120	<120	<120	Detection limits raised due to the high concentration of MTBE
	2/28/2006	<25,000	<250	<250	<250	<250	Detection limits raised due to the high concentration of MTBE
	5/15/2006	**<10,000**	**<100**	**<100**	**<100**	**<100**	Detection limits raised due to the high concentration of MTBE
MW-7B	4/27/2005	28	0.87	1.4	2.1	8.9	
	8/11/2005	200	8.4	30	4.6	36	
	11/9/2005	76	42	6.1	4.6	9.4	
	2/28/2006	<50	1.5	0.71	<0.50	3.4	
	5/15/2006	**<50**	**1.5**	**<0.50**	**<0.50**	**<0.50**	
MW-8A	4/27/2005	320	7.1	4.7	18	70	
	8/11/2005	600	25	47	28	130	
	11/9/2005	260	87	12	19	57	
	2/28/2006	260	9.3	2.6	9.2	32	
	5/15/2006	**130**	**12**	**1.6**	**6.9**	**21**	
MW-8B	4/27/2005	38	2.1	7.6	1.5	8.9	
	8/11/2005	180	7.6	26	4.3	34	
	11/9/2005	<250	150	9.1	10	13	
	2/28/2006	<50	2.7	1.1	<0.50	4.5	
	5/15/2006	**<50**	**14**	**1.1**	**1.1**	**3.7**	

Explanation:

TPPH/ TPH(G) = Total Purgeable Petroleum Hydrocarbons as Gasoline/ Total Petroleum Hydrocarbons as Gasoline
ppb = parts per billion
--- = Not analyzed/Not applicable

Table 3. Analytical Results for Ground Water - Oxygenates - Redwood Oil Service Station #102, 7716 Old Redwood Highway, Cotati, California.

Sample ID	Sample Date	t-Butyl alcohol (TBA)	MTBE	Diisopropyl ether (DIPE)	Ethyl t-butyl ether (ETBE)	t-Amyl methyl ether (TAME)	Notes
		<----------ppb---------->					
MW-1	9/14/1998	<250	320,000	<250	<250	<50	
	3/25/1999	---	320,000	---	---	---	
	9/9/1999	---	---	---	---	---	Separate phase product present in well.
MW-1A	3/26/2001	800	1,400	<5.0	<5.0	<5.0	
	6/19/2001	<1,000	6,600	<250	<250	<250	
	9/7/2001	<2,000	6,400	<500	<500	<500	
	12/4/2001	<1,000	4,300	<250	<250	<250	
	2/26/2002	<2,000	3,400	<500	<500	<500	
	5/17/2002	<2,000	3,100	<10	<10	<10	
	8/29/2002	<1,000	4,600	<250	<250	<250	
	11/26/2002	300	4,700	<1	<1	18	
	2/20/2003	<200	1,700	<1	<1	5	
	5/23/2003	<200	850	<1	<1	2	
	8/20/2003	670	1,300	<1	<1	4	
	11/20/2003	1,400	120	<25	<25	<25	
	5/12/2004	1,200	8.2	<25	<25	<25	
	11/10/2004	1,300	8.5	<25	<25	<25	
	5/11/2005	1,200	14	<25	<25	<25	
	11/9/2005	1,200	10	<50	<50	<50	
	5/15/2006	**120**	**1.1**	**<5.0**	**<5.0**	**<5.0**	
MW-2	9/9/1999	---	---	---	---	---	Separate phase product present in well.
MW-2A	3/26/2001	1,500	2,800	<500	<500	<500	
	6/19/2001	<1,000	4,200	<250	<250	<250	
	9/7/2001	<2,000	5,000	<500	<500	<500	
	12/4/2001	<400	3,100	<100	<100	<100	
	2/26/2002	300	2,600	<50	<50	<50	
	5/17/2002	<2,000	2,200	<10	<10	<10	
	8/29/2002	<1,000	4,600	<250	<250	<250	
	11/26/2002	210	2,000	<1	<1	6	
	2/20/2003	<200	790	<1	<1	2	

Table 3. Analytical Results for Ground Water - Oxygenates - Redwood Oil Service Station #102, 7716 Old Redwood Highway, Cotati, California.

Sample ID	Sample Date	t-Butyl alcohol (TBA)	MTBE	Diisopropyl ether (DIPE)	Ethyl t-butyl ether (ETBE)	t-Amyl methyl ether (TAME)	Notes
		<----------ppb---------->					
MW-2A cont.	5/23/2003	240	1,800	<1	<1	5	
	8/20/2003	760	2,100	<1	<1	7	
	11/20/2003	660	270	<50	<50	<50	
	5/12/2004	<200	77	<100	<100	<100	
	11/10/2004	820	51	<100	<100	<100	
	5/11/2005	260	31	<100	<100	<100	
	11/9/2005	1,000	26	<100	<100	<100	
	5/15/2006	**<100**	**<10**	**<50**	**<50**	**<50**	
MW-3	9/14/1998	<5	<1	<5	<5	<1	
	3/25/1999	---	120,000	---	---	---	
	9/9/1999	---	74,000	---	---	---	
	3/21/2000	---	33,000	---	---	---	
	10/2/2000	---	75,000	---	---	---	
	3/26/2001	3,900	28,000	<500	<500	<500	
	6/19/2001	<10,000	60,000	<2,500	<2,500	<2,500	
	9/7/2001	<10,000	47,000	<2,500	<2,500	<2,500	
	12/4/2001	<10,000	47,000	<2,500	<2,500	<2,500	
	2/26/2002	<10,000	41,000	<2,500	<2,500	<2,500	
	5/17/2002	<20,000	30,000	<100	<100	<100	
	8/29/2002	<10,000	33,000	<2,500	<2,500	<2,500	
	11/26/2002	990	34,000	<1	<1	120	
	2/20/2003	1,200	27,000	<1	<1	110	
	5/23/2003	3,400	23,000	<1	<1	83	
	8/20/2003	12,000	49,000	<10	<10	110	
	11/20//03	<4,000	18,000	<2,000	<2,000	<2,000	
	5/12/2004	5,200	40,000	<2,500	<2,500	<2,500	
	11/10/2004	5,000	12,000	<2,000	<2,000	<2,000	
	5/11/2005	9,000	28,000	<2,500	<2,500	<2,500	
	11/9/2005	13,000	14,000	<2,500	<2,500	<2,500	
	5/15/2006	**7,800**	**1,500**	**<500**	**<500**	**<500**	

Table 3. Analytical Results for Ground Water - Oxygenates - Redwood Oil Service Station #102, 7716 Old Redwood Highway, Cotati, California.

Sample ID	Sample Date	t-Butyl alcohol (TBA)	MTBE	Diisopropyl ether (DIPE)	Ethyl t-butyl ether (ETBE)	t-Amyl methyl ether (TAME)	Notes
		<----------ppb---------->					
MW-4	5/4/2000	---	<2.0	---	---	---	
	10/2/2000	---	<0.5	---	---	---	
	3/26/2001	<10.0	<2.0	<5.0	<5.0	<5.0	
	6/19/2001	<20	<5.0	<5.0	<5.0	<5.0	
	2/26/2002	<20	5.3	<5	<5	<5	
	5/24/2002	<20	<5	<5	<5	<5	
	8/29/2002	<20	38	<5	<5	<5	
	11/26/2002	<200	37	<1	<1	<1	
	2/20/2003	<200	<1	<1	<1	<1	
	5/23/2003	<200	<1	<1	<1	<1	
	8/20/2003	<200	<1	<1	<1	<1	
	11/20/2003	<10	1.6	<5	<5	<5	
	5/12/2004	<10	<1	<5	<5	<5	
	11/10/2004	<10	<1	<5	<5	<5	
	5/11/2005	<10	<1	<5	<5	<5	
	11/9/2005	<10	<1.0	<5.0	<5.0	<5.0	
	5/15/2006	**<10**	**<1.0**	**<5.0**	**<5.0**	**<5.0**	
MW-5	11/26/2002	<200	1	<1	<1	<1	
	2/20/2003	<200	<1	<1	<1	<1	
	5/23/2003	<200	<1	<1	<1	<1	
	8/20/2003	—	—	—	—	---	
	11/20/2003	<10	<1	<5	<5	<5	
	2/23/2004	<10	1.4	<5	<5	<5	
	5/12/2004	<10	1.2	<5	<5	<5	
	8/23/2004	<10	<1	<5	<5	<5	
	11/10/2004	<10	<1	<5	<5	<5	
	2/22/2005	<10	<1	<5	<5	<5	
	5/11/2005	<10	1.1	<5	<5	<5	
	8/11/2005	<10	<1.0	<5.0	<5.0	<5.0	
	11/9/2005	<10	<1.0	<5.0	<5.0	<5.0	
	2/28/2006	<10	<1.0	<5.0	<5.0	<5.0	
	5/15/2006	**<10**	**<1.0**	**<5.0**	**<5.0**	**<5.0**	

Table 3. Analytical Results for Ground Water - Oxygenates - Redwood Oil Service Station #102, 7716 Old Redwood Highway, Cotati, California.

Sample ID	Sample Date	t-Butyl alcohol (TBA)	MTBE	Diisopropyl ether (DIPE)	Ethyl t-butyl ether (ETBE)	t-Amyl methyl ether (TAME)	Notes
		<----------ppb---------->					
MW-6	11/26/2002	<200	<1	<1	<1	<1	
	2/20/2003	<200	<1	<1	<1	<1	
	5/23/2003	<200	<1	<1	<1	<1	
	8/20/2003	<200	<1	<1	<1	<1	
	11/20/2003	<10	4.2	<5	<5	<5	
	2/23/2004	<10	5.8	<5	<5	<5	
	5/12/2004	<10	<1	<5	<5	<5	
	8/23/2004	<10	<1	<5	<5	<5	
	11/10/2004	<10	<1	<5	<5	<5	
	2/22/2005	<10	<1	<5	<5	<5	
	5/11/2005	<20	<2	<10	<10	<10	
	8/11/2005	<10	<1.0	<5.0	<5.0	<5.0	
	11/9/2005	<10	<1.0	<5.0	<5.0	<5.0	
	2/28/2006	<10	<1.0	<5.0	<5.0	<5.0	
	5/15/2006	**<10**	**1.5**	**<5.0**	**<5.0**	**<5.0**	
MW-7A	4/27/2005	<5,000	24,000	<2500	<2,500	<2,500	
	8/11/2005	<10,000	29,000	<5,000	<5,000	<5,000	
	11/9/2005	13,000	16,000	<1,200	<1,200	<1,200	
	2/28/2006	23,000	15,000	<2,500	<2,500	<2,500	
	5/15/2006	**19,000**	**8,900**	**<1,000**	**<1,000**	**<1,000**	
MW-7B	4/27/2005	<10	12	<5	<5	<5	
	8/11/2005	<10	23	<5.0	<5.0	<5.0	
	11/9/2005	16	26	<5.0	<5.0	<5.0	
	2/28/2006	<10	21	<5.0	<5.0	<5.0	
	5/15/2006	**<10**	**18**	**<5.0**	**<5.0**	**<5.0**	
MW-8A	4/27/2005	<10	2.1	<5	<5	<5	
	8/11/2005	<10	13	<5.0	<5.0	<5.0	
	11/9/2005	<20	5.8	<10	<10	<10	
	2/28/2006	<10	3.2	<5.0	<5.0	<5.0	
	5/15/2006	**<10**	**2.3**	**<5.0**	**<5.0**	**<5.0**	

Table 3. Analytical Results for Ground Water - Oxygenates - Redwood Oil Service Station #102, 7716 Old Redwood Highway, Cotati, California.

Sample ID	Sample Date	t-Butyl alcohol (TBA)	MTBE	Diisopropyl ether (DIPE)	Ethyl t-butyl ether (ETBE)	t-Amyl methyl ether (TAME)	Notes
		<----------ppb---------->					
MW-8B	4/27/2005	<10	1.3	<5	<5	<5	
	8/11/2005	<10	8.6	<5.0	<5.0	<5.0	
	11/9/2005	<50	<5.0	<25	<25	<25	
	2/28/2006	<10	<1.0	<5.0	<5.0	<5.0	
	5/15/2006	**<10**	**1.4**	**<5.0**	**<5.0**	**<5.0**	

Explanation: MTBE = Methyl tertiary-butyl ether
--- = Not analyzed/Not detected

Table 4. Monitoring Well Survey Data and Depth to Ground Water - 7675 Old Redwood Highway, Cotati, California (Shell Station-Cambria Environmental site).

Well ID	Sample Date	DTW (Ft)	TOC (Ft, msl)	GWE (Ft, msl)	Notes
MW-1	2/26/2002	4.71	104.20	99.49	TOC elevations surveyed and tied into ECM wells for EDF compliance.
	5/17/2002	6.20		98.00	
	8/28/2002	9.52		94.68	
	2/20/2003	5.64		98.56	
	8/20/2003	8.70		95.50	
	11/20/2003	9.13		95.07	
	2/23/2004	4.87		99.33	
	5/12/2004	—		---	Joint ground water sampling did not take place for this quarter.
	8/9/2004	8.73		95.47	
	8/23/2004	---		---	
	11/10/2004	8.37		95.83	
	2/23/2005	5.45		98.75	
	5/11/2005	4.70		99.50	
	8/22/2005	6.55		97.65	
	11/9/2005	7.90		96.30	
	2/7/2006	3.75		100.45	
	5/15/2006	**5.44**		**98.76**	
MW-2	2/26/2002	4.52	104.42	99.90	TOC elevations surveyed and tied into ECM wells for EDF compliance.
	5/17/2002	7.24		97.18	
	8/28/2002	9.06		95.36	
	2/20/2003	4.76		99.66	
	8/20/2003	8.49		95.93	
	11/20/2003	9.32		95.10	
	2/23/2004	4.45		99.97	
	5/12/2004	—		---	Joint ground water sampling did not take place for this quarter.
	8/9/2004	7.41		97.01	
	8/23/2004	---		---	
	11/10/2004	8.08		96.34	
	2/23/2005	5.04		99.38	
	5/11/2005	4.75		99.67	
	8/22/2005	7.14		97.28	
	11/9/2005	8.03		96.39	
	2/7/2006	3.77		100.65	
	5/15/2006	**4.61**		**99.81**	

Table 4. Monitoring Well Survey Data and Depth to Ground Water - 7675 Old Redwood Highway, Cotati, California (Shell Station-Cambria Environmental site).

Well ID	Sample Date	DTW (Ft)	TOC (Ft, msl)	GWE (Ft, msl)	Notes
MW-3	2/26/2002	3.80	103.81	100.01	TOC elevations surveyed and tied into ECM wells for EDF compliance.
	5/17/2002	6.45		97.36	
	8/28/2002	8.42		95.39	
	2/20/2003	3.92		99.89	
	8/20/2003	7.80		96.01	
	11/20/2003	8.71		95.10	
	2/23/2004	4.52		99.29	
	5/12/2004	—		---	Joint ground water sampling did not take place for this quarter.
	8/9/2004	7.98		95.83	
	8/23/2004	---		---	
	11/10/2004	7.47		96.34	
	2/23/2005	3.22		100.59	
	5/11/2005	3.68		100.13	
	8/22/2005	6.82		96.99	
	11/9/2005	14.00		89.81	
	2/7/2006	3.58		100.23	
	5/15/2006	**5.00**		**98.81**	
MW-4	2/26/2002	3.14	103.60	100.46	TOC elevations surveyed and tied into ECM wells for EDF compliance.
	5/17/2002	6.25		97.35	
	8/28/2002	8.05		95.55	
	2/20/2003	3.26		100.34	
	8/20/2003	7.54		96.06	
	11/20/2003	8.61		94.99	
	2/23/2004	2.82		100.78	
	5/12/2004	—		---	Joint ground water sampling did not take place for this quarter.
	8/9/2004	7.48		96.12	
	8/23/2004	---		---	
	11/10/2004	7.00		96.60	
	2/23/2005	2.73		100.87	
	5/11/2005	2.87		100.73	
	8/22/2005	6.22		97.38	
	11/9/2005	7.04		96.56	
	2/7/2006	2.86		100.74	
	5/15/2006	**3.74**		**99.86**	

Table 4. Monitoring Well Survey Data and Depth to Ground Water - 7675 Old Redwood Highway, Cotati, California (Shell Station-Cambria Environmental site).

Well ID	Sample Date	DTW (Ft)	TOC (Ft, msl)	GWE (Ft, msl)	Notes
MW-5	2/26/2002	3.06	102.16	99.10	TOC elevations surveyed and tied into ECM wells for EDF compliance.
	5/17/2002	5.00		97.16	
	8/28/2002	7.51		94.65	
	2/20/2003	3.99		98.17	
	8/20/2003	6.92		95.24	
	11/20/2003	8.14		94.02	
	2/23/2004	3.75		98.41	
	5/12/2004	—		---	Joint ground water sampling did not take place for this quarter.
	8/9/2004	6.79		95.37	
	8/23/2004	---		---	
	11/10/2004	6.32		95.84	
	2/23/2005	3.53		98.63	
	5/11/2005	3.40		98.76	
	8/22/2005	5.64		96.52	
	11/9/2005	6.20		95.96	
	2/7/2006	3.40		98.76	
	5/15/2006	**4.16**		**98.00**	
MW-6	2/26/2002	4.05	103.10	99.05	TOC elevations surveyed and tied into ECM wells for EDF compliance.
	5/17/2002	4.60		98.50	
	8/28/2002	8.25		94.85	
	2/20/2003	5.79		97.31	
	8/20/2003	7.59		95.51	
	11/20/2003	9.06		94.04	
	2/23/2004	3.96		99.14	
	5/12/2004	—		---	Joint ground water sampling did not take place for this quarter.
	8/9/2004	7.56		95.54	
	8/23/2004	---		---	
	11/10/2004	7.41		95.69	
	2/23/2005	4.45		98.65	
	5/11/2005	4.25		98.85	
	8/22/2005	5.86		97.24	
	11/9/2005	7.41		95.69	
	2/7/2006	3.22		99.88	
	5/15/2006	**4.43**		**98.67**	

Table 4. Monitoring Well Survey Data and Depth to Ground Water - 7675 Old Redwood Highway, Cotati, California (Shell Station-Cambria Environmental site).

Well ID	Sample Date	DTW (Ft)	TOC (Ft, msl)	GWE (Ft, msl)	Notes
MW-7	2/26/2002	4.89	104.29	99.40	TOC elevations surveyed and tied into ECM wells for EDF compliance.
	5/17/2002	7.15		97.14	
	8/28/2002	9.62		94.67	
	2/20/2003	5.05		99.24	
	8/20/2003	8.81		95.48	
	11/20/2003	9.96		94.33	
	2/23/2004	4.26		100.03	
	5/12/2004	—		---	Joint ground water sampling did not take place for this quarter.
	8/9/2004	8.85		95.44	
	8/23/2004	---		---	
	11/10/2004	8.67		95.62	
	2/23/2005	4.35		99.94	
	5/11/2005	4.77		99.52	
	8/22/2005	7.37		96.92	
	11/9/2005	8.57		95.72	
	2/7/2006	4.13		100.16	
	5/15/2006	**5.95**		**98.34**	
MW-9	2/26/2002	3.95	103.02	99.07	TOC elevations surveyed and tied into ECM wells for EDF compliance.
	5/1702	6.94		96.08	
	8/28/2002	8.49		94.53	
	2/20/2003	4.25		98.77	
	8/20/2003	7.79		95.23	
	11/20/2003	9.00		94.02	
	2/23/2004	3.61		99.41	
	5/12/2004	—		---	Joint ground water sampling did not take place for this quarter.
	8/9/2004	7.73		95.29	
	8/23/2004	---		---	
	11/10/2004	7.46		95.56	
	2/23/2005	4.05		98.67	
	5/11/2005	3.90		99.12	
	8/22/2005	6.67		96.35	
	11/9/2005	7.14		95.88	
	2/7/2006	3.84		99.18	
	5/15/2006	**4.92**		**98.10**	

Table 4. Monitoring Well Survey Data and Depth to Ground Water - 7675 Old Redwood Highway, Cotati, California (Shell Station-Cambria Environmental site).

Well ID	Sample Date	DTW (Ft)	TOC (Ft, msl)	GWE (Ft, msl)	Notes
MW-10	2/26/2002	3.98	103.45	99.47	TOC elevations surveyed and tied into ECM wells for EDF compliance.
	5/17/2002	5.92		97.53	
	8/28/2002	7.36		96.09	
	2/20/2003	4.09		99.36	
	8/20/2003	7.50		95.95	
	11/20/2003	8.86		94.59	
	2/23/2004	3.50		99.95	
	5/12/2004	—		---	Joint ground water sampling did not take place for this quarter.
	8/9/2004	8.47		94.98	
	8/23/2004	---		---	
	11/10/2004	7.93		95.52	
	2/23/2005	4.47		98.98	
	5/11/2005	4.86		98.59	
	8/22/2005	7.57		95.88	
	11/9/2005	8.50		94.95	
	2/7/2006	4.28		99.17	
	5/15/2006	**4.84**		**98.61**	
MW-12	2/26/2002	5.69	104.38	98.69	TOC elevations surveyed and tied into ECM wells for EDF compliance.
	5/17/2002	7.30		97.08	
	8/28/2002	9.37		95.01	
	2/20/2003	6.59		97.79	
	8/20/2003	8.57		95.81	
	11/20/2003	10.07		94.31	
	2/23/2004	6.09	104.38	98.29	
	5/12/2004	—		---	Joint ground water sampling did not take place for this quarter.
	8/9/2004	8.31		96.07	
	8/23/2004	---		---	
	11/10/2004	8.50		95.88	
	2/23/2005	6.56		97.82	
	5/11/2005	5.51		98.87	
	8/22/2005	7.08		97.30	
	11/9/2005	8.10		96.28	
	2/7/2006	6.24		98.14	
	5/15/2006	**6.93**		**97.45**	

Table 4. Monitoring Well Survey Data and Depth to Ground Water - 7675 Old Redwood Highway, Cotati, California (Shell Station-Cambria Environmental site).

Well ID	Sample Date	DTW (Ft)	TOC (Ft, msl)	GWE (Ft, msl)	Notes
MW-13	2/26/2002	6.45	106.07	99.62	TOC elevations surveyed and tied into ECM wells for EDF compliance.
	5/17/2002	8.93		97.14	
	8/28/2002	10.82		95.25	
	2/20/2003	6.98		99.09	
	8/20/2003	10.32		95.75	
	11/20/2003	11.18		94.89	
	2/23/2004	5.81		100.26	
	5/12/2004	—		---	Joint ground water sampling did not take place for this quarter.
	8/9/2004	10.30		95.77	
	8/23/2004	---		---	
	11/10/2004	9.97		96.10	
	2/23/2005	5.75		100.32	
	5/11/2005	6.24		99.83	
	8/22/2005	8.88		97.19	
	11/9/2005	9.89		96.18	
	2/7/2006	5.70		100.37	
	5/15/2006	**5.18**		**100.89**	
MW-14	2/26/2002	4.63	103.48	98.85	TOC elevations surveyed and tied into ECM wells for EDF compliance.
	5/17/2002	6.46		97.02	
	8/28/2002	8.82		94.66	
	2/20/2003	4.35		99.13	
	8/20/2003	8.06		95.42	
	11/20/2003	9.24		94.24	
	2/23/2004	3.60		99.88	
	5/12/2004	—		---	Joint ground water sampling did not take place for this quarter.
	8/9/2004	8.08		95.40	
	8/23/2004	---		---	
	11/10/2004	8.00		95.48	
	2/23/2005	3.62		99.86	
	5/11/2005	4.07		99.41	
	8/22/2005	6.66		96.82	
	11/9/2005	7.71		95.77	
	2/7/2006	3.55		99.93	
	5/15/2006	**5.18**		**98.30**	

Table 4. Monitoring Well Survey Data and Depth to Ground Water - 7675 Old Redwood Highway, Cotati, California (Shell Station-Cambria Environmental site).

Well ID	Sample Date	DTW (Ft)	TOC (Ft, msl)	GWE (Ft, msl)	Notes

Explanation:

DTW = Depth to Water
ft = feet
TOC = Top of Casing
GWE = Ground Water Elevation
msl = Mean Sea Level

Notes:

Data received from Shell Stations environmental consultants, Cambria Environmental.

APPENDIX C

CHAIN OF CUSTODY
AND
LABORATORY ANALYTICAL REPORTS

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

Dave Hazard
ECM Group
290 W. Channel Rd.
Benicia, CA 94510

Lab Certificate Number: 49485
Issued: 05/31/2006

Project Number: 98-516-14
Project Name: 7716 Old Redwood Highway

Global ID: T0609700248

Certificate of Analysis - Revision

Note: This is a revision of the original 5/26/2006 issue to change the project location.

On May 18, 2006, samples were received under chain of custody for analysis.
Entech analyzes samples "as received" unless otherwise noted. The following results are included:

Matrix	Test / Comments
Liquid	Electronic Deliverables for Geotracker TPH-Purgeable: GC/MS VOCs: EPA 5030C / EPA 8260B

Entech Analytical Labs, Inc. is certified for environmental analyses by the State of California (#2346).
If you have any questions regarding this report, please call us at 408-588-0200 ext. 225.

Sincerely,

Laurie Glantz-Murphy
Laboratory Director

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 **Phone: (408) 588-0200** **Fax: (408) 588-0201**

ECM Group
290 W. Channel Rd.
Benicia, CA 94510
Attn: Dave Hazard

Project Number: 98-516-14
Project Name: 7716 Old Redwood Highway

GlobalID: T0609700248

Certificate of Analysis - Data Report

Samples Received: 05/18/2006
Sample Collected by: Client

Lab # : 49485-001 **Sample ID: MW-1A** **Matrix:** Liquid **Sample Date:** 5/15/2006 1:25 PM

VOCs: EPA 5030C / EPA 8260B

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Benzene	ND		1.0	0.50	µg/L	N/A	N/A	5/26/2006	WM1060525
Toluene	ND		1.0	0.50	µg/L	N/A	N/A	5/26/2006	WM1060525
Ethyl Benzene	ND		1.0	0.50	µg/L	N/A	N/A	5/26/2006	WM1060525
Xylenes, Total	**1.1**		1.0	0.50	µg/L	N/A	N/A	5/26/2006	WM1060525
Methyl-t-butyl Ether	**1.1**		1.0	1.0	µg/L	N/A	N/A	5/26/2006	WM1060525
tert-Butyl Ethyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	5/26/2006	WM1060525
tert-Butanol (TBA)	**120**		1.0	10	µg/L	N/A	N/A	5/26/2006	WM1060525
Diisopropyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	5/26/2006	WM1060525
tert-Amyl Methyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	5/26/2006	WM1060525
1,2-Dichloroethane	ND		1.0	0.50	µg/L	N/A	N/A	5/26/2006	WM1060525
1,2-Dibromoethane (EDB)	ND		1.0	0.50	µg/L	N/A	N/A	5/26/2006	WM1060525

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	89.4	60 - 130
Dibromofluoromethane	89.1	60 - 130
Toluene-d8	120	60 - 130

Analyzed by: XBian
Reviewed by: MaiChiTu

TPH-Purgeable: GC/MS

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Gasoline	ND		1.0	50	µg/L	N/A	N/A	5/26/2006	WM1060525

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	90.4	60 - 130
Dibromofluoromethane	90.7	60 - 130
Toluene-d8	101	60 - 130

Analyzed by: XBian
Reviewed by: MaiChiTu

Detection Limit = Detection Limit for Reporting.
D/P-F = Dilution and/or Prep Factor includes sample volume adjustments.
ND = Not Detected at or above the Detection Limit.
Qual = Data Qualifier

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 **Phone: (408) 588-0200** **Fax: (408) 588-0201**

ECM Group
290 W. Channel Rd.
Benicia, CA 94510
Attn: Dave Hazard

Project Number: 98-516-14
Project Name: 7716 Old Redwood Highway

GlobalID: T0609700248

Certificate of Analysis - Data Report

Samples Received: 05/18/2006
Sample Collected by: Client

Lab # : 49485-002 **Sample ID: MW-2A** **Matrix:** Liquid **Sample Date:** 5/15/2006 1:40 PM

VOCs: EPA 5030C / EPA 8260B

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Benzene	**69**		10	5.0	µg/L	N/A	N/A	5/26/2006	WM1060525
Toluene	**46**		10	5.0	µg/L	N/A	N/A	5/26/2006	WM1060525
Ethyl Benzene	**150**		10	5.0	µg/L	N/A	N/A	5/26/2006	WM1060525
Xylenes, Total	**180**		10	5.0	µg/L	N/A	N/A	5/26/2006	WM1060525
Methyl-t-butyl Ether	ND		10	10	µg/L	N/A	N/A	5/26/2006	WM1060525
tert-Butyl Ethyl Ether	ND		10	50	µg/L	N/A	N/A	5/26/2006	WM1060525
tert-Butanol (TBA)	ND		10	100	µg/L	N/A	N/A	5/26/2006	WM1060525
Diisopropyl Ether	ND		10	50	µg/L	N/A	N/A	5/26/2006	WM1060525
tert-Amyl Methyl Ether	ND		10	50	µg/L	N/A	N/A	5/26/2006	WM1060525
1,2-Dichloroethane	ND		10	5.0	µg/L	N/A	N/A	5/26/2006	WM1060525
1,2-Dibromoethane (EDB)	ND		10	5.0	µg/L	N/A	N/A	5/26/2006	WM1060525

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	89.3	60 - 130
Dibromofluoromethane	86.4	60 - 130
Toluene-d8	116	60 - 130

Analyzed by: XBian
Reviewed by: MaiChiTu

TPH-Purgeable: GC/MS

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Gasoline	**3200**		10	500	µg/L	N/A	N/A	5/26/2006	WM1060525

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	90.3	60 - 130
Dibromofluoromethane	87.9	60 - 130
Toluene-d8	98.6	60 - 130

Analyzed by: XBian
Reviewed by: MaiChiTu

Detection Limit = Detection Limit for Reporting.
D/P-F = Dilution and/or Prep Factor includes sample volume adjustments.
ND = Not Detected at or above the Detection Limit.
Qual = Data Qualifier

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Samples Received: 05/18/2006
Sample Collected by: Client

Lab # : 49485-003 **Sample ID: MW-3** **Matrix:** Liquid **Sample Date:** 5/15/2006 1:55 PM

VOCs: EPA 5030C / EPA 8260B

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Benzene	**3400**		100	50	µg/L	N/A	N/A	5/26/2006	WM1060525
Toluene	ND		100	50	µg/L	N/A	N/A	5/26/2006	WM1060525
Ethyl Benzene	**57**		100	50	µg/L	N/A	N/A	5/26/2006	WM1060525
Xylenes, Total	ND		100	50	µg/L	N/A	N/A	5/26/2006	WM1060525
Methyl-t-butyl Ether	**1500**		100	100	µg/L	N/A	N/A	5/26/2006	WM1060525
tert-Butyl Ethyl Ether	ND		100	500	µg/L	N/A	N/A	5/26/2006	WM1060525
tert-Butanol (TBA)	**7800**		100	1000	µg/L	N/A	N/A	5/26/2006	WM1060525
Diisopropyl Ether	ND		100	500	µg/L	N/A	N/A	5/26/2006	WM1060525
tert-Amyl Methyl Ether	ND		100	500	µg/L	N/A	N/A	5/26/2006	WM1060525
1,2-Dichloroethane	ND		100	50	µg/L	N/A	N/A	5/26/2006	WM1060525
1,2-Dibromoethane (EDB)	ND		100	50	µg/L	N/A	N/A	5/26/2006	WM1060525

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	87.8	60 - 130
Dibromofluoromethane	87.6	60 - 130
Toluene-d8	121	60 - 130

Analyzed by: XBian
Reviewed by: MaiChiTu

TPH-Purgeable: GC/MS

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Gasoline	**5900**		100	5000	µg/L	N/A	N/A	5/26/2006	WM1060525

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	88.8	60 - 130
Dibromofluoromethane	89.2	60 - 130
Toluene-d8	103	60 - 130

Analyzed by: XBian
Reviewed by: MaiChiTu

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Samples Received: 05/18/2006
Sample Collected by: Client

Lab # : 49485-004 **Sample ID: MW-4** **Matrix:** Liquid **Sample Date:** 5/15/2006 1:05 PM

VOCs: EPA 5030C / EPA 8260B

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Benzene	ND		1.0	0.50	µg/L	N/A	N/A	5/25/2006	WM1060525
Toluene	ND		1.0	0.50	µg/L	N/A	N/A	5/25/2006	WM1060525
Ethyl Benzene	ND		1.0	0.50	µg/L	N/A	N/A	5/25/2006	WM1060525
Xylenes, Total	**0.94**		1.0	0.50	µg/L	N/A	N/A	5/25/2006	WM1060525
Methyl-t-butyl Ether	ND		1.0	1.0	µg/L	N/A	N/A	5/25/2006	WM1060525
tert-Butyl Ethyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	5/25/2006	WM1060525
tert-Butanol (TBA)	ND		1.0	10	µg/L	N/A	N/A	5/25/2006	WM1060525
Diisopropyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	5/25/2006	WM1060525
tert-Amyl Methyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	5/25/2006	WM1060525
1,2-Dichloroethane	ND		1.0	0.50	µg/L	N/A	N/A	5/25/2006	WM1060525
1,2-Dibromoethane (EDB)	ND		1.0	0.50	µg/L	N/A	N/A	5/25/2006	WM1060525

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	90.7	60 - 130
Dibromofluoromethane	91.6	60 - 130
Toluene-d8	119	60 - 130

Analyzed by: XBian
Reviewed by: MaiChiTu

TPH-Purgeable: GC/MS

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Gasoline	ND		1.0	50	µg/L	N/A	N/A	5/25/2006	WM1060525

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	91.6	60 - 130
Dibromofluoromethane	93.2	60 - 130
Toluene-d8	101	60 - 130

Analyzed by: XBian
Reviewed by: MaiChiTu

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D/P-F = Dilution and/or Prep Factor includes sample volume adjustments.
ND = Not Detected at or above the Detection Limit.
Qual = Data Qualifier

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Samples Received: 05/18/2006
Sample Collected by: Client

Lab # : 49485-005 **Sample ID: MW-5** **Matrix:** Liquid **Sample Date:** 5/15/2006 12:50 PM

VOCs: EPA 5030C / EPA 8260B

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Benzene	ND		1.0	0.50	µg/L	N/A	N/A	5/25/2006	WM1060525
Toluene	ND		1.0	0.50	µg/L	N/A	N/A	5/25/2006	WM1060525
Ethyl Benzene	ND		1.0	0.50	µg/L	N/A	N/A	5/25/2006	WM1060525
Xylenes, Total	**1.2**		1.0	0.50	µg/L	N/A	N/A	5/25/2006	WM1060525
Methyl-t-butyl Ether	ND		1.0	1.0	µg/L	N/A	N/A	5/25/2006	WM1060525
tert-Butyl Ethyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	5/25/2006	WM1060525
tert-Butanol (TBA)	ND		1.0	10	µg/L	N/A	N/A	5/25/2006	WM1060525
Diisopropyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	5/25/2006	WM1060525
tert-Amyl Methyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	5/25/2006	WM1060525
1,2-Dichloroethane	ND		1.0	0.50	µg/L	N/A	N/A	5/25/2006	WM1060525
1,2-Dibromoethane (EDB)	ND		1.0	0.50	µg/L	N/A	N/A	5/25/2006	WM1060525

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	91.7	60 - 130
Dibromofluoromethane	91.7	60 - 130
Toluene-d8	119	60 - 130

Analyzed by: XBian
Reviewed by: MaiChiTu

TPH-Purgeable: GC/MS

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Gasoline	ND		1.0	50	µg/L	N/A	N/A	5/25/2006	WM1060525

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	92.7	60 - 130
Dibromofluoromethane	93.4	60 - 130
Toluene-d8	101	60 - 130

Analyzed by: XBian
Reviewed by: MaiChiTu

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ND = Not Detected at or above the Detection Limit.
Qual = Data Qualifier

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Samples Received: 05/18/2006
Sample Collected by: Client

Lab # : 49485-006 **Sample ID: MW-6** **Matrix:** Liquid **Sample Date:** 5/15/2006 12:30 PM

VOCs: EPA 5030C / EPA 8260B

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Benzene	**0.65**		1.0	0.50	µg/L	N/A	N/A	5/26/2006	WM1060525
Toluene	**0.54**		1.0	0.50	µg/L	N/A	N/A	5/26/2006	WM1060525
Ethyl Benzene	ND		1.0	0.50	µg/L	N/A	N/A	5/26/2006	WM1060525
Xylenes, Total	**2.1**		1.0	0.50	µg/L	N/A	N/A	5/26/2006	WM1060525
Methyl-t-butyl Ether	**1.5**		1.0	1.0	µg/L	N/A	N/A	5/26/2006	WM1060525
tert-Butyl Ethyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	5/26/2006	WM1060525
tert-Butanol (TBA)	ND		1.0	10	µg/L	N/A	N/A	5/26/2006	WM1060525
Diisopropyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	5/26/2006	WM1060525
tert-Amyl Methyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	5/26/2006	WM1060525
1,2-Dichloroethane	ND		1.0	0.50	µg/L	N/A	N/A	5/26/2006	WM1060525
1,2-Dibromoethane (EDB)	ND		1.0	0.50	µg/L	N/A	N/A	5/26/2006	WM1060525

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	88.0	60 - 130
Dibromofluoromethane	90.6	60 - 130
Toluene-d8	119	60 - 130

Analyzed by: XBian
Reviewed by: MaiChiTu

TPH-Purgeable: GC/MS

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Gasoline	ND		1.0	50	µg/L	N/A	N/A	5/26/2006	WM1060525

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	88.9	60 - 130
Dibromofluoromethane	92.2	60 - 130
Toluene-d8	101	60 - 130

Analyzed by: XBian
Reviewed by: MaiChiTu

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Samples Received: 05/18/2006
Sample Collected by: Client

Lab # : 49485-007 **Sample ID: MW-7A** **Matrix:** Liquid **Sample Date:** 5/15/2006 3:10 PM

VOCs: EPA 5030C / EPA 8260B

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Benzene	ND		200	100	µg/L	N/A	N/A	5/26/2006	WM1060525
Toluene	ND		200	100	µg/L	N/A	N/A	5/26/2006	WM1060525
Ethyl Benzene	ND		200	100	µg/L	N/A	N/A	5/26/2006	WM1060525
Xylenes, Total	ND		200	100	µg/L	N/A	N/A	5/26/2006	WM1060525
Methyl-t-butyl Ether	**8900**		200	200	µg/L	N/A	N/A	5/26/2006	WM1060525
tert-Butyl Ethyl Ether	ND		200	1000	µg/L	N/A	N/A	5/26/2006	WM1060525
tert-Butanol (TBA)	**19000**		200	2000	µg/L	N/A	N/A	5/26/2006	WM1060525
Diisopropyl Ether	ND		200	1000	µg/L	N/A	N/A	5/26/2006	WM1060525
tert-Amyl Methyl Ether	ND		200	1000	µg/L	N/A	N/A	5/26/2006	WM1060525
1,2-Dichloroethane	ND		200	100	µg/L	N/A	N/A	5/26/2006	WM1060525
1,2-Dibromoethane (EDB)	ND		200	100	µg/L	N/A	N/A	5/26/2006	WM1060525

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	87.6	60 - 130
Dibromofluoromethane	90.8	60 - 130
Toluene-d8	120	60 - 130

Analyzed by: XBian
Reviewed by: MaiChiTu

TPH-Purgeable: GC/MS

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Gasoline	ND		200	10000	µg/L	N/A	N/A	5/26/2006	WM1060525

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	88.5	60 - 130
Dibromofluoromethane	92.5	60 - 130
Toluene-d8	101	60 - 130

Analyzed by: XBian
Reviewed by: MaiChiTu

Detection Limit = Detection Limit for Reporting.
D/P-F = Dilution and/or Prep Factor includes sample volume adjustments.
ND = Not Detected at or above the Detection Limit.
Qual = Data Qualifier

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Samples Received: 05/18/2006
Sample Collected by: Client

Lab # : 49485-008 **Sample ID: MW-7B** **Matrix:** Liquid **Sample Date:** 5/15/2006 3:30 PM

VOCs: EPA 5030C / EPA 8260B

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Benzene	**1.5**		1.0	0.50	µg/L	N/A	N/A	5/25/2006	WM1060525
Toluene	ND		1.0	0.50	µg/L	N/A	N/A	5/25/2006	WM1060525
Ethyl Benzene	ND		1.0	0.50	µg/L	N/A	N/A	5/25/2006	WM1060525
Xylenes, Total	ND		1.0	0.50	µg/L	N/A	N/A	5/25/2006	WM1060525
Methyl-t-butyl Ether	**18**		1.0	1.0	µg/L	N/A	N/A	5/25/2006	WM1060525
tert-Butyl Ethyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	5/25/2006	WM1060525
tert-Butanol (TBA)	ND		1.0	10	µg/L	N/A	N/A	5/25/2006	WM1060525
Diisopropyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	5/25/2006	WM1060525
tert-Amyl Methyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	5/25/2006	WM1060525
1,2-Dichloroethane	ND		1.0	0.50	µg/L	N/A	N/A	5/25/2006	WM1060525
1,2-Dibromoethane (EDB)	ND		1.0	0.50	µg/L	N/A	N/A	5/25/2006	WM1060525

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	90.6	60 - 130
Dibromofluoromethane	93.7	60 - 130
Toluene-d8	118	60 - 130

Analyzed by: XBian
Reviewed by: MaiChiTu

TPH-Purgeable: GC/MS

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Gasoline	ND		1.0	50	µg/L	N/A	N/A	5/25/2006	WM1060525

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	91.6	60 - 130
Dibromofluoromethane	95.4	60 - 130
Toluene-d8	99.8	60 - 130

Analyzed by: XBian
Reviewed by: MaiChiTu

Detection Limit = Detection Limit for Reporting.
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Samples Received: 05/18/2006
Sample Collected by: Client

Lab # : 49485-009 **Sample ID: MW-8A** **Matrix:** Liquid **Sample Date:** 5/15/2006 2:40 PM

VOCs: EPA 5030C / EPA 8260B

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Benzene	**12**		1.0	0.50	µg/L	N/A	N/A	5/26/2006	WM1060525
Toluene	**1.6**		1.0	0.50	µg/L	N/A	N/A	5/26/2006	WM1060525
Ethyl Benzene	**6.9**		1.0	0.50	µg/L	N/A	N/A	5/26/2006	WM1060525
Xylenes, Total	**21**		1.0	0.50	µg/L	N/A	N/A	5/26/2006	WM1060525
Methyl-t-butyl Ether	**2.3**		1.0	1.0	µg/L	N/A	N/A	5/26/2006	WM1060525
tert-Butyl Ethyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	5/26/2006	WM1060525
tert-Butanol (TBA)	ND		1.0	10	µg/L	N/A	N/A	5/26/2006	WM1060525
Diisopropyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	5/26/2006	WM1060525
tert-Amyl Methyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	5/26/2006	WM1060525
1,2-Dichloroethane	ND		1.0	0.50	µg/L	N/A	N/A	5/26/2006	WM1060525
1,2-Dibromoethane (EDB)	ND		1.0	0.50	µg/L	N/A	N/A	5/26/2006	WM1060525

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	90.9	60 - 130
Dibromofluoromethane	88.8	60 - 130
Toluene-d8	118	60 - 130

Analyzed by: XBian
Reviewed by: MaiChiTu

TPH-Purgeable: GC/MS

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Gasoline	**130**		1.0	50	µg/L	N/A	N/A	5/26/2006	WM1060525

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	91.8	60 - 130
Dibromofluoromethane	90.4	60 - 130
Toluene-d8	99.7	60 - 130

Analyzed by: XBian
Reviewed by: MaiChiTu

Detection Limit = Detection Limit for Reporting.
D/P-F = Dilution and/or Prep Factor includes sample volume adjustments.
ND = Not Detected at or above the Detection Limit.
Qual = Data Qualifier

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Samples Received: 05/18/2006
Sample Collected by: Client

Lab # : 49485-010 **Sample ID: MW-8B** **Matrix:** Liquid **Sample Date:** 5/15/2006 2:20 PM

VOCs: EPA 5030C / EPA 8260B

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Benzene	**14**		1.0	0.50	µg/L	N/A	N/A	5/26/2006	WM1060525
Toluene	**1.1**		1.0	0.50	µg/L	N/A	N/A	5/26/2006	WM1060525
Ethyl Benzene	**1.1**		1.0	0.50	µg/L	N/A	N/A	5/26/2006	WM1060525
Xylenes, Total	**3.7**		1.0	0.50	µg/L	N/A	N/A	5/26/2006	WM1060525
Methyl-t-butyl Ether	**1.4**		1.0	1.0	µg/L	N/A	N/A	5/26/2006	WM1060525
tert-Butyl Ethyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	5/26/2006	WM1060525
tert-Butanol (TBA)	ND		1.0	10	µg/L	N/A	N/A	5/26/2006	WM1060525
Diisopropyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	5/26/2006	WM1060525
tert-Amyl Methyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	5/26/2006	WM1060525
1,2-Dichloroethane	ND		1.0	0.50	µg/L	N/A	N/A	5/26/2006	WM1060525
1,2-Dibromoethane (EDB)	ND		1.0	0.50	µg/L	N/A	N/A	5/26/2006	WM1060525

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	89.4	60 - 130
Dibromofluoromethane	85.5	60 - 130
Toluene-d8	118	60 - 130

Analyzed by: XBian
Reviewed by: MaiChiTu

TPH-Purgeable: GC/MS

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Gasoline	ND		1.0	50	µg/L	N/A	N/A	5/26/2006	WM1060525

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	90.3	60 - 130
Dibromofluoromethane	87.0	60 - 130
Toluene-d8	100	60 - 130

Analyzed by: XBian
Reviewed by: MaiChiTu

Detection Limit = Detection Limit for Reporting.
D/P-F = Dilution and/or Prep Factor includes sample volume adjustments.
ND = Not Detected at or above the Detection Limit.
Qual = Data Qualifier

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

Method Blank - Liquid - VOCs: EPA 5030C / EPA 8260B

QC Batch ID: WM1060525

Validated by: MaiChiTu - 05/26/06

QC Batch Analysis Date: 5/25/2006

Parameter	Result	DF	PQLR	Units
1,2-Dibromoethane (EDB)	ND	1	0.50	µg/L
1,2-Dichloroethane	ND	1	0.50	µg/L
Benzene	ND	1	0.50	µg/L
Diisopropyl Ether	ND	1	5.0	µg/L
Ethyl Benzene	ND	1	0.50	µg/L
Methyl-t-butyl Ether	ND	1	1.0	µg/L
tert-Amyl Methyl Ether	ND	1	5.0	µg/L
tert-Butanol (TBA)	ND	1	10	µg/L
tert-Butyl Ethyl Ether	ND	1	5.0	µg/L
Toluene	ND	1	0.50	µg/L
Xylenes, Total	ND	1	0.50	µg/L

Surrogate for Blank	% Recovery	Control Limits
4-Bromofluorobenzene	**86.1**	60 - 130
Dibromofluoromethane	**81.1**	60 - 130
Toluene-d8	**116**	60 - 130

Method Blank - Liquid - TPH-Purgeable: GC/MS

QC Batch ID: WM1060525

Validated by: MaiChiTu - 05/26/06

QC Batch Analysis Date: 5/25/2006

Parameter	Result	DF	PQLR	Units
TPH as Gasoline	ND	1	50	µg/L

Surrogate for Blank	% Recovery	Control Limits
4-Bromofluorobenzene	**86.3**	60 - 130
Dibromofluoromethane	**84.4**	60 - 130
Toluene-d8	**102**	60 - 130

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

LCS / LCSD - Liquid - VOCs: EPA 5030C / EPA 8260B

QC Batch ID: WM1060525 Reviewed by: MaiChiTu - 05/26/06

QC Batch ID Analysis Date: 5/25/2006

LCS

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	Recovery Limits
Benzene	<0.50	20	21.1	µg/L	106	70 - 130
Methyl-t-butyl Ether	<1.0	20	15.8	µg/L	79.0	70 - 130
Toluene	<0.50	20	20.6	µg/L	103	70 - 130

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	**102.0**	60 - 130
Dibromofluoromethane	**92.8**	60 - 130
Toluene-d8	**114.0**	60 - 130

LCSD

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	RPD	RPD Limits	Recovery Limits
Benzene	<0.50	20	20.9	µg/L	104	**0.95**	25.0	70 - 130
Methyl-t-butyl Ether	<1.0	20	16.4	µg/L	82.0	**3.7**	25.0	70 - 130
Toluene	<0.50	20	21.2	µg/L	106	**2.9**	25.0	70 - 130

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	**88.2**	60 - 130
Dibromofluoromethane	**101.0**	60 - 130
Toluene-d8	**126.0**	60 - 130

LCS / LCSD - Liquid - TPH-Purgeable: GC/MS

QC Batch ID: WM1060525 Reviewed by: MaiChiTu - 05/26/06

QC Batch ID Analysis Date: 5/25/2006

LCS

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	Recovery Limits
TPH as Gasoline	<25	120	123	µg/L	98.6	65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	**91.9**	60 - 130
Dibromofluoromethane	**87.0**	60 - 130
Toluene-d8	**98.9**	60 - 130

LCSD

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	RPD	RPD Limits	Recovery Limits
TPH as Gasoline	<25	120	113	µg/L	90.1	**9.0**	25.0	65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	**89.5**	60 - 130
Dibromofluoromethane	**86.5**	60 - 130
Toluene-d8	**97.7**	60 - 130

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

MS / MSD - Liquid - VOCs: EPA 5030C / EPA 8260B

QC Batch ID: WM1060525

QC Batch ID Analysis Date: 5/25/2006

MS Sample Spiked: 49479-004

Parameter	Sample Result	Spike Amount	Spike Result	Units	Analysis Date	% Recovery	Recovery Limits	
Benzene	ND	20	18.9	µg/L	5/25/2006	94.5	70 - 130	
Methyl-t-butyl Ether	ND	20	13.5	µg/L	5/25/2006	67.5	70 - 130	***
Toluene	ND	20	19.3	µg/L	5/25/2006	96.5	70 - 130	

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	**88.5**	60 - 130
Dibromofluoromethane	**85.5**	60 - 130
Toluene-d8	**114.0**	60 - 130

MSD Sample Spiked: 49479-004

Parameter	Sample Result	Spike Amount	Spike Result	Units	Analysis Date	% Recovery	RPD	RPD Limits	Recovery Limits	
Benzene	ND	20	17.8	µg/L	5/25/2006	89.0	6.0	25.0	70 - 130	
Methyl-t-butyl Ether	ND	20	13.6	µg/L	5/25/2006	68.0	0.74	25.0	70 - 130	***
Toluene	ND	20	18.8	µg/L	5/25/2006	94.0	2.6	25.0	70 - 130	

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	**89.7**	60 - 130
Dibromofluoromethane	**88.0**	60 - 130
Toluene-d8	**116.0**	60 - 130

Entech Analytical Labs, Inc. Chain of Custody / Analysis Request

3334 Victor Court (408) 588-0200
Santa Clara, CA 95054 (408) 588-0201 - Fax

ELAP No. 2346

Attention to: DAVE HAZARD	Phone No.: 707-751-0655	Purchase Order No.:	Invoice to: (If Different)	Phone:
Company Name: ECM GROUP	Fax No.: 707-751-0653	Project No. / Name: 98-516-14 COTATI	Company: REDWOOD OIL CO.	
Mailing Address: P.O. BOX 802	Email Address:		Billing Address: (If Different)	
City: BENICA	State: CA Zip Code: 94510	Project Location:	City:	State: Zip:

Entech Order ID: 49485

EDF ☒ Global ID: T0609700248

Turn Around Time

❑ Same Day ❑ 1 Day
❑ 2 Day ❑ 3 Day
❑ 4 Day ❑ 5 Day
☒ 10 Day

Sample Information

Sampler MSJ

Circle Applicable

Client ID	Field Point	Date	Time	Entech Lab. No.	Matrix	No. of Containers	EPA 8260B Full List	8260 Petroleum: List includes: Gas, BTEX MtBE, EtBE, TBA, TAME, DIPE, 1,2-DCA, EDB				EPA 8270: Base/Neutral/Acid Organics 8270 Full List PAHs Only PAHs - SIM	Pesticides-8081 PCBs - 8082	TPH Extractable: Diesel, Motor Oil, Other w/ Si-Gel Cleanup	TPH Gas, BTEX, MtBE by EPA 8015/8021B							Metals - Circle Below Total Dissolved STLC TCLP	Remarks Instructions
MW-1A		5/5/06	13:25	-001	W	4		X															
MW-2A			13:40	-002	W	4		X															
MW-3			13:55	-003	W	4		X															
MW-4			13:05	-004	W	4		X															
MW-5			12:50	-005	W	4		X															
MW-6			12:30	-006	W	4		X															
MW-7A			15:10	-007	W	4		X															
MW-7B			15:30	-008	W	4		X															
MW-8A			14:40	-009	W	4		X															
MW-8B			14:20	-010	W	4		X															

Relinquished by:	Received by:	Date:	Time:
[signature]	[signature]	5/18/06	0944
[signature]	Dean Thurs	5/18/06	1200

Lab Use:

Metals: Al, As, Sb, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, K, Si, Ag, Na, Se, Tl, Sn, Ti, Zn, V
❑ Plating ❑ LUFT-5 ❑ RCRA-8 ❑ PPM-13 ❑ CAM-17

Lab Use:

Samples: Iced Y/N Temperature: 5°
Appropriate Containers/Preservatives: Y/N
Labels match CoC? Y/N Headspace? Y/N

Shipment Method: Ron J
Custody Seals? Y/N
Seperate Receipt Log Y/N

If any N's, Explain:

APPENDIX D

WATER SAMPLING DATA SHEETS

VATER LEVEL &
'RODUCT MEASUREMENTS

ECM group

ROJECT NAME & NUMBER: 98-516-14
COTATI

DATE: 5/15/06
BY: MJJ

WELL ID	TIME MEASURED	DEPTH TO PRODUCT (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH	COMMENTS: (well condition, odor, etc.)
MW-1A			4.50	19.85	2"
MW-2A			6.14	19.75	2"
MW-3			5.16	24.15	2"
MW-4			3.85	25.00	2"
MW-5			4.62	24.65	2"
MW-6			8.04	19.90	2"
MW-7A			6.34	50.00	2"
MW-7B			9.32	80.00	2"
MW-8A			5.82	50.00	2"
MW-8B			5.49	80.00	2"

WATER SAMPLING DATA

Job Name COTATI Job Number 98-516-14

Well Number MW-1A Date 5/15/06 Time

Well Diameter 2" Well Depth (spec.) Well Depth (sounded) 19.85

Depth to Water (static) 4.50 TOC elev.

G.W. Elev. Maximum Drawdown Limit (if applicable)

Formulas/Conversions
r = well radius in ft
h = ht of water col. in ft
vol. in cyl. = $\pi r^2 h$
7.48 gal/ft^3
V_2" casing = 0.163 gal/ft
V_3" casing = 0.367 gal/ft
V_4" casing = 0.653 gal/ft
$V_{4.5}$" casing = 0.826 gal/ft
V_6" casing = 1.47 gal/ft

Initial height of water in casing 15.35 Volume 2.50 gallons

Total to be evacuated = 3 x Initial Volume 7.50 gallons

Stop Time	Start Time	Bailed	Pumped	Cum. Gal.

Pumped or Bailed Dry? ___Yes X No After _____ gallons Recovery Rate

Water color Odor

Description of sediments or material in sample:

Additional Comments:

CHEMICAL DATA

Reading No.	1	2	3	4	5	6	7
Time							
Gallons							
Temp. (degree F)	71.6	70.0	69.2				
pH	7.43	7.33	7.33				
EC (umhos/cm)	1477	1365	1357				
Special Conditions							

SAMPLES COLLECTED

Sample ID ml	Bottle/ cap	Filtered (size, u)	Preservative (type)	Refrig. (R, NR)	Lab (Init)	Analysis Requested

Bottles: P = Polyethylene; Pp = Polypropylene; C or B = Clear/Brown Glass; O = Other (describe)
Cap Codes: Py = Polyseal; V = VOA/Teflon septa; M = Metal

13:25

WATER SAMPLING DATA

Job Name COTATI Job Number 98-516-14

Well Number MW-2A Date 5/15/96 Time

Well Diameter 2" Well Depth (spec.) Well Depth (sounded) 19.75

Depth to Water (static) 6.14 TOC elev.

G.W. Elev. Maximum Drawdown Limit (if applicable)

Formulas/Conversions
r = well radius in ft
h = ht of water col. in ft
vol. in cyl. = $\pi r^2 h$
7.48 gal/ft^3
$V_{3/4}$" casing = 0.163 gal/ft
V_1" casing = 0.367 gal/ft
$V_{1/4}$" casing = 0.653 gal/ft
$V_{1/2}$" casing = 0.826 gal/ft
V_2" casing = 1.47 gal/ft

Initial height of water in casing 13.61 Volume 2.21 gallons

Total to be evacuated = 3 x Initial Volume 6.65 gallons

Stop Time	Start Time	Bailed	Pumped	Cum. Gal.

Pumped or Bailed Dry? ___Yes X No After _____ gallons Recovery Rate

Water color Odor

Description of sediments or material in sample:

Additional Comments:

CHEMICAL DATA

Reading No.	1	2	3	4	5	6	7
Time							
Gallons							
Temp. (degree F)	69.8	68.2	66.8				
pH	7.28	7.33	7.16				
EC (umhos/cm)	647	589	617				
Special Conditions							

SAMPLES COLLECTED

Sample ID ml	Bottle/ cap	Filtered (size, u)	Preservative (type)	Refrig. (R, NR)	Lab (Init)	Analysis Requested

Bottles: P = Polyethylene; Pp = Polypropylene; C or B = Clear/Brown Glass; O = Other (describe)
Cap Codes: Py = Polyseal; V = VOA/Teflon septa; M = Metal

13:40

WATER SAMPLING DATA

Job Name COTATI Job Number 98-516-14

Well Number MW-3 Date 5/15/06 Time

Well Diameter 2" Well Depth (spec.) Well Depth (sounded) 24.15

Depth to Water (static) 5.16 TOC elev.

G.W. Elev. Maximum Drawdown Limit (if applicable)

Formulas/Conversions
r = well radius in ft
h = ht of water col. in ft
vol. in cyl. = $\pi r^2 h$
7.48 gal/ft³
V_2" casing = 0.163 gal/ft
V_3" casing = 0.367 gal/ft
V_4" casing = 0.653 gal/ft
V_5" casing = 0.826 gal/ft
V_6" casing = 1.47 gal/ft

Initial height of water in casing 18.55 Volume 3.02 gallons

Total to be evacuated = 3 x Initial Volume 9.07 gallons

Stop Time	Start Time	Bailed	Pumped	Cum. Gal.

Pumped or Bailed Dry? ___Yes X No After _____ gallons Recovery Rate

Water color Odor

Description of sediments or material in sample:

Additional Comments:

CHEMICAL DATA

Reading No.	1	2	3	4	5	6	7
Time							
Gallons							
Temp. (degree F)	71.3	70.7	69.3				
pH	6.87	6.95	6.90				
EC (umhos/cm)	1338	1315	1277				
Special Conditions							

SAMPLES COLLECTED

Sample ID ml	Bottle/ cap	Filtered (size, u)	Preservative (type)	Refrig. (R, NR)	Lab (Init)	Analysis Requested

Bottles: P = Polyethylene; Pp = Polypropylene; C or B = Clear/Brown Glass; O = Other (describe)
Cap Codes: Py = Polyseal; V = VOA/Teflon septa; M = Metal

13.55

WATER SAMPLING DATA

Job Name COTATI Job Number 98-516-14

Well Number MW-4 Date 5/15/06 Time

Well Diameter 2" Well Depth (spec.) Well Depth (sounded) 25.00

Depth to Water (static) 3.85 TOC elev.

G.W. Elev. Maximum Drawdown Limit (if applicable)

Formulas/Conversions
r = well radius in ft
h = ht of water col. in ft
vol. in cyl. = $\pi r^2 h$
7.48 gal/ft³
V₂" casing = 0.163 gal/ft
V₃" casing = 0.367 gal/ft
V₄" casing = 0.653 gal/ft
V₄.₅" casing = 0.826 gal/ft
V₆" casing = 1.47 gal/ft

Initial height of water in casing 21.15 Volume 3.44 gallons

Total to be evacuated = 3 x Initial Volume 10.34 gallons

Stop Time	Start Time	Bailed	Pumped	Cum. Gal.

Pumped or Bailed Dry? ___Yes X No After _____ gallons Recovery Rate

Water color Odor

Description of sediments or material in sample:

Additional Comments:

CHEMICAL DATA

Reading No.	1	2	3	4	5	6	7
Time							
Gallons							
Temp. (degree F)	66.3	63.3	67.6				
pH	7.78	7.70	7.67				
EC (umhos/cm)	2216	2067	1863				
Special Conditions							

SAMPLES COLLECTED

Sample ID ml	Bottle/ cap	Filtered (size, u)	Preservative (type)	Refrig. (R, NR)	Lab (Init)	Analysis Requested

Bottles: P = Polyethylene; Pp = Polypropylene; C or B = Clear/Brown Glass; O = Other (describe)
Cap Codes: Py = Polyseal; V = VOA/Teflon septa; M = Metal

13:05

WATER SAMPLING DATA

Job Name COTATI Job Number 98-516-14

Well Number MW-5 Date 5/15/06 Time

Well Diameter 2" Well Depth (spec.) Well Depth (sounded) 24.65

Depth to Water (static) 4.62 TOC elev.

G.W. Elev. Maximum Drawdown Limit (if applicable)

Formulas/Conversions
r = well radius in ft
h = ht of water col. in ft
vol. in cyl. = $\pi r^2 h$
7.48 gal/ft³
V 2" casing = 0.163 gal/ft
V 4" casing = 0.367 gal/ft
V 6" casing = 0.653 gal/ft
V 4.5" casing = 0.826 gal/ft
V 8" casing = 1.47 gal/ft

Initial height of water in casing 20.03 Volume 3.26 gallons

Total to be evacuated = 3 x Initial Volume 9.79 gallons

Stop Time	Start Time	Bailed	Pumped	Cum. Gal.

Pumped or Bailed Dry? ___Yes X No After _____ gallons Recovery Rate

Water color Odor

Description of sediments or material in sample:

Additional Comments:

CHEMICAL DATA

Reading No.	1	2	3	4	5	6	7
Time							
Gallons							
Temp. (degree F)	68.5	63.5	61.3				
pH	7.60	7.33	7.30				
EC (umhos/cm)	1837	1757	1718				
Special Conditions							

SAMPLES COLLECTED

Sample ID ml	Bottle/ cap	Filtered (size, u)	Preservative (type)	Refrig. (R, NR)	Lab (Init)	Analysis Requested

Bottles: P = Polyethylene; Pp = Polypropylene; C or B = Clear/Brown Glass; O = Other (describe)
Cap Codes: Py = Polyseal; V = VOA/Teflon septa; M = Metal

12:50

WATER SAMPLING DATA

Job Name COTATI Job Number 98-516-14

Well Number MW-6 Date 5/15/06 Time

Well Diameter 2" Well Depth (spec.) Well Depth (sounded) 19.90

Depth to Water (static) 8.04 TOC elev.

G.W. Elev. Maximum Drawdown Limit (if applicable)

Formulas/Conversions
r = well radius in ft
h = ht of water col. in ft
vol. in cyl. = $\pi r^2 h$
7.48 gal/ft³
V₂" casing = 0.163 gal/ft
V₃" casing = 0.367 gal/ft
V₄" casing = 0.653 gal/ft
V₅.₁" casing = 0.826 gal/ft
V₆" casing = 1.47 gal/ft

Initial height of water in casing 11.86 Volume 1.93 gallons

Total to be evacuated = 3 x Initial Volume 5.79 gallons

Stop Time	Start Time	Bailed	Pumped	Cum. Gal.

Pumped or Bailed Dry? ___Yes X No After _____ gallons Recovery Rate

Water color Odor

Description of sediments or material in sample:

Additional Comments:

CHEMICAL DATA

Reading No.	1	2	3	4	5	6	7
Time							
Gallons							
Temp. (degree F)	77.2	72.7	71.8				
pH	6.99	7.11	7.13				
EC (umhos/cm)	2194	2073	2054				
Special Conditions							

SAMPLES COLLECTED

Sample ID ml	Bottle/ cap	Filtered (size, u)	Preservative (type)	Refrig. (R, NR)	Lab (Init)	Analysis Requested

Bottles: P = Polyethylene; Pp = Polypropylene; C or B = Clear/Brown Glass; O = Other (describe)
Cap Codes: Py = Polyseal; V = VOA/Teflon septa; M = Metal

12:30

WATER SAMPLING DATA

Job Name COTATI Job Number 98-516-14

Well Number MW-7A Date 5/15/06 Time

Well Diameter 2" Well Depth (spec.) Well Depth (sounded) 50.00

Depth to Water (static) 6.34 TOC elev.

G.W. Elev. Maximum Drawdown Limit (if applicable)

Formulas/Conversions
r = well radius in ft
h = ht of water col. in ft
vol. in cyl. = $\pi r^2 h$
7.48 gal/ft^3
V_2" casing = 0.163 gal/ft
V_3" casing = 0.367 gal/ft
V_4" casing = 0.653 gal/ft
$V_{4.5}$" casing = 0.826 gal/ft
V_6" casing = 1.47 gal/ft

Initial height of water in casing 43.66 Volume 7.11 + 3.26 gallons

Total to be evacuated = 3 x Initial Volume 10.37 gallons

Stop Time	Start Time	Bailed	Pumped	Cum. Gal.

Pumped or Bailed Dry? ___Yes X No After _____ gallons Recovery Rate

Water color Odor

Description of sediments or material in sample:

Additional Comments:

CHEMICAL DATA

Reading No.	1	2	3	4	5	6	7
Time							
Gallons							
Temp. (degree F)	74.7	71.7	71.9				
pH	7.97	7.74	7.84				
EC (umhos/cm)	1089	1119	1126				
Special Conditions							

SAMPLES COLLECTED

Sample ID ml	Bottle/ cap	Filtered (size, u)	Preservative (type)	Refrig. (R, NR)	Lab (Init)	Analysis Requested

Bottles: P = Polyethylene; Pp = Polypropylene; C or B = Clear/Brown Glass; O = Other (describe)
Cap Codes: Py = Polyseal; V = VOA/Teflon septa; M = Metal

15:10

WATER SAMPLING DATA

Job Name COTATI Job Number 98-516-14

Well Number MW-7B Date 5/15/06 Time

Well Diameter 2" Well Depth (spec.) Well Depth (sounded) 80.00

Depth to Water (static) 9.32 TOC elev.

G.W. Elev. Maximum Drawdown Limit (if applicable)

Formulas/Conversions
r = well radius in ft
h = ht of water col. in ft
vol. in cyl. = $\pi r^2 h$
7.48 gal/ft³
V 2" casing = 0.163 gal/ft
V 4" casing = 0.367 gal/ft
V 6" casing = 0.653 gal/ft
V 8" casing = 0.826 gal/ft
V 4" casing = 1.47 gal/ft

Initial height of water in casing 70.68 Volume 11.52 + 3.26 gallons

Total to be evacuated = 3 x Initial Volume 14.78 gallons

Stop Time	Start Time	Bailed	Pumped	Cum. Gal.

Pumped or Bailed Dry? ___Yes X No After _____ gallons Recovery Rate

Water color Odor

Description of sediments or material in sample:

Additional Comments:

CHEMICAL DATA

Reading No.	1	2	3	4	5	6	7
Time							
Gallons							
Temp. (degree F)	71.9	69.7	69.1				
pH	7.58	6.95	6.87				
EC (umhos/cm)	1292	1296	1338				
Special Conditions							

SAMPLES COLLECTED

Sample ID ml	Bottle/ cap	Filtered (size, u)	Preservative (type)	Refrig. (R, NR)	Lab (Init)	Analysis Requested

Bottles: P = Polyethylene; Pp = Polypropylene; C or B = Clear/Brown Glass; O = Other (describe)
Cap Codes: Py = Polyseal; V = VOA/Teflon septa; M = Metal

15:36

WATER SAMPLING DATA

Job Name COTATI Job Number 98-516-14

Well Number MW-8A Date 5/15/06 Time

Well Diameter 2" Well Depth (spec.) Well Depth (sounded) 50.00

Depth to Water (static) 5.82 TOC elev.

G.W. Elev. Maximum Drawdown Limit (if applicable)

Formulas/Conversions
r = well radius in ft
h = ht of water col. in ft
vol. in cyl. = $\pi r^2 h$
7.48 gal/ft³
V 2" casing = 0.163 gal/ft
V 3" casing = 0.367 gal/ft
V 4" casing = 0.653 gal/ft
V 5.5" casing = 0.826 gal/ft
V 6" casing = 1.47 gal/ft

Initial height of water in casing 44.18 Volume 7.20+3.26 gallons

Total to be evacuated = 3 x Initial Volume 10.46 gallons

Stop Time	Start Time	Bailed	Pumped	Cum. Gal.

Pumped or Bailed Dry? ___Yes X No After _____ gallons Recovery Rate

Water color Odor

Description of sediments or material in sample:

Additional Comments:

CHEMICAL DATA

Reading No.	1	2	3	4	5	6	7
Time							
Gallons							
Temp. (degree F)	72.9	72.5	70.5				
pH	12.00	12.13	12.22				
EC (umhos/cm)	1470	1552	1613				
Special Conditions							

SAMPLES COLLECTED

Sample ID ml	Bottle/ cap	Filtered (size, u)	Preservative (type)	Refrig. (R, NR)	Lab (Init)	Analysis Requested

Bottles: P = Polyethylene; Pp = Polypropylene; C or B = Clear/Brown Glass; O = Other (describe)
Cap Codes: Py = Polyseal; V = VOA/Teflon septa; M = Metal

14:40

WATER SAMPLING DATA

Job Name COTATI Job Number 98-516-14

Well Number MW-8B Date 5/15/06 Time

Well Diameter 2" Well Depth (spec.) Well Depth (sounded) 80.00

Depth to Water (static) 5.49 TOC elev.

G.W. Elev. Maximum Drawdown Limit (if applicable)

Formulas/Conversions
r = well radius in ft
h = ht of water col. in ft
vol. in cyl. = $\pi r^2 h$
7.48 gal/ft³
V 2" casing = 0.163 gal/ft
V 4" casing = 0.367 gal/ft
V 5" casing = 0.653 gal/ft
V 6" casing = 0.826 gal/ft
V 8" casing = 1.47 gal/ft

Initial height of water in casing 74.51 Volume 12.14+ 3.26 gallons

Total to be evacuated = 3 x Initial Volume 15.40 gallons

Stop Time	Start Time	Bailed	Pumped	Cum. Gal.

Pumped or Bailed Dry? ___Yes X No After _____ gallons Recovery Rate

Water color Odor

Description of sediments or material in sample:

Additional Comments:

CHEMICAL DATA

Reading No.	1	2	3	4	5	6	7
Time							
Gallons							
Temp. (degree F)	71.3	69.1	68.8				
pH	7.19	6.64	6.51				
EC (umhos/cm)	831	788	803				
Special Conditions							

SAMPLES COLLECTED

Sample ID ml	Bottle/ cap	Filtered (size, u)	Preservative (type)	Refrig. (R, NR)	Lab (Init)	Analysis Requested

Bottles: P = Polyethylene; Pp = Polypropylene; C or B = Clear/Brown Glass; O = Other (describe)
Cap Codes: Py = Polyseal; V = VOA/Teflon septa; M = Metal

14:20

APPENDIX E

ECM STANDARD OPERATING PROCEDURE

ECM STANDARD OPERATING PROCEDURE

GROUND WATER SAMPLING

The following describes sampling procedures used by ECM field personnel to collect and handle ground water samples. Before samples are collected, careful consideration is given to the type of analysis to be performed so that precautions are taken to prevent loss of volatile components or contamination of the sample, and to preserve the sample for subsequent analysis. Wells will be sampled no less than 24 hours after well development. Collection methods specific to ground water sampling are presented below.

Prior to sampling, each well is purged of a minimum of three well casing volumes of water using a steam-cleaned PVC bailer, or a pre-cleaned pump. Temperature, pH and electrical conductivity are measured at least three times during purging. Purging is continued until these parameters have stabilized (i.e., changes in temperature or conductivity do not exceed 10% and changes in pH do not exceed one unit).

Ground water samples are collected from the wells/borings with steam-cleaned or disposable Teflon bailers. The water samples are decanted into the appropriate container for the analysis to be performed. Pre-preserved sample containers may be used or the analytic laboratory may add preservative to the sample upon arrival. Duplicate samples are collected from each well as a back-up sample and/or to provide quality control. The samples are labeled to include the project number, sample ID, date, preservative, and the field person's initials. The samples are placed in polyethylene bags and in an ice chest (maintained at 4˚C with blue ice or ice) for transport under chain-of-custody to the laboratory.

The chain-of-custody form includes the project number, analysis requested, sample ID, date analysis and the ECM field person's name. The form is signed and dated (with the transfer time) by each person who yields or receives the samples beginning with the field personnel and ending with the laboratory personnel.