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April 20, 2006

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Mr. William Ryan
Work Assignment Manager (SRF-5J)
U.S. Environmental Protection Agency
77 West Jackson Boulevard
Chicago, IL 60604-3507

Subject: Groundwater Sampling Results and Natural Attenuation Evaluation
Oconomowoc Electroplating Site, Oconomowoc, Wisconsin
WA No. 236-RALR-05M8, Contract No. 68-W6-0025

Dear Mr. Ryan:

Enclosed please find two final copies of the report summarizing groundwater sampling results for January 2006 data at the Oconomowoc Electroplating Site. Please contact me if you have any questions or concerns at (414) 847-0386.

Sincerely,

CH2M HILL

Jeff Danko
Site Manager

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Enclosures
c: Stephen Nathan, PO/U.S. EPA, Region 5 (w/o enclosure)
Dave Alberts, CO/U.S. EPA, Region 5 (w/o enclosure)
Ed Lynch/WDNR, Madison
Cindi Cruciani, RTL/CH2M HILL, Milwaukee
Matt Boekenhauer, ASM/CH2M HILL, Milwaukee
Cherie Wilson, AA/CH2M HILL, Milwaukee

January 2006 Groundwater Sampling Event
Oconomowoc Electroplating Site
WA No. 236-RALR-05M8/Contract No. 68-W6-0025

TO: William Ryan/USEPA Region 5 WAM

FROM: Jeff Danko
Cindi Cruciani

DATE: April 20, 2006

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A Data Validation Memorandum—January 2006 Data

Introduction

The Oconomowoc Electroplating Company (OEC) site is currently undergoing groundwater monitoring in accordance with the *Groundwater Management Plan* (GMP) prepared by CH2M HILL for the site, dated March 2005. The 10-acre study area comprises the former 4-acre OEC site (bounded by Elm, Oak, and Eva Streets, and Town of Ashippun buildings) located at 2572 Oak Street in Ashippun, Wisconsin, and 6 acres of a wet, low-lying area located adjacent to the southwest portion of the former site (Figure 1). This low-lying area is referred to in historical and recent project plans as a wetland area.

Details on historical site activities, previous remedial actions, and previous groundwater analytical results are fully described in the GMP. This memorandum documents the procedures used and provides the results for the quarterly sampling performed in January 2006 that included regulatory compliance and natural attenuation (NA) sampling of groundwater monitoring wells, surface water samples, and residential drinking water wells.

Figure 1 includes the groundwater sampling points. Figure 2 includes the staff gage collection points for surface water samples. Collection of 3 surface water samples for regulatory compliance and natural attenuation monitoring parameters was planned for locations coincident with the three staff gages. However, the unusually dry conditions in Southeastern Wisconsin in January of 2006 resulted in the absence of ample water at staff gage location Number 2. Sampling and analysis at staff gage location Nos. 1 and 3 was completed in accordance with the *Sampling and Analysis Plan* (SAP) dated October 2004.

Compliance Monitoring

Compliance monitoring sample locations include 10 private water supply wells (within 250 feet of the site) and 22 groundwater monitoring wells. Monitoring locations are indicated in Figure 1. Groundwater samples collected for regulatory compliance testing were analyzed for volatile organic compounds (VOCs) using method SW 846 8260. An offsite laboratory subcontracted by CH2M HILL analyzed the groundwater compliance samples for VOCs using the appropriate analytical methods to reach the project-specific analytical requirements. The analytical results were then validated by the U.S. Environmental Protection Agency (USEPA).

Natural Attenuation

Groundwater samples were collected from 12 monitoring wells for evaluation of NA parameters. Samples collected from the locations designated for NA evaluation were analyzed for the following parameters: nitrate, dissolved manganese, total and dissolved iron, sulfate, sulfide, methane, ethane, ethane, chloride, alkalinity; and soluble organic carbon; VOCs; and field parameters. Because NA data are being collected to evaluate the effectiveness of natural processes to remediate the site and, thus, serve as engineering data, an offsite laboratory subcontracted by CH2M HILL analyzed the groundwater samples using the appropriate analytical methods to reach the project-specific analytical requirements. Field parameters were also obtained using in-field meters including: water level, temperature, pH, specific conductance, dissolved oxygen, and oxidation reduction potential.

VOC analysis was also performed at NA monitoring locations that correspond to compliance sample locations, in accordance with the methods specified for compliance monitoring.

Sampling Approach

Monitoring Well and Piezometer Sampling

Water levels were measured and recorded for all accessible groundwater monitoring wells, drive point piezometers, and staff gauges during the first day of the sampling event. The measured water levels and well depths (described in *FOP No. 2 – Groundwater Level Measurements)* were used to calculate a purge volume and to assess the thickness of solids deposited at the bottom of the well screen. Wells were purged and sampled as described in *FOP No. 1 – Low-Flow Groundwater Sampling Procedures*. Groundwater field parameters were monitored with a multimeter and flow-through cells during well purging. The wells were purged continuously until monitored field parameters stabilized within the limits specified in *FOP No. 1 – Low-Flow Groundwater Sampling*. Procedures for field-filtering all groundwater samples were followed per *FOP No. 5 – Field Filtering Samples*. Non-dedicated sampling equipment was decontaminated between locations using *FOP No. 6 – Field Sampling Equipment Decontamination*. Samples were collected immediately following the stabilization of groundwater field parameters. The samples were processed, packaged, and shipped on the day of collection.

Surface Water Sampling

Surface water samples were collected at staff gage location Nos. 1 and 3 in accordance with *FOP No. 9, Surface Water Sampling Procedures*. As previously indicated, there was not enough water at staff gage location No. 2 in January 2006 from which to collect a surface water sample.

Private Well Purging and Sampling

Private well locations were sampled as part of January 2006 compliance monitoring in accordance with FOP *No. 10 – Private Residential Well Groundwater Sampling Procedures*, included in the SAP. Private well taps were opened for 10 to 15 minutes prior to sampling. Each sample was collected from a tap before any water softeners or other treatment. Note that PW-06 could not be located and was, therefore, not sampled.

Data Management

USEPA software Forms II Lite 5.1 was used in the field to enter field sample data and create the chain-of-custody (COC) forms. The USEPA copies of the COCs were used to enter sample information into the sample tracking spreadsheet. Upon receipt of the samples, the laboratories transmitted an electronic sample receipt, which was then compared to the COC and entered into the sample tracking spreadsheet. Within 21 days of receipt of the last sample, the laboratory provided CH2M HILL with an electronic data deliverable (EDD), two hard copy data packages and a .pdf file of the data package. After receipt and completeness check, one hard copy data package was sent to USEPA for validation of the compliance sample data.

Data Validation

USEPA performed data validation on the compliance sample analytical data. The CH2M HILL project chemist performed data validation on the NA sample analytical data in a manner consistent with *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (October 1999) and *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (July 2002). Data were deemed valid for use, with the exceptions noted in Attachment A, Data Validation Memorandum.

Analytical Results

Validated analytical results for January 2006 are shown side by side with previous data. Table 1 includes sample results for groundwater monitoring wells. Table 2 is a summary of surface water sample results, and Table 3 for a summary of private well results. Laboratory analytical data sheets have been placed in the project record. Measured groundwater elevations are included on Table 4.

Groundwater Monitoring Well Samples

Some of the groundwater monitoring wells have been sampled during multiple dates (Table 1). Some of the monitoring wells sampled in January 2006 were only being sampled for the second time. In general the January sample results confirmed previous results at these locations.

Surface Water Samples

Surface water sample data is included on Table 2 for January 2006. There were no detections of VOCs in the samples collected at staff gages SG-1 or SG-3 (Figure 2), coinciding with surface water samples SW-01 and SW-03, respectively, except for an estimated concentration of acetone (3.9 µg/L) at the upstream location (SG-1).

Private Well Samples

As indicated on Table 3, most of the VOC constituents that were detected in private wells during July 2005 sampling were confirmed, at similar concentrations, during January 2006 sampling. The exception to this pattern is at PW-02 located northeast of the OEP site. Estimated concentrations of VOCs were detected in July 2005 at PW-02 (carbon disulfide 0.21µg/L; isopropylbenzene 0.19 µg /L; m,p-xylene 1.3 µg /L; and o-xylene 1.6 µg /L) and there were no VOCs detected at PW-02 in January 2006.

TABLE 1
Field and Analytical Results—Groundwater Monitoring Well Sampling
October 2004, July 2005, October 2005, and January 2006
Oconomowoc Electroplating

Constituent	Units	WAC NR 140 PAL	WAC NR 140 ES	MW-001S				MW-004D		MW-005D		MW-012B		MW-012S				MW-012D				MW-013S		MW-013D			
				05CA05-01, 02 Oct 04	05CA40-08, 09 Jul 05	06CA01-26, 27 Oct 05	06CD09-26, 27 Jan 06	05CA40-13 Jul 05	06CD09-35 Jan 06	05CA40-10 Jul 05	06CD09-49 Jan 06	05CA40-43 Jul 05	06CD09-38 Jan 06	05CA05-07, 08 Oct 04	05CA40-46, 47 Jul 05	06CA01-07, 08 Oct 05	06CD09-36, 37 Jan 06	05CA05-05, 06 Oct 04	05CA40-44, 45 Jul 05	06CA01-05, 06 Oct 05	06CD09-30, 31 Jan 06	05CA40-30 Jul 05	06CD09-61 Jan 06	05CA05-09, 10 Oct 04	05CA40-22, 23 Jul 05	06CA01-32, 33 Oct 05	06CD09-59, 60 Jan 06
Field Parameters																											
Dissolved Oxygen (DO)	mg/L			1.82	28.8%	0.53	2.53	0.92	0.51	10.9%	-0.21	10.2%	0.59	0.34	6.5%	1.32	0.47	0.18	7.6%	3.51	0.77	3.19	1.84	0.31	7.1%	0.36	0.76
Oxidation Reduction Potential (ORP)	millivolts			73.5	214.6	135.1	179.4	-55.7	-77.9	28.6	-25.4	29.8	25.6	14.6	68.7	324	204.9	-81.6	-71.7	-43.5	-54.8	241.4	83.5	-85.7	-69.2	-35.7	-18.3
pH	pH units			6.93	6.51	6.64	7.04	7.81	7.02	6.51	7.12	7.77	7.46	7.26	7.15	4.62	7.19	7.33	7.08	6.37	7.56	6.42	7.06	7.16	7.12	6.43	7.08
Specific Conductivity	cm			0.956	0.668	0.857	1.369	0.955	0.959	2.364	2.208	1.116	0.933	1.522	1.180	1.297	1.367	1.587	1.522	1.636	1.712	0.972	1.139	2.081	1.394	1.856	1.278
Temperature	deg c			16.34	15.88	17.78	9.54	11.97	9.64	13.53	10.26	17.40	8.18	12.84	13.76	15.15	6.77	11.05	13.52	12.28	7.55	12.39	8.30	12.35	11.99	11.86	9.81
Depth to water	feet			8.56	8.24	9.66	7.93	9.78	10.19	5.05	3.90	5.69	4.73	5.47	5.69	6.43	4.63	4.39	4.80	5.66	3.65	7.02	6.39	6.12	6.38	7.30	5.43
Natural Attenuation Parameters																											
Alkalinity, total (as CaCO3)	mg/L	N/A	N/A	370	350	360	340							391	370	400	380	392	400	450	420			475	390	480	390
Chloride (as Cl)	mg/L	125	250	65.9	24	98	**230**							**207**	**140**	**180**	**210**	**224**	**230**	280	**240**			271	**180**	290	**210**
Ethane	µg/L	N/A	N/A	0.5 U	0.5 U	0.5 U	0.5 U							0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			2.5 U	0.5 U	0.5 U	0.5 U
Ethene	µg/L	N/A	N/A	0.5 U	0.5 U	0.5 U	0.5 U							0.82 J	0.5 U	0.5 U	0.5 U	1.4 J	0.5 U	1.5	2			2.5 U	0.5 U	0.5 U	0.5 U
Iron, total	µg/L	150	300	**281** J	468	377	**253**							499	300	**264**	626	2060	1210	1050	1020			2180	983	2210	1230 J
Iron, dissolved	µg/L	150	300	14 U	25 U	25 U	25 U							19.4 J	25 U	25 U	25 U	1010	993	875	984			2180	820	2030	1340 J
Manganese, total	µg/L	25	50		15.2	11.9	14.2								114	121	128		**31.5**	**28.2**	**30** J				**48.3**	**58.8**	**47.7**
Manganese, dissolved	µg/L	25	50	14.6	1.2 U	2 J	5.1							123	109	115	115	**42.5**	**29.7**	**26.7**	**29.5** J			65.5	**45.1**	57.1	**47.7**
Methane	µg/L	N/A	N/A	2.3 J	0.5 U	1.4 J	1.1 J							130	32	1.4 J	2	31	43	87	27			66	17	34	38
Nitrogen, nitrate (as N)	mg/L	2	10	0.4 J	1	0.18	0.4							0.06 U	0.06 J	0.048 J	1.6	0.06 U	0.04 U	0.04 U	0.04 U			0.06 U	0.28	0.06 J	0.04 U
Sulfate (as SO4)	mg/L	125	250	47.2	24	35	54							60	**220**	62	**180**	85.2	93	84	100			**225**	93	**190**	110
Sulfide	mg/L	N/A	N/A	1 UJ	1 U	1 U	1 U							1 UJ	1 U	1 U	1 J	1 UJ	1 U	1 U	1 U			1 UJ	1 U	1 U	1 U
Total Organic Carbon	mg/L	N/A	N/A	1.6 J	1.1 J	2.2 J	0.91 J							4.7	3.3	3.5	3.3	4.6	4.1	5.6	3.9			4.9	2.2 J	4.2	3.4
VOCs																											
1,1,1-Trichloroethane	µg/L	40	200	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	4.7 J	0.07 U	0.07 U	**66**	**74** J	**57** J	19	25	12 J	**43**	**40** J	0.18 J	0.77	0.07 U	0.07 U	0.07 U	0.07 U
1,1,2,2-Tetrachloroethane	µg/L	0.02	0.2	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.9 U	0.018 U	0.018 U	0.018 U	0.36 U	0.36 U	0.36 U	0.018 U	**0.09** U	0.45 U	0.45 U	0.018 UJ	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U
1,1,2-Trichloroethane	µg/L	0.5	5	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	**4.5** U	0.09 U	0.09 U	0.09 U	**1.8** U	**1.8** U	**1.8** U	0.09 U	0.45 U	**2.3** U	**2.3** U	0.09 UJ	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U
1,1-Dichloroethane	µg/L	85	850	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	17 J	16	0.031 U	0.031 U	43	25	31 J	22	46	34	**140**	**130**	0.062 J	0.47	0.031 U	0.031 U	0.031 U	0.031 U
1,1-Dichloroethene	µg/L	0.7	7	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	**3**	**6.9** J	0.06 U	0.06 U	7.1	**5** J	**6.4** J	**3.4** J	**3.9**	**1.1** J	18	20	0.06 UJ	0.11 J	0.06 U	0.06 U	0.06 U	0.06 U
1,2,3-Trichlorobenzene	µg/L	N/A	N/A	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	4 U	0.08 U	0.08 U	0.08 U	1.6 U	1.6 U	1.6 U	0.08 U	0.4 U	2 U	2 U	0.08 UJ	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
1,2,4-Trichlorobenzene	µg/L	14	70	0.06 U	0.06 UJ	0.06 U	0.06 UJ	0.06 U	0.06 U	0.06 U	3 U	0.06 U	0.06 U	0.06 U	1.2 U	1.2 U	1.2 U	0.06 U	0.3 U	1.5 U	1.5 U	0.06 UJ	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
1,2-Dibromo-3-chloropropane	µg/L	0.02	0.2	**0.026** U	**0.026** R	**0.026** UJ	**0.026** U	**0.026** U	**0.026** U	**0.026** U	1.3 U	**0.026** U	**0.026** U	**0.026** U	0.52 U	0.52 UJ	0.52 U	**0.026** U	**0.13** U	0.65 UJ	0.65 U	**0.026** UJ	**0.026** U	**0.026** U	**0.026** U	**0.026** UJ	**0.026** U
1,2-Dibromoethane	µg/L	0.5	5	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U	**1.2** U	0.023 U	0.023 U	0.023 U	0.46 U	0.46 U	0.46 U	0.023 U	0.12 U	**0.58** U	**0.58** U	0.023 UJ	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U
1,2-Dichlorobenzene	µg/L	60	600	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	2 U	0.04 U	0.04 U	0.04 U	0.8 U	0.8 U	0.8 U	0.04 U	0.2 U	1 U	1 U	0.04 UJ	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
1,2-Dichloroethane	µg/L	0.5	5	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	**1.3**	**2** U	0.04 U	0.04 U	0.04 U	**0.8** U	**0.8** U	**0.8** U	0.27	0.2 U	**1** U	**1** U	0.04 UJ	0.22	0.04 U	0.04 U	0.04 U	0.04 U
1,2-Dichloropropane	µg/L	0.5	5	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	**3** U	0.06 U	0.06 U	0.06 U	**1.2** U	**1.2** U	**1.2** U	0.06 U	0.3 U	**1.5** U	**1.5** U	0.06 UJ	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
1,3-Dichlorobenzene	µg/L	125	1250	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	2 U	0.04 U	0.04 U	0.04 U	0.8 U	0.8 U	0.8 U	0.04 U	0.2 U	1 U	1 U	0.04 UJ	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
1,4-Dichlorobenzene	µg/L	15	75	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	2.5 U	0.05 U	0.05 U	0.05 U	1 U	1 U	1 U	0.05 U	0.25 U	1.3 U	1.3 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
2-Butanone	µg/L	N/A	N/A	0.4 UJ	0.4 R	0.4 UJ	0.4 U	0.4 R	0.4 U	0.4 R	20 R	0.4 R	0.4 R	0.4 UJ	8 R	8 UJ	8 R	0.4 UJ	2 R	10 UJ	10 R	0.4 R	0.4 R	0.4 UJ	0.4 R	0.4 UJ	0.4 R
2-Hexanone	µg/L	N/A	N/A	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	25 U	0.5 UJ	0.5 R	0.5 U	10 UJ	10 U	10 R	0.5 U	2.5 UJ	13 U	13 R	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Methyl-2-pentanone	µg/L	N/A	N/A	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	30 U	0.6 UJ	0.6 R	0.6 U	12 UJ	12 U	12 R	0.6 U	3 UJ	15 U	15 R	0.6 UJ	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Acetone	µg/L	200	1000	1.5 UJ	1.5 R	1.5 UJ	1.5 U	1.5 R	1.5 R	1.5 R	75 R	1.5 R	1.5 R	1.5 UJ	30 R	30 UJ	30 R	1.5 UJ	7.5 R	38 UJ	38 R	1.5 R	1.5 R	1.5 UJ	1.5 R	2.2 J	3 J
Benzene	µg/L	0.5	5	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	**2.5** U	0.05 U	0.05 U	0.085 UB	**1** U	**1** U	**1** U	0.069 UB	0.25 U	**1.3** U	**1.3** U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Bromochloromethane	µg/L	N/A	N/A	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	2.5 U	0.05 U	0.05 U	0.05 U	1 U	1 U	1 U	0.05 U	0.25 U	1.3 U	1.3 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Bromodichloromethane	µg/L	0.06	0.6	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	2 U	0.04 U	0.04 U	0.04 U	0.8 U	1.6 J	0.8 U	0.04 U	**0.2** U	1.7 J	1 U	0.04 UJ	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Bromoform	µg/L	0.44	4.4	0.07 U	0.07 U	0.07 U	0.07 UJ	0.07 U	0.07 UJ	0.07 U	**3.5** U	0.07 U	0.07 UJ	0.07 U	**1.4** U	**1.4** U	**1.4** UJ	0.07 U	0.35 U	**1.8** U	**1.8** UJ	0.07 UJ	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U
Bromomethane	µg/L	1	10	0.06 U	0.06 UJ	0.06 U	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	**3** U	0.06 U	0.06 UJ	0.06 U	**1.2** U	**1.2** U	**1.2** UJ	0.06 U	0.3 U	**1.5** U	**1.5** UJ	0.06 UJ	0.06 U	0.06 U	0.06 UJ	0.06 U	0.06 U
Carbon disulfide	µg/L	200	1000	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 UJ	0.1 U	5 U	0.1 U	0.1 UJ	0.1 U	2 U	2 U	2 UJ	0.1 U	0.5 U	2.5 U	2.5 UJ	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U

TABLE 1
Field and Analytical Results—Groundwater Monitoring Well Sampling
October 2004, July 2005, October 2005, and January 2006
Oconomowoc Electroplating

Constituent	Units	WAC NR 140 PAL	WAC NR 140 ES	MW-001S				MW-004D		MW-005D		MW-012B		MW-012S				MW-012D				MW-013S		MW-013D			
				05CA05-01, 02 Oct 04	05CA40-08, 09 Jul 05	06CA01-26, 27 Oct 05	06CD09-26, 27 Jan 06	05CA40-13 Jul 05	06CD09-35 Jan 06	05CA40-10 Jul 05	06CD09-49 Jan 06	05CA40-43 Jul 05	06CD09-38 Jan 06	05CA05-07, 08 Oct 04	05CA40-46, 47 Jul 05	06CA01-07, 08 Oct 05	06CD09-36, 37 Jan 06	05CA05-05, 06 Oct 04	05CA40-44, 45 Jul 05	06CA01-05, 06 Oct 05	06CD09-30, 31 Jan 06	05CA40-30 Jul 05	06CD09-61 Jan 06	05CA05-09, 10 Oct 04	05CA40-22, 23 Jul 05	06CA01-32, 33 Oct 05	06CD09-59, 60 Jan 06
VOCs Continued																											
Carbon tetrachloride	µg/L	0.5	5	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	**2.5** U	0.05 U	0.05 U	0.05 U	**1** U	**1** U	**1** UJ	0.05 U	0.25 U	**1.3** U	**1.3** UJ	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chlorobenzene	µg/L	N/A	N/A	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	2.5 U	0.05 U	0.05 U	0.05 U	1 U	1 U	1 U	0.05 U	0.25 U	1.3 U	1.3 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chloroethane	µg/L	80	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	2.2 J	3 U	0.06 U	0.06 U	0.6 J	1.2 **U**	1.2 U	1.2 J	0.16 J	0.3 U	1.5 U	1.5 UJ	0.06 UJ	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Chloroform	µg/L	0.6	6	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	**3.5** U	0.07 U	0.07 U	0.1 UB	**1.7** J	**1.4** U	**1.4** U	0.07 U	0.35 U	**1.8** U	**1.8** U	0.07 UJ	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U
Chloromethane	µg/L	0.3	3	0.05 U	0.05 UJ	0.22 UB	0.05 U	0.05 UJ	0.05 UJ	0.05 UJ	**2.5** U	0.05 U	0.05 U	0.05 U	1 U	1 U	1 U	0.05 U	0.25 U	**1.3** U	**1.3** U	0.05 UJ	0.05 U	0.05 U	0.24	**0.48**	0.2
cis-1,2-Dichloroethene	µg/L	7	70	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	250	310	0.06 U	0.06 U	**29**	**17** J	**64** J	80	**13**	**7.1**	**30**	**31**	0.14 J	3.4	0.21 J	0.26	0.38	2.1
cis-1,3-Dichloropropene	µg/L	0.02	0.2	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.8 U	0.016 U	0.016 U	0.016 U	0.32 U	0.32 U	0.32 U	0.016 U	**0.08** U	0.4 U	0.4 U	0.016 UJ	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U
Dibromochloromethane	µg/L	6	60	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	4.5 U	0.09 U	0.09 U	0.09 U	1.8 U	1.8 U	1.8 U	0.09 U	0.45 U	2.3 U	2.3 U	0.09 UJ	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U
Dichlorodifluoromethane	µg/L	200	1000	0.06 U	0.06 UJ	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	3 U	0.06 U	0.06 U	0.06 U	1.2 U	1.2 U	1.2 U	0.06 U	0.3 U	1.5 U	1.5 U	0.06 UJ	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Ethylbenzene	µg/L	140	700	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	2.5 U	0.05 U	0.05 U	0.05 U	1 U	1 U	1 U	0.05 U	0.25 U	1.3 U	1.3 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Isopropylbenzene	µg/L	N/A	N/A	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	1.5 U	0.03 U	0.03 U	0.03 U	0.6 U	0.6 U	0.6 U	0.03 U	0.15 U	0.75 U	0.75 U	0.03 UJ	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U
m,p-Xylene (sum of isomers)	µg/L	1000	10000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	6 U	0.12 U	0.12 U	0.12 U	2.4 U	2.4 U	2.4 U	0.12 U	0.6 U	3 U	3 U	0.12 UJ	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Methyl tert-butyl ether	µg/L	12	60	0.15 J	0.05 U	0.14 J	0.17	0.05 U	1.6	0.22 J	2.5 U	0.05 U	0.05 U	0.05 U	1 U	1 U	1 U	0.05 U	0.25 U	1.3 U	1.3 U	0.05 UJ	0.16 J	0.05 U	0.28	0.16 J	0.18
Methylene chloride	µg/L	0.5	5	0.11 UJ	0.11 UJ	**1.8** J	0.11 UJ	0.11 UJ	0.11 U	0.11 UJ	14 J	0.11 UJ	0.11 U	0.11 UJ	**2.2** UJ	70 J	**2.2** R	0.11 UJ	**0.55** UJ	77 J	**2.8** R	0.11 UJ	0.11 UJ	0.11 UJ	**2.1** J	0.11 UJ	
o-Xylene	µg/L	N/A	N/A	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 R	0.04 U	2 U	0.04 U	0.04 U	0.04 U	0.8 U	0.8 U	0.8 U	0.04 U	0.2 U	1 U	1 U	0.04 UJ	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Styrene	µg/L	10	100	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	2 U	0.04 U	0.04 U	0.04 U	0.8 U	0.8 U	0.8 U	0.04 U	0.2 U	1 U	1 U	0.04 UJ	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Tetrachloroethene	µg/L	0.5	5	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	**2.5** U	0.05 U	0.091 J	0.051 J	1 U	1 U	1 U	0.05 U	0.25 U	**1.3** U	**1.3** U	0.097 J	0.055 J	0.05 U	0.05 U	0.05 U	0.05 U
Toluene	µg/L	200	1000	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	4 U	0.08 U	0.08 U	0.08 U	1.6 U	1.6 U	1.6 U	0.08 U	0.4 U	2 U	2 U	0.08 UJ	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
trans-1,2-Dichloroethene	µg/L	20	100	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	9.7 J	9.9	0.04 U	0.04 U	16 J	16 J	**20** J	7.4	3.2	1.6 J	10	11	0.04 UJ	0.25	0.04 U	0.04 U	0.04 U	0.075 J
trans-1,3-Dichloropropene	µg/L	0.02	0.2	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.75 U	0.015 U	0.015 U	0.015 U	0.3 U	0.3 U	0.3 U	0.015 U	**0.075** U	0.38 U	0.38 U	0.015 UJ	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U
Trichloroethene	µg/L	0.5	5	0.07 J	0.03 U	0.031 J	0.03 U	0.03 U	0.03 U	180	190	0.03 U	0.03 U	120	100	100 J	19	10	3.8	27	25	0.33 J	**2.8**	0.03 U	0.03 U	0.03 U	0.03 U
Vinyl chloride	µg/L	0.02	0.2	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	**0.11**	3.8	4.6	0.018 U	0.018 U	0.38	0.36 U	4.4 J	8.8	3	2.4 J	5.7	15	0.018 UJ	**0.047** J	0.23	**0.028**	0.2	0.97

TABLE 1
Field and Analytical Results—Groundwater Monitoring Well Sampling
October 2004, July 2005, October 2005, and January 2006
Oconomowoc Electroplating

Constituent	Units	MW-014D				MW-015B		MW-015S				MW-015D				MW-016S				MW-101B		MW-102D		MW-103S			
		05CA05-11, 12 Oct 04	05CA40-16, 17 Jul 05	06CA01-09, 10 Oct 05	06CD09-28, 29 Jan 06	05CA40-01 Jul 05	06CD09-10 Jan 06	05CA05-15, 16 Oct 04	05CA40-04, 05 Jul 05	06CA01-11, 12 Oct 05	06CD09-08, 09 Jan 06	05CA05-13, 14 Oct 04	05CA40-02, 03 Jul 05	06CA01-15, 16 Oct 05	06CD09-17, 18 Jan 06	05CA05-17, 18 Oct 04	04CA40-35, 36 Jul 05	06CA01-28, 29 Oct 05	06CD09-50, 51 Jan 06	05CA40-14 Jul 05	06CD09-47 Jan 06	05CA40-15 Jul 05	06CD09-19 Jan 06	05CA05-21, 22 Oct 04	05CA40-26, 27 Jul 05	06CA01-03, 04 Oct 05	06CD09-03, 04 Jan 06
Field Parameters																											
Dissolved Oxygen (DO)	mg/L	0.45	1.24	0.59	1.47	9.7%	0.76	8.47	93.9%	5.33	5.82	0.43	0.79	1.46	0.72	3.33	5.6%	0.17	0.34	0.58	0.37	8.1%	1.02	0.38	0.96	0.77	1.61
Oxidation Reduction Potential (ORP)	millivolts	43.4	15.1	117.5	165.6	-43.9	-54.2	72.0	28.1	105.8	126.2	60.5	258.2	171	22	-157.8	75.1	-58.3	-118.7	-35.7	128.2	23.6	-59.6	197.7	205.3	173	241.5
pH	pH units	7.28	7.02	6.87	7.33	6.86	6.85	7.46	7.24	7.02	7.16	7.12	6.27	6.46	7.37	7.03	6.69	6.23	6.87	7.02	6.97	6.88	7.40	6.95	6.44	6.63	7.08
Specific Conductivity	cm	0.947	0.883	1.189	1.212	0.898	0.776	0.480	0.621	0.831	0.708	1.832	1.447	1.354	2.644	3.293	3.459	3.623	3.154	1.167	0.925	1.470	2.453	1.249	1.462	1.381	2.807
Temperature	deg c	13.20	11.99	14.64	9.93	14.96	10.85	15.83	14.97	16.7	10.98	14.20	13.95	14.33	10.79	12.87	15.14	14.02	8.22	13.23	11.80	13.79	10.01	16.17	14.39	18.14	8.31
Depth to water	feet	5.88	5.64	7.42	6.10	9.34	12.90	10.43	10.21	11.73	10.41	11.31	11.62	12.74	10.98	4.17	4.93	5.25	3.30	7.14	6.61	9.83	9.55	7.60	7.56	8.68	6.74
Natural Attenuation Parameters																											
Alkalinity, total (as CaCO3)	mg/L	347	350	370	340			229	300	330	300	422	370	400	390	930	840	930	910					445	450	450	460
Chloride (as Cl)	mg/L	82.9	45	**180**	**150**			9.86 J	32	90	66	**291**	**200**	**220**	21	**155**	**170**	**220**	**220**					**218**	**160**	**190**	**150**
Ethane	µg/L	0.5 U	0.5 U	0.5 U	0.5 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.8 J	1.3 J	0.56 J	0.5 U					0.5 U	0.5 U	0.5 U	0.5 U
Ethene	µg/L	0.5 U	0.5 U	0.5 U	0.5 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	12	4.1	4.3	6.1					0.5 U	0.5 U	0.5 U	0.5 U
Iron, total	µg/L	7 U	25.6 J	25 U	25 U			**224** J	59.7 J	95.3	30.6 J	7.2 J	25 UJ	**170** J	73.5 J	6450	8260	6590	4790					**154**	69.9 J	39.8 J	**226**
Iron, dissolved	µg/L	14 U	25 U	25 U	25 U			14 U	25 U	25 U	25 U	14 U	25 U	25 U	47.5 J	5830	7420	6130	4470					139	43.6 J	30.4 J	123
Manganese, total	µg/L		81.6	105	97.5				8.2	**29.2**	16.7		276	257	220		78.1	85	85.5						395	351	267
Manganese, dissolved	µg/L	67	69.2	88.9	87.1			9.6	1.2 U	7.7	5.5	314	250	254	227	81.5	71.2	79.2	81.4					402	375	354	247
Methane	µg/L	14	4.3	2.3	2.5			1 J	0.5 U	0.84 J	0.5 U	4.6 J	1.4 J	1.8 J	22	680	530	180	440					7.5 J	62	24	24
Nitrogen, nitrate (as N)	mg/L	0.97 J	1.6	1.7	**2.8**			**4.65** J	0.8	0.92	1.1	0.16 J	0.18	0.29	0.04 U	0.06 U	0.052 J	0.08 J	0.12 J					0.19 J	0.28	0.05 J	2.2
Sulfate (as SO4)	mg/L	32.4	40	45	45			13.1 J	15	22	46	43.8	43	49	8.6	941 J	1000	1300	1400					**128**	74	72	89
Sulfide	mg/L	1 UJ	1 U	1 U	1 R			1 UJ	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U					1 UJ	1 U	1 U	1 U
Total Organic Carbon	mg/L	2.7 J	1.4 J	1.8 J	1.5 J			1.5 J	2 J	1.9 J	1 J	3.3	2.5 J	2.4 J	2.1 J	5	3.9	3.7	3.8					6.6	6.1	5.8	5.2
VOCs																											
1,1,1-Trichloroethane	µg/L	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	1.1	0.39 J	1.5	1.3	0.07 U	0.35 U	0.35 U	0.35 U	0.07 U	1.8 U	3.5 U	7 U	0.07 U	0.07 U	0.07 UJ	0.07 U	**140**	**150**	**200**	**110**
1,1,2,2-Tetrachloroethane	µg/L	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	**0.09** U	**0.09** U	**0.09** U	0.018 U	**0.45** U	**0.9** U	**1.8** U	0.018 U	0.018 U	0.018 UJ	0.018 U	0.018 U	**0.9** U	**0.9** U	**0.36** U
1,1,2-Trichloroethane	µg/L	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.45 U	0.45 U	0.45 U	0.09 U	**2.3** U	**4.5** U	**9** U	0.09 U	0.09 U	0.09 UJ	0.09 U	0.09 U	**4.5** U	**4.5** U	**1.8** U
1,1-Dichloroethane	µg/L	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.13 J	0.16 U	0.16 U	0.16 U	0.067 J	0.78 U	1.6 U	3.1 U	0.031 U	0.031 U	0.031 UJ	0.031 U	7.6	16 J	22	17
1,1-Dichloroethene	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.3	0.3 U	0.3 U	0.3 U	0.12 J	**1.5** U	3 U	6 U	0.06 U	0.06 U	0.06 UJ	0.12 J	**3.5**	**6.9** J	**10**	**7.2** J
1,2,3-Trichlorobenzene	µg/L	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.4 U	0.4 U	0.4 U	0.08 U	2 U	4 U	8 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	4 UJ	4 U	1.6 U
1,2,4-Trichlorobenzene	µg/L	0.06 U	0.06 UJ	0.06 U	0.06 UJ	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.3 U	0.3 U	0.3 U	0.06 U	1.5 U	3 U	6 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	3 UJ	3 U	1.2 UJ
1,2-Dibromo-3-chloropropane	µg/L	**0.026** U	**0.026** R	**0.026** UJ	**0.026** U	**0.026** U	**0.026** U	**0.026** U	**0.026** U	**0.026** U	**0.026** U	**0.026** U	**0.13** U	**0.13** UJ	**0.13** U	**0.026** U	**0.65** U	**1.3** UJ	**2.6** U	**0.026** U	**0.026** U	**0.026** U	**0.026** U	**0.026** U	**1.3** R	**1.3** UJ	**0.52** U
1,2-Dibromoethane	µg/L	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U	0.12 U	0.12 U	0.12 U	0.023 U	**0.58** U	**1.2** U	**2.3** U	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U	**1.2** U	**1.2** U	0.46 U
1,2-Dichlorobenzene	µg/L	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.2 U	0.2 U	0.2 U	0.04 U	1 U	2 U	4 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	2 U	2 U	0.8 U
1,2-Dichloroethane	µg/L	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.16 J	0.2 U	0.2 U	0.2 U	**0.54**	1 U	**2** U	4 U	0.04 U	0.04 U	0.071 J	0.14	0.26	**2** U	**2** U	**0.8** U
1,2-Dichloropropane	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.3 U	0.3 U	0.3 U	0.06 U	**1.5** U	**3** U	**6** U	0.06 U	0.06 U	0.06 UJ	0.06 U	0.06 U	**3** U	**3** U	**1.2** U
1,3-Dichlorobenzene	µg/L	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.2 U	0.2 U	0.2 U	0.04 U	1 U	2 U	4 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	2 U	2 U	0.8 U
1,4-Dichlorobenzene	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.25 U	0.25 U	0.25 U	0.05 U	1.3 U	2.5 U	5 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	2.5 U	2.5 U	1 U
2-Butanone	µg/L	0.4 UJ	0.4 R	0.4 UJ	0.4 U	0.4 R	0.4 U	0.4 UJ	0.4 R	0.4 U	0.4 R	0.4 UJ	2 R	2 UJ	2 U	0.4 UJ	10 R	20 UJ	40 R	0.4 R	0.4 R	0.4 R	0.4 R	0.4 UJ	20 R	20 UJ	8 U
2-Hexanone	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 R	0.5 U	2.5 U	2.5 U	2.5 U	0.5 U	13 U	25 U	50 U	0.5 U	0.5 U	0.5 UJ	0.5 R	0.5 U	25 U	25 J	10 U
4-Methyl-2-pentanone	µg/L	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 R	0.6 U	3 U	3 U	3 U	0.6 U	15 U	30 U	60 U	0.6 U	0.6 U	0.6 UJ	0.6 R	0.6 U	30 U	30 U	12 U
Acetone	µg/L	1.5 UJ	1.5 R	1.5 J	1.5 U	1.5 R	1.5 U	1.5 UJ	1.5 R	1.5 U	1.5 R	1.5 UJ	7.5 R	7.5 UJ	7.5 U	1.5 UJ	38 R	75 UJ	190 J	1.5 R	1.5 R	1.5 R	2.1 J	1.5 UJ	75 R	75 UJ	61 J
Benzene	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.11 UB	0.25 U	0.25 U	0.25 U	0.05 U	**1.3** U	**3.2** J	**5** U	0.05 U	0.05 U	0.05 U	0.05 U	0.096 UB	**2.5** U	**2.5** U	**1.1** J
Bromochloromethane	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.25 U	0.25 U	0.25 U	0.05 U	1.3 U	2.5 U	5 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	2.5 U	2.5 U	1 U
Bromodichloromethane	µg/L	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	**0.2** U	**0.2** U	**0.2** U	0.04 U	**1.1** J	**2.1** J	**4** U	0.04 U	0.04 U	0.04 UJ	0.04 U	0.04 U	**2** U	**2.5** J	**0.8** U
Bromoform	µg/L	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 UJ	0.07 U	0.07 U	0.07 U	0.07 UJ	0.07 U	0.35 U	0.35 U	0.35 U	0.07 U	**1.8** UJ	**3.5** U	**7** U	0.07 U	0.07 U	0.07 U	0.07 UJ	0.07 U	**3.5** UJ	**3.5** U	**1.4** UJ
Bromomethane	µg/L	0.06 U	0.06 UJ	0.06 U	0.06 U	0.06 UJ	0.06 UJ	0.06 U	0.06 UJ	0.06 U	0.06 UJ	0.06 U	0.3 UJ	0.3 U	0.3 U	0.06 U	**1.5** U	3 U	**6** U	0.06 UJ	0.06 U	0.06 UJ	0.06 UJ	0.06 U	**3** UJ	**3** U	**1.2** UJ
Carbon disulfide	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.5 U	0.5 U	0.5 U	0.1 U	2.5 U	5 U	10 U	0.13 UB	0.1 U	0.1 U	0.1 UJ	0.1 U	5 U	5 U	2 UJ

TABLE 1
Field and Analytical Results—Groundwater Monitoring Well Sampling
October 2004, July 2005, October 2005, and January 2006
Oconomowoc Electroplating

Constituent	Units	MW-014D				MW-015B		MW-015S				MW-015D				MW-016S				MW-101B		MW-102D		MW-103S			
		05CA05-11, 12 Oct 04	05CA40-16, 17 Jul 05	06CA01-09, 10 Oct 05	06CD09-28, 29 Jan 06	05CA40-01 Jul 05	06CD09-10 Jan 06	05CA05-15, 16 Oct 04	05CA40-04, 05 Jul 05	06CA01-11, 12 Oct 05	06CD09-08, 09 Jan 06	05CA05-13, 14 Oct 04	05CA40-02, 03 Jul 05	06CA01-15, 16 Oct 05	06CD09-17, 18 Jan 06	05CA05-17, 18 Oct 04	04CA40-35, 36 Jul 05	06CA01-28, 29 Oct 05	06CD09-50, 51 Jan 06	05CA40-14 Jul 05	06CD09-47 Jan 06	05CA40-15 Jul 05	06CD09-19 Jan 06	05CA05-21, 22 Oct 04	05CA40-26, 27 Jul 05	06CA01-03, 04 Oct 05	06CD09-03, 04 Jan 06
VOCs Continued																											
Carbon tetrachloride	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.25 U	0.25 U	0.25 U	0.05 U	**1.3** U	**2.5** U	5 U	0.05 U	0.05 U	0.05 UJ	0.05 UJ	0.05 U	**2.5** U	**2.5** U	**1** U
Chlorobenzene	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	4.1	3.3	4	3.2	0.05 U	1.3 U	2.5 U	5 U	0.05 U	0.05 U	0.05 UJ	0.05 U	3.5	3 J	5.7 J	2.3 J
Chloroethane	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.3 U	0.3 U	0.3 U	0.06 U	1.5 U	3 U	6 U	0.06 U	0.06 U	0.06 UJ	0.06 UJ	0.37 J	3 U	3 U	1.2 U
Chloroform	µg/L	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.35 U	0.35 U	0.35 U	0.07 U	**1.8** U	**3.5** U	7 U	0.07 U	0.07 U	0.07 UJ	0.07 U	0.24 UB	**3.5** U	**3.5** U	**1.4** U
Chloromethane	µg/L	0.05 U	0.05 UJ	**0.38** UB	0.05 UJ	0.05 UJ	0.05 U	0.05 U	0.05 U	**0.32**	0.05 UJ	0.05 U	0.25 U	**0.5 J**	0.25 U	0.05 U	**1.3** U	**2.5** U	5 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	**2.5** U	**2.5** U	**1** U
cis-1,2-Dichloroethene	µg/L	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	6	2.5 J	4.3	4.3	190	330	790	570	0.18 J	0.15 J	**12 J**	**7.6**	**21**	**47 J**	**59**	**58**
cis-1,3-Dichloropropene	µg/L	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	**0.08** U	**0.08** U	**0.08** U	0.016 U	0.4 U	0.8 U	1.6 U	0.016 U	0.016 U	0.016 UJ	0.016 U	0.016 U	0.8 U	0.8 U	0.32 U
Dibromochloromethane	µg/L	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.45 U	0.45 U	0.45 U	0.09 U	2.3 U	4.5 U	9 U	0.09 U	0.09 U	0.09 UJ	0.09 U	0.09 U	4.5 U	4.5 U	1.8 U
Dichlorodifluoromethane	µg/L	0.06 U	0.06 UJ	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.3 U	0.3 U	0.3 U	0.06 U	1.5 U	3 U	6 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	3 UJ	3 U	1.2 U
Ethylbenzene	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.25 U	0.25 U	0.25 U	0.05 U	1.3 U	2.5 U	5 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	2.5 U	2.5 U	1 U
Isopropylbenzene	µg/L	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.15 U	0.15 U	0.15 U	0.03 U	0.75 U	1.5 U	3 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	1.5 U	1.5 U	0.6 U
m,p-Xylene (sum of isomers)	µg/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.6 U	0.6 U	0.6 U	0.12 U	3 U	6 U	12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	6 U	6 U	2.4 U
Methyl tert-butyl ether	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.69 J	0.25 U	0.4 J	0.45 J	0.05 U	1.3 U	2.5 U	5 U	0.29 J	0.24	0.45 J	0.23	0.05 U	2.5 U	2.5 U	1 U
Methylene chloride	µg/L	0.11 UJ	0.11 UJ	**2.1** J	0.11 UJ	0.11 UJ	0.11 R	0.11 UJ	0.11 UJ	**2.1**	0.11 R	0.11 UJ	**0.55** UJ	15 J	**0.55** U	0.11 UJ	**2.8** UJ	130 J	200 J	0.11 UJ	0.11 UJ	0.11 UJ	0.11 R	0.11 UJ	5.5 UJ	120 J	**2.2** UJ
o-Xylene	µg/L	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.2 U	0.2 U	0.2 U	0.04 U	1 U	2 U	4 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	2 U	2 U	0.8 U
Styrene	µg/L	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.2 U	0.2 U	0.2 U	0.04 U	1 U	2 U	4 U	0.04 U	0.04 U	0.04 UJ	0.04 U	0.04 U	2 U	2 U	0.8 U
Tetrachloroethene	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.085 J	0.05 U	0.25 U	0.25 U	0.25 U	0.05 U	**1.3** U	**2.5** U	5 U	0.05 U	0.05 U	0.05 UJ	0.05 U	**1.4**	**2.5** U	**2.5** U	**1.7** J
Toluene	µg/L	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.4 U	0.4 U	0.4 U	0.08 U	2 U	4 U	8 U	0.08 U	0.08 U	0.08 UJ	0.08 U	0.08 U	4 U	4 U	1.6 U
trans-1,2-Dichloroethene	µg/L	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.6 J	0.3	0.4 J	0.41 J	5	6.2 J	7.9	6.8 J	0.04 U	0.04 U	0.6 J	0.51	0.35 J	2 U	2 U	1.3 J
trans-1,3-Dichloropropene	µg/L	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	**0.075** U	**0.075** U	**0.075** U	0.015 U	0.38 U	0.75 U	1.5 U	0.015 U	0.015 U	0.015 UJ	0.015 U	0.015 U	0.75 U	0.75 U	0.3 U
Trichloroethene	µg/L	0.03 U	0.041 J	0.062 J	0.066 J	0.03 U	0.03 U	0.15 J	0.03 U	0.03 U	0.61	41	30	40	35	0.03 U	**0.75** J	**1.5** U	**3** U	0.03 U	0.046 J	**0.76** J	**0.63**	200	230	340	130
Vinyl chloride	µg/L	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	**0.074**	**0.09** U	**0.09** U	**0.09** U	85	58	170	260	0.018 U	**0.036** J	0.018 U	0.018 U	0.4	0.9 U	1.2 J	0.36 U

TABLE 1
Field and Analytical Results—Groundwater Monitoring Well Sampling
October 2004, July 2005, October 2005, and January 2006
Oconomowoc Electroplating

		MW-103D				MW-105B		MW-105S				MW-105D				MW-106S		MW-106D	
Constituent	**Units**	05CA05-19, 20 Oct 04	05CA40-24, 25 Jul 05	06CA01-01, 02 Oct 05	06CD09-01, 02 Jan 06	05CA40-32 Jul 05	06CD09-14 Jan 06	05CA05-25, 26 Oct 04	05CA40-20, 21 Jul 05	06CA01-19, 20 Oct 05	06CD09-21, 22 Jan 06	05CA05-23, 24 Oct 04	04CA40-33, 34 Jul 05	06CA01-17, 18 Oct 05	06CD09-12, 13 Jan 06	05CA40-07 Jul 05	06CD09-23 Jan 06	05CA40-12 Jul 05	MW-106D 06CD09-15
Field Parameters																			
Dissolved Oxygen (DO)	mg/L	0.35	6.5%	1.59	0.57	0.86	0.98	0.19	11.9%	5.27	0.70	6.09	1.04	0.48	0.93	10.1%	1.54	0.97	0.49
Oxidation Reduction Potential (ORP)	millivolts	24.8	98.2	221.0	128.4	-51.8	-52.2	-32.8	-50.1	70.2	-11.8	-56.3	-15.3	-67.1	-16.0	23.1	87.0	-66.7	48.9
pH	pH units	7.12	7.04	5.95	6.94	6.45	6.89	7.31	7.02	6.21	7.31	7.34	5.86	6.69	6.89	6.79	7.59	7.09	7.24
Specific Conductivity	cm	1.565	1.373	1.100	1.163	1.105	0.916	1.620	1.714	1.414	1.368	1.299	1.411	1.472	1.290	0.960	1.444	1.231	0.765
Temperature	deg c	14.35	13.41	16.84	10.41	12.90	8.17	12.98	12.71	14.86	8.11	12.10	11.08	13.93	8.50	11.81	7.04	10.94	8.48
Depth to water	feet	7.73	7.67	8.80	6.89	5.08	4.39	5.16	5.55	6.18	4.20	5.01	5.51	6.27	4.20	5.80	4.51	5.40	4.45
Natural Attenuation Parameters																			
Alkalinity, total (as CaCO3)	mg/L	452	410	440	420			367	370	390	310	362	400	420	400				
Chloride (as Cl)	mg/L	**200**	**170**	**180**	**180**			281	290	250	**150**	**159**	**200**	250	**230**				
Ethane	µg/L	0.6 J	0.5 U	0.5 U	0.5 U			1.4 J	0.5 U	0.5 U	0.5 U	0.62 J	0.5 U	1.4 J	1.4 J				
Ethene	µg/L	0.96 J	0.5 U	0.5 U	0.5 U			0.61 J	0.5 U	0.5 U	0.5 U	0.8 J	0.5 U	1.5	1.1 J				
Iron, total	µg/L	29.6	25 U	25 U	28.4 J			384	930	540	366	845 J	1090	1050	1760				
Iron, dissolved	µg/L	14 U	25 U	25 U	25 U			338	557	**287**	**213**	863 J	984	974	1510				
Manganese, total	µg/L		284	254 J	278				241	198	202		69.5	81.6 J	89.2				
Manganese, dissolved	µg/L	283	272	255 J	258			227	229	197	190	67.5	66.4	82.2 J	82.2				
Methane	µg/L	72	73	79	60			110	42	0.59 J	7.3	1900	170	150	270				
Nitrogen, nitrate (as N)	mg/L	0.06 UJ	0.04 U	0.05 J	0.04 U			0.06 UJ	0.04 U	0.048 J	0.04 U	0.06 UJ	0.05 J	0.04 U	0.04 U				
Sulfate (as SO4)	mg/L	60	47	45	48			77.5	68	66	61	75.9	58	74	68				
Sulfide	mg/L	1 UJ	1 U	1 U	1 U			1 UJ	1.3 J	1 J	1 U	1 UJ	1 J	1 U	1 U				
Total Organic Carbon	mg/L	5.3	3.7	4.1	3.2			3.5	2.6 J	4.1	2.9	4.1	3.7	3.5	1.7 J				
VOCs																			
1,1,1-Trichloroethane	µg/L	480	450 J	460	520	0.07 UJ	0.07 U	0.64 J	0.45 J	1.1 J	1.8 U	0.5 J	1.4 U	1.4 U	7 U	0.07 U	0.07 U	0.07 U	0.07 U
1,1,2,2-Tetrachloroethane	µg/L	0.018 U	9 U	1.8 U	1.8 U	0.018 UJ	0.018 U	0.018 U	0.018 U	**0.18** U	**0.45** U	0.018 U	**0.36** U	**0.36** U	1.8 U	0.018 U	0.018 U	0.018 U	0.018 U
1,1,2-Trichloroethane	µg/L	**0.7**	45 U	9 U	9 U	0.09 U	0.09 U	0.09 U	0.09 U	**0.9** U	**2.3** U	0.09 U	**1.8** U	**1.8** U	9 U	0.09 U	0.09 U	0.09 U	0.09 U
1,1-Dichloroethane	µg/L	**120**	**89** J	76	59	0.095 J	0.077 J	4.8	6.5	14	11	16	15 J	**140**	**180**	0.031 U	0.031 U	0.031 U	0.031 U
1,1-Dichloroethene	µg/L	80	85 J	73	83 J	0.06 U	0.06 U	**0.94**	0.52	**2**	**2.4** J	**2.6**	**2.4** J	14	36	0.06 U	0.06 U	0.06 U	0.06 U
1,2,3-Trichlorobenzene	µg/L	0.08 U	40 UJ	8 U	8 U	0.08 U	0.08 U	0.08 U	0.08 U	0.8 U	2 U	0.08 U	1.6 U	1.6 U	8 U	0.08 U	0.08 U	0.08 U	0.08 U
1,2,4-Trichlorobenzene	µg/L	0.06 U	**30** UJ	6 U	6 UJ	0.06 U	0.06 U	0.06 U	0.06 U	0.6 U	1.5 U	0.06 U	1.2 U	1.2 U	6 U	0.06 U	0.06 U	0.06 U	0.06 U
1,2-Dibromo-3-chloropropane	µg/L	**0.026** U	13 R	2.6 UJ	2.6 U	**0.026** U	**0.026** U	**0.026** U	**0.026** U	0.26 UJ	**0.65** U	**0.026** U	**0.52** U	**0.52** UJ	2.6 U	**0.026** U	**0.026** U	**0.026** U	**0.026** U
1,2-Dibromoethane	µg/L	0.023 U	12 U	**2.3** U	**2.3** U	0.023 UJ	0.023 U	0.023 U	0.023 U	0.23 U	**0.58** U	0.023 U	0.46 U	0.46 U	**2.3** U	0.023 U	0.023 U	0.023 U	0.023 U
1,2-Dichlorobenzene	µg/L	0.04 U	20 U	4 U	4 U	0.04 U	0.04 U	0.04 U	0.04 U	0.4 U	1 U	0.04 U	0.8 U	0.8 U	4 U	0.04 U	0.04 U	0.04 U	0.04 U
1,2-Dichloroethane	µg/L	**0.75**	20 U	**4** U	**4** U	0.04 UJ	0.04 U	0.04 U	0.04 U	0.4 U	**1** U	0.17 J	**0.8** U	**0.8** U	**4** U	0.04 U	0.04 U	0.04 U	0.04 U
1,2-Dichloropropane	µg/L	0.06 U	30 U	6 U	6 U	0.06 UJ	0.06 U	0.06 U	0.06 U	**0.6** U	**1.5** U	0.06 U	**1.2** U	**1.2** U	6 U	0.06 U	0.06 U	0.06 U	0.06 U
1,3-Dichlorobenzene	µg/L	0.04 U	20 U	4 U	4 U	0.04 U	0.04 U	0.04 U	0.04 U	0.4 U	1 U	0.04 U	0.8 U	0.8 U	4 U	0.04 U	0.04 U	0.04 U	0.04 U
1,4-Dichlorobenzene	µg/L	0.05 U	**25** U	5 U	5 U	0.05 U	0.05 U	0.05 U	0.05 U	0.5 U	1.3 U	0.05 U	1 U	1 U	5 U	0.05 U	0.05 U	0.05 U	0.05 U
2-Butanone	µg/L	0.4 UJ	200 R	40 UJ	40 U	0.4 R	0.4 R	0.4 UJ	0.4 R	4 UJ	10 R	0.4 UJ	8 R	8 UJ	40 R	0.4 R	0.4 R	0.4 R	0.4 R
2-Hexanone	µg/L	0.5 U	250 U	50 U	50 U	0.5 UJ	0.5 R	0.5 U	0.5 U	5 U	13 R	0.5 U	10 U	10 U	50 R	0.5 U	0.5 R	0.5 U	0.5 R
4-Methyl-2-pentanone	µg/L	0.6 U	300 U	60 U	60 U	0.6 UJ	0.6 R	0.6 U	0.6 U	6 U	15 R	0.6 U	12 U	12 U	60 R	0.6 U	0.6 R	0.6 U	0.6 R
Acetone	µg/L	1.5 UJ	**750** R	150 UJ	150 U	1.5 R	1.5 R	1.5 UJ	1.5 R	15 UJ	38 R	1.5 UJ	30 R	30 UJ	150 R	1.5 R	1.5 R	3.4 J	1.5 R
Benzene	µg/L	0.18 UB	25 U	5 U	5 U	0.05 U	0.05 U	0.056 UB	0.05 U	**0.5** U	**1.3** U	0.05 U	1 U	1 U	5 U	0.05 U	0.05 U	0.05 U	0.05 U
Bromochloromethane	µg/L	0.05 U	25 U	5 U	5 U	0.05 U	0.05 U	0.05 U	0.05 U	0.5 U	1.3 U	0.05 U	1 U	1 U	5 U	0.05 U	0.05 U	0.05 U	0.05 U
Bromodichloromethane	µg/L	0.04 U	34 J	4.9 J	4 U	0.04 U	0.04 U	0.04 U	0.04 U	**0.4** U	1 U	0.04 U	**0.8** U	**1.1** J	4 U	0.04 U	0.04 U	0.04 U	0.04 U
Bromoform	µg/L	0.07 U	35 UJ	7 U	7 UJ	0.07 UJ	0.07 U	0.07 U	0.07 UJ	**0.7** U	**1.8** UJ	0.07 U	**1.4** UJ	**1.4** U	7 UJ	0.07 U	0.07 UJ	0.07 U	0.07 UJ
Bromomethane	µg/L	0.06 U	30 UJ	**6** U	**6** UJ	0.06 UJ	0.06 UJ	0.06 U	0.06 U	0.6 U	**1.5** UJ	0.06 U	**1.2** U	**1.2** U	**6** UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Carbon disulfide	µg/L	0.1 U	50 U	10 U	10 UJ	0.12 J	0.1 U	0.1 U	0.1 U	1 U	2.5 UJ	0.1 U	2 U	2 U	10 UJ	0.1 U	0.1 UJ	0.1 U	0.1 UJ

TABLE 1
Field and Analytical Results—Groundwater Monitoring Well Sampling
October 2004, July 2005, October 2005, and January 2006
Oconomowoc Electroplating

Constituent	Units	MW-103D				MW-105B		MW-105S				MW-105D				MW-106S		MW-106D	
		05CA05-19, 20 Oct 04	05CA40-24, 25 Jul 05	06CA01-01, 02 Oct 05	06CD09-01, 02 Jan 06	05CA40-32 Jul 05	06CD09-14 Jan 06	05CA05-25, 26 Oct 04	05CA40-20, 21 Jul 05	06CA01-19, 20 Oct 05	06CD09-21, 22 Jan 06	05CA05-23, 24 Oct 04	04CA40-33, 34 Jul 05	06CA01-17, 18 Oct 05	06CD09-12, 13 Jan 06	05CA40-07 Jul 05	06CD09-23 Jan 06	05CA40-12 Jul 05	MW-106D 06CD09-15
VOCs Continued																			
Carbon tetrachloride	µg/L	0.05 U	25 U	5 U	5 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.5 U	1.3 UJ	0.05 U	1 U	1 U	5 UJ	0.05 U	0.05 U	0.05 U	0.05 UJ
Chlorobenzene	µg/L	0.073 J	25 U	5 U	5 U	0.05 U	0.05 U	0.6	0.58	0.98 J	1.3 U	0.05 U	1 U	1 U	5 U	0.05 U	0.05 U	0.05 U	0.05 U
Chloroethane	µg/L	0.98 J	30 U	6 U	6 U	0.06 UJ	0.066 J	0.06 U	0.06 U	0.6 U	1.5 UJ	0.06 U	1.2 U	1.7 J	6 UJ	0.06 U	0.06 U	0.06 U	0.06 UJ
Chloroform	µg/L	1.2 UB	35 U	7 U	7 U	0.07 U	0.07 U	0.07 U	0.07 U	0.7 U	1.8 U	0.07 U	1.4 U	1.4 U	7 U	0.07 U	0.07 U	0.07 U	0.07 U
Chloromethane	µg/L	0.05 U	25 U	5 U	5 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.5 U	1.3 U	0.05 U	1 U	1 U	5 U	0.05 U	0.05 UJ	0.05 UJ	0.086 J
cis-1,2-Dichloroethene	µg/L	360	280 J	270	220	0.18 J	0.23	58	69	160	130	56	29	350	460	0.06 U	0.06 U	0.06 U	0.06 U
cis-1,3-Dichloropropene	µg/L	0.016 U	8 U	1.6 U	1.6 U	0.016 U	0.016 U	0.016 U	0.016 U	0.16 U	0.4 U	0.016 U	0.32 U	0.32 U	1.6 U	0.016 U	0.016 U	0.016 U	0.016 U
Dibromochloromethane	µg/L	0.09 U	45 U	9 U	9 U	0.09 U	0.09 U	0.09 U	0.09 U	0.9 U	2.3 U	0.09 U	1.8 U	1.8 U	9 U	0.09 U	0.09 U	0.09 U	0.09 U
Dichlorodifluoromethane	µg/L	0.06 U	30 UJ	6 U	6 U	0.06 U	0.06 U	0.06 U	0.06 U	0.6 U	1.5 U	0.06 U	1.2 U	1.2 U	6 U	0.06 U	0.06 U	0.06 U	0.06 U
Ethylbenzene	µg/L	0.05 U	25 U	5 U	5 U	0.05 U	0.05 U	0.05 U	0.05 U	0.5 U	1.3 U	0.05 U	1 U	1 U	5 U	0.05 U	0.05 U	0.05 U	0.05 U
Isopropylbenzene	µg/L	0.03 U	15 U	3 U	3 U	0.03 U	0.03 U	0.03 U	0.03 U	0.3 U	0.75 U	0.03 U	0.6 U	0.6 U	3 U	0.03 U	0.03 U	0.03 U	0.03 U
m,p-Xylene (sum of isomers)	µg/L	0.12 U	60 U	12 U	12 U	0.12 U	0.12 U	0.12 U	0.12 U	1.2 U	3 U	0.12 U	2.4 U	2.4 U	12 U	0.12 U	0.12 U	0.12 U	0.12 U
Methyl tert-butyl ether	µg/L	0.05 U	25 U	5 U	5 U	0.05 U	0.05 U	0.17 J	0.33 J	0.5 U	1.3 U	0.05 U	1 U	1 U	5 U	0.05 U	0.05 U	0.05 U	0.05 U
Methylene chloride	µg/L	0.11 UJ	55 UJ	270 J	11 UJ	0.11 UJ	0.11 R	0.11 UJ	0.11 UJ	31 J	2.8 R	0.11 UJ	2.2 UJ	52 J	11 R	0.11 UJ	0.11 R	0.11 UJ	0.11 R
o-Xylene	µg/L	0.04 U	20 U	4 U	4 U	0.04 U	0.04 U	0.04 U	0.04 U	0.4 U	1 U	0.04 U	0.8 U	0.8 U	4 U	0.04 U	0.04 U	0.04 U	0.04 U
Styrene	µg/L	0.04 U	20 U	4 U	4 U	0.04 U	0.04 UJ	0.04 U	0.04 U	0.4 U	1 U	0.04 U	0.8 U	0.8 U	4 U	0.04 U	0.04 U	0.04 U	0.04 U
Tetrachloroethene	µg/L	0.05 U	25 U	5 U	5 U	0.05 U	0.05 U	0.05 U	0.05 U	0.5 U	1.3 U	0.05 U	1 U	1 U	5 U	0.05 U	0.05 U	0.05 U	0.05 U
Toluene	µg/L	0.08 U	40 U	8 U	8 U	0.08 U	0.08 U	0.08 U	0.08 U	0.8 U	2 U	0.08 U	1.6 U	1.6 U	8 U	0.08 U	0.08 U	0.08 U	0.08 U
trans-1,2-Dichloroethene	µg/L	5.5	20 U	4 U	4 U	0.04 U	0.04 U	0.71 J	1.6	1.8	1 U	2.6	1	11	15	0.04 U	0.04 U	0.04 U	0.04 U
trans-1,3-Dichloropropene	µg/L	0.015 U	7.5 U	1.5 U	1.5 U	0.015 U	0.015 U	0.015 U	0.015 U	0.15 U	0.38 U	0.015 U	0.3 UJ	0.3 U	1.5 U	0.015 U	0.015 U	0.015 U	0.015 U
Trichloroethene	µg/L	2200	2000	2200	1900	0.09 J	0.069 J	63	76	41	18	240	130	470	2100	0.03 U	0.03 U	0.03 U	0.039 J
Vinyl chloride	µg/L	2.9	9 U	4.1 J	1.8 U	0.059	0.092 J	2.3	2.3	3.7	3.2	1.5	1.1	9.2	21	0.018 U	0.018 U	0.018 U	0.018 U

J indicates that the value was between the method detection limit and the limit of quantitation and, therefore, is estimated.
U indicates that the constituent was not detected above the method detection limit.
UJ indicates that the constituent was not detected above the estimated method detection limit.
UB indicates that the constiuent is considered to be below the detection limit listed due to blank contamination.
Bolded values indicate attainment or exceedance of the Wisconsin Administrative Code (WAC) NR 140 Preventative Action Limit (PAL).
Shaded values indicate attainment or exceedance of the Wisconsin Administrative Code (WAC) NR 140 Enforcement Standard (ES).

TABLE 2

Field and Analytical Results—Surface Water Sampling

October 2004, July 2005, October 2005, January 2006, and March 2006

Oconomowoc Electroplating

				SW-01	SW-03
Constituent	**Units**	**WAC NR 140 PAL**	**WAC NR 140 ES**	**06CD09-63, 64 Jan 06**	**06CD09-65, 66 Jan 06**
Natural Attenuation Parameters					
Alkalinity, total (as $CaCO_3$)	mg/L	N/A	N/A	210	210
Chloride (as Cl)	mg/L	125	250	48	53
Ethane	µg/L	N/A	N/A	0.5 U	0.5 U
Ethene	µg/L	N/A	N/A	0.5 U	0.5 U
Iron, total	µg/L	150	300	42.6 J	33.7 J
Iron, dissolved	µg/L	150	300	25 U	25 U
Manganese, total	µg/L	25	50	**25.2**	12.8
Manganese, dissolved	µg/L	25	50	21.3	11
Methane	µg/L	N/A	N/A	0.68 J	0.5 U
Nitrogen, nitrate (as N)	mg/L	2	10	**7.2**	**7.4**
Sulfate (as SO_4)	mg/L	125	250	**190**	**210**
Sulfide	mg/L	N/A	N/A	1 U	1 U
Total Organic Carbon	mg/L	N/A	N/A	13	13
VOCs					
1,1,1-Trichloroethane	µg/L	40	200	0.07 U	0.07 U
1,1,2,2-Tetrachloroethane	µg/L	0.02	0.2	0.018 U	0.018 U
1,1,2-Trichloroethane	µg/L	0.5	5	0.09 U	0.09 U
1,1-Dichloroethane	µg/L	85	850	0.031 U	0.031 U
1,1-Dichloroethene	µg/L	0.7	7	0.06 U	0.06 U
1,2,3-Trichlorobenzene	µg/L	N/A	N/A	0.08 U	0.08 U
1,2,4-Trichlorobenzene	µg/L	14	70	0.06 U	0.06 U
1,2-Dibromo-3-chloropropane	µg/L	0.02	0.2	**0.026** U	**0.026** U
1,2-Dibromoethane	µg/L	0.5	5	0.023 U	0.023 U
1,2-Dichlorobenzene	µg/L	60	600	0.04 U	0.04 U
1,2-Dichloroethane	µg/L	0.5	5	0.04 U	0.04 U
1,2-Dichloropropane	µg/L	0.5	5	0.06 U	0.06 U
1,3-Dichlorobenzene	µg/L	125	1250	0.04 U	0.04 U
1,4-Dichlorobenzene	µg/L	15	75	0.05 U	0.05 U
2-Butanone	µg/L	N/A	N/A	0.4 R	0.4 R
2-Hexanone	µg/L	N/A	N/A	0.5 U	0.5 U
4-Methyl-2-pentanone	µg/L	N/A	N/A	0.6 U	0.6 U
Acetone	µg/L	200	1000	[redacted]	1.5 R
Benzene	µg/L	0.5	5	0.05 U	0.05 U
Bromochloromethane	µg/L	N/A	N/A	0.05 U	0.05 U
Bromodichloromethane	µg/L	0.06	0.6	0.04 U	0.04 U
Bromoform	µg/L	0.44	4.4	0.07 U	0.07 U
Bromomethane	µg/L	1	10	0.06 U	0.06 U
Carbon disulfide	µg/L	200	1000	0.1 U	0.1 U
Carbon tetrachloride	µg/L	0.5	5	0.05 U	0.05 U
Chlorobenzene	µg/L	N/A	N/A	0.05 U	0.05 U
Chloroethane	µg/L	80	400	0.06 U	0.06 U
Chloroform	µg/L	0.6	6	0.07 U	0.07 U
Chloromethane	µg/L	0.3	3	0.05 U	0.05 U
cis-1,2-Dichloroethene	µg/L	7	70	0.06 U	0.06 U
cis-1,3-Dichloropropene	µg/L	0.02	0.2	0.016 U	0.016 U

TABLE 2
Field and Analytical Results—Surface Water Sampling
October 2004, July 2005, October 2005, January 2006, and March 2006
Oconomowoc Electroplating

				SW-01	SW-03
Constituent	**Units**	**WAC NR 140 PAL**	**WAC NR 140 ES**	**06CD09-63, 64 Jan 06**	**06CD09-65, 66 Jan 06**
VOCs Continued					
Dibromochloromethane	µg/L	6	60	0.09 U	0.09 U
Dichlorodifluoromethane	µg/L	200	1000	0.06 U	0.06 U
Ethylbenzene	µg/L	140	700	0.05 U	0.05 U
Isopropylbenzene	µg/L	N/A	N/A	0.03 U	0.03 U
m,p-Xylene (sum of isomers)	µg/L	1000	10000	0.12 U	0.12 U
Methyl tert-butyl ether	µg/L	12	60	0.05 U	0.05 U
Methylene chloride	µg/L	0.5	5	0.11 UJ	0.11 UJ
o-Xylene	µg/L	N/A	N/A	0.04 U	0.04 U
Styrene	µg/L	10	100	0.04 U	0.04 U
Tetrachloroethene	µg/L	0.5	5	0.05 U	0.05 U
Toluene	µg/L	200	1000	0.08 U	0.08 U
trans-1,2-Dichloroethene	µg/L	20	100	0.04 U	0.04 U
trans-1,3-Dichloropropene	µg/L	0.02	0.2	0.015 U	0.015 U
Trichloroethene	µg/L	0.5	5	0.03 U	0.03 U
Vinyl chloride	µg/L	0.02	0.2	0.018 U	0.018 U

TABLE 3--Private Well Results
Field and Analytical Results—Private Well Groundwater Sampling
October 2004, July 2005, October 2005, January 2006, and March 2006
Oconomowoc Electroplating

Constituent	Units	WAC NR 140 PAL	WAC NR 140 ES	PW-01		PW-02		PW-03		PW-04		PW-05		PW-07		PW-08		PW-09		PW-10		PW-11	
				05CA40-48 Jul 05	06CD09-41 Jan 06	05CA40-49 Jul 05	06CD09-67 Jan 06	05CA40-56 Jul 05	06CD09-62 Jan 06	05CA40-50 Jul 05	06CD09-39 Jan 06	05CA40-51 Jul 05	06CD09-52 Jan 06	05CA40-52 Jul 05	06CD09-68 Jan 06	05CA40-57 Jul 05	06CD09-43 Jan 06	05CA40-53 Jul 05	06CD09-40 Jan 06	05CA40-54 Jul 05	06CD09-54 Jan 06	05CA40-58 Jul 05	06CD09-53 Jan 06
Field Parameters																							
Dissolved Oxygen (DO)	mg/L			4.5		2.94		5.51		9.2		4.69		2.79		3.41		6.27		6.22		3.29	
Oxidation Reduction Potential (ORP)	millivolts			-80.8		-77.2		-101.8		-82.7		-62.1		-90		-70.9		-82.6		-32.6		-74.4	
pH	pH units			6.8		6.77		7.02		7.28		7.16		6.92		6.73		6.97		6.76		6.62	
Specific Conductivity	m			0.674		0.64		0.985		1.033		0.962		1.237		1.243		1.101		1.069		0.989	
Temperature	deg c			14.36		15.66		12.89		13.75		12.98		14.09		13.79		14.33		15.61		13.63	
Depth to water	feet																						
VOCs																							
1,1,1-Trichloroethane	µg/L	40	200	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 UJ	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U
1,1,2,2-Tetrachloroethane	µg/L	0.02	0.2	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 UJ	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U
1,1,2-Trichloroethane	µg/L	0.5	5	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 UJ	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U
1,1-Dichloroethane	µg/L	85	850	0.039	0.041 J	0.031 U	0.031 U	0.031 U	0.031 UJ	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U
1,1-Dichloroethene	µg/L	0.7	7	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 UJ	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
1,2,3-Trichlorobenzene	µg/L	N/A	N/A	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 UJ	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
1,2,4-Trichlorobenzene	µg/L	14	70	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 UJ	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
1,2-Dibromo-3-chloropropane	µg/L	0.02	0.2	**0.026** U	**0.026** U	**0.026** U	**0.026** U	**0.026** U	**0.026** UJ	**0.026** U	**0.026** U	**0.026** U	**0.026** U	**0.026** U	**0.026** U	**0.026** U	**0.026** U	**0.026** U	**0.026** U	**0.026** U	**0.026** U	**0.026** U	**0.026** U
1,2-Dibromoethane	µg/L	0.5	5	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U	0.023 UJ	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U
1,2-Dichlorobenzene	µg/L	60	600	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 UJ	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
1,2-Dichloroethane	µg/L	0.5	5	0.13 J	0.21	0.04 U	0.04 U	0.04 U	0.04 UJ	0.04 U	0.05 J	0.04 U	0.083 J	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
1,2-Dichloropropane	µg/L	0.5	5	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 UJ	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
1,3-Dichlorobenzene	µg/L	125	1250	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 UJ	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
1,4-Dichlorobenzene	µg/L	15	75	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
2-Butanone	µg/L	N/A	N/A	0.4 R	0.4 R	0.4 R	0.4 R	0.4 R	0.4 R	0.4 R	0.4 R	0.4 R	0.4 R	0.4 R	0.4 R	0.4 R	0.4 R	0.4 R	0.4 R	0.4 R	0.4 R	0.4 R	0.4 R
2-Hexanone	µg/L	N/A	N/A	0.5 UJ	0.5 R	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 R	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 R	0.5 U	0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
4-Methyl-2-pentanone	µg/L	N/A	N/A	0.6 UJ	0.6 R	0.6 U	0.6 U	0.6 U	0.6 UJ	0.6 U	0.6 R	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 R	0.6 U	0.6 R	0.6 U	0.6 U	0.6 U	0.6 U
Acetone	µg/L	200	1000	1.5 R	1.5 R	1.5 R	1.5 R	1.5 R	3.8 J	1.5 R	1.5 R	1.5 R	1.5 R	1.5 R	1.5 R	1.5 R	1.5 R	1.5 R	1.5 R	1.5 R	1.5 R	1.5 R	1.5 R
Benzene	µg/L	0.5	5	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Bromochloromethane	µg/L	N/A	N/A	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Bromodichloromethane	µg/L	0.06	0.6	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 UJ	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Bromoform	µg/L	0.44	4.4	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 UJ	0.07 U	0.07 UJ	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 UJ	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U
Bromomethane	µg/L	1	10	0.06 U	0.06 U	0.06 UJ	0.06 U	0.06 U	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 U	0.06 UJ	0.06 U	0.06 U	0.06 UJ	0.06 UJ	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Carbon disulfide	µg/L	200	1000	0.1 U	0.1 U	0.21 J	0.1 U	0.1 U	0.1 UJ	0.13 J	0.1 UJ	0.11 J	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Carbon tetrachloride	µg/L	0.5	5	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 UJ	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 UJ	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U
Chlorobenzene	µg/L	N/A	N/A	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chloroethane	µg/L	80	400	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 UJ	0.06 U	0.06 UJ	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 UJ	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Chloroform	µg/L	0.6	6	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 UJ	0.18 J	0.17 J	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U
Chloromethane	µg/L	0.3	3	0.05 U	0.07 J	0.05 U	0.05 U	0.064 J	0.17 J	0.05 U	0.081 J	0.05 U	0.05 U	0.05 U	0.13 J	0.05 U	0.19	0.05 U	**0.56** J	0.05 U	0.05 U	0.05 U	0.05 U
cis-1,2-Dichloroethene	µg/L	7	70	0.06 U	0.06 U	0.06 U	0.06 U	0.58 J	0.54 J	0.97 J	3.2	1.4	2.5	2.3	1.4	1.3	0.7	4.4	2.5	0.06 U	0.06 U	0.41 J	0.62
cis-1,3-Dichloropropene	µg/L	0.02	0.2	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 UJ	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U
Dibromochloromethane	µg/L	6	60	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 UJ	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U
Dichlorodifluoromethane	µg/L	200	1000	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 UJ	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Ethylbenzene	µg/L	140	700	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Isopropylbenzene	µg/L	N/A	N/A	0.03 U	0.03 U	0.19 J	0.03 U	0.03 U	0.03 UJ	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U
m,p-Xylene (sum of isomers)	µg/L	1000	10000	0.12 U	0.12 U	1.3 J	0.12 U	0.12 U	0.12 UJ	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Methyl tert-butyl ether	µg/L	12	60	0.05 U	0.05 U	0.05 U	0.05 U	0.64	0.48 J	0.6	0.47	1	1.1	0.57	0.57	0.6	0.25	0.74	0.55	0.13 J	0.087 J	0.74	0.64
Methylene chloride	µg/L	0.5	5	0.11 UJ	0.11 UJ	0.11 UJ	0.11 UJ	0.11 UJ	0.11 UJ	0.11 UJ	0.11 R	0.11 UJ	0.11 UJ	0.11 UJ	0.11 UJ	0.11 UJ	0.11 R	0.11 UJ	0.11 UJ	0.11 UJ	0.11 UJ	0.11 UJ	0.11 UJ
o-Xylene	µg/L	N/A	N/A	0.04 U	0.04 U	1.6 J	0.04 U	0.04 U	0.04 UJ	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Styrene	µg/L	10	100	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 UJ	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Tetrachloroethene	µg/L	0.5	5	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Toluene	µg/L	200	1000	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 UJ	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
trans-1,2-Dichloroethene	µg/L	20	100	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.062 J	0.075 J	0.21	0.12 J	0.21	0.19 J	0.13 J	0.078 J	0.052 J	0.36 J	0.15	0.04 U	0.04 U	0.043 J	0.063 J
trans-1,3-Dichloropropene	µg/L	0.02	0.2	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 UJ	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U
Trichloroethene	µg/L	0.5	5	0.03 U	0.03 U	0.03 U	0.03 U	0.42	0.36 J	0.03 U	0.052 J	0.11 J	0.1 J	0.03 U	0.041 J	0.17 J	0.11 J	0.064 J	0.051 J	0.03 U	0.03 U	0.03 U	0.03 U
Vinyl chloride	µg/L	0.02	0.2	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 UJ	0.018 U	**0.069**	0.018 U	**0.042** J	**0.042** J	**0.056** J	0.018 U	0.018 U	**0.05** J	**0.061**	0.018 U	0.018 U	0.018 U	0.018 U

Underlining is provided as a visual aid to note detected constituents

J indicates the value was between the method detection limit and the limit of quantitation and, therefore, is estimated.

U indicates the constituent was not detected above the method detection limit.

UJ indicates the constituent was not detected above the estimated method detection limit.

UB indicates the constituent is considered to be below the detection limit listed due to blank contamination.

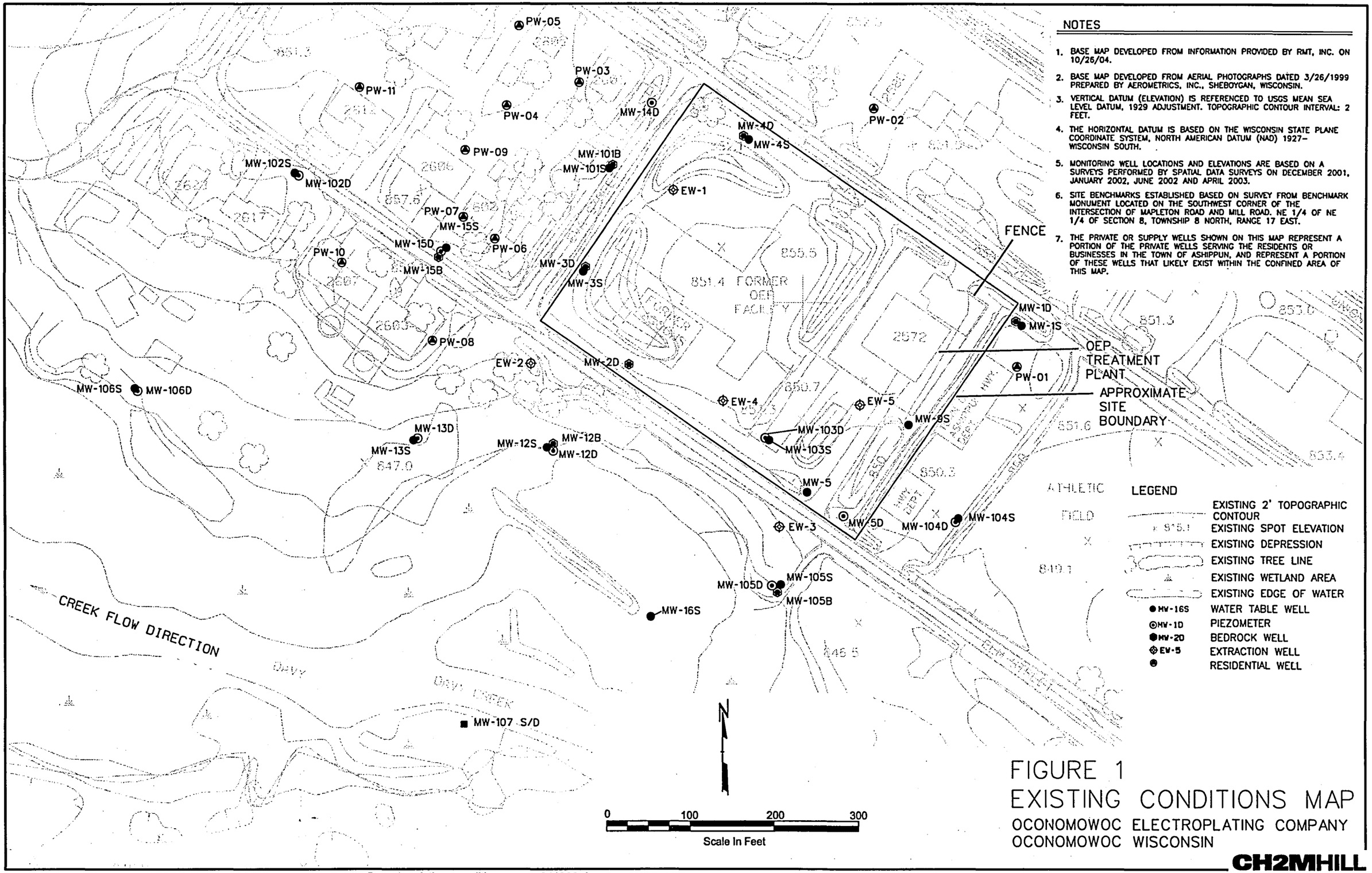
Bolded values indicate attainment or exceedance of the Wisconsin Administrative Code (WAC) NR 140 Preventative Action Limit (PAL).

Shaded values indicate attainment or exceedance of the Wisconsin Administrative Code (WAC) NR 140 Enforcement Standard (ES) (no exceedances detected)

TABLE 4
Groundwater Elevations
Oconomowoc Electroplating

Well ID	Top of Casing Elevation (ftamsl)	Water Level Depth October 2004	Groundwater Elevation October 2004	Water Level Depth July 11, 2005	Groundwater Elevation July 11, 2005	Water Level Depth October 3, 2005	Groundwater Elevation October 3, 2005	Water Level Depth January 2006	Groundwater Elevation January 2006
MW-1S	853.42	8.56	844.86	8.24	845.18	9.66	843.76	7.93	845.49
MW-1D	853.14	8.18	844.96	7.74	845.4	9.72	843.42	8.72	844.42
MW-2D	852.36	7.21	845.15	7.28	845.08	8.75	843.61	6.77	845.59
MW-3S	853.39	NM	NM	Dry	Dry	Dry	Dry	Dry	Dry
MW-3D	853.51	9.47	844.04	NM	Well casing compromised	10.92	842.59	9.03	844.48
MW-4S	854.58	9.90	844.68	9.63	844.95	11.40	843.18	10.96	843.62
MW-4D	854.63	10.28	841.8	9.78	842.3	11.62	843.01	10.19	844.44
MW-5	849.07	4.97	843.38	NM	Likely compro-mised, outer casing visibly damaged	NM	Likely compro-mised, outer casing visibly damaged	NM	NM
MW-5D	848.80	4.81	842.47	5.05	842.23	5.99	842.81	3.9	844.90
MW-9S	851.57	7.19	842.11	7.07	842.23	8.19	843.38	6.19	845.38
MW-12S	849.17	5.47	843.7	5.69	843.48	6.43	842.74	4.63	844.54
MW-12D	848.31	4.39	843.92	4.8	843.51	5.66	842.65	3.65	844.66
MW-12B	849.40	5.46	843.94	5.69	843.71	6.82	842.58	4.73	844.67
MW-13S	850.91	6.83	844.08	7.02	843.89	8.07	842.84	6.39	844.52
MW-13D	850.02	6.12	843.9	6.38	843.64	7.30	842.72	5.43	844.59
MW-14D	850.58	5.88	844.7	5.64	844.94	11.62	838.96	6.1	844.48
MW-15S	854.68	10.43	844.25	10.21	844.47	11.73	842.95	10.41	844.27
MW-15D	855.30	11.31	843.99	11.62	843.68	12.74	842.56	10.98	844.32
MW-15B	854.35	10.25	844.1	9.34	845.01	15.33	839.02	12.9	841.45
MW-16S	847.90	4.17	843.73	4.93	842.97	5.25	842.65	3.3	844.60
MW-101S	851.24	6.60	844.64	6.3	844.94	8.09	843.15	6.78	844.46
MW-101B	851.08	6.92	844.16	7.14	843.94	8.42	842.66	6.61	844.47
MW-102S	853.65	9.52	844.13	9.3	844.35	10.94	842.71	9.68	843.97
MW-102D	853.70	9.94	843.76	9.83	843.87	11.11	842.59	9.55	844.15
MW-103S	851.84	7.60	844.24	7.56	844.28	8.68	843.16	6.74	845.10
MW-103D	851.97	7.73	844.24	7.67	844.3	8.80	843.17	6.89	845.08
MW-104S	850.56	6.39	844.17	6.39	844.17	7.27	843.29	4.97	845.59
MW-104D	850.57	7.35	843.22	6.45	844.12	7.58	842.99	5.26	845.31
MW-105S	849.01	5.16	843.85	5.55	843.46	6.18	842.83	4.2	844.81
MW-105D	848.90	5.01	843.89	5.51	843.39	6.27	842.63	4.2	844.70
MW-105B	848.90	5.60	843.3	5.08	843.82	6.30	842.60	4.39	844.51
MW-106S	848.92	5.71	843.21	5.8	843.12	6.86	842.06	4.51	844.41
MW-106D	849.01	5.23	843.78	5.4	843.61	6.44	842.57	4.45	844.56

Note: NM = Not Measured



NOTES

1. BASE MAP DEVELOPED FROM INFORMATION PROVIDED BY RMT, INC. ON 10/26/04.
2. BASE MAP DEVELOPED FROM AERIAL PHOTOGRAPHS DATED 3/26/1999 PREPARED BY AEROMETRICS, INC., SHEBOYGAN, WISCONSIN.
3. VERTICAL DATUM (ELEVATION) IS REFERENCED TO USGS MEAN SEA LEVEL DATUM, 1929 ADJUSTMENT. TOPOGRAPHIC CONTOUR INTERVAL: 2 FEET.
4. THE HORIZONTAL DATUM IS BASED ON THE WISCONSIN STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM (NAD) 1927– WISCONSIN SOUTH.
5. MONITORING WELL LOCATIONS AND ELEVATIONS ARE BASED ON A SURVEYS PERFORMED BY SPATIAL DATA SURVEYS ON DECEMBER 2001, JANUARY 2002, JUNE 2002 AND APRIL 2003.
6. SITE BENCHMARKS ESTABLISHED BASED ON SURVEY FROM BENCHMARK MONUMENT LOCATED ON THE SOUTHWEST CORNER OF THE INTERSECTION OF MAPLETON ROAD AND MILL ROAD. NE 1/4 OF NE 1/4 OF SECTION 8, TOWNSHIP 8 NORTH, RANGE 17 EAST.
7. THE PRIVATE OR SUPPLY WELLS SHOWN ON THIS MAP REPRESENT A PORTION OF THE PRIVATE WELLS SERVING THE RESIDENTS OR BUSINESSES IN THE TOWN OF ASHIPPUN, AND REPRESENT A PORTION OF THESE WELLS THAT LIKELY EXIST WITHIN THE CONFINED AREA OF THIS MAP.

LEGEND

- EXISTING 2' TOPOGRAPHIC CONTOUR
- 851.1 EXISTING SPOT ELEVATION
- EXISTING DEPRESSION
- EXISTING TREE LINE
- EXISTING WETLAND AREA
- EXISTING EDGE OF WATER
- MW-16S WATER TABLE WELL
- MW-1D PIEZOMETER
- MW-20 BEDROCK WELL
- EW-5 EXTRACTION WELL
- RESIDENTIAL WELL

FIGURE 1
EXISTING CONDITIONS MAP

OCONOMOWOC ELECTROPLATING COMPANY
OCONOMOWOC WISCONSIN

CH2MHILL

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7. THE PRIVATE OR SUPPLY WELLS SHOWN ON THIS MAP REPRESENT A PORTION OF THE PRIVATE WELLS SERVING THE RESIDENTS OR BUSINESSES IN THE TOWN OF ASHIPPUN, AND REPRESENT A PORTION OF THESE WELLS THAT LIKELY EXIST WITHIN THE CONFINED AREA OF THIS MAP.

SG-3

SG-2

SG-1

FENCE

DEP TREATMENT PLANT

APPROXIMATE SITE BOUNDARY

CREEK FLOW DIRECTION

ASHIPPUN WWTP

LEGEND

- EXISTING 2' TOPOGRAPHIC CONTOUR
- EXISTING SPOT ELEVATION
- EXISTING DEPRESSION
- EXISTING TREE LINE
- EXISTING WETLAND AREA
- EXISTING EDGE OF WATER
- MW-16S WATER TABLE WELL
- MW-10 PIEZOMETER
- MW-20 BEDROCK WELL
- EW-5 EXTRACTION WELL
- PW-01 RESIDENTIAL WELL
- SG-1 STAFF GAUGE LOCATION

N

0 100 200 300

Scale In Feet

FIGURE 2
SURFACE WATER SAMPLE AND STAFF GAUGE LOCATIONS

OCONOMOWOC ELECTROPLATING COMPANY
OCONOMOWOC, WISCONSIN

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CH2MHILL

Attachment A—Data Review Memorandum—January 2006 Data

Oconomowoc Electroplating - Data Review SDG 51626

PREPARED FOR: Jeff Danko/CH2M HILL

PREPARED BY: Heather Hodach/CH2M HILL

COPIES: Cindi Cruciani/CH2M HILL
Matt Boekenhauer/CH2M HILL

DATE: April 17, 2006

This memorandum presents a review of the results within Sample Delivery Group (SDG) 51626 from the Oconomowoc Electroplating (OEP) sampling event conducted January 9-13, 2006. Compliance and Natural Attenuation (NA) samples were collected, analyzed, and validated. All of the samples were analyzed by CT Laboratories of Baraboo, Wisconsin. The NA data were reviewed by CH2M HILL and the Compliance data were reviewed by a USEPA contractor (see Attachment A1) to assess its' accuracy, precision, and completeness using the criteria established in the *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (October 1999) and *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (July 2002). Data quality control (QC) summary forms and data reports were reviewed. Data qualifiers were added when the QC data indicated a bias. These changes and comments are noted below.

Standard data qualifiers were used as a means of classifying the data as to their conformance to QC requirements. The data qualifiers are defined as follows:

[UJ] The component was analyzed for but not detected at a level equal to or greater than the reporting limit. This flag was used when the QC data indicated a bias in the analytical data but the direction of bias was unknown.

[J] Estimated. Used when the data indicated the presence of a component was below the stated reporting limit or when the direction of analytical bias was unknown.

[R] Rejected. The data is of insufficient quality to be deemed acceptable as reported or otherwise qualified. The analytical data was reviewed against the following QA/QC parameters:

- Completeness (were all the samples analyzed for the requested analytical parameters)
- Holding times prior to extraction and analysis
- Continuing calibration precision and accuracy
- Blank results
- Laboratory control sample (LCS) precision and accuracy
- Matrix spike/matrix spike duplicate (MS/MSD) precision and accuracy
- Field duplicate precision
- Overall assessment of data

The QA/QC parameters were within acceptable control limits accept where noted below.

VOCs by SW-846 8260 and Dissolved Gases by RSK-175

Continuing Calibration

The continuing calibration report associated with this SDG demonstrated percent differences (%D) outside the QC limit of ± 30% for methylene chloride and 1,2,4-trichlorobenzene. Detected concentrations of these analytes within the field samples were qualified and flagged "J" as estimated in quantity. Non-detected sample results were qualified and flagged "UJ" as undetected and estimated in quantity. The following samples and corresponding analytes were qualified and flagged:

- OEP-MW-103D, OEP-MW-103S, OEP-MW-001S, OEP-MW-014D
  - 1,2,4-trichlorobenzene (UJ), Methylene chloride (UJ)

Laboratory Control Samples

The laboratory control sample (LCS) associated with this SDG exhibited percent recoveries (%R) above the upper QC limit of 60%-130% for methylene chloride (147%), bromomethane (142%), acetone (139%), carbon disulfide (140%), 1,1-dichloroethene (131%), 1,2-dibromo-3-chloropropane (134%) and dichlorodifluoromethane (148%). Detected concentrations not previously qualified were qualified and flagged "J" as detected and estimated in quantity. Non-detected concentrations were not qualified. The following samples and corresponding analytes not previously qualified were qualified and flagged:

- OEP-MW-103D
  - 1,1-dichloroethene (J)
- OEP-MW-103S
  - 1,1-dichloroethene (J)

The LCS associated with this SDG also exhibited RPDs outside the QC limit of ±30% for bromomethane (41%), methylene chloride (173%), carbon disulfide (53%), and bromoform (37%). Detected concentrations in samples associated with this LCS were qualified and flagged "J" while non-detected concentrations were qualified and flagged "UJ" as estimated in quantity. The following samples and corresponding analytes not previously qualified were qualified and flagged:

- OEP-MW-103D, OEP-MW-103S, OEP-MW-001S
  - bromomethane (UJ), bromoform (UJ), carbon disulfide (UJ)

Matrix Spike/ Matrix Spike Duplicates

The MS/MSD associated with field sample OEP-MW-014D exhibited RPDs outside the QC limit of ±30% for chloromethane (31%) and methylene chloride (56%). A RPD outside the QC limits for a MS/MSD demonstrates possible poor precision due to matrix interference. Detected concentrations of chloromethane and methylene chloride in parent sample OEP-MW-014D were qualified and flagged "J" while non-detected concentrations were qualified and flagged "UJ" as estimated in quantity.

Metals by SW-846 6010

Sample Evaluation

Sample OEP-MW-15D contained a dissolved manganese concentration of 227 µg/L, which was greater than the total manganese concentration of 220 µg/L. Sample OEP-MW-12D contained a dissolved manganese concentration of 31.2 µg/L, which was greater than the total manganese concentration of 30.2 µg/L. Sample OEP-MW-013D contained a dissolved iron concentration of 1340 µg/L, which was greater than the total iron concentration of 1230 µg/L. It is expected that total metal concentrations would be greater than dissolved metal concentrations due to the amount of suspended particulates (i.e. metals) in a water sample. This causes abnormal results and therefore, both total and dissolved manganese in samples OEP-MW-15D and OEP-MW-12D and both total and dissolved iron in sample OEP-MW-013D were qualified and flagged "J" as estimated in quantity due to possible sampling error in the field.

General Chemistry by EPA 310.2, EPA 376.1, SW-846 9056 and SW-846 9060

Spiked Sample

The spiked sample associated with sample MW-014D contained a %R for sulfide of 24%, which fell below the lower QC limit of 60 percent. Spiked samples with recoveries below 30% and the sample result less than the instrument detection limit (IDL) are determined unusable. Therefore, sulfide in sample MW-014D was qualified and flagged "R" as rejected.

General Chemistry--Conclusion

The rejection of the sulfide in 1 sample was due to extremely low spike compound recovery. A recovery of a spiked compound of less than 30% when the sample concentration is less than the IDL indicates possible matrix interference with the spiked compound and therefore, the laboratory cannot, with confidence, report that the related compounds are not present in the sample. Therefore, non-detected results were rejected and must be considered "unusable" by the data user.

Overall, the analytical results are acceptable as reported unless otherwise qualified herein. Therefore the validated analytical results can be used to make project decisions.

Attachment A1—USEPA Region 5 CLP Review

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V
SUPERFUND DIVISION

DATE:

SUBJECT: Review of Region V CLP Data
Received for Review on: February 16, 2006

FROM: Stephen L. Ostrodka, Chief (SRT-4J) for Steve Ostrodka
Superfund Field Services Section
Richard L Byrnes.
4/6/06

TO: Data User: CH2M HILL

We have reviewed the data for the following case:

SITE Name: Oconomowoc Electroplating (WI)

Case Number: 06CD09 SDG Number: 51626-VOA

Number and Type of Samples: 48 (waters)

Sample Numbers: 06CD09-01, 03, 05, 07, 08, 10, 12, 14, 15, 17, 19, 21, 23, 25, 26, 28, 30, 32, 34 to 36, 38 to 50, 52 to 56, 58, 59, 61 to 63, 65, 67 to 69

Laboratory: CT Laboratories Hrs for Review:

Following are our findings:
the data are usable and acceptable with the qualifications described in the attached narrative.
Richard L Byrnes.

CC: Howard Pham
Region 5 TPO
Mail Code: SRT-4J

Case Number: 06CD09
Site Name: Oconomowoc Electroplating (WI)

SDG Number: 51626-VOA
Laboratory: CT Laboratories

Below is a summary of the out-of-control audits and the possible effects on the data for this case:

Forty – eight (48) preserved water samples listed in the following table were collected on January 9th to January 13th, 2006. The laboratory received the samples on January 10th thru January 16th, 2006 in good condition. The samples were analyzed on October 29, 2005 for only the volatile list of organic analytes identified in the SAS contract for estimated dates of collection June 2005 through July 2006. All samples were analyzed according to SW-846 method 8260B.

EPA ID	Lab ID	Date Sampled	EPA ID	Lab ID	Date Sampled
06CD09-01	364174	01/09/06	06CD09-41	364642	01/11/06
06CD09-03	364175	01/09/06	06CD09-42	364643	01/11/06
06CD09-05	364177	01/09/06	06CD09-43	364644	01/11/06
06CD09-07	364179	01/09/06	06CD09-44	364629	01/11/06
06CD09-08	364409	01/10/06	06CD09-45	364621	01/11/06
06CD09-10	364399	01/10/06	06CD09-46	364645	01/11/06
06CD09-12	364394	01/10/06	06CD09-47	364863	01/12/06
06CD09-14	364400	01/10/06	06CD09-48	364864	01/12/06
06CD09-15	364396	01/10/06	06CD09-49	364865	01/12/06
06CD09-17	364407	01/10/06	06CD09-50	364878	01/12/06
06CD09-19	364397	01/10/06	06CD09-52	364867	01/12/06
06CD09-21	364392	01/10/06	06CD09-53	364868	01/12/06
06CD09-23	364398	01/10/06	06CD09-54	364869	01/12/06
06CD09-25	364401	01/10/06	06CD09-55	364880	01/12/06
06CD09-26	364622	01/11/06	06CD09-56	364858	01/12/06
06CD09-28	364630	01/11/06	06CD09-58	364872	01/12/06
06CD09-30	364624	01/11/06	06CD09-59	364860	01/12/06
06CD09-32	364626	01/11/06	06CD09-61	364874	01/12/06
06CD09-34	364637	01/11/06	06CD09-62	364875	01/12/06
06CD09-35	364628	01/11/06	06CD09-63	364989	01/13/06
06CD09-36	364618	01/11/06	06CD09-65	364991	01/13/06
06CD09-38	364620	01/11/06	06CD09-67	364993	01/13/06
06CD09-39	364638	01/11/06	06CD09-68	364994	01/13/06
06CD09-40	364641	01/11/06	06CD09-69	364995	01/13/06

MB (Laboratory IDs 364929, 364985, 366470 and 367043) are low level Laboratory Method Blank samples. The Laboratory Control Spike and the Laboratory Control Spike Duplicate (LCS/LCSD) samples are as follows: LCS (Laboratory ID 364928) and LCSD (Laboratory ID 364969) analyzed January 13, 2006. LCS (Laboratory ID 364984) and LCSD (Laboratory ID 364986) analyzed January 14, 2006. LCS (Laboratory ID 366469) and LCSD (Laboratory ID 366857) analyzed January 24, 2006. Samples 06CD09-14 (Laboratory ID

364400), 06CD09-28 (Laboratory ID 364630) and 06CD09-63 (Laboratory ID 364989) were used for Matrix Spike / Matrix Spike Duplicate samples.

Sample 06CD09-07, 06CD09-25, 06CD09-34, 06CD09-44, 06CD09-45, 06CD09-46, 06CD09-58 and 06CD09-69 are identified as Trip Blanks. Samples 06CD09-05, 06CD09-30, 06CD09-42 and 06CD09-48 are duplicate samples of 06CD09-03, 06CD09-32, 06CD09-41 and 06CD09-47 respectfully. Sample 06CD09-56 is identified as an Equipment Blank. Sample 06CD09-55 is identified as a Field Blank.

The VOA analyses were performed within the technical holding time of 14 days after sample collection; therefore, the results are acceptable.

Case Number: 06CD09
Site Name: Oconomowoc Electroplating (WI)

SDG Number: 51626-VOA
Laboratory: CT Laboratories

1. HOLDING TIME

Forty - eight (48) preserved water samples listed in the following table were collected on January 9th to January 13th, 2006. The laboratory received the samples on January 10th thru January 16th, 2006 in good condition. The samples were analyzed on October 29, 2005 for only the volatile list of organic analytes identified in the SAS contract for estimated dates of collection June 2005 through July 2006. All samples were analyzed according to SW-846 method 8260B.

EPA ID	Lab ID	Date Sampled	EPA ID	Lab ID	Date Sampled
06CD09-01	364174	01/09/06	06CD09-41	364642	01/11/06
06CD09-03	364175	01/09/06	06CD09-42	364643	01/11/06
06CD09-05	364177	01/09/06	06CD09-43	364644	01/11/06
06CD09-07	364179	01/09/06	06CD09-44	364629	01/11/06
06CD09-08	364409	01/10/06	06CD09-45	364621	01/11/06
06CD09-10	364399	01/10/06	06CD09-46	364645	01/11/06
06CD09-12	364394	01/10/06	06CD09-47	364863	01/12/06
06CD09-14	364400	01/10/06	06CD09-48	364864	01/12/06
06CD09-15	364396	01/10/06	06CD09-49	364865	01/12/06
06CD09-17	364407	01/10/06	06CD09-50	364878	01/12/06
06CD09-19	364397	01/10/06	06CD09-52	364867	01/12/06
06CD09-21	364392	01/10/06	06CD09-53	364868	01/12/06
06CD09-23	364398	01/10/06	06CD09-54	364869	01/12/06
06CD09-25	364401	01/10/06	06CD09-55	364880	01/12/06
06CD09-26	364622	01/11/06	06CD09-56	364858	01/12/06
06CD09-28	364630	01/11/06	06CD09-58	364872	01/12/06
06CD09-30	364624	01/11/06	06CD09-59	364860	01/12/06
06CD09-32	364626	01/11/06	06CD09-61	364874	01/12/06
06CD09-34	364637	01/11/06	06CD09-62	364875	01/12/06
06CD09-35	364628	01/11/06	06CD09-63	364989	01/13/06
06CD09-36	364618	01/11/06	06CD09-65	364991	01/13/06
06CD09-38	364620	01/11/06	06CD09-67	364993	01/13/06
06CD09-39	364638	01/11/06	06CD09-68	364994	01/13/06
06CD09-40	364641	01/11/06	06CD09-69	364995	01/13/06

The VOA analyses were performed within the technical holding time of 14 days after sample collection; therefore, the results are acceptable.

2. GC/MS TUNING AND GC INSTRUMENT PERFORMANCE

All GC/MS tuning complied with the mass list and ion abundance criteria for BFB, and all samples were analyzed within the twelve (12) hour periods for instrument performance checks.

3. CALIBRATION

An 7-point calibration curve (2, 4, 10, 20, 40, 60, and 80µg/L) was performed on instrument GC/MS1. Initial and continuing calibrations of the Volatile standards were evaluated for the target compound listed on the SAS contract and the outliers are recorded on the form included as part of this narrative.

4. BLANKS

MB (Laboratory IDs 364929, 364985, 366470 and 367043) are low level Laboratory Method Blank samples. None of the Method Blanks had any contaminants; therefore, the results are acceptable. The Volatile Method Blank Summaries list the samples associated with each blank.

5. SYSTEM MONITORING COMPOUND AND SURROGATE RECOVERY

All volatile surrogate compounds (1,2-Dichloroethane-d_4, 4-Bromofluorobenzene, Dibromofluoromethane, Toluene-d_8) were within the QC limits (75-135%) for all samples, except for sample 06CD09-62 (74%). Positive results should be qualified (J) and non-detects qualified (UJ) for sample 06CD09-62.

6A. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Samples 06CD09-14 (Laboratory ID 364400), 06CD09-28 (Laboratory ID 364630) and 06CD09-63 (Laboratory ID 364989) are Matrix Spike / Matrix Spike Duplicate performed in this data set.

The relative percent differences (RPD) between the Matrix Spike / Matrix Spike Duplicate for sample 06CD09-14 were within the QC limits (< 30%); therefore, the results are acceptable.

The percent recoveries for 06CD09-14MS for all compounds were within the QC limits (60-130%) except Bromomethane (141%), Vinyl Chloride (146%), Chloroethane (151%), Methylene Chloride (0%), Acetone (144%), 1,1-Dichloroethene (152%), 1,1,1-Trichloroethane (139%), Carbon tetrachloride (150%), Tetrachloroethene (133%), Styrene (34%) and Dichlorodifluoromethane (155%).

The percent recoveries for 06CD09-14MSD for all compounds were within the QC limits (60-130%) except Bromomethane (150%), Chloroethane (159%), Methylene Chloride (0%), Acetone (154%), 1,1-Dichloroethene (150%), 1,1,1-Trichloroethane (136%), Carbon tetrachloride (150%), Tetrachloroethene (131%), Styrene (26%) and Dichlorodifluoromethane (148%).

The presence of Bromomethane, Vinyl Chloride, Chloroethane, Acetone, 1,1,1-Trichloroethane, Carbon Tetrachloride and Tetrachloroethene in the unspiked sample 06CD09-14 should be qualified (J) and non-detects not qualified. The presence of Styrene in the unspiked sample 06CD09-14 should be qualified (J) and a non-detect qualified (UJ). The presence of Methylene Chloride in the unspiked sample 06CD09-14 should be qualified (J) and a non-detect qualified (R) because a percent recovery was less than 10%. The analytes Dichlorodifluoromethane and 1,1-Dichloroethene are not target analytes of interest in this package; therefore they are not qualified.

The relative percent differences (RPD) between samples 06CD09-28MS and 06CD09-28MSD were above the QC limits for Chloromethane (31%) and Methylene Chloride (56%); therefore, the presence of Chloromethane and Methylene Chloride in the unspiked sample, 06CD09-28, should be qualified (J) and non-detects qualified (UJ).

The percent recoveries for 06CD09-28MS for all compounds were within the QC limits (60-130%) except Bromomethane (146%), Vinyl Chloride (148%), Chloroethane (138%), Methylene Chloride (31%), Acetone (139%), 1,1-Dichloroethene (144%), Carbon Tetrachloride (136%) and Dichlorodifluoromethane (184%).

The percent recoveries for 06CD09-28MSD for all compounds were within the QC limits (60-130%) except Bromomethane (140%), Vinyl Chloride (142%), Methylene Chloride (56%), 1,1-Dichloroethene (139%), Carbon Tetrachloride (132%) and Dichlorodifluoromethane (170%).

The presence of Bromomethane, Vinyl Chloride, Chloroethane, Acetone and Carbon Tetrachloride in the unspiked sample, 06CD09-28, should be qualified (J) and non-detects not qualified. The presence of Methylene Chloride in the unspiked sample should be qualified (J) and a non-detect qualified (UJ). The analytes Dichlorodifluoromethane and 1,1-Dichloroethene are not target analytes of interest in this package; therefore, they are not qualified.

The relative percent differences (RPD) between the Matrix Spike / Matrix Spike Duplicate for sample 06CD09-63 were within the QC limits (< 30%); therefore, the results are acceptable.

The percent recoveries for 06CD09-63MS for all compounds were within the QC limits (60-130%) except Vinyl Chloride (138%), 1,1-Dichloethene (132%), 1,2-Dichloroethane (142%), 1,1,1-Trichloroethane (136%), Carbon tetrachloride (144%) and Dichlorodifluoromethane (174%).

The percent recoveries for 06CD09-63MSD for all compounds were within the QC limits (60-130%) except Vinyl Chloride (134%), Acetone (136%), 1,1,1-Trichloroethane (138%), Carbon tetrachloride (147%) and Dichlorodifluoromethane (178%).

The presence of Vinyl Chloride, Acetone, 1,2-Dichloroethane, 1,1,1-Trichloroethane and Carbon tetrachloride in the unspiked sample 06CD09-63 should be qualified (J) and non-detects

not qualified. The analytes Dichlorodifluoromethane and 1,1-Dichloroethene are not target analytes of interest in this package; therefore, they are not qualified.

6B. LABORATORY CONTROL SAMPLES

In the samples LCS (Laboratory ID 364928) and LCSD (Laboratory ID 364969) analyzed January 13, 2006 the RPDs were less than 30%; therefore the results are acceptable. The recoveries for all the compounds in the LCS and LCSD were within the QC limits (60-130%), except in the LCSD for the analyte Dichlorodifluoromethane (148%) which is above the QC limit. Dichlorodifluoromethane is not a target analyte of interest; therefore, it is not qualified.

06CD09-07	06CD09-25	06CD09-28	06CD09-34	06CD09-40
06CD09-41	06CD09-42	06CD09-44	06CD09-45	06CD09-46

In the samples LCS (Laboratory ID 364984) and LCSD (Laboratory ID 364986) analyzed January 14, 2006. The relative percent differences (RPDs) for all compounds were within the QC range (<30%) except for Bromomethane (41%), Methylene Chloride (173%), Carbon Disulfide (53%) and Bromoform (37%).

In sample LCS 364984 the recoveries for all volatile spiked compounds were within the QC limits (60-130%) except Bromomethane (142%), Acetone (139%), Carbon Disulfide (140%), 1,1-Dichloroethene (131%) and Dichlorodifluoromethane (134%).

The recoveries for sample LCSD 364986 in all volatile spiked compounds were within the QC limits (60-130%), except Chloroethane (137%), Methylene Chloride (6%), Acetone (139%) and 1,1-Dichloroethene (138%).

The presence of Bromomethane, Carbon Disulfide and Bromoform in the following samples should be qualified (J) and non-detects qualified (UJ). The presence of Chloroethane and Acetone in the following samples should be qualified (J) and non-detects not qualified. The presence of Methylene Chloride in the following samples should be qualified (J) and non-detects qualified (R) because a recovery was less than 10%. The analytes 1,1-Dichloroethene and Dichlorodifluoromethane are not a target of interest in this package; therefore, they are not qualified.

06CD09-01	06CD09-19
06CD09-01DL (500:1)	06CD09-19R
06CD09-03	06CD09-21
06CD09-03DL (20:1)	06CD09-23
06CD09-05	06CD09-26
06CD09-05DL (20:1)	06CD09-30
06CD09-12	06CD09-32
06CD09-12DL (500:1)	06CD09-35

06CD09-15	06CD09-36
06CD09-14	06CD09-38
06CD09-14MS	06CD09-39
06CD09-14MSD	06CD09-43
06CD09-17	
06CD09-08	06CD09-10

LCS (Laboratory ID 366469) and LCSD (Laboratory ID 366857) analyzed January 24, 2006. The relative percent difference (RPD) for all compounds were within the QC range (<30%); therefore the results are acceptable.

The recoveries for sample LCS 366469 all the volatile spiked compounds except for 1,2-Dibromo-3-chloropropane (134%) were within the QC limits (60-130%); therefore, the results are acceptable. The analyte 1,2-Dibromo-3-chloropropane is not a target analyte of interest; therefore, 1,2-Dibromo-3-chloropropane is not qualified.

The recoveries for all volatile spiked compounds in sample LCSD 366857 were within the QC limits (60-130%) except Methylene Chloride (147%). The presence of Methylene Chloride in the following samples should be qualified (J) and non-detects not qualified.

06CD09-52	06CD09-53	06CD09-54
06CD09-55	06CD09-58	06CD09-61
06CD09-62	06CD09-63	06CD09-65
06CD09-67	06CD09-68	06CD09-69
06CD09-49	06CD09-50	06CD09-47
06CD09-48	06CD09-56	06CD09-59

7. FIELD BLANK AND FIELD DUPLICATE

Sample 06CD09-07, 06CD09-25, 06CD09-34, 06CD09-44, 06CD09-45, 06CD09-46, 06CD09-58 and 06CD09-69 are identified as Trip Blanks. The following table summarizes the results.

Analyte	**06CD09-07**	**06CD09-25**	**06CD09-34**	**06CD09-44**
	µg/L	**µg/L**	**µg/L**	**µg/L**
Methylene Chloride			1.4	3.3
Acetone			1.8 J	2.4 J
Trichloroethene	0.039 J	0.037 J		
Toluene	0.21 J	0.22		
Analyte	**06CD09-45**	**06CD09-46**	**06CD09-58**	**06CD09-69**
	µg/L	**µg/L**	**µg/L**	**µg/L**
Methylene Chloride	0.69	1.5	2.0	0.49
Acetone				4.2 J

Sample 06CD09-55 is identified as a Field Blank. Sample 06CD09-56 is identified as an Equipment Blank. The following table summarizes the results.

Analyte	06CD09-55	06CD09-56
	µg/L	µg/L
Chloromethane		0.15 J
Methylene Chloride	0.14 J	
Benzene	0.052 J	
Toluene	0.17 J	
o-Xylene	0.051 J	

Samples 06CD09-05, 06CD09-32, 06CD09-42, 06CD09-48 are duplicate samples of 06CD09-03, 06CD09-30, 06CD09-41, 06CD09-47 respectfully. The following tables summarize the results.

Analyte	06CD09-03	06CD09-05	06CD09-30	06CD09-32
	µg/L	µg/L	µg/L	µg/L
Vinyl Chloride			15	18
Acetone	61 J			
1,1-Dichloroethene	7.2	7.3	20	22
1,1-Dichloroethane	17	16	130	140
1,1,1-Trichloroethane	110	100	40	28
Trichloroethene	130	130	25	28
Benzene	1.1 J			
Tetrachloroethene	1.7 J	1.7 J		
Chlorobenzene	2.3 J	2.2 J		
Cis-1,2-Dichloroethene	58	55	31	32
Trans-1,2-Dichloroethene	1.3 J	1.4 J	11	13

Analyte	06CD09-41	06CD09-42	06CD09-47	06CD09-48
	µg/L	µg/L	µg/L	µg/L
Vinyl Chloride			0.036 J	
Chloromethane	0.070 J			
1,1-Dichloroethane	0.041 J	0.045 J		
1,2-Dichloroethane	0.21	0.19		
Trichloroethene			0.046 J	
Cis-1,2-Dichloroethene			0.15 J	0.14 J
Methyl tert-butyl ether			0.24	0.26

Case Number: 06CD09
Site Name: Oconomowoc Electroplating (WI)

SDG Number: 51626-VOA
Laboratory: CT Laboratories

8. INTERNAL STANDARDS

The three internal standard's (Fluorobenzene, Chlorobenzene-d_5, 1,4-Dichlorobenzene-d_4) retention times and area counts for the VOA samples were within the QC limits; therefore, the results are acceptable.

9. COMPOUND IDENTIFICATION

After reviewing the mass spectra and chromatograms it appears that all VOA compounds were properly identified.

10. COMPOUND QUANTITATION AND REPORTED DETECTION LIMITS

All samples were waters and the following table shows the samples that had dilutions run; therefore, all VOAs target CRQLs were properly reported. All target compound quantitations were properly reported.

Sample	Dilution Factor		Sample	Dilution Factor
06CD09-01	100:1		06CD09-17	5:1
06CD09-01DL	500:1		06CD09-19DL	2:1
06CD09-03	20:1		06CD09-30	25:1
06CD09-05	20:1		06CD09-32	25:1
06CD09-21	25:1		06CD09-36	20:1
06CD09-12	100:1		06CD09-49	50:1
06CD09-12DL	500:1		06CD09-50	100:1

11. SYSTEM PERFORMANCE

GC/MS baseline indicated acceptable performance.

12. ADDITIONAL INFORMATION

Photocopies of the airbills were included with this package. The original sample tags, packing list and airbills should have been sent to CH2M HILL.

The laboratory did provide the results within 21 calendar days of receipt of the samples to CH2M HILL as required in section 6 of the SAS contract. The laboratory received the samples January 10th thru January 16th, 2006 and the laboratory reports were issued January 20th and 25th, 2006.

Case Number: 06CD09
Site Name: Oconomowoc Electroplating (WI)

SDG Number: 51626-VOA
Laboratory: CT Laboratories

Summary of analysis:

Analyte	06CD09-01 DF=100 µg/L	06CD09-01DL DF=500 µg/L	06CD09-03 DF=20 µg/L	06CD09-05 DF=20 µg/L
Acetone			61 J	
1,1-Dichloroethene	83		7.2	7.3
1,1-Dichloroethane	59		17	16
1,1,1-Trichloroethane	520		110	100
Trichloroethene	E	1900	130	130
Benzene			1.1 J	
Tetrachloroethene			1.7 J	1.7 J
Chlorobenzene			2.3 J	2.2 J
Cis-1,2-Dichloroethene	220		58	55
Trans-1,2-Dichloroethene			1.3 J	1.4 J

Analytes	06CD09-07 DF=1 µg/L	06CD09-08 DF=1 µg/L	06CD09-10 DF=1 µg/L	06CD09-12 DF=100 µg/L
Vinyl Chloride				21
1,1-Dichloroethene				36
1,1-Dichloroethane				180
1,1,1-Trichloroethane		1.3		
Trichloroethene	0.039 J	0.61		E
Tetrachloroethene		0.085 J		
Toluene	0.21 J			
Cis-1,2-Dichloroethene				460
Trans-1,2-Dichloroethene				15

Analytes	06CD09-12DL DF=500:1 µg/L	06CD09-14 DF=1 µg/L	06CD09-15 DF=1 µg/L	06CD09-17 DF=5 µg/L	06CD09-19 DF=1 µg/L
Chloromethane			0.086 J		
Vinyl Chloride		0.092			
Chloroethane		0.066 J			
Acetone					2.1 J
1,1-Dichloroethene					0.12 J
1,1-Dichloroethane		0.077 J			
1,2-Dichloroethane					0.14
Trichloroethene	2100	0.069 J	0.039 J	35	0.63
Chlorobenzene				3.2	
Cis-1,2-Dichloroethene		0.23		4.3	E
Methyl-tert-butyl ether				0.45 J	0.23
Trans-1,2-Dichloroethene				0.41 J	0.51

Case Number: 06CD09
Site Name: Oconomowoc Electroplating (WI)

SDG Number: 51626-VOA
Laboratory: CT Laboratories

Analytes	06CD09-19DL	06CD09-21	06CD09-23	06CD09-25
	DF=2 µg/L	DF=25 µg/L	DF=1 µg/L	DF=1 µg/L
Vinyl Chloride		3.2		
1,1-Dichloroethene		2.4 J		
1,1-Dichloroethane		11		
1,1,1-Trichloroethane		1.8 J		
Trichloroethene		18		0.037 J
Toluene				0.22 J
Cis-1,2-Dichloroethene	7.6	130		

Analyte	06CD09-26	06CD09-28	06CD09-30	06CD09-32
	DF=1 µg/L	DF=1 µg/L	DF=25 µg/L	DF=25 g/L
Vinyl Chloride			15	18
1,1-Dichloroethene			20	22
1,1-Dichloroethane			130	140
1,1,1-Trichloroethane			40	44
Trichloroethene		0.066 J	25	28
Cis-1,2-Dichloroethene			31	32
Methyl tert-butyl ether	0.17			
Trans-1,2-Dichloroethene			11	13

Analytes	06CD09-34	06CD09-35	06CD09-36	06CD09-38
	DF=1 µg/L	DF=1 µg/L	DF=20 µg/L	DF=1 µg/L
Vinyl Chloride		0.11	8.8	
Methylene Chloride	1.4			
Acetone	1.8 J			
1,1-Dichloroethene			3.4 J	
1,1-Dichloroethane			22	
1,1,1-Trichloroethane			19	
Trichloroethene			19	
Tetrachloroethane				0.091 J
Cis-1,2-Dichloroethene			80	
Methyl tert-butyl ether		1.6		
Trans-1,2-Dichloroethene			7.4	

Case Number: 06CD09
Site Name: Oconomowoc Electroplating (WI)

SDG Number: 51626-VOA
Laboratory: CT Laboratories

Analytes	06CD09-39	06CD09-40	06CD09-41	06CD09-42
	DF=1 µg/L	DF=1 µg/L	DF=1 µg/L	DF=1 µg/L
Chloromethane	0.081 J	0.56	0.070 J	
Vinyl Chloride	0.069	0.061		
1,1-Dichloroethane			0.041 J	0.045 J
Chloroform	0.17 J			
1,2-Dichloroethane	0.050 J		0.21	0.19
Trichloroethene	0.052 J	0.051 J		
Cis-1,2-Dichloroethene	3.2	2.5		
Methyl tert-butyl ether	0.47	0.55		
Trans-1,2-Dichloroethene	0.21	0.15		

Analytes	06CD09-43	06CD09-44	06CD09-45	06CD09-46
	DF=1 µg/L	DF=1 µg/L	DF=1 µg/L	DF=1 µg/L
Chloromethane	0.19			
Methylene Chloride		3.3	0.69	1.5
Acetone		2.4 J		
Trichloroethene	0.11			
Cis-1,2-Dichloroethene	0.70			
Methyl tert-butyl ether	0.25			
Trans-1,2-Dichloroethene	0.052 J			

Analytes	06CD09-47	06CD09-48	06CD09-49	06CD09-50
	DF=1 µg/L	DF=1 µg/L	DF=50 µg/L	DF=100 µg/L
Vinyl Chloride	0.036 J		4.6	260
Methylene Chloride			14	200
Acetone				190 J
1,1-Dichloroethene			6.9 J	
1,1-Dichloroethane			16	
1,1,1-Trichloroethane			4.7 J	
Trichloroethene	0.046 J		190	
Cis-1,2-Dichloroethene	0.15 J	0.14 J	310	570
Methyl tert-butyl ether	0.24	0.26		
Trans-1,2-Dichloroethene			9.9	6.8 J

Case Number: 06CD09
Site Name: Oconomowoc Electroplating (WI)

SDG Number: 51626-VOA
Laboratory: CT Laboratories

	06CD09-52	06CD09-53	06CD09-54	06CD09-55
	DF=1 µg/L	DF=1 µg/L	DF=1 µg/L	DF=1 µg/L
Vinyl Chloride	0.042 J			
Methylene Chloride				0.14 J
1,2-Dichloroethane	0.083 J			
Trichloroethene	0.10 J			
Benzene				0.052 J
Toluene				0.17 J
Cis-1,2-Dichloroethene	2.5	0.62		
Methyl tert-butyl ether	1.1	0.64	0.087 J	
o-Xylene				0.051 J
Trans-1,2-Dichloroethene	0.21	0.063 J		

Analytes	06CD09-56	06CD09-58
	DF=1 µg/L	DF=1 µg/L
Chloromethane	0.15 J	
Methylene Chloride		2.0

Analytes	06CD09-59	06CD09-61	06CD09-62	06CD09-63
	DF=1 µg/L	DF=1 µg/L	DF=1 µg/L	DF=1 µg/L
Chloromethane	0.20		0.17	
Vinyl Chloride	0.97	0.047 J		
Methylene Chloride				
Acetone	3.0 J		3.8 J	3.9 J
1,1-Dichloroethene		0.11 J		
1,1-Dichloroethane		0.47		
1,2-Dichloroethane		0.22		
1,1,1-Trichloroethane		0.77		
Trichloroethene		2.8	0.36	
Tetrachloroethene		0.055 J		
Cis-1,2-Dichloroethene	2.1	3.4	0.54	
Methyl tert-butyl ether	0.18	0.16 J	0.48	
Trans-1,2-Dichloroethene	0.075 J	0.25	0.062 J	

Reviewed by: Richard Baltrus Alion Science Tech. / ESAT
Date: March 7, 2006

Case Number: 06CD09
Site Name: Oconomowoc Electroplating (WI)

SDG Number: 51626-VOA
Laboratory: CT Laboratories

Analytes	06CD09-65 DF=1 µg/L	06CD09-67 DF=1 µg/L	06CD09-68 DF=1 µg/L	06CD09-69 DF=1 µg/L
Chloromethane			0.13 J	
Vinyl Chloride			0.056 J	
Methylene Chloride				0.49
Acetone				4.2 J
Trichloroethene			0.041 J	
Cis-1,2-Dichloroethene			1.4	
Methyl tert-butyl ether			0.57	
Trans-1,2-Dichloroethene			0.13 J	

The laboratory did not analyze the samples for 1,2-Dichloroethene as requested in the SAS contract. The laboratory analyzed in addition to the SAS contract the following analytes:

1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,2-Dichlorobenzene
1,1-Dichloroethene	1,2,4-Trichlorobenzeene	1,2,3-Trichlorobenzene
1,2-Dibromo-3-chloropropane	1,2-Dibromoethane	Isopropylbenzene
Bromochloromethane	Dichlorodifluoromethane	

The laboratory reported the following diluted samples as the final results 06CD09-03, 06CD09-05, 06CD09-17, 06CD09-21, 06CD09-30, 06CD09-32, 06CD09-36, 06CD09-49 and 06CD09-50. Samples 06CD09-01 (Trichloroethene), 06CD09-12 (Trichloroethene) and 06CD09-19 (cis-1,2 Dichloroethene) were over range for calibration and required further dilutions. The most diluted sample of 06CD09-01, 06CD09-12 and 06CD09-19 should be considered the final results.

The protocol for the temperature of the samples when received at the laboratory is 4°C ± 2° C. The following samples the cooler temperature was 1.4°C upon receipt.

06CD09-26	06CD09-30	06CD09-32	06CD09-35	06CD09-44

The following samples the cooler temperature was 1.6°C upon receipt

06CD09-08	06CD09-10	06CD09-12	06CD09-14	06CD09-15
06CD09-17	06CD09-19	06CD09-21	06CD09-23	06CD09-25

The following samples had a blue mark across the Form 1s without any explanation on why they were marked. The samples were evaluated as part of this package.

06CD09-01	06CD09-03	06CD09-05	06CD09-26
06CD09-28	06CD09-48	06CD09-55	06CD09-56

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Date: March 7, 2006

Case Number: 06CD09
Site Name: Oconomowoc Electroplating (WI)

SDG Number: 51626-VOA
Laboratory: CT Laboratories

Calibration Outliers
Volatile Target Analytes

Instrument: GC/MS1		Column: SPB-624								
		Initial Calibration			Cont. Calibration			Cont. Calibration		
TCL Analytes Date/Time:		January 11, 2006 2112			January 13, 2006 0905			January 14, 2006 1941		
	#	RRF	%RSD	Q	RRF	%D	Q	RRF	%D	Q
Chloromethane	0.05	0.611			0.461	24.5	J/UJ	0.501		
Vinyl Chloride	0.05									
Bromomethane	0.05	0.347			0.392			0.406		
Chloroethane	0.05	0.322			0.321			0.391	21.4	J/UJ
Trans-1,2-Dichloroethene	0.05									
Carbon Disulfide	0.05									
Acetone	0.05	0.019		J/R	0.019		J/R	0.011	42.1	J/R
Methylene Chloride	0.05	1.516			0.639	57.8	J/UJ	0.625	58.8	J/UJ
1,1-Dichloroethane	0.05									
2-Butanone	0.05	0.024		J/R	0.026		J/R	0.022		J/R
Cis-1,2-Dichloroethene	0.05									
Chloroform	0.05									
1,1,1-Trichloroethane	0.05									
Carbon Tetrachloride	0.05	0.396			0.448			0.492	24.2	J/UJ
1,2-Dichloroethene (total)	0.05									
Benzene	0.05									
1,2-Dichloroethane	0.05									
Trichloroethene	0.05									
1,2-Dichloropropane	0.05									
Bromodichloromethane	0.05									
Cis-1,3-Dichloropropene	0.05									
4-Methyl-2-pentanone	0.05	0.05			0.044		J/R	0.048		J/R
Toluene	0.05									
Trans-1,3-Dichloropropene	0.05									
1,1,2-Trichloroethane	0.05									
Tetrachloroethene	0.05									
2-Hexanone	0.05	0.043		J/R	0.046		J/R	0.045		J/R
Dibromochloromethane	0.05									
Chlorobenzene	0.05									
Ethylbenzene	0.05									
Styrene	0.05									
Bromoform	0.05									
1,1,2,2-Tetrachloroethane	0.05									
Xylenes (total)	0.05									
Surrogate: 1,2-Dichloroethane-d4	0.05	0.031		J/R	0.065	109.7	J/UJ	0.063	103.2	J/UJ
Surrogate: Toluene-d8	0.05	0.749			1.456	94.4	J/UJ	1.715	129.0	J/UJ
Surrogate: Dibromofluoromethane	0.05	0.228			0.464	103.5	J/UJ	0.484	112.3	J/UJ
Surrogate: p-Bromofluorobenzene	0.05	0.970			1.906	96.4	J/UJ	2.012	107.4	J/UJ
AFFECTED SAMPLES:					LCS 364928			LCS 364984		06CD09-17
					MB 364929		06CD09-41	MB 364985		06CD09-36
%RSD < 15					06CD09-07		06CD09-46	06CD09-01		06CD09-30
%D ± 20					06CD09-25		06CD09-42	06CD09-03		06CD09-32
					06CD09-45		06CD09-28	06CD09-05		06CD09-39
					06CD09-44		06CD09-28MS	06CD09-21		06CD09-43
					06CD09-34		06CD09-28MSD	06CD09-12		06CD09-15
					06CD09-40		LCSD 364969	06CD09-19		

– Minimum Relative Response Factor.
Q – These flags should be applied to the analytes on the sample data sheets.
J/UJ – All positive results are estimated "J" and non-detected results are estimated "UJ".
J/R – All positive results are estimated "J" and non-detected results are unusable "R".

Reviewed by: Richard Baltrus Alion Science Tech. / ESAT
Date: March 7, 2006

Case Number: 06CD09
Site Name: Oconomowoc Electroplating (WI)

SDG Number: 51626-VOA
Laboratory: CT Laboratories

Calibration Outliers
Volatile Target Analytes

Instrument: GC/MS1		Column: SPB-624					
		Initial Calibration			Cont. Calibration		
TCL Analytes Date/Time:		January 11, 2006 2112			January 15, 2006 0717		
	#	RRF	%RSD	Q	RRF	%D	Q
Chloromethane	0.05	0.611			0.482	21.1	J/UJ
Vinyl Chloride	0.05						
Bromomethane	0.05	0.347			0.454	30.8	J/UJ
Chloroethane	0.05	0.322			0.386		
Trans-1,2-Dichloroethene	0.05						
Carbon Disulfide	0.05						
Acetone	0.05	0.019		J/R	0.019		J/R
Methylene Chloride	0.05	1.516			0.667	56.0	J/UJ
1,1-Dichloroethane	0.05						
2-Butanone	0.05	0.024		J/R	0.022		J/R
Cis-1,2-Dichloroethene	0.05						
Chloroform	0.05						
1,1,1-Trichloroethane	0.05						
Carbon Tetrachloride	0.05	0.396			0.465		
1,2-Dichloroethene (total)	0.05						
Benzene	0.05						
1,2-Dichloroethane	0.05						
Trichloroethene	0.05						
1,2-Dichloropropane	0.05						
Bromodichloromethane	0.05						
Cis-1,3-Dichloropropene	0.05						
4-Methyl-2-pentanone	0.05	0.05			0.047		J/R
Toluene	0.05						
Trans-1,3-Dichloropropene	0.05						
1,1,2-Trichloroethane	0.05						
Tetrachloroethene	0.05						
2-Hexanone	0.05	0.043		J/R	0.043		J/R
Dibromochloromethane	0.05						
Chlorobenzene	0.05						
Ethylbenzene	0.05						
Styrene	0.05						
Bromoform	0.05						
1,1,2,2-Tetrachloroethane	0.05						
Xylenes (total)	0.05						
Surrogate: 1,2-Dichloroethane-d4	0.05	0.031		J/R	0.069	122.6	J/UJ
Surrogate: Toluene-d8	0.05	0.749			1.72	129.6	J/UJ
Surrogate: Dibromofluoromethane	0.05	0.228			0.495	117.1	J/UJ
Surrogate: p-Bromofluorobenzene	0.05	0.970			1.938	99.8	J/UJ
AFFECTED SAMPLES:					06CD09-23		06CD09-01DL (500:1)
					06CD09-10		06CD09-03DL (20:1)
%RSD < 15					06CD09-14		06CD09-05DL (20:1)
%D ± 20					06CD09-38		06CD09-12DL (500:1)
					06CD09-26		06CD09-14MS
					06CD09-35		06CD09-14MSD
					06CD09-08		LCSD 364986
					06CD09-19RE		

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Date: March 7, 2006

Case Number: 06CD09
Site Name: Oconomowoc Electroplating (WI)

SDG Number: 51626-VOA
Laboratory: CT Laboratories

Calibration Outliers
Volatile Target Analytes

Instrument: GC/MS1		Column: SPB-624								
		Initial Calibration			Cont. Calibration			Cont. Calibration		
TCL Analytes Date/Time:		January 23, 2006 1420			January 24, 2006 0850			January 24, 2006 1627		
	#	RRF	%RSD	Q	RRF	%D	Q	RRF	%D	Q
Chloromethane	0.05									
Vinyl Chloride	0.05									
Bromomethane	0.05	0.382			0.351			0.376		
Chloroethane	0.05									
Trans-1,2-Dichloroethene	0.05									
Carbon Disulfide	0.05									
Acetone	0.05	0.031		J/R	0.023	25.8	J/R	0.025		J/R
Methylene Chloride	0.05	0.999			0.558	44.1	J/UJ	0.617	38.2	J/UJ
1,1-Dichloroethane	0.05									
2-Butanone	0.05	0.024		J/R	0.023		J/R	0.024		J/R
Cis-1,2-Dichloroethene	0.05									
Chloroform	0.05									
1,1,1-Trichloroethane	0.05	0.733			0.755			0.787		
Carbon Tetrachloride	0.05	0.566			0.621			0.636		
1,2-Dichloroethene (total)	0.05									
Benzene	0.05									
1,2-Dichloroethane	0.05									
Trichloroethene	0.05									
1,2-Dichloropropane	0.05									
Bromodichloromethane	0.05									
Cis-1,3-Dichloropropene	0.05									
4-Methyl-2-pentanone	0.05									
Toluene	0.05									
Trans-1,3-Dichloropropene	0.05									
1,1,2-Trichloroethane	0.05									
Tetrachloroethene	0.05									
2-Hexanone	0.05									
Dibromochloromethane	0.05									
Chlorobenzene	0.05									
Ethylbenzene	0.05									
Styrene	0.05									
Bromoform	0.05									
1,1,2,2-Tetrachloroethane	0.05									
Xylenes (total)	0.05									
Surrogate: 1,2-Dichloroethane-d4	0.05	0.036		J/R	0.063	75.0	J/UJ	0.064	77.8	J/UJ
Surrogate: Toluene-d8	0.05	0.966			1.725	78.6	J/UJ	1.74	79.8	J/UJ
Surrogate: Dibromofluoromethane	0.05	0.310			0.525	69.4	J/UJ	0.525	69.4	J/UJ
Surrogate: p-Bromofluorobenzene	0.05	1.418			2.355	66.1	J/UJ	2.319	63.5	J/UJ
AFFECTED SAMPLES:					LCS 366469			MB 367043	06CD09-55	
					MB 66470			06CD09-52	06CD09-63	
%RSD < 15					06CD09-59			06CD09-58	06CD09-65	
%D ± 20					06CD09-49			06CD09-69	06CD09-67	
					06CD09-50			06CD09-53	06CD09-68	
					06CD09-56			06CD09-54		
					06CD09-47			06CD09-61		
					06CD09-48			06CD09-62		

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J/R – All positive results are estimated "J" and non-detected results are unusable "R".

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Date: March 7, 2006

Case Number: 06CD09
Site Name: Oconomowoc Electroplating (WI)

SDG Number: 51626-VOA
Laboratory: CT Laboratories

Calibration Outliers
Volatile Target Analytes

Instrument: GC/MS1		Column: SPB-624								
		Initial Calibration			Cont. Calibration			Cont. Calibration		
TCL Analytes Date/Time:		January 23, 2006 1420			January 25, 2006 0920					
	#	RRF	%RSD	Q	RRF	%D	Q	RRF	%D	Q
Chloromethane	0.05									
Vinyl Chloride	0.05									
Bromomethane	0.05	0.382			0.248	35.1	J/UJ			
Chloroethane	0.05									
Trans-1,2-Dichloroethene	0.05									
Carbon Disulfide	0.05									
Acetone	0.05	0.031		J/R	0.031		J/R			
Methylene Chloride	0.05	0.999			0.727	27.2	J/UJ			
1,1-Dichloroethane	0.05									
2-Butanone	0.05	0.024		J/R	0.027		J/R			
Cis-1,2-Dichlorothhene	0.05									
Chloroform	0.05									
1,1,1-Trichloroethane	0.05	0.733			0.994	35.6	J/UJ			
Carbon Tetrachloride	0.05	0.566			0.797	40.8	J/UJ			
1,2-Dichloroethene (total)	0.05									
Benzene	0.05									
1,2-Dichloroethane	0.05									
Trichloroethene	0.05									
1,2-Dichloropropane	0.05									
Bromodichloromethane	0.05									
Cis-1,3-Dichloropropene	0.05									
4-Methyl-2-pentanone	0.05									
Toluene	0.05									
Trans-1,3-Dichloropropene	0.05									
1,1,2-Trichloroethane	0.05									
Tetrachloroethene	0.05									
2-Hexanone	0.05									
Dibromochloromethane	0.05									
Chlorobenzene	0.05									
Ethylbenzene	0.05									
Styrene	0.05									
Bromoform	0.05									
1,1,2,2-Tetrachloroethane	0.05									
Xylenes (total)	0.05									
Surrogate: 1,2-Dichloroethane-d4	0.05	0.036		J/R	0.058	61.1	J/UJ			
Surrogate: Toluene-d8	0.05	0.966			1.709	76.9	J/UJ			
Surrogate: Dibromofluoromethane	0.05	0.310			0.558	80.0	J/UJ			
Surrogate: p-Bromofluorobenzene	0.05	1.418			2.538	79.0	J/UJ			
AFFECTED SAMPLES:					06CD09-59DL (10:1)					
					06CD09-50DL (100:1)					
%RSD < 15					06CD09-62RE					
%D ± 20					06CD09-59RE					
					06CD09-63 MS					
					06CD09-63 MSD					
					LCSD 366857					

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