

March 8, 2012

Ms. Linda Hanefeld  
Wisconsin Department of Natural Resources  
3911 Fish Hatchery Road  
Fitchburg, WI 53711-5397



*(Via email - analytical reports included)*

**Subject: Reedsburg Cleaners**  
**349 E. Main Street, Reedsburg, Wisconsin**  
**BRRTS No. 02-57-001682**  
**ENVIRON Project No. 21-28166A**

Dear Ms. Hanefeld:

As a follow-up to the WDNR letter dated September 19, 2011 and subsequent communications, this letter has been prepared by ENVIRON International Corporation (ENVIRON) to document the results of the most recent groundwater monitoring event for the Reedsburg Cleaners site (Figure 1), which was conducted on January 19, 2012. These are the first set of groundwater data since the June 2011 injection of whey electron donor and aquifer buffer material. Previous injections of whey and buffer at this site occurred in December 2009, July 2010, and November 2010. As indicated in a late January 2012 telephone communication, monitoring well nest MW-6/P-1 to the southwest of the subject site could not be located as part of the January 2012 groundwater monitoring event and appears to have been paved-over. Review of the recent groundwater monitoring results leads to the following observations:

1. As shown in Table 1, the injection of whey has maintained anaerobic conditions at all seven of the sampled monitoring wells (MW-2, MW-3R, MW-4, MW-5, MW-7, MW-8, and MW-10), as the January 2012 oxidation-reduction potential (ORP) values ranged between -92 millivolts (mV) and -113 mV. ORP values less than -75 mV within the treatment zone are desirable for anaerobic dechlorination to occur.
2. As shown in Table 1, pH values ranged between 4.25 (at on-site well MW-3R) to 6.73 (at downgradient well MW-10), with an average pH of 5.90. Values of pH that range between 6 and 8 are most conducive to dechlorinating bacteria, and low pH (<5) conditions are detrimental to such bacteria. However, the detected alkalinity concentrations shown in Table 2 ranged between 450 milligrams per liter (mg/L) and 960 mg/L. Alkalinities greater than 300 mg/L are generally sufficient to buffer against adverse pH changes (AFCEE, 2004). The elevated alkalinity concentrations detected in the January 2012 groundwater samples are indicative of residual sodium hydroxide buffer that was injected as part of the June 2011 electron donor injection event.
3. As shown in Table 2 and Attachment A, none of the January 2012 nitrate/nitrite concentrations exceeded 0.024 mg/L at the seven sampled monitoring wells. Nitrate/nitrite concentrations less than 1 mg/L are desirable for anaerobic dechlorination to occur. None of the sulfate concentrations exceeded 37 mg/L; sulfate concentrations less than 20 mg/L are desirable, but not required, for anaerobic dechlorination to occur. Dissolved iron concentrations ranged between 23 mg/L and 110 mg/L at the sampled monitoring wells.

Elevated concentrations of ferrous iron indicates that the groundwater environment is sufficiently reducing to sustain iron reduction and for anaerobic dechlorination to occur (AFCEE, 2004).

4. As shown in Table 2, January 2012 total organic carbon (TOC) concentrations at the seven sampled monitoring wells ranged between 19 mg/L and 4,300 mg/L. Empirically-determined guidance for the design of electron donor injection includes maintenance of minimum TOC concentrations in groundwater near the injection zone of approximately 20 mg/L (AFCEE, 2004). The TOC data confirm that the previous injections of whey have successfully created such TOC concentrations at all seven monitoring wells, which persist seven months after the previous (June 2011) electron donor injection event.
5. The January 2012 groundwater samples revealed methane concentrations that ranged between 970 micrograms per liter ( $\mu\text{g/L}$ ) and 8,200  $\mu\text{g/L}$  at the sampled monitoring wells. Methane concentrations greater than 1,000  $\mu\text{g/L}$  within the treatment zone are desirable, but not required, for anaerobic dechlorination to occur (AFCEE, 2004). After depletion of dissolved oxygen, anaerobic microbes will use nitrate as a terminal electron acceptor, followed by manganese (IV), iron (III), sulfate, and finally carbon dioxide (methanogenesis). Based on this sequence of electron acceptor depletion, generation of ethane, ethene, and methane often occurs several months after electron donor injection.
6. As shown in Table 3, tetrachloroethene (PCE) concentrations at monitoring well MW-3R have been trending downward since November 2010, concurrent with a substantial increase in concentrations of degradation product cis-1,2-dichloroethene (cDCE). The cDCE concentrations have recently decreased, and vinyl chloride (VC) and terminal product ethene concentrations were detected for the first time in April 2011 and January 2012. A similar trend is apparent at monitoring wells MW-4, MW-5, and MW-7; however, PCE was not detected for the first time in January 2012 at MW-4. Previous PCE concentrations at MW-4 had ranged as high as 4,200  $\mu\text{g/L}$ . At MW-7, PCE has not been detected since April 2010; previous PCE concentrations at MW-7 had ranged as high as 5,400  $\mu\text{g/L}$ .
7. Despite the relatively great distance to downgradient monitoring wells MW-8 and MW-10 located on the south side of Main Street (Figure 1), substantial dechlorination has occurred at those locations as well, as VC was detected for the first time at MW-8 in January 2012, and PCE was not detected for the first time at MW-10 in January 2012.

Bioremediation of chlorinated VOCs within a poorly-buffered bedrock aquifer media (as is the case at the Reedsburg Cleaners site) is inherently challenging. However, within a two-year timeframe after the initial whey electron donor event, the areal extents of the 100  $\mu\text{g/L}$  and 1,000  $\mu\text{g/L}$  PCE iso-concentration contours shown of Figure 1 (that were based on May 2009 data) have substantially receded. The 1,000  $\mu\text{g/L}$  PCE iso-concentration contour is now limited to only the immediate vicinity of monitoring well MW-2 in the extreme southeast portion of the site, and the 100  $\mu\text{g/L}$  PCE iso-concentration contour is now limited to only the area around wells MW-2 and MW-3R.

As a result of the relatively low pH values shown in Table 1, reductive dechlorination should continue to proceed at a relatively slow rate. However, the TOC and geochemical data indicate that the aquifer remains supplied with sufficient electron donor such that additional injection of electron donor is not recommended at this time. ENVIRON recommends continued semi-annual

groundwater monitoring to evaluate the progress of reductive dechlorination in groundwater at the Reedsburg Cleaners site.

The next semi-annual groundwater monitoring event would occur in July 2012. As with the previous groundwater monitoring event, the monitoring wells to be sampled as part of the July 2012 groundwater monitoring event are as follows: MW-2, MW-3R, MW-4, MW-5, MW-7, MW-8, and MW-10 (Figure 1). The groundwater samples from these monitoring wells will be submitted for laboratory analysis of VOCs. In addition, field instruments will be used to measure geochemical parameters, including pH, specific conductivity, temperature, dissolved oxygen and oxidation-reduction potential. In accordance with the WDNR April 2003 guidance document "Understanding Chlorinated Hydrocarbon Behavior in Groundwater" (WDNR Publication RR-669), groundwater samples from monitoring wells MW-2, MW-3R, MW-4, MW-5, MW-7, MW-8, and MW-10 will also be analyzed for the following natural attenuation parameters by a Wisconsin-certified laboratory: dissolved iron, ethene/ethane/methane, total organic carbon, nitrate+nitrite, alkalinity and sulfate. The methodology and results of the July 2012 groundwater monitoring event will be documented in a report to be submitted to the WDNR, which will include recommendations for additional activities to be completed as appropriate.

Estimated costs to complete the July 2012 groundwater monitoring event identified above are summarized as follows:

<b>ENVIRON Labor</b>		<b>Subtotals</b>
Principal	1 hour @ \$180/hour	\$180
Senior Manager	9 hours @ \$140/hour	\$1,260
Technical Staff	24 hours @ \$75/hour	\$1,800
Drafting	4 hours @ \$65/hour	\$260
Clerical	8 hours @ \$55/hour	\$440
Field Expenses		\$140
Laboratory Contractor		\$1,380
<b>TOTAL</b>		<b>\$5,460</b>

Based on the proposed scope of work documented herein, the estimated task costs identified above total \$5,460. Please note that the estimated costs provided above reflect labor rates identified in ENVIRON's appended 2012 project-specific fee schedule. Consultant labor rates associated with this project had remained unchanged since 2006.

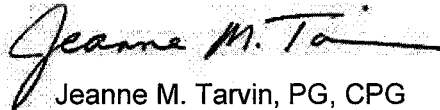
ENVIRON will complete the recommended July 2012 groundwater monitoring and reporting event upon receipt of written approvals from the WDNR and Mr. Wayne Butz. If you have any questions, please do not hesitate to contact us. Thank you very much for your assistance with this matter.

Sincerely,

ENVIRON International Corporation



Mark M. Mejac, PG  
Senior Manager



Jeanne M. Tarvin, PG, CPG  
Principal

Enclosures: Tables 1, 2 and 3  
Figure 1  
Attachment A  
2012 ENVIRON Project Fee Schedule

**References Cited**

Air Force Center for Environmental Excellence (AFCEE). 2004. "Principles and Practices of Enhanced Anaerobic Bioremediation of Chlorinated Solvents." Environmental Security Technology Certification Program, Arlington, Virginia.

**Table 1**  
**Results of Groundwater Field Parameter Analyses**  
**Reedsburg Cleaners**  
**ENVIRON Project No. 21-28166A**

	Sample Date	Top of PVC Elevation	Depth to Groundwater (feet)	Groundwater Elevation (feet msl)	Dissolved Oxygen (mg/L)	ORP (Millivolts)	pH (mg/L)	Specific Conductivity (umhos/cm)	Temperature (°C)
<b>MW-1</b>	Top of Well Screen in Feet MSL: <u>732.5</u>				Length of Well Screen: <u>10 ft.</u>				
	11/18/2005	898.53	18.88	879.65	NA	NA	NA	NA	NA
	1/5/2006	898.53	18.85	879.68	2.24	-76	6.48	3,850	10.0
<b>MW-2</b>	Top of Well Screen in Feet MSL: <u>729.5</u>				Length of Well Screen: <u>10 ft.</u>				
	11/18/2005	898.97	19.26	879.71	NA	NA	NA	NA	NA
	1/5/2006	898.97	19.35	879.62	2.81	-132	6.38	2,270	9.3
	11/6/2006	898.97	18.69	880.28	2.00	-57	6.8	5,150	14.5
	5/4/2007	898.97	17.60	881.37	2.03	-193	6.05	NA	11.6
	11/8/2007	898.97	17.57	881.40	2.47	-134	6.66	NA	12.7
	5/2/2008	898.97	15.42	883.55	6.38	180	6.84	NA	10.2
	11/25/2008	898.97	16.94	882.03	NA	-8	7.4	343	12.8
	5/21/2009	898.97	16.77	882.20	2.98	-45	6.71	5,052	12.9
	4/29/2010	898.97	17.86	881.11	0.74	-121	6.38	1,502	10.7
	8/9/2010	898.97	16.76	882.21	0.14	-86	6.13	NA	NA
	10/11/2010	898.97	17.32	881.65	4.60	19	6.18	5,323	11.0
4/12/2011	898.97	17.07	881.90	4.16	-279	5.77	3,590	10.4	
1/19/2012	898.97	18.24	880.73	0.88	-107	5.77	2,790	11.9	
<b>MW-3</b>	Top of Well Screen in Feet MSL: <u>731.0</u>				Length of Well Screen: <u>10 ft.</u>				
	11/18/2005	898.89	19.32	879.57	NA	NA	NA	NA	NA
	1/5/2006	898.89	19.28	879.61	2.68	-52	6.29	3,990	9.6
	11/6/2006	898.89	18.61	880.28	2.00	43	6.8	5,890	13.8
	5/4/2007	898.89	NA	NA	NA	NA	NA	NA	NA
<b>MW-3R</b>	Top of Well Screen in Feet MSL:				Length of Well Screen: <u>10 ft.</u>				
	11/25/2008	NA	16.74	NA	NA	230	7.33	8.66	14.1
	5/21/2009	NA	16.50	NA	8.85	66	6.97	9773	13.0
	4/29/2010	NA	17.26	NA	1.23	-115	6.09	2,074	11.2
	8/9/2010	NA	16.25	NA	0.13	-141	5.64	NA	NA
	10/11/2010	NA	16.80	NA	4.60	-25	5.96	6,871	11.4
	4/12/2011	NA	16.69	NA	2.89	-313	6.15	4,860	11.3
1/19/2012	NA	17.92	NA	0.54	-95	4.25	3,991	11.9	

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<b>MW-4</b>	Top of Well Screen in Feet MSL: <u>730.3</u>		Length of Well Screen: <u>10 ft.</u>						
	11/18/2005	898.06	18.60	879.46	NA	NA	NA	NA	NA
	1/5/2006	898.06	18.58	879.48	2.00	-96	6.43	3,180	10.4
	11/6/2006	898.06	17.89	880.17	3.00	-59	6.9	8,230	14.2
	5/4/2007	898.06	16.57	881.49	7.18	-51	6.83	NA	12.0
	11/8/2007	898.06	16.72	881.34	2.67	-36	6.59	NA	13.5
	5/2/2008	898.06	14.36	883.70	7.89	171	7.37	NA	10.5
	11/25/2008	898.06	16.37	881.69	NA	-253	7.26	2.02	12.8
	5/21/2009	898.06	16.00	882.06	5.42	1	7.32	2200	13.1
	4/29/2010	898.06	17.00	881.06	0.49	-196	6.44	2,491	11.4
	8/9/2010	898.06	14.54	883.52	0.20	-138	6.41	NA	NA
	10/11/2010	898.06	16.59	881.47	4.59	-6	6.45	2,195	11.5
	4/12/2011	898.06	15.60	882.46	3.05	-315	6.47	1,840	11.1
1/19/2012	898.06	17.30	880.76	0.64	-113	5.90	1,971	11.8	
<b>MW-5</b>	Top of Well Screen in Feet MSL: <u>731.0</u>		Length of Well Screen: <u>10 ft.</u>						
	11/18/2005	896.46	NA	NA	NA	NA	NA	NA	NA
	1/5/2006	896.46	17.16	879.30	4.30	57	6.61	2,590	8.6
	11/6/2006	896.46	16.53	879.93	1.00	-97	6.7	7,610	14.0
	5/4/2007	896.46	15.29	881.17	2.22	-112	6.32	NA	11.7
	11/8/2007	896.46	15.52	881.04	2.23	-34	6.44	NA	11.9
	5/2/2008	896.46	14.38	882.02	6.80	199	6.36	NA	10.8
	11/25/2008	896.46	15.19	881.27	NA	-41	7.31	2.88	13.0
	5/21/2009	896.46	14.76	881.70	0.72	-88	6.58	1801	13.25
	4/29/2010	896.46	15.94	880.52	0.56	-155	6.35	1,610	11.0
	8/9/2010	896.46	14.60	881.86	0.11	-155	5.49	NA	NA
	10/11/2010	896.46	15.50	880.96	4.62	-11	5.78	1,475	11.2
	4/12/2011	896.46	14.87	881.59	3.39	-308	6.02	2,023	10.2
1/19/2012	896.46	16.10	880.36	0.83	-106	5.92	831	11.4	

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<b>MW-6</b>	Top of Well Screen in Feet MSL: <u>731.6</u>		Length of Well Screen: <u>5 ft.</u>						
	11/18/2005	894.66	15.70	873.96	NA	NA	NA	NA	NA
	1/5/2006	894.66	15.80	873.86	4.70	-65	6.17	746	7.3
	11/6/2006	894.66	15.03	879.63	1.00	-43	6.5	3,650	14.0
	5/4/2007	894.66	13.75	880.91	2.59	-120	6.07	NA	12.3
	11/8/2007	894.66	14.01	880.65	2.46	-121	6.20	NA	12.3
	5/2/2008	894.66	12.03	882.63	3.40	185	7.14	NA	11.2
	11/25/2008	894.66	13.70	880.96	NA	NA	7.00	2.42	10.6
	5/21/2009	894.66	13.29	881.37	3.30	-106	6.69	948	13.2
	4/29/2010	894.66	14.55	880.11	2.22	-27	6.58	945	10.4
	8/9/2010	894.66	13.70	880.96	0.11	-143	6.59	NA	NA
	10/11/2010	894.66	14.18	880.48	4.27	28	6.36	562	10.7
	4/12/2011	894.66	13.54	881.12	NA	-308	6.82	867	10.2
<b>MW-7</b>	Top of Well Screen in Feet MSL: <u>731.1</u>		Length of Well Screen: <u>10 ft.</u>						
	11/18/2005	896.65	NA	NA	NA	NA	NA	NA	NA
	1/5/2006	896.65	17.29	879.36	4.27	-94	6.64	1,851	9.3
	11/6/2006	896.65	16.66	879.99	2.00	-93	7.0	5,890	13.8
	5/4/2007	896.65	15.49	881.16	4.15	-153	6.61	NA	12.2
	11/8/2007	896.65	15.66	880.99	3.42	-2	6.59	NA	12.8
	5/2/2008	896.65	13.64	883.01	7.53	179	6.94	NA	10.7
	11/25/2008	896.65	15.35	881.30	NA	-4	7.21	1.82	13.6
	5/21/2009	896.65	14.93	881.72	1.94	-104	6.65	2286	13.0
	4/29/2010	896.65	16.15	880.50	0.37	-259	5.25	3,589	11.2
	8/9/2010	896.65	15.07	881.58	0.22	-150	4.66	NA	NA
	10/11/2010	896.65	15.62	881.03	4.38	-66	6.26	2,251	11.5
	4/12/2011	896.65	15.00	881.65	4.49	-257	4.70	3,869	11.2
1/19/2012	896.65	16.22	880.43	0.69	-111	6.28	1,003	11.3	

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<b>MW-8</b>	Top of Well Screen in Feet MSL: <u>731.6</u>		Length of Well Screen: <u>5 ft.</u>						
	11/18/2005	896.58	NA	NA	NA	NA	NA	NA	NA
	1/5/2006	896.58	17.43	879.15	2.35	-183	6.27	4,830	8.9
	11/6/2006	896.58	17.81	878.77	2.00	-63	6.7	16,970	14.4
	5/4/2007	896.58	15.62	880.96	1.72	-218	6.51	NA	13.0
	11/8/2007	896.58	15.94	880.64	1.46	-239	6.60	NA	12.5
	5/2/2008	896.58	14.12	882.46	1.44	-138	7.37	NA	10.0
	11/25/2008	896.58	15.57	881.01	NA	-133	7.06	1.64	11.8
	5/21/2009	896.58	15.14	881.44	0.20	-174	6.67	2543	13.1
	4/29/2010	896.58	16.53	880.05	0.40	-258	6.74	3,287	10.5
	10/11/2010	896.58	16.09	880.49	4.8	-73	6.70	4,763	10.9
	4/12/2011	896.58	15.35	881.23	1.78	-310	6.22	2,216	10.2
1/19/2012	896.58	16.50	880.08	1.62	-101	6.44	3,700	10.6	
<b>MW-10</b>	Top of Well Screen in Feet MSL: <u>731.6</u>		Length of Well Screen: <u>5 ft.</u>						
	11/18/2005	893.56	NA	NA	NA	NA	NA	NA	NA
	1/5/2006	893.56	14.92	878.64	2.68	9	6.47	3,200	8.9
	11/6/2006	893.56	14.38	879.18	4.00	195	6.7	10,180	15.3
	5/4/2007	893.56	13.37	880.19	3.75	21	6.63	NA	12.5
	11/8/2007	893.56	13.73	879.83	4.01	122	6.37	NA	12.0
	5/2/2008	893.56	12.17	881.39	4.41	187	7.36	NA	10.2
	11/25/2008	893.56	13.35	880.21	NA	NA	7.02	1.57	11.0
	5/21/2009	893.56	13.18	880.38	5.32	92	6.88	2,372	12.55
	4/29/2010	893.56	14.57	878.99	5.16	-104	6.84	1,564	9.9
	10/11/2010	893.56	14.15	879.41	6.30	-64	6.68	3,746	10.5
	4/12/2011	893.56	13.57	879.99	1.93	-306	6.21	3,189	10.2
1/19/2012	893.56	14.51	879.05	1.18	-92	6.73	2,644	9.0	



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<b>P-1</b>	Top of Well Screen in Feet MSL: <u>731.6</u>		Length of Well Screen: <u>5 ft.</u>						
	11/18/2005	894.50	NA	NA	NA	NA	NA	NA	NA
	1/5/2006	894.50	15.40	879.10	4.23	45	6.17	1,061	9.3
	11/6/2006	894.50	15.10	879.40	3.00	27	6.6	3,110	13.9
	5/4/2007	894.50	13.90	880.60	4.42	-18	6.28	NA	13.0
	11/8/2007	894.50	14.13	880.37	4.41	21	6.39	NA	11.0
	5/2/2008	894.50	12.08	882.42	4.71	176	7.12	NA	11.9
	11/25/2008	894.50	13.22	881.28	NA	NA	7.25	0.95	10.5
	5/21/2009	894.50	13.07	881.43	4.43	160	6.88	1046	14.3
	4/29/2010	894.50	14.93	879.57	4.35	63	6.48	783	11.6
	10/11/2010	894.50	13.75	880.75	8.07	60	6.62	848	11.6
4/12/2011	894.50	13.60	880.90	NA	-275	6.64	1,149	12.3	
<b>P-2</b>	Top of Well Screen in Feet MSL: <u>731.6</u>		Length of Well Screen: <u>5 ft.</u>						
	11/18/2005	890.80	NA	NA	NA	NA	NA	NA	NA
	1/5/2006	890.80	12.01	878.79	2.25	66	5.56	66	10.9
	11/8/2007	890.80	11.01	879.79	2.02	101	6.14	NA	10.5
	4/29/2010	890.80	10.67	880.13	0.77	-79	5.34	378	10.7
	10/11/2010	890.80	10.99	879.81	6.74	126	5.49	422	11.1
<b>P-8</b>	Top of Well Screen in Feet MSL: <u>731.6</u>		Length of Well Screen: <u>5 ft.</u>						
	11/18/2005	896.67	NA	NA	NA	NA	NA	NA	NA
	1/5/2006	896.67	17.65	879.02	4.75	129	6.29	1,161	10.5

Notes:

-- = Not Measurable

NA = Not Analyzed

**Table 2**  
**Laboratory Results of Groundwater Samples for Natural Attenuation Parameters**  
**Reedsburg Cleaners, Reedsburg, Wisconsin**  
**ENVIRON Project No. 21-28166A**

Sample	Date	Nitrate + Nitrite Nitrogen (mg/L as N)	Sulfate (mg/L)	Dissolved Iron (mg/L)	TOC (mg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	Alkalinity (mg/L)
<b>Monitoring Wells</b>									
MW2	4/12/2011	0.047 J	19	26	150	9.39	1.75	557	NA
	1/19/2012	0.024J	4.8J	23B	150	<49	<52	1,300B	450
MR3R	4/29/2010	0.17 J	24	14	145	<25	<25	<25	NA
	10/11/2010	0.10 J	<3.0	180	1,830	<14	<11	3,200	2,200
	4/12/2011	<0.043	98	43	1,200	0.352 J	8.18	1,380	NA
	1/19/2012	<0.024	37	110B	4,300	<49	<52	970B	870
MW4	4/29/2010	0.23 J	17	17	30.7	1.9	<0.33	1.8	NA
	10/11/2010	0.60	2.1 J	21	191	<14	<11	369	460
	4/12/2011	0.57	110	9.8	10	<0.0615	1.08	2,430	NA
	1/19/2012	<0.024	2.5J	76B	250	<49	<52	3,900B	880
MW5	4/29/2010	0.20 J	4.5 J	23	27.7	<25	<25	34	NA
	10/11/2010	0.19 J	8.4	21	62.8	<14	<11	180	290
	4/12/2011	<0.043	16	34	69	1.04	0.147 J	4,150	NA
	1/19/2012	<0.024	15	43B	30	<49	100J	5,000B	550
MW6	4/29/2010	0.78	15	11	7.73	<25	<25	<25	NA
	10/11/2010	0.41	11	0.12 J	6.98	<14	<11	68.2	120
	4/12/2011	0.47	15	0.9	6.40	0.211 J	<0.0569	12.2	NA
MW7	4/29/2010	0.14 J	22	39	2130	0.55	<0.33	1.1	NA
	10/11/2010	3.1	24	57	137	<14	<11	5,340	470
	4/12/2011	<0.043	28	180	4,400	<0.0615	1.38	8,270	NA
	1/19/2012	<0.024	5.2	43B	39	<49	<52	8,200B	550
MW10	4/29/2010	3.3	36	17	12.9	<0.35	<0.33	0.20	NA
	10/11/2010	1.4	16	33	118	<14	<11	320	660
	4/12/2011	0.31	23	180	980	<0.0615	<0.0569	8,350	NA
	1/19/2012	<0.024	32	79B	19	<0.49	5.3	3,300B	960

**Abbreviations:**

mg/L = milligrams per liter

µg/L = micrograms per liter

TOC = Total Organic Carbon

NA = Not Analyzed

J = Estimated value between Method Detection Limit and Limit of Quantification

**Table 3**  
**Detected Volatile Organic Compound Concentrations in Groundwater Samples**  
**Reedsburg Cleaners - Reedsburg, Wisconsin**  
**ENVIRON Project No. 21-28166A**

Well Location	Sample Date	Benzene (ug/L)	Chloroform (ug/L)	n-Butyl benzene	1,2-Dibromoethane (EDB)	Dichlorodifluoromethane	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Ethylbenzene (ug/L)	Isopropylbenzene (ug/L)	Naphthalene	n-Propylbenzene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	Trichloroethene	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Total Xylenes (ug/L)	Vinyl Chloride (ug/L)
MW-1	1/5/06	<b>840</b>	<32	<32	<32	<80	<80	<80	<b>1,400</b>	62J	<b>200</b>	130J	<b>3,100</b>	<b>7,200</b>	<b>140</b>	<b>1,100</b>	<u>270</u>	<u>5,400</u>	<32
MW-2	1/5/06	<b>15,000</b>	<20	<20	<b>300</b>	<50	73J	<50	<b>1,800</b>	62J	<b>180</b>	130J	<b>340</b>	<b>21,000</b>	<b>31J</b>	<b>990</b>	<u>290</u>	<u>6,800</u>	<20
	11/6/06	<b>13,000</b>	<100	<100	<b>200</b>	<250	<250	<250	<b>2,400</b>	<100	<b>260J</b>	<250	<b>300</b>	<b>27,000</b>	<100	<b>1,000</b>	<u>220</u>	<u>10,000</u>	<100
	5/4/07	<b>15,000</b>	<100	<100	<b>280</b>	<250	<250	<250	<b>2,200</b>	<100	<120	<250	<250	<b>1,000</b>	<100	<b>1,000</b>	<u>220</u>	<u>9,100</u>	<100
	11/8/07	<b>1,600</b>	<16	32J	<b>16J</b>	<40	<40	<40	<b>970</b>	65	<b>110</b>	150	<b>500</b>	<b>4,200</b>	<b>19</b>	<b>1,000</b>	<u>290</u>	<u>3,800</u>	<16
	5/2/08	3.5J	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0	<u>240</u>	17	<u>36</u>	37	<b>300</b>	<u>330</u>	4.2J	<u>330</u>	86	<u>1,100</u>	<2.0
	11/25/08	<b>1,300</b>	<2.0	13	<b>23</b>	<5.0	6.0J	<5.0	<u>230</u>	12	<u>26</u>	39	<b>240</b>	<b>3,000</b>	17J	<u>220</u>	65	970	<2.0
	5/21/09	<b>2,700</b>	<20	<20	<b>57 J</b>	<50	<50	<50	<u>420</u>	<20	<u>37</u>	<50	<b>210</b>	<b>5,900</b>	<20	<u>180</u>	40	<u>1,900</u>	<20
	4/29/10	<b>3,600</b>	<2.0	25	<b>72</b>	<5.0	<u>42</u>	<5.0	<b>1500</b>	44	<b>200</b>	100	<b>890</b>	<b>8,200</b>	<b>76</b>	<b>780</b>	<u>190</u>	<u>5,500</u>	<2.0
	10/11/10	<b>4,500</b>	<20	<20	41 J	<50	73 J	<50	<u>560</u>	<20	54 J	<50	<b>830</b>	<b>10,000</b>	<b>230</b>	<u>220</u>	55 J	<u>2,500</u>	<20
	4/12/11	<b>5,800</b>	<25	<25	83 J	<63	<b>310</b>	<63	<b>1,700</b>	54 J	170 J	120 J	<b>1,100</b>	<b>17,000</b>	<b>340</b>	<b>880</b>	210 J	<u>7,500</u>	<25
1/19/12	<b>5,900</b>	<40	<40	45J	<100	<b>500</b>	<100	<b>1,500</b>	52J	87J	110J	<b>1,200</b>	<b>14,000</b>	<b>430</b>	<b>660</b>	190J	<u>5,600</u>	<40	
MW-3	1/5/06	<b>1,500</b>	<20	<20	<20	<50	<50	<50	<b>900</b>	33J	<b>110</b>	61J	<b>3,300</b>	<b>7,300</b>	<b>110</b>	<b>620</b>	<u>160</u>	<u>3,800</u>	<20
	11/7/06	<b>1,800</b>	<20	<20	<20	<50	<50	<50	<u>470</u>	<20	<b>51</b>	<50	<b>4,000</b>	<b>4,000</b>	<b>300</b>	<u>270</u>	59	<u>2,000</u>	<20
MW-3R	11/25/08	<16	<16	<16	<16	<40	62J	<40	<40	<16	<20	<40	<b>12,000</b>	<40	<b>470</b>	<16	<16	<40	<16
	5/21/09	<10	<10	<10	<10	<25	<110	<25	<25	<10	<12	<25	<b>3,200</b>	<25	<b>220</b>	<10	<10	<25	<10
	4/29/10	<b>160</b>	<10	14J	<10	<25	<b>100</b>	<25	<b>1500</b>	50J	130J	120	<b>5,900</b>	<b>5,900</b>	<b>760</b>	<b>880</b>	<u>210</u>	<u>6,100</u>	<10
	10/11/10	28J	<20	<20	<20	<50	<b>10,000</b>	<50	190 J	<20	45 J	<50	<b>220</b>	<u>710</u>	86 J	<u>124</u>	73 J	<u>1,100</u>	<20
	4/12/11	14J	<8.0	<8.0	<8.0	<20	<b>3,000</b>	<20	38 J	<8.0	<10	<20	<b>130</b>	170	<b>95</b>	36 J	12 J	190	66 J
	1/19/12	<b>120</b>	37J	<6.4	<6.4	<16	<b>2,100</b>	<16	530	13J	54J	27J	<b>430</b>	<b>2,700</b>	<u>470</u>	<b>260</b>	58J	<b>2,100</b>	8.3J
MW-4	1/5/06	<b>690</b>	<20	<20	<20	<50	<50	<50	<b>800</b>	34J	<b>79J</b>	70J	<b>4,200</b>	<b>4,700</b>	<b>130</b>	<b>550</b>	<u>140</u>	<u>3,200</u>	<20
	11/6/06	<b>410</b>	<10	<10	<10	<25	<25	<25	<u>260</u>	<10	<u>28</u>	<25	<b>2,200</b>	<b>2,100</b>	<b>54</b>	<u>130</u>	36	<u>1,100</u>	<10
	5/4/07	<1.0	<1.0	<1.0	<1.0	<2.5	<2.5	<2.5	<2.5	<1.0	<1.2	<2.5	<b>230</b>	<1.0	<u>2.2</u>	<1.0	<1.0	<2.5	<1.0
	11/8/07	<b>23</b>	<1.0	<1.0	<1.0	<2.5	<b>120</b>	<2.5	37	1.5J	4.5	2.8J	<b>3,500</b>	100	<b>200</b>	22	5.7	130	<1.0
	5/2/08	<10	<10	<10	<10	<25	<25	<25	<25	<10	<12	<25	<b>3,400</b>	<10	<b>22J</b>	<10	<10	<25	<10
	11/25/08	<b>120</b>	<10	20J	<10	<25	52J	<25	<u>510</u>	23J	<b>62</b>	54J	<b>1,300</b>	<b>1,900</b>	<b>170</b>	<u>400</u>	<u>130</u>	<u>1800</u>	<10
	5/21/09	12J	<6.4	<6.4	<6.4	<16	<6.4	<6.4	59	<6.4	<8.0	<16	<b>690</b>	<u>250</u>	<b>7</b>	34	9.9	210	<6.4
	4/29/10	68J	<2.0	14J	<2.0	<5.0	<u>51</u>	<5.0	<b>700</b>	30	<b>90</b>	74	<b>4,000</b>	<b>2200</b>	<b>850</b>	<b>530</b>	<u>140</u>	<u>2700</u>	<2.0
	10/11/10	<b>50</b>	<5.0	<5.0	<5.0	<13	<b>1,700</b>	<13	<u>310</u>	13 J	38 J	30 J	<b>490</b>	<b>1,300</b>	<b>91</b>	<u>240</u>	60	<u>1,300</u>	<5.0
	4/12/11	<1.0	<1.0	<1.0	<1.0	<2.5	<b>190</b>	<2.5	<2.5	<1.0	<1.3	<2.5	<b>320</b>	<2.5	<b>76</b>	<1.0	<1.0	<2.5	1.9 J
1/19/12	<b>34</b>	<1.6	<1.6	<1.6	<4.0	<b>150</b>	<4.0	<u>160</u>	5.5J	21J	12J	<4.0	<u>570</u>	<b>8.4J</b>	<u>120</u>	28	690	<b>39</b>	

**Table 3**  
**Detected Volatile Organic Compound Concentrations in Groundwater Samples**  
**Reedsburg Cleaners - Reedsburg, Wisconsin**  
**ENVIRON Project No. 21-28166A**

Well Location	Sample Date	Benzene (ug/L)	Chloroform (ug/L)	n-Butyl benzene	1,2-Dibromoethane (EDB)	Dichlorodifluoromethane	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Ethylbenzene (ug/L)	Isopropylbenzene (ug/L)	Naphthalene	n-Propylbenzene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	Trichloroethene	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Total Xylenes (ug/L)	Vinyl Chloride (ug/L)
MW-5	1/5/06	20	0.46J	<0.40	<0.40	<1.0	38	1.6J	50	3.2	9.6	6.2	300	40	560	50	12	110	<40
	11/6/06	270	<2.0	<2.0	<2.0	<5.0	67	<5.0	540	24	77	55	52	830	1,100	410	96	760	<2.0
	5/4/07	<4.0	<4.0	<4.0	<4.0	<10	38	<10	<10	<4.0	<5.0	<10	1,300	<4.0	2,600	<4.0	<4.0	<10	<4.0
	11/8/07	<5.0	<5.0	<5.0	<5.0	<12	280	<12	<12	<5.0	<6.2	<12	1,200	<5.0	1,400	<5.0	<5.0	<12	<5.0
	5/2/08	<0.80	<0.80	<0.80	<0.80	<2.0	<2.0	<2.0	<2.0	<0.80	<1.0	<2.0	150	<0.80	2.3J	<1.0	<0.80	<2.5	<0.80
	11/25/08	40	<4.0	4	<0.40	<1.0	180	5.7	86	4	11	9.6	880	35	890	49	23	58	<40
	5/21/09	<4.0	<4.0	<4.0	<4.0	<10	24 J	<10	23 J	<4.0	5.2 J	<10	750	11 J	280	46	16	31 J	<4.0
	4/29/10	3.4	<2.0	<2.0	<2.0	<5.0	150	<5.0	30	<2.0	9.5J	<5.0	670	15J	180	38	11J	46	<2.0
	10/11/10	4.2 J	<2.0	<2.0	<2.0	<5.0	2,900	8.2 J	16 J	<2.0	4.1 J	<5.0	440	13 J	120	19 J	10 J	36	<2.0
	4/12/11	<10	<10	<10	<10	<25	3,600	<25	<25	<10	<13	<25	<25	<25	60 J	21 J	<10	41 J	<10
1/19/12	2.6	0.61J	1.9J	<0.20	<0.50	1,600	8.5	19	1.6J	4.0J	3.3	22	44	75	35	22	72	250	
MW-6	1/5/06	29	2.0	<0.20	<0.20	0.61J	2.2	<0.50	44	2.0	6.5	3.7	500	69	11	34	9.0	120	<0.20
	11/6/06	240	<2.0	<2.0	<2.0	<5.0	160	<5.0	400	18.0	65	41	16	590	48	270	70.0	810	<2.0
	5/4/07	8.6	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0	12	<2.0	<2.5	<2.0	1,200	2.1	21	7	2.1	13	<2.0
	11/8/07	1.8J	<1.6	<1.6	<1.6	<4.0	8.9J	<4.0	4.4J	<1.6	<2.0	<4.0	440	<1.6	51	1.7J	<1.6	4.8J	<1.6
	5/2/08	<1.6	<1.6	<1.6	<1.6	<1.6	<4.0	<4.0	<4.0	<1.6	<2.0	<4.0	700	<1.6	8.2J	<1.6	<1.6	<4.0	<1.6
	11/25/08	55	<2.0	7.2	<2.0	<5.0	68	<5.0	150	10	28	27	2,400	<20	360	48	51	92	<2.0
	5/21/09	<10	<10	<10	<10	<10	<25	<25	<25	<10	<12	<25	1,800	<25	24 J	<10	<10	<25	<10
	4/29/10	<6.4	<6.4	<6.4	<6.4	<16	<16	<16	<16	<6.4	<8.0	<16	1,900	<16	28J	<6.4	<6.4	<16	<6.4
	10/11/10	<5.0	<5.0	<5.0	<5.0	<13	30 J	<13	<13	<5.0	<6.3	<13	4,300	<13	440	<5.0	<5.0	<13	<5.0
	4/12/11	<6.4	<6.4	<6.4	<6.4	<16	32 J	<16	<16	<6.4	<8.0	<16	2,100	<16	69	<6.4	<6.4	<16	<6.4
MW-6DUP	1/5/06	25	1.9	<0.20	<0.20	0.61J	2.0	<0.50	39	1.8	6.0	3.2	410	62	10	29	8.1	110	<0.20
	11/6/06	220	<2.0	<2.0	<2.0	<5.0	160.0	<5.0	390	17	59.0	39	16	560	45	260	61	770	<2.0
	5/4/07	14	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0	22	<2.0	4.1	<5.0	1,300	8.2	32	14	4.2	28	<2.0
	11/8/07	3.0J	<2.0	<2.0	<2.0	<5.0	8.6J	<5.0	7.7J	<2.0	<2.5	<5.0	580	<2.0	79	2.7J	<2.0	7.3J	<2.0
	5/2/08	<5.0	<5.0	<5.0	<5.0	<5.0	<12	<12	<12	<5.0	<6.2	<12	840	<5.0	<5.0	<5.0	<5.0	<12	<5.0
	11/25/08	54	<2.0	7.2	<2.0	<5.0	74	<5.0	160	9.5	29	29	2,300	<20	370	47	50	93	<2.0
	5/21/09	<8.0	<8.0	<8.0	<8.0	<20	<20	<20	<20	<20	<20	<20	1,900	<20	20 J	<8	<8	<20	<8.0
	4/29/10	<6.4	<6.4	<6.4	<6.4	<16	<16	<16	<16	<6.4	<8.0	<16	1,700	<16	25 J	<6.4	<6.4	<16	<6.4

**Table 3**  
**Detected Volatile Organic Compound Concentrations in Groundwater Samples**  
**Reedsburg Cleaners - Reedsburg, Wisconsin**  
**ENVIRON Project No. 21-28166A**

Well Location	Sample Date	Benzene (ug/L)	Chloroform (ug/L)	n-Butyl benzene	1,2-Dibromoethane (EDB)	Dichlorodifluoromethane	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Ethylbenzene (ug/L)	Isopropylbenzene (ug/L)	Naphthalene	n-Propylbenzene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	Trichloroethene	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Total Xylenes (ug/L)	Vinyl Chloride (ug/L)
MW-7	1/5/06	<b>35</b>	<0.80	<0.80	<0.80	<2.0	<2.0	<2.0	64	3.2	<u>11</u>	6.4J	<b>490</b>	140	<u>4.5</u>	52	11	250	<0.80
	11/6/06	<b>87</b>	<0.80	<0.80	<0.80	<2.0	5.3	<2.0	83	3.3	<u>9.7</u>	7	<b>2,200</b>	190	<b>28</b>	53	12	170	<0.80
	5/4/07	<b>66</b>	<8.0	<8.0	<8.0	<20	<20	<20	85	<8.0	<10	<20	<b>2,200</b>	120	<b>40</b>	56	18	190	<8.0
	11/8/07	8.07J	<4.0	<4.0	<4.0	<10	<u>35</u>	<10	<10	<4.0	<5.0	<10	<b>2,000</b>	7.6J	<b>280</b>	6.2J	<4.0	12J	<4.0
	5/2/08	<8.0	<8.0	<8.0	<8.0	<8.0	<20	<20	<20	<8.0	<10	<20	<b>900</b>	<8.0	<8.0	<8.0	<8.0	<20	<8.0
	11/25/08	<b>160</b>	<3.2	4.8J	<3.2	<8.0	<b>34</b>	<8.0	<u>140</u>	6.1J	<u>17</u>	15J	<b>5,100</b>	120	<b>530</b>	75	22	230	<3.2
	5/21/09	<20	<20	<20	<20	<50	73 J	<50	98 J	<20	<25	<50	<b>5,400</b>	160 J	<b>980</b>	81	<20	280	<20
	4/29/10	<b>100</b>	<8.0	<8.0	<8.0	<20	<b>83</b>	<20	<u>160</u>	<8.0	26J	20J	<b>1,700</b>	<u>440</u>	<b>1900</b>	<u>150</u>	40J	460	<8.0
	10/11/10	24 J	<5.0	<5.0	<5.0	<13	<b>2,100</b>	<13	130	5.0 J	17 J	<13	<13	<u>500</u>	23 J	89	22 J	500	<5.0
	4/12/11	17 J	<8.0	<8.0	<8.0	<20	<b>2,500</b>	<20	67 J	<20	<10	<20	<20	<u>280</u>	11 J	44 J	16 J	260	<8.0
1/19/12	<b>31</b>	<0.80	2.4J	<0.80	<2.0	<b>220</b>	2.8J	100	4.3J	8.0J	10	<2.0	<u>340</u>	<0.80	94	30	420	<b>42</b>	
MW-8	1/5/06	<b>3,200</b>	<20	<20	<20	<50	<50	<50	<b>810</b>	35J	<b>98</b>	69J	<b>64J</b>	<b>1,900</b>	<20	<b>570</b>	<u>120</u>	<u>1,000</u>	<20
	11/6/06	<b>870</b>	<5	<5	<5	<12	<12	<12	<u>410</u>	25	<b>60</b>	56	<b>13</b>	<b>1,100</b>	<b>8.2</b>	<u>420</u>	88	980	<5
	5/4/07	<b>2,100</b>	<4	<4	<b>13</b>	<10	<10	<10	<u>440</u>	22	<b>57</b>	44	<b>20</b>	<u>780</u>	<b>13</b>	<u>320</u>	85	510	<4
	11/8/07	<b>640</b>	<3.2	6.2J	<3.2	<8.0	<8.0	<8.0	<u>350</u>	19	<b>49</b>	38	<8.0	<u>650</u>	<3.2	<u>290</u>	75	650	<3.2
	5/2/08	<b>1,500</b>	<3.2	<3.2	<b>7.7J</b>	<8.0	<8.0	<8.0	<u>680</u>	32	<b>95</b>	64	<b>14J</b>	<b>1,400</b>	<b>8.5</b>	<u>460</u>	<u>96</u>	900	<3.2
	11/25/08	<b>3,700</b>	<6.4	19J	<b>12J</b>	<16	<16	<16	<b>710</b>	24	<b>57</b>	56	<16	<b>3,900</b>	7.0J	<u>390</u>	94	<u>2000</u>	<6.4
	5/21/09	<b>7,800</b>	<16	<16	<b>150</b>	<40	<40	<40	<b>1600</b>	54	<b>160</b>	120 J	<40	<b>15,000</b>	<16	<b>940</b>	<u>160</u>	<u>5500</u>	<16
	5/17/10	<b>2,400</b>	<40	72J	<40	<100	<100	<100	<b>1600</b>	60J	450J	140J	<100	<b>13,000</b>	84J	<b>1100</b>	280J	<u>5800</u>	<40
	10/11/10	<b>1,300</b>	<5.0	<5.0	<b>5.5 J</b>	<13	20 J	<13	<u>310</u>	9.3 J	17 J	21 J	<13	<u>820</u>	9.3 J	<u>160</u>	25 J	390	<5.0
	4/12/11	<b>9,700</b>	<40	<40	<b>88 J</b>	<100	<100	<100	<b>1,600</b>	44 J	160 J	100 J	<100	<b>1,600</b>	<40	<b>750</b>	140 J	<u>6,400</u>	<40
1/19/12	<b>2,100</b>	<0.40	4.4	<b>23</b>	<1.0	<b>110</b>	<1.0	<u>490</u>	14	<b>47</b>	31	<b>26</b>	<b>2,800</b>	<b>15</b>	<u>220</u>	41	<u>1,400</u>	<b>8.6</b>	
MW-10	1/5/06	<b>9.4</b>	<0.20	<0.20	<0.20	0.58J	6.4	<0.50	2.1	0.35J	0.63J	<0.50	<b>730</b>	1.8	<b>140</b>	0.92	<0.20	2.6	<0.20
	11/6/06	<u>4.6</u>	<0.40	<0.40	<0.40	<1.0	<u>27</u>	<1.0	<1.0	<0.40	0.56J	<1.0	<b>120</b>	<0.40	<b>140</b>	<0.40	<0.40	<1.0	<0.40
	5/4/07	<u>1.2</u>	<0.40	<0.40	<0.40	<1.0	<u>15</u>	<1.0	<1.0	<0.40	<0.50	<1.0	<b>41</b>	<0.40	<b>69</b>	<0.40	<0.40	<1.0	<0.40
	11/8/07	<0.40	<0.40	<0.40	<0.40	<1.0	1.1J	<1.0	<1.0	<0.40	<0.50	<1.0	<b>99</b>	<0.40	<b>18</b>	<0.40	<0.40	<1.0	<0.40
	5/2/08	<0.40	<0.40	<0.40	<0.40	1.5J	<u>24</u>	<1.0	<1.0	<0.40	<0.50	<1.0	<b>140</b>	<0.40	<b>140</b>	<0.40	<0.40	<1.0	<0.40
	11/25/08	<u>1.3</u>	<0.40	<0.40	<0.40	<1.0	<u>33</u>	1.0J	<1.0	<0.40	<0.50	<1.0	<b>600</b>	<1.0	<b>240</b>	<0.40	<0.40	<1.0	<0.40
	5/21/09	<2.0	<2.0	<2.0	<2.0	<5.0	<u>44</u>	<5.0	<5.0	<2.0	<2.5	<5.0	<b>2,200</b>	<5.0	<b>110</b>	<2.0	<2.0	<5.0	<2.0
	4/29/10	<2.0	<2.0	<2.0	<2.0	<5.0	<u>46</u>	<5.0	<5.0	<2.0	<2.5	<5.0	<b>650</b>	<5.0	<b>230</b>	<2.0	<2.0	<5.0	<2.0
	10/11/10	9.9 J	<2.0	<2.0	<2.0	<2.0	<b>580</b>	<5.0	31	<2.0	6.3 J	<5.0	9.1 J	48	6.8 J	21	5.1 J	61	<2.0
	4/12/11	<1.6	<1.6	<1.6	<1.6	<1.6	<b>430</b>	<4.0	<4.0	<1.6	<2.0	<4.0	12 J	4.4 J	<b>23</b>	3.2 J	<1.6	9.8 J	<1.6
1/19/12	1.6J	<0.80	<0.80	<0.80	<2.0	<b>310</b>	<2.0	3.2J	<0.80	<1.0	<2.0	<2.0	9.5	2.6J	3.1J	0.86J	14J	5.6J	

**Table 3**  
**Detected Volatile Organic Compound Concentrations in Groundwater Samples**  
**Reedsburg Cleaners - Reedsburg, Wisconsin**  
**ENVIRON Project No. 21-28166A**

Well Location	Sample Date	Benzene (ug/L)	Chloroform (ug/L)	n-Butyl benzene	1,2-Dibromoethane (EDB)	Dichlorodifluoromethane	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Ethylbenzene (ug/L)	Isopropylbenzene (ug/L)	Naphthalene	n-Propylbenzene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	Trichloroethene	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Total Xylenes (ug/L)	Vinyl Chloride (ug/L)
P-1	1/5/06	<0.20	<0.20	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.20	<0.25	<0.50	<u>1.9</u>	<0.20	<0.20	0.20J	<0.20	<0.50	<0.20
	11/6/06	<0.20	<0.20	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.20	<0.25	<0.50	<0.50	<0.20	<0.20	<0.50	<0.20	<0.20	<0.20
	5/4/07	<0.20	<0.20	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.20	<0.25	<0.50	<0.50	<0.20	<0.20	<0.50	<0.20	<0.20	<0.20
	11/8/07	<0.20	<0.20	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.20	<0.25	<0.50	<0.50	<0.20	<0.20	<0.50	<0.20	<0.50	<0.20
	5/2/08	<0.20	<0.20	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.20	<0.25	<0.50	<0.50	<0.20	<0.20	<0.50	<0.20	<0.50	<0.20
	11/25/08	<0.20	<0.20	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.20	<0.25	<0.50	<0.50	<0.50	<0.20	<0.20	<0.20	<0.50	<0.20
	5/21/09	<0.20	<0.20	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.20	<0.25	<0.50	<0.50	<0.50	<0.20	<0.20	<0.20	<0.50	<0.20
	4/29/10	<0.20	<0.20	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.20	<0.25	<0.50	<u>1.2J</u>	<u>1.0J</u>	<u>0.46J</u>	<0.20	<0.20	<0.50	<0.20
10/11/10	<0.20	<0.20	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.20	<0.25	<0.50	<0.50	<0.50	<0.20	<0.20	<0.20	<0.50	<0.20	
P-2	1/5/06	<0.20	<0.20	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.20	<0.25	<0.50	<0.50	<0.20	<0.20	<0.20	<0.20	<0.50	<0.20
	11/8/07	<0.20	<0.20	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.20	<0.25	<0.50	<0.50	<0.20	<0.20	<0.20	<0.20	<0.50	<0.20
	4/29/10	<u>0.47J</u>	<0.20	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.20	<0.25	<0.50	<u>1.5J</u>	<u>2.1</u>	<u>0.91J</u>	<u>0.21J</u>	<0.20	<u>1.1J</u>	<0.20
	10/11/10	<0.20	<0.20	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.20	<0.25	<0.50	<0.50	<0.50	<0.20	<0.20	<0.20	<0.50	<0.20
P-8	1/5/06	<u>0.38J</u>	<0.20	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.20	<0.25	<0.50	<0.50	<u>0.22J</u>	<0.20	<0.20	<0.20	<0.50	<0.2
PAL <sup>A</sup>		<u>0.5</u>	<u>0.6</u>	NE	<u>0.005</u>	<u>200</u>	<u>7</u>	<u>20</u>	<u>140</u>	NE	<u>8</u>	NE	<u>0.5</u>	<u>200</u>	<u>0.5</u>	<u>96</u>	<u>96</u>	<u>1,000</u>	<u>0.02</u>
ES <sup>B</sup>		<b>5</b>	<b>6</b>	NE	<b>0.05</b>	<b>1,000</b>	<b>70</b>	<b>100</b>	<b>700</b>	NE	<b>40</b>	NE	<b>5</b>	<b>1,000</b>	<b>5</b>	<b>480</b>	<b>480</b>	<b>10,000</b>	<b>0.2</b>

**Notes:**

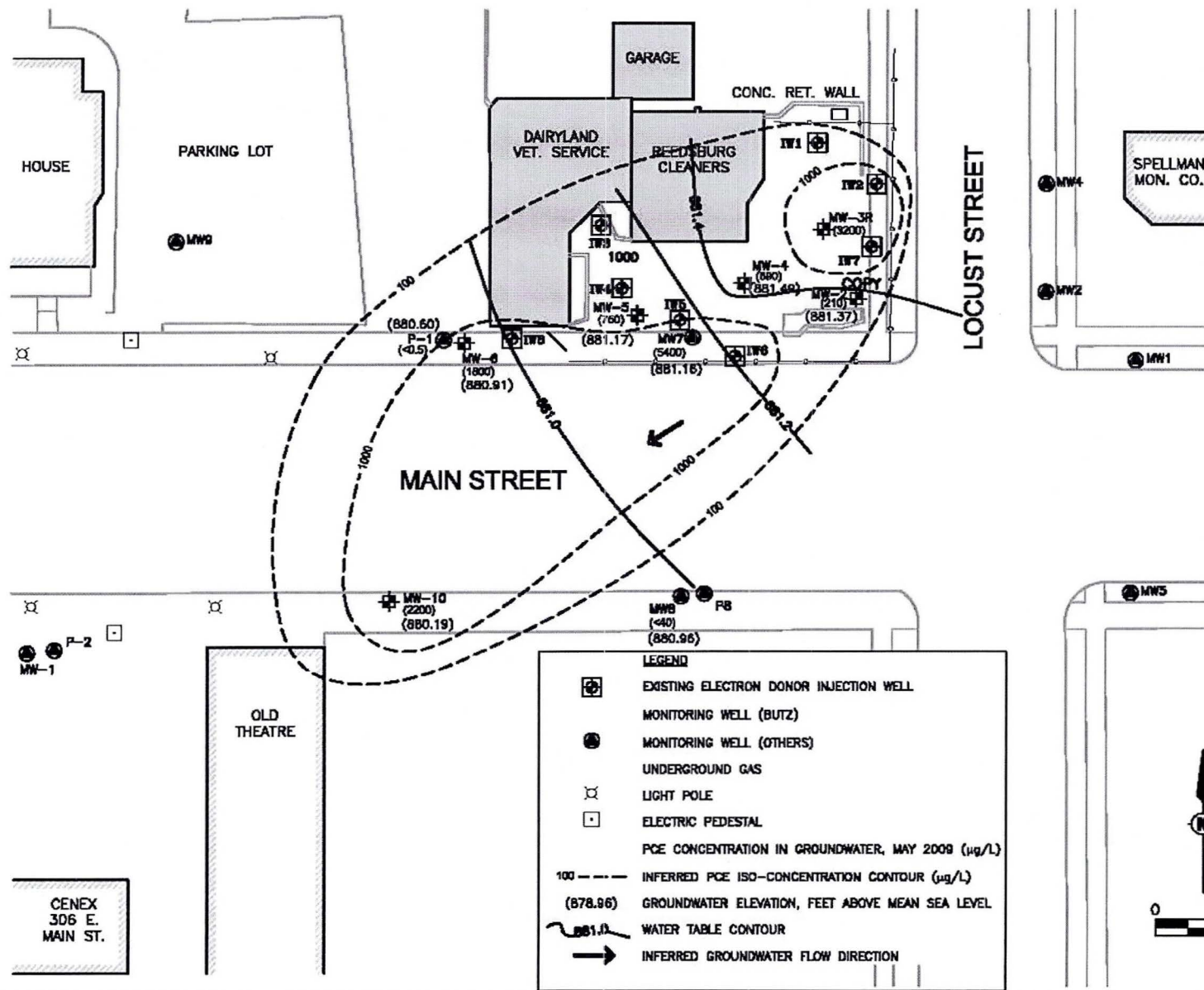
ug/L = micrograms per liter

PAL - Preventive Action Limit, Wisconsin Administrative Code NR 140.10 Table 1, February 2004 exceedances are underlined italics.

ES - Enforcement Standard, Wisconsin Administrative Code NR 140.10 Table 1, February 2004, exceedances are **bold**.

NE - No Criteria established

J - Estimated value between the Method Detection Limit and Limit of Quantification.



COMPANY NAME:  
 REEDSBURG CLEANERS  
 349 E. MAIN STREET  
 REEDSBURG, WISCONSIN

SHEET NAME:  
 ELECTRON DONOR INJECTION  
 WELL LOCATION MAP

FIGURE NO.:  
 1

DATE:  
 03/01/12

PROJECT NO.:  
 21-28166A

**ENVIRON**  
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## Note

Jan. 2012 Linda received a phone call from the consultant saying that MW6 and PZ1 had been paved over. They appear to have been in the sidewalk. The neighboring property is a recently completed senior apartment center that must have something to do with it.

It seems worth it to explore "retrieval" of the lost wells. They are providing valuable data and would have to be replaced.

Scott S