CONESTOGA-ROVERS
& ASSOCIATES

1801 Old Highway 8 Northwest, Suite 114, St. Paul, Minnesota 55112
Telephone: 651-639-0913 Facsimile: 651-639-0923
www.CRAworld.com

April 4, 2011

Reference No. 003978

Ms. Sheri Bianchin
UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY
77 West Jackson
Chicago, Illinois 60604

Ms. Erin Endsley
WISCONSIN DEPARTMENT OF
NATURAL RESOURCES
1300 W. Clairemont Avenue
PO Box 4001
Eau Claire, WI 54702-4001

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DNR-WCR

Dear Ms. Bianchin and Ms. Endsley:

Re: 2010 Annual Monitoring Report
Wausau Water Supply NPL Site

On behalf of the Wausau Water Supply PRP Group, Conestoga-Rovers and Associates (CRA) is pleased to submit this 2010 Annual Monitoring Report for the Wausau Water Supply NPL Site. This Report has been prepared as required by the Groundwater Monitoring Plan for the Wausau Water Supply NPL Site.

Please contact me if you have any questions or comments.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

Charles Ahrens

CEA/ma/12
Encl.

cc: Dave Erickson, City of Wausau
Lee Bergmann, Regal Beloit
Art Flashinski, Wausau Chemical (encl. via email)

2010 ANNUAL MONITORING REPORT

WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

RECEIVED
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PRINTED ON
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2010 ANNUAL MONITORING REPORT

WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

Prepared by:
Conestoga-Rovers & Associates

1801 Old Highway 8 Northwest, Suite 114
St. Paul, Minnesota 55112

Office: 651-639-0913
Fax: 651-639-0923

MARCH 2011
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1.0 INTRODUCTION

Conestoga-Rovers and Associates (CRA) has prepared this 2010 Annual Monitoring Report (Report) for the Wausau Water Supply NPL Site (Site) in Wausau, Wisconsin, on behalf of the Wausau Potential Responsible Party (PRP) Group. This Report presents the results of groundwater and extraction well monitoring at the Site during 2010. This Report also presents operational data for the groundwater remediation systems.

1.1 HISTORY

The Wausau PRP Group initiated remedial action at the Site in the early 1990s in accordance with the September 29, 1990, Record of Decision (ROD) and the Consent Decree (CD) entered with the court on January 24, 1991. The final remedial action at the Site consisted of two soil vapor extraction (SVE) systems to address the source areas and groundwater extraction and treatment, utilizing existing municipal production wells and an extraction well. The Site location is shown on Figure 1.1 and a Site plan is presented on Figure 1.2.

Source area remediation was accomplished by the installation of SVE systems at Marathon Electric (West Bank) and Wausau Chemical (East Bank) in January 1994. Off-gas treatment was provided by vapor phase carbon. The SVE system at Marathon Electric operated until April 1996, when the West Bank source remediation was approved as complete. The East Bank SVE system was modified in 1996 and continued to operate. In January 2001 the East Bank system was shut down while evaluation for final closure occurred. The East Bank source remediation was approved as complete in 2007.

Groundwater remediation is provided through two existing municipal production wells (CW3 and CW6) and one extraction well installed at Marathon Electric (EW1). Air strippers, located at the Wausau water treatment plant, treat water from the municipal supply wells. Water from EW1 is also treated by air stripping (over riprap on the riverbank) before being discharged to the Wisconsin River.

The pumping rates for the three extraction wells were originally defined in the CD. In the Groundwater Flow Model report (CRA, May 1993), CRA established a range of pumping rates that would maintain capture of the groundwater plume. Subsequently, in an August 4, 1995 letter, the United States Environmental Protection Agency (USEPA)

approved a pumping configuration range for the three extraction wells. Those pumping rates were:

- CW3: 65 hours per week at 1,200 gallons per minute (gpm) to 100 hours per week at 1,100 gpm
- CW6: 85 hours to 100 hours per week at 1,400 gpm
- EW1: 800 to 900 gpm continuously

Additional groundwater remediation was provided by an extraction system operated by Wausau Chemical between 1985 and 1996 as an interim remediation measure. The extraction system at Wausau Chemical consisted of a series of shallow wells at the south end of the Wausau Chemical property. Groundwater was treated by air stripping. This system was in addition to the requirements of the ROD or the CD and operation ceased in 1996.

From 1993 through 2000 groundwater monitoring was conducted according to the Monitoring Program Plan (CRA, 1994). The Monitoring Program Plan consisted of a complex system of monthly, quarterly, semiannual, and annual monitoring. In June 2000, the Groundwater Monitoring Plan replaced the Monitoring Program Plan as the approved groundwater-monitoring program. The Groundwater Monitoring Plan consists of annual monitoring well sampling and quarterly sampling of EW1.

The Groundwater Monitoring Plan requires an annual report on the activities occurring the previous calendar year. This Report fulfills the requirement for 2010.

1.2 BACKGROUND

Groundwater monitoring at this Site is a combination of hydraulic and water quality monitoring designed to verify that the groundwater extraction wells are containing the contaminant plume and that groundwater quality is improving as a result of past source remedial actions and ongoing volatile organic compound (VOC) removal from the aquifer.

Groundwater remediation at the Wausau Site is a long-term process that cannot be readily measured on a short-term basis using water quality data alone. Accordingly, water quality data is measured annually on a long-term basis to show the downward

trend of VOC concentrations in groundwater. Because of the time necessary to achieve groundwater remediation, containment of contaminated groundwater is the primary measurable and achievable short-term objective.

For the purpose of evaluation, groundwater monitoring at Wausau has been divided into two areas, the East Bank and the West Bank of the Wisconsin River, corresponding to the two original source areas. The river forms a natural hydraulic division of the Site. There are three active groundwater extraction wells that contain and remove VOC contaminated groundwater. Two of the extraction wells are on the West Bank, (CW6 and EW1) and one is on the East Bank (CW3) (see Figure 1.2).

1.3 SITE GEOLOGY

The Site is underlain by glacial outwash and alluvial sediments that have filled in the preglacial stream valley in which the Wisconsin River now flows. This alluvial aquifer ranges from 0 to 160 feet thick and has an irregular base and lateral boundaries. The relatively impermeable bedrock that underlies the aquifer, and forms its lateral boundaries within the preglacial valley, defines the boundaries of the aquifer. Six production wells in the Site area provide drinking water for the City of Wausau. These wells are screened in the glacial outwash and alluvial sand and gravel deposits that underlie and are adjacent to the Wisconsin River.

1.4 GROUNDWATER CLEANUP STANDARDS

The Groundwater Monitoring Plan was developed to monitor compliance with cleanup standards for the groundwater at the Site. The groundwater cleanup standards for the Site are the United States Environmental Protection Agency (USEPA) maximum drinking water contaminant levels (MCLs). The MCLs for the primary VOC contaminants of concern at the Site are:

- Trichloroethylene (TCE) 5 µg/L
- Tetrachloroethylene (PCE) 5 µg/L
- cis-1,2-Dichloroethylene (DCE) 70 µg/L
- Vinyl chloride 2 µg/L

2.0 2010 MONITORING

Groundwater monitoring during 2010, which included water level measurements and water sampling, was conducted in October in accordance with the Groundwater Monitoring Plan, with the following exceptions:

- Monitoring well W57 was damaged by a collision with a vehicle and could not be accessed. W57 has since been repaired.
- As reported in the 2000 Annual Monitoring Report, two monitoring wells (WC2 and W51A) are no longer monitored and they were abandoned in 2000.
- Also, as approved by the USEPA and Wisconsin Department of Natural Resources (WDNR) through the 2002 Annual Monitoring Report, the analysis of bis(2-ethylhexyl)phthalate at C4S and W53A was discontinued in 2003.

Monitoring of EW1 was completed quarterly in March, June, September, and November, 2010, in accordance with the Groundwater Monitoring Plan.

2.1 WATER LEVEL MONITORING

Table 2.1 presents the groundwater elevation data measured on October 19-20, 2010. Water table contours based on these measurements are presented on Figure 2.1. Field staff measured water levels on the East Bank on October 19th from 3:30 p.m. to 5:45 p.m. The East Bank remediation well, CW-3, was pumping while the East Bank water levels were measured. West Bank water levels were measured on October 20th from 1:00 p.m. to 4:30 p.m. The West Bank remediation wells, EW-1 and CW-6, were operating during the West Bank water level monitoring. Water levels in the City production wells were measured with the assistance of the City staff.

The East Bank and West Bank contours are consistent with flow patterns observed in previous years. The flow patterns are controlled by the operation of EW1 and the City production wells. Under natural conditions, groundwater would flow toward and discharge to the Wisconsin River and its tributary, Bos Creek. Under existing conditions however, groundwater flows toward EW1 and the production wells. The operation of EW1 has created groundwater flow divides between the west and east City well fields and has isolated the former landfill source of contaminated groundwater from the production wells.

2.2 GROUNDWATER SAMPLING

Annual groundwater sampling was conducted on October 19-21, 2010, according to the Groundwater Monitoring Plan. Monitoring well samples were analyzed for the Site specific VOC list (see Table 2.2) by EPA Method 8260. A summary of the groundwater-sampling event, including field parameter measurements, is presented in Table 2.3.

Groundwater sampling was conducted according to the Quality Assurance Project Plan, (CRA, February 1994) as amended by a June 11, 1999, letter to the USEPA. TestAmerica Laboratories, Inc. in North Canton, Ohio, analyzed all samples. Laboratory results are being submitted electronically in the Region V Electronic Data Deliverable (EDD) format for inclusion in the Region V EPA database. Copies of the Data Quality Validation memoranda for the 2010 data are included in Appendix A.

2.3 EXTRACTION WELL (EW1) SAMPLING

The monitoring program for EW1 was designed to measure long-term water quality improvement in the groundwater and to measure the effectiveness of the EW1 groundwater treatment system. These data are also used to monitor the contaminant levels discharged to the Wisconsin River from the treatment system. The discharge concentrations must meet the substantive requirements of the Wisconsin Pollutant Discharge Elimination System (WPDES).

Influent and Effluent samples were collected from the EW1 treatment system on a quarterly basis in March, June, September, and November, 2010, in accord with the Groundwater Monitoring Plan. Both the influent and effluent samples were analyzed by EPA Method 8260 for the Site specific VOCs (Table 2.2).

Each quarterly sample was analyzed by TestAmerica. Laboratory results are being submitted electronically in the Region V EDD format for inclusion in the Region V EPA database. Copies of the Data Quality Validation memoranda for the 2010 data are included in Appendix A.

3.0 OPERATION AND MAINTENANCE

Operation and maintenance activities reported in this section cover EW1, the City production wells, the groundwater monitoring wells, and the annual inspection of the paved surfaces in the East Bank source area.

3.1 MONITORING WELL INSPECTION

All Site monitoring wells were inspected during the October 2010 monitoring round. An inspection form was used to document the following well conditions:

- Total depth
- Well ID
- Casing and grout condition
- Well cap condition
- Lock condition
- Concrete seal condition
- Ground condition (subsidence)

Table 3.1 presents the results of the inspection. Based on these results, well maintenance was performed by a licensed contractor to make repairs and replace locks. A summary of the maintenance performed is included in Table 3.1. Additional maintenance will be performed at two locations after the snow banks are gone. Approximately 14 wells did not have visible identification marks or tags. These wells will be marked or tagged with proper identification during the 2011 monitoring event.

In addition to the well maintenance summarized in Table 3.1, Wausau Chemical hired a licensed well contractor to put more secure well caps on the monitoring wells on their property (WC3, WC4, WC4A, and WC7). They also placed new locks on E26 and E26A.

3.2 EW1 OPERATION

In 2010, approximately 263,000,000 gallons of water were extracted and treated by the West Bank extraction well (EW1) at RBC Manufacturing (formerly Marathon Electric). The extraction well pumped at an average flow rate of 505 gallons per minute

during 2010. Table 3.2 summarizes EW1 operational data for 2010, including the number of gallons pumped per month and average flow rates.

EW1 operated nearly continuously during 2010. The pump was turned off for short periods on four occasions to clean the totalizer meter and discharge line filter screens. The totalizer meter was calibrated on June 30, 2010, and was accurate within 5%.

During routine inspection on January 4, 2011, it was discovered that the EW1 pump had failed. Based on the electrical meter, it was estimated that the pump stopped at approximately noon on December 28, 2010. After troubleshooting, the pump was removed and was found to have a broken line shaft. The pump was repaired and reinstalled on January 26, 2011. While the pump was out of the well, the well screen was rehabilitated by wire-brushing, acid treating, and disinfection. Groundwater containing the treatment chemicals was pumped to a storage container and pH-balanced prior to discharging to the sanitary sewer, with City of Wausau approval. A total of 12,000 gallons was discharged to the sewer.

In a letter dated September 7, 2010, the PRP Group submitted a request for a reduction in the pumping rate performance standard for EW-1. Due to declining pumping capacity, a new lower limit of 500 gpm for the EW1 pumping rate was requested. In the interim, EW-1 will be pumped at the rate that can be maintained with the existing well conditions.

3.3 CITY PRODUCTION WELLS

CW3 and CW6 operated as required in 2010 with minimal shutdowns or repairs. Table 3.3 presents 2010 pumping data for the six City wells. While only CW3 and CW6 are part of the remediation system, data for all City wells are presented, consistent with previous reports. The table shows, by month, the number of hours each well was operated, the number of gallons pumped from each well, and the average pumping rate while the pump was operating.

CW3 and CW6 operated on alternate schedules at rates that exceeded the operating requirements established by the USEPA approval letter dated August 4, 1995. CW3 operated for an average of 77.4 hours per week with an average pumping rate of 1,621 gpm, exceeding the requirements of 65 hours per week at 1,200 gpm.

CW6 operated for an average of 89.1 hours per week with an average pumping rate of 1,700 gpm, exceeding the requirement of 85 hours per week at 1,400 gpm.

3.4 EAST BANK SOURCE AREA PAVEMENT INSPECTION

The USEPA and WDNR approved final closure of the East Bank source remediation system in September 2007. A requirement of the closure was an annual inspection of the paved areas surrounding the Wausau Chemical property, as described in the Pavement Cover and Building Maintenance Plan. The purpose of the inspection is to monitor the integrity of the paved areas of the property and make recommendations to minimize rainwater infiltration and prevent direct human contact with soils. In August 2009 the entire pavement area was repaved with new asphalt and the street adjacent to the west side of the property, North River Drive, was repaved by the City of Wausau. Also, an approximately 2,800 square foot addition, with concrete floor and roof, was added to the south end of the building in 2009-2010. Inspections conducted during 2010 found the pavement to be in good condition. One crack was discovered during the winter and it will be sealed in the spring of 2011.

4.0 EVALUATION OF GROUNDWATER DATA

The objectives of groundwater monitoring at the Site are to monitor the containment of the contaminant plume and the long-term improvement in groundwater quality.

Table 4.1 presents the laboratory results for monitoring well samples collected in October 2010. The data indicate that, in general, the plumes are stable or decreasing in size and concentration. Figure 4.1 presents the total chlorinated VOC (CVOC) data and CVOC concentration contours that illustrate the plume configuration based on the October 2010 data.

4.1 WEST BANK

The primary CVOC found in the West Bank groundwater is trichloroethene (TCE), which was detected at 9 of the 13 West Bank wells. The degradation product, cis-1,2-dichloroethene (C12DCE), was detected at three locations with relatively low concentrations. Vinyl chloride was detected at a concentration that was barely above the detection limit in one well (C4S) on the West Bank. Monitoring wells with TCE concentrations greater than the MCL of 5 µg/L included R2D, R3D, R4D, and W53A. The MCL for TCE was also exceeded in the sample EW1, but the concentration at CW6 was below the MCL (see Tables 4.1 and 4.2).

In the portion of the plume north of extraction well EW1, CVOCs are located in the deeper portions of the aquifer. Wells north of EW1 that exceeded the MCL for TCE included R2D, R3D, and R4D. In the southern portion of the plume, in the vicinity of the old landfill, CVOCs are located in the shallower portions of the aquifer at relatively lower concentrations. MW53A is the only location south of EW1 that exceeded the MCL for TCE. No other CVOC concentrations exceeded the MCL on the West Bank.

The West Bank plume concentrations increased slightly in 2010 compared to 2009. This was principally due to an increase at R3D. However, as illustrated on Figure 4.1, the extent of the contaminant plume remained stable.

Previous Annual Monitoring Reports have described the migration of a relatively high concentration slug of CVOCs towards extraction well EW1. The slug of CVOCs began in the vicinity of R2D, near the flow divide between EW1 and CW6, in 1993, and has been slowly moving towards EW1. The 2010 CVOC data indicate that this contaminant slug

continues to move through the R3D area toward EW1 (see Figure 4.1). Historical data for R2D, R3D, and R4D are presented below.

Total CVOCs (µg/L)

Year	*R2D*	*R3D*	*R4D*
1993	3635	4	1016
1994	2130	11	1019
1995	152	5	720
1996	1600	2	540
1997	720	5	65/65
1998	320	580	52/58
1999	110	1200	33
2000	45	1800	58
2001	17	1500	13/13
2002	15	1200	36
2003	10	980	39/37
2004	11	899	51
2005	7.5	400	56/57
2006	8.2	480/500	42
2007	9.9	280	1.3
2008	6.5	180	13
2009	7.2/7.4	92	22.4/23.4
2010	6.2	195.7	25.7

As shown above, R4D, which is closer to EW1, continued to show a slight increase in concentration, indicating that the slug of higher concentrations is passing through that area as it is contained and removed by EW1.

In the far north portion of the plume, within the capture area of City production well CW6 (see Figure 4.1), the total CVOC concentration in CW6 and W55 (exclusively TCE) has steadily declined since 2000. The 2010 concentrations are essentially unchanged from 2009. This area of the plume appears to be stable with gradually decreasing TCE concentrations.

In the southern portion of the West Bank plume, under the old landfill, CVOC concentrations were slightly higher relative to 2009.

4.2 EAST BANK

East Bank well data are presented in Table 4.1. While tetrachloroethene (PCE) was the original contaminant on the East Bank, the presence of TCE, C12DCE, and vinyl chloride at concentrations that equal or exceed the PCE concentration in many wells indicates an active natural biodegradation process. For example, at E37A and WW6 the C12DCE concentrations were higher than the PCE and TCE concentrations combined.

Four East Bank wells had PCE concentrations that exceeded the MCL of 5 µg/L (out of eight detections). The highest PCE concentration was 20 µg/L at E24A. One well (WW6) had a VC concentration that exceeded the MCL of 2 µg/L. The MCLs for C12DCE and TCE were not exceeded by any of the East Bank wells.

The areal extent of the East Bank contaminant plume decreased slightly compared to 2009 (see Figure 4.1) and concentrations within the plume were generally lower. Total CVOC concentrations from 2005 through 2010 for key East Bank wells are shown below:

	Total CVOCs (µg/L)					
Well	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
WC3B	1.4	18	4.2	1.5	1,460/565.2[1]	1.24
WC5A	12	8.4	1.8	2.8	12.1	9.86
E24A	1.6	3.7	1.1	1	13	20
E22A	ND	14	10	ND	231.9	5.03
E37A	17	8.5	34	460	77.35	7.0
E23A	66	47	130	260	154	30.94
WW6	28	78	35	12	29.97	46.34
CW3	6.4	4.6	4.8	6.4	4.48	4.36
IWD	6.6	13	11	4.4	7.3	4.67

[1] WC3B was resampled on January 12, 2010, to confirm the October, 2009 result.

Significant decreases in CVOC concentrations occurred at WC3B, E22A, and E23A. The total CVOC concentration at WC3B dropped from 1,460 µg/L to 1.24 µg/L from 2009 to 2010, indicating that the VOC mass at WC3B was not significant. The reduced concentrations at E22A and E23A are further indications that higher concentration slugs continue to move through the aquifer toward CW3 and removal.

CVOC concentrations at the island well, IWD, have been stable over the last six years. The aquifer at IWD appears to have been impacted by West Bank contaminants based on the depth and the plume composition (TCE only). Prior to operation of EW1, CW3 captured some groundwater from the West Bank and caused it to migrate beneath the river towards the east side. There is a low concentration remnant of the West Bank contaminants in a relatively stagnant area between the capture zones of EW1 and CW3. This remnant will move slowly toward one side or the other, depending on the pumping rates and pumping patterns of EW1 and CW3.

The 2010 concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX) at monitoring well FVD5 were consistent with historical data. The aromatic compounds found in this well are related to the Wausau Energy property and are independent of the Wausau NPL site remediation process.

4.3 EW1

The 2010 influent and effluent laboratory results for EW1 are presented in Table 4.2. TCE was the primary CVOC detected. C12DCE was also detected in samples from all four quarterly sampling events, but its concentration was less than 1 µg/L.

Influent concentrations of TCE remained steady, ranging from 6.9 µg/L to 9.38 µg/L. The effluent concentrations indicate that the EW1 treatment system removes about 50 percent of the CVOCs in the extracted groundwater.

The results of the effluent samples were compared to surface water discharge limits for discharge to the Wisconsin River, as calculated by the WDNR. Those discharge limits were presented in the "Remedial Action Plan, Groundwater Extraction, Treatment, and Discharge System", (CRA, 1990). None of the discharge limits were exceeded during 2010. EW1 influent and effluent sampling results are also reported quarterly.

4.4 HYDRAULIC CAPTURE

Hydraulic capture of the contaminant plume is demonstrated by the water table contours illustrated on Figure 2.1. The water table contours indicate that groundwater flow in the contaminated portions of the Site is toward the three extraction wells (CW3, CW6, and EW1) which is supported by the analytical data as discussed in Sections 4.1 and 4.2. At nested well locations, the water table elevations for shallow and deep wells are similar, indicating horizontal flow and hydraulic containment of the shallow and deeper portions of the aquifer. Figure 4.1 also demonstrates that hydraulic containment of the contaminant plume was maintained through 2010.

5.0 CONCLUSIONS AND RECOMMENDATIONS

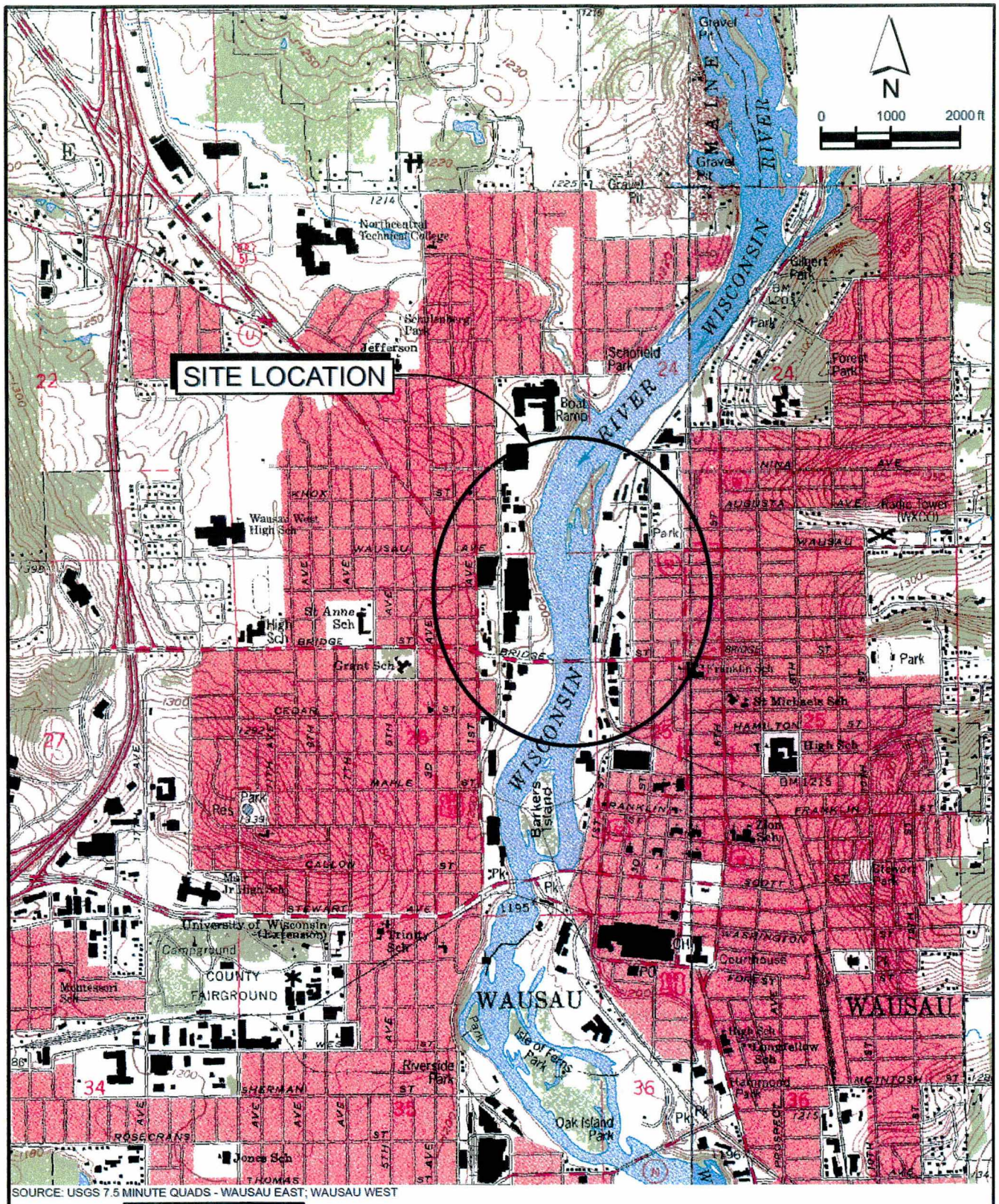
5.1 CONCLUSIONS

- The RBC Manufacturing (formerly Marathon Electric) extraction well, EW1, and the two City production wells, CW3 and CW6, continue to capture the CVOC plume as demonstrated by the hydraulic and chemical data.
- The East Bank CVOC plume exhibited generally much lower concentrations compared to 2009 and the areal extent of the plume was slightly smaller. The presence of PCE daughter products provides evidence of natural attenuation of the East Bank plume.
- The CVOC plume on the West Bank remained stable in its areal extent, although the concentration in the R3D area increased relative to 2009 data. CVOC concentrations increased slightly in the portion of the plume south of EW1 under the old landfill.
- Four West Bank monitoring wells (R2D, R3D, R4D, and W53A) and EW1 had TCE concentrations greater than the MCL of 5 µg/L.
- Four East Bank wells had PCE concentrations that exceeded the MCL of 5 µg/L. One well (WW6) had a VC concentration that exceeded the MCL of 2 µg/L. The MCLs for C12DCE and TCE were not exceeded by any of the East Bank wells.
- EW1 removed approximately 263,000,000 gallons of water in 2010 at an average pumping rate of 505 gallons per minute. The well was shut down for short periods on four occasions to clean the filter screens and flow meter. The pump failed on December 28, 2010, and was repaired and replaced on January 26, 2011.
- The EW1 treatment system removed approximately 50 percent of the CVOCs from the extracted groundwater. The effluent concentrations from the treatment system were far below the established discharge limits.
- The City production wells operated within the requirements established by USEPA.
- The annual inspection of the pavement and building barrier at Wausau Chemical found the pavement to be in good condition. One crack was discovered during the winter and it will be sealed in the spring of 2011.

5.2 RECOMMENDATIONS

- Monitoring in 2011 should continue as described in the Groundwater Monitoring Plan with slight modifications discussed in previous reports.

- Continue discussions with USEPA for approval to reduce the pumping rate performance standard for EW-1. Due to declining pumping capacity, a new lower limit of 500 gpm for the EW1 pumping rate was requested. In the interim, EW-1 will be pumped at the rate that can be maintained with the existing well conditions.



SOURCE: USGS 7.5 MINUTE QUADS - WAUSAU EAST; WAUSAU WEST

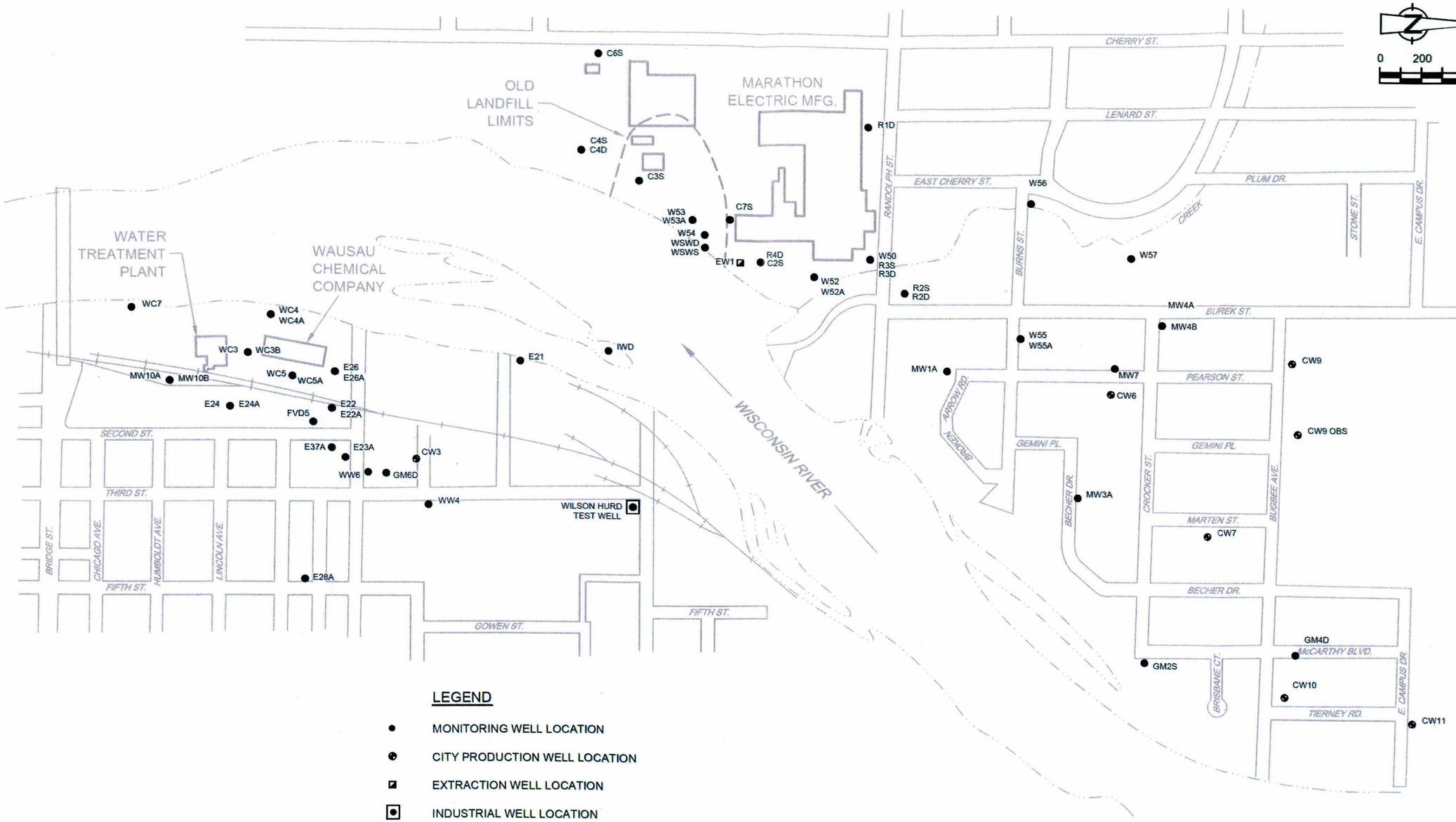
figure 1.1

SITE LOCATION

WAUSAU WATER SUPPLY NPL LOCATION

Wausau, Wisconsin

003978-00(029)GIS-SP001 DEC 16/2010



LEGEND

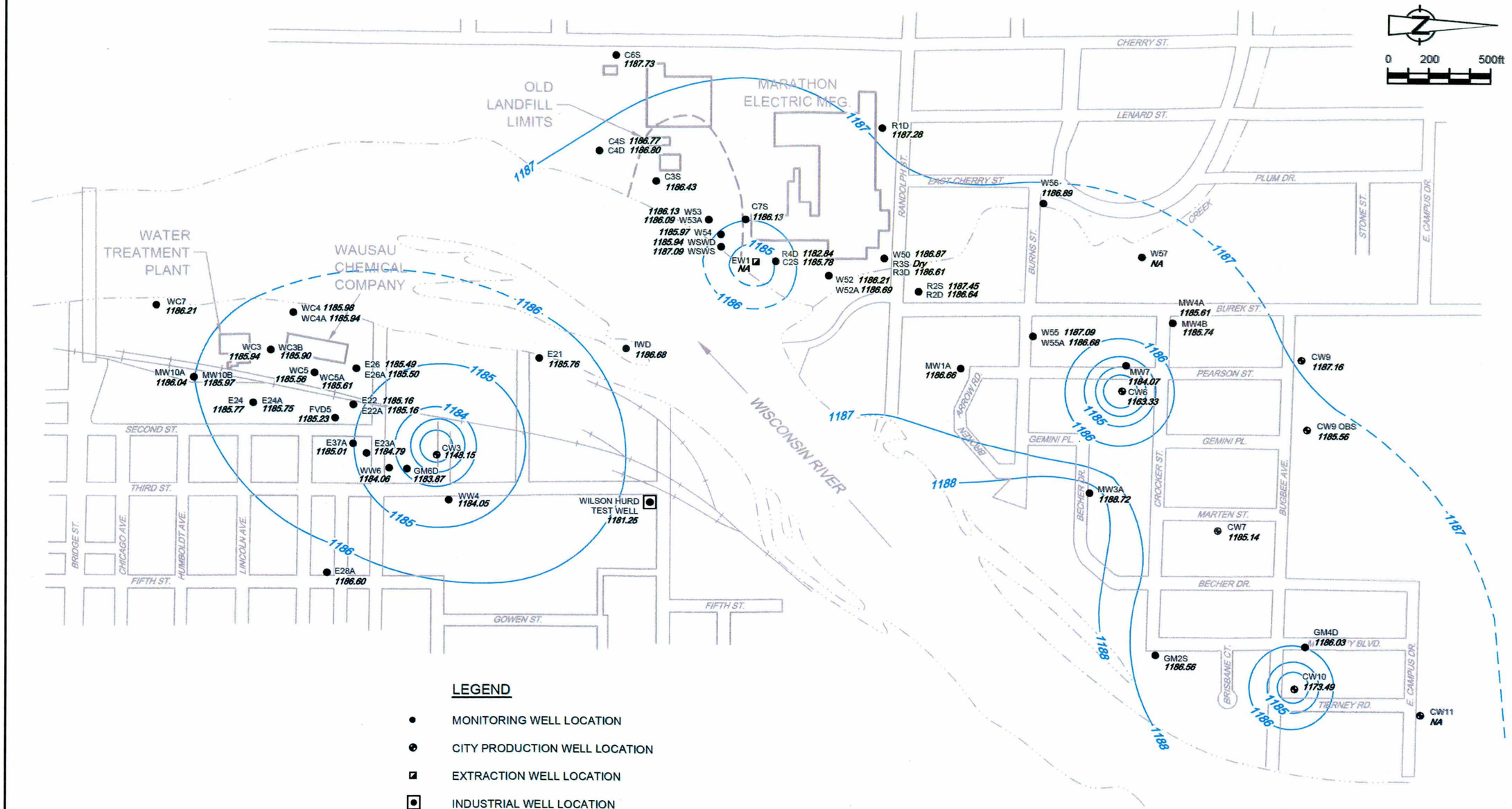
- MONITORING WELL LOCATION
- CITY PRODUCTION WELL LOCATION
- EXTRACTION WELL LOCATION
- INDUSTRIAL WELL LOCATION

SOURCE: RMT INC. FIGURE 1, 5/14/87.

003978-00(029)GN-OT001 DEC 20/2010

figure 1.2

SITE PLAN
WAUSAU WATER SUPPLY NPL SITE
Wausau, Wisconsin



LEGEND

- MONITORING WELL LOCATION
- CITY PRODUCTION WELL LOCATION
- EXTRACTION WELL LOCATION
- INDUSTRIAL WELL LOCATION
- 1185.65 GROUNDWATER ELEVATION (NGVD)
- 1185 GROUNDWATER CONTOUR (NGVD)
- 1186 GROUNDWATER CONTOUR (NGVD) ASSUMED

NOTE: EAST BANK WATER LEVELS MEASURED ON OCTOBER 19, 2010.
WEST BANK WATER LEVELS MEASURED ON OCTOBER 20, 2010.

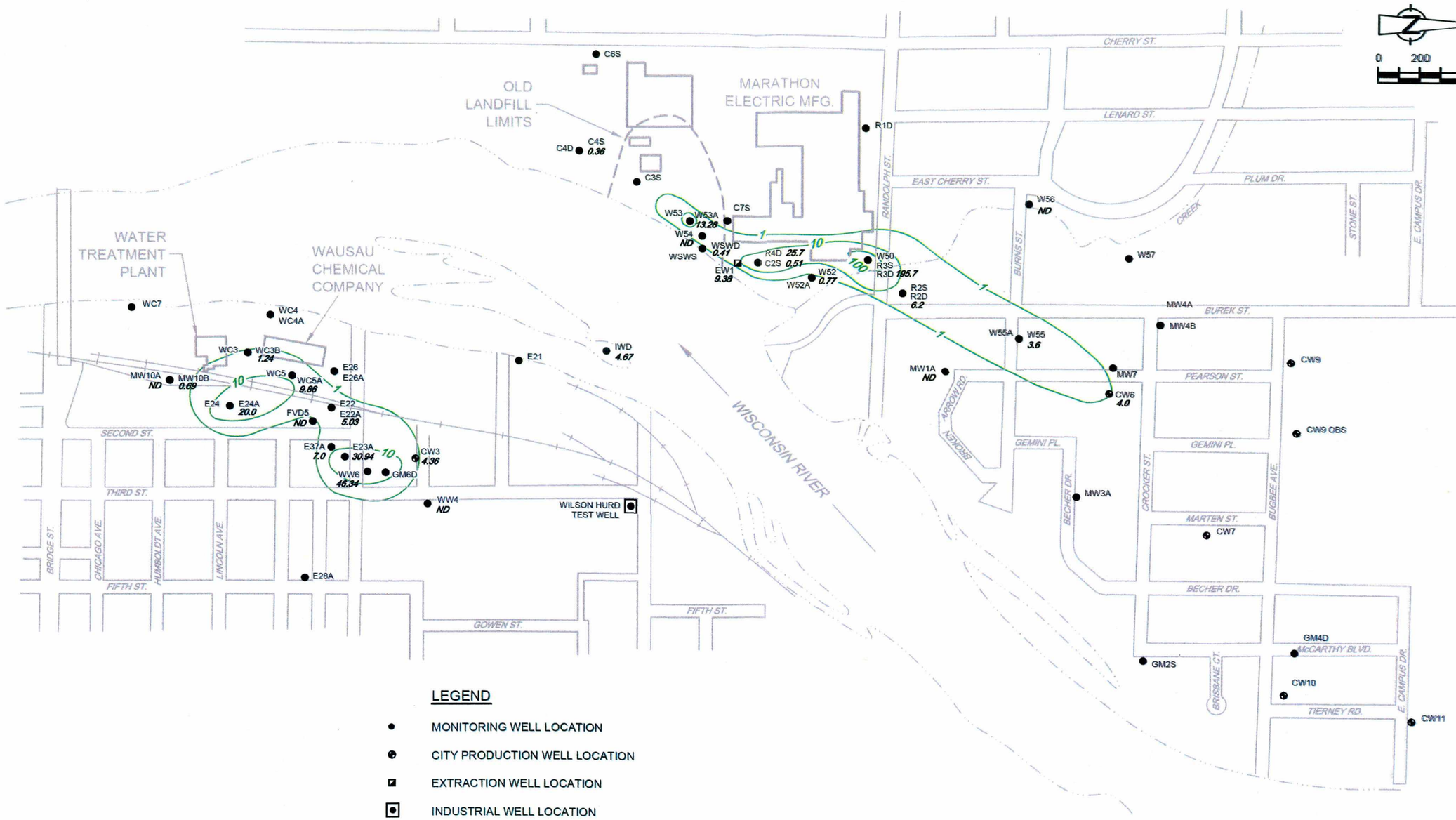
SOURCE: RMT INC. FIGURE 1, 5/14/87.

003978-00(029)GN-WA001 DEC 20/2010

figure 2.1

WATER TABLE CONTOURS (10/19-20/10) WAUSAU WATER SUPPLY NPL SITE

Wausau, Wisconsin



LEGEND

- MONITORING WELL LOCATION
- CITY PRODUCTION WELL LOCATION
- EXTRACTION WELL LOCATION
- INDUSTRIAL WELL LOCATION
- 46.34 TOTAL CHLORINATED VOC CONCENTRATION (ug/L)
- 10 TOTAL CHLORINATED VOC CONCENTRATION CONTOUR

SOURCE: RMT INC. FIGURE 1, 5/14/87.

003978-00(029)GN-OT002 DEC 20/2010

figure 4.1

TOTAL CHLORINATED VOCs IN GROUNDWATER (OCTOBER 2010)
WAUSAU WATER SUPPLY NPL SITE
Wausau, Wisconsin

TABLE 2.1

GROUNDWATER ELEVATIONS - 2010
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

	Reference Elevation		*Water Level 10/19 - 20/2010*	*Water Table Elevation 10/19 - 20/2010*
East Bank				
CW3	1202.15		54.00	1148.15
E21	1197.51		11.75	1185.76
E22	1195.47		10.31	1185.16
E22A	1195.88		10.72	1185.16
E23A	1197.61		12.82	1184.79
E24	1210.01		24.24	1185.77
E24A	1211.07		25.32	1185.75
E26	1199.02		13.53	1185.49
E26A	1199.13		13.63	1185.50
E28A	1211.60		25.00	1186.60
E37A	1197.84		12.83	1185.01
FVD5	1198.89		13.66	1185.23
GM6D	1198.57		14.70	1183.87
W. HURD	1200.23		18.98	1181.25
IWD	1192.10	(1)	5.42	1186.68
MW10A	1210.67		24.63	1186.04
MW10B	1210.37		24.40	1185.97
WC3	1198.26		12.32	1185.94
WC3B	1198.04		12.14	1185.90
WC4	1196.74		10.76	1185.98
WC4A	1196.57		10.63	1185.94
WC5	1196.62		11.06	1185.56
WC5A	1196.66		11.05	1185.61
WC7	1196.77		10.56	1186.21
WW4	1202.23		18.18	1184.05
WW6	1200.53		16.47	1184.06

Notes:

Elevations relative to National Geodetic Vertical Datum.
(1) All reference elevations based on 2003 survey data except IWD which was last surveyed in 1993.

TABLE 2.1

GROUNDWATER ELEVATIONS - 2010
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

	Reference Elevation		*Water Level 10/19 - 20/2010*	*Water Table Elevation 10/19 - 20/2010*
West Bank				
EW1	NA		NA	NA
CW6	1220.33		57.00	1163.33
CW7	1224.14		39.00	1185.14
CW9	1226.16		39.00	1187.16
CW9 OBS	1224.24		38.68	1185.56
CW10	1218.49		45.00	1173.49
C2S	1219.05		33.27	1185.78
C3S	1220.58		34.15	1186.43
C4S	1216.70		29.93	1186.77
C4D	1216.16		29.36	1186.80
C6S	1221.58		33.85	1187.73
C7S	1220.87		34.74	1186.13
GM2S	1211.78		25.22	1186.56
GM4D	1216.35		30.32	1186.03
MW1A	1215.69		29.03	1186.66
MW3A	1220.87	(2)	34.41	1186.46
MW4A	1215.48		29.87	1185.61
MW4B	1215.10		29.36	1185.74
MW7	1218.53		34.46	1184.07
R1D	1222.24		34.96	1187.28
R2S	1209.70		22.25	1187.45
R2D	1209.42		22.78	1186.64
R3S	1215.17		Dry	Dry
R3D	1215.42		28.81	1186.61
R4D	1218.90		36.06	1182.84
W50	1215.54		28.67	1186.87
W52	1219.16		32.95	1186.21
W52A	1218.95		32.26	1186.69
W53	1216.67		30.54	1186.13
W53A	1216.90		30.81	1186.09
W54	1216.19		30.22	1185.97
W55	1217.04		29.95	1187.09
W55A	1217.31		30.63	1186.68
W56	1200.01		13.12	1186.89
W57	1205.17		NA	NA
WSWS	1193.04		5.95	1187.09
WSWD	1193.02		7.08	1185.94

Notes:

Elevations relative to National Geodetic Vertical Datum.

(1) All reference elevations based on 2003 survey data except IWL which was last surveyed in 1993.

(2) Well MW3A was converted to a flush mount in 2006 and the reference elevation was resurveyed.

TABLE 2.2

SITE SPECIFIC VOC LIST
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

Acetone

Benzene

Carbon tetrachloride

Chloroform

1,1-Dichloroethene

cis-1,2-Dichloroethene

Ethylbenzene

Methylene chloride

Tetrachloroethene

Toluene

1,1,2-Trichloroethane

Trichloroethene

Vinyl chloride

Xylenes

TABLE 2.3

GROUNDWATER SAMPLING SUMMARY - 2010
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

Well	*Time*	*pH*	*Conductivity (uS)*	*Temperature (°C)*	*Water Clarity*	*Gallons Removed*	*Sample ID Number*	*QA/QC*
CW3	13:00	6.44	456	11.4	Clear	Grab	GW-101019-NE-01	
MW-10A	14:14	6.48	313	11.4	Clear	9		
	14:23	6.53	310	11.4	Clear	18		
	14:32	6.58	308	11.4	Clear	27	GW-101019-NE-04	
MW-10B	13:45	6.37	380	11.5	Clear	2.5		
	13:50	6.34	381	11.4	Clear	5	GW-101019-NE-02	
	13:55	6.30	379	11.4	Clear	7.5	GW-101019-NE-03	Duplicate
WC5A	15:30	6.35	336	14.5	Cloudy	1.5		
	15:40	6.28	334	14.5	Cloudy	3		
	15:50	6.28	334	14.5	Cloudy	4.5	GW-101019-NE-07	
WC3B	16:10	6.46	317	12.5	Cloudy	2		
	16:15	6.59	300	12.4	Sl. Cloudy	4		
	16:25	6.49	303	12.5	Sl. Cloudy	6		
	16:30	6.49	299	12.2	Sl. Cloudy	7	GW-101019-NE-08	
WW4	15:45	6.79	356	10.6	Clear	3.5		
	15:50	6.57	363	10.7	Clear	7		
	15:55	6.52	364	10.7	Clear	10.5		
	16:00	6.48	366	10.7	Clear	14	GW-101020-NE-24	MS/MSD
WW6	15:00	6.80	320	10.8	Sl. Cloudy	3.8		
	15:10	6.81	318	11.0	Sl. Cloudy	7.5		
	15:20	6.78	318	11.0	Sl. Cloudy	11.5	GW-101020-NE-23	
CW6	7:15	5.22	338	10.9	Clear	Grab	GW-101020-NE-09	
E22A	13:05	6.28	376	13.5	Cloudy	1.8		
	13:10	6.07	380	13.4	Cloudy	3.6		
	13:15	6.07	380	13.3	Cloudy	5.2	GW-101020-NE-18	
E23A	14:20	6.63	364	12.2	Cloudy	1.3		
	14:25	6.64	363	12.2	Cloudy	2.5		
	14:30	6.57	369	12.2	Cloudy	4	GW-101020-NE-22	
E37A	14:00	6.51	340	13.4	Cloudy	2		
	14:05	6.55	334	13.0	Cloudy	4		
	14:10	6.55	334	13.2	Cloudy	6	GW-101020-NE-21	

TABLE 2.3

GROUNDWATER SAMPLING SUMMARY - 2010
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

Well	Time	pH	Conductivity (uS)	Temperature (°C)	Water Clarity	Gallons Removed	Sample ID Number	QA/QC
FVD 5	13:30	6.11	360	13.4	Clear - Sheen Present	1		
	13:35	6.16	350	13.5	Clear-Sheen Present	2.5		
	13:40	6.16	348	13.4	Clear-Sheen Present	3.5	GW-101020-NE-20	
E24A	14:55	6.44	332	10.9	Cloudy	2.5		
	15:00	6.46	332	10.9	Cloudy	4.5	GW-101019-NE-05	Rinse Blank
	15:05	6.43	334	10.9	Cloudy	6	GW-101019-NE-06	
W54	10:40	6.66	296	12.2	Clear	2.5		
	10:45	6.69	295	12.2	Clear	4		
	10:50	6.68	295	12.1	Clear	5.5	GW-101020-NE-16	MS/MSD
W53A	10:15	6.74	338	12.6	Clear	2		
	10:20	6.65	342	12.7	Clear	3.5		
	10:25	6.64	343	12.6	Clear	4.5	GW-101020-NE-15	
WSWD	10:45	6.93	288	13.6	Sl. Cloudy	1		
	10:50	6.94	288	13.6	Sl. Cloudy	2		
	10:55	6.95	288	13.5	Clear	3	GW-101021-NE-31	
IWD	11:25	6.86	280	12.1	Clear	1.5		
	11:30	6.85	280	12.1	Clear	2.5		
	11:35	6.89	277	12.0	Clear	3.5	GW-101021-NE-32	
R2D	9:10	8.19	288	11.1	Clear	1		
	9:15	7.98	288	11.1	Clear	2		
	9:20	7.76	288	11.1	Clear	3		
	9:25	7.50	288	11.1	Clear	4		
	9:30	7.48	288	11.1	Clear	5		
	9:35	7.40	288	11.1	Clear	6	GW-101020-NE-14	
W55	7:55	6.15	303	10.6	Clear	1		
	8:00	6.50	303	10.6	Clear	2		
	8:05	6.56	300	10.6	Clear	3	GW-101020-NE-10	
	8:10	6.60	299	10.5	Clear	4	GW-101020-NE-11	Field Blank
MW-1A	8:30	9.08	320	10.6	Clear	1		
	8:35	10.06	320	10.5	Clear	2		
	8:40	10.02	318	10.5	Clear	3	GW-101020-NE-12	
	8:45	10.00	316	10.5	Clear	4	GW-101020-NE-13	Duplicate

TABLE 2.3

GROUNDWATER SAMPLING SUMMARY - 2010
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

Well	*Time*	*pH*	*Conductivity (uS)*	*Temperature (°C)*	*Water Clarity*	*Gallons Removed*	*Sample ID Number*	*QA/QC*
R4D	11:15	6.40	335	11.0	Clear	1.5		
	11:20	6.35	339	10.8	Clear	2.5		
	11:25	6.33	339	10.8	Clear	3.5	GW-101020-NE-17	
W52	9:20	7.31	288	10.5	Sl. Cloudy	1		
	9:25	7.26	285	10.5	Sl. Cloudy	2		
	9:30	7.21	284	10.4	Sl. Cloudy	3	GW-101021-NE-28	
C2S	11:40	6.34	366	12.0	Clear	1.5		
	11:45	6.28	371	12.0	Clear	3		
	11:50	6.24	375	12.0	Clear	4.5		
	11:55	6.20	376	12.0	Clear	6	GW-101020-NE-19	
W56	8:19	6.44	556	10.1	Clear	9		
	8:28	6.43	549	10.0	Clear	18	GW-101021-NE-25	
	8:37	6.40	542	10.0	Clear	27	GW-101021-NE-26	Duplicate
C4S	8:55	6.37	660	11.7	Sl. Cloudy	1		
	9:00	6.49	674	11.7	Sl. Cloudy	2		
	9:05	6.58	672	11.7	Sl. Cloudy	3	GW-101021-NE-27	
R3D	9:45	7.21	291	9.7	Clear	18		
	10:00	7.03	289	9.8	Clear	36	GW-101021-NE-29	Rinse Blank
	10:15	7.04	289	9.8	Clear	54	GW-101021-NE-30	

Note:

All monitoring well samples were collected for analysis of Site specific VOCs.

TABLE 3.1

MONITORING WELL INSPECTION - 2010
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

Well Name	Total Depth from TOC/Stickup (ft.)	Well ID/Tag Visible?	Casing & Grout Condition	Well Cap Condition (inner/outer)	Lock Condition	Concrete Seal Condition	Ground Condition (subsidence?)	Flush Mount	Notes	Maintenance Completed
East Bank										
E21	132.95/2.2	Yes	Okay	None/ Okay	Okay	Okay	Okay		No room for J-Plug	
E22	90.41/-0.5	No	Okay	Okay/ Okay	NA	Okay	Okay	FM	Bolts missing from flush mount	New gasket and new bolts.
E22A	21.74/-0.2	No	Okay	None/ Okay	NA	Okay	Okay	FM	Bolts missing from flush mount	New gasket and new bolts.
E23A	21.00/-0.6	No	Okay	Okay/ Okay	NA	Okay	Okay	FM	Bolts missing from flush mount. Bolt not seating	New gasket and new bolts.
E24	87.71/1.65	Yes	Okay	None/ Okay	Replace	Okay	Okay			Replaced lock.
E24A	37.05/2.2	Yes	Okay	None/ Okay	Replace	Okay	Okay		Rusty lock	Replaced lock.
E26	96.86/2.50	Yes	Okay	see note/ Okay	Okay	Okay	Okay		Inner cap is not tight fitting, no room for j-plug	
E26A	25.95/2.55	Yes	Okay	Okay/ Okay	Okay	Okay	Okay		Inner cap is not tight fitting, no room for j-plug	
E28A	25.45/-0.3	No	Okay	None/ see note	Replace	Okay	Okay	FM	White evaporate on inner well	New gasket.. Replaced lock.
E37A	25.3/-0.55	No	Okay	Okay/ Replace	Replace	Okay	Okay	FM	flush mount bolts won't seat	New gasket. Replaced lock. Bolts to be special ordered.
FVD5	22.6/1.6	Yes	Okay	None/ Okay	Okay	Okay	Okay		No room for J-Plug	
GM6D	109.42/-0.35	Yes	Okay	Okay/ see note	Okay - on j-plug	Okay	Okay	FM	needs new bolts	New gasket and new bolts.
W. HURD	102.05/1.3	Yes	Okay	NA/ Okay	Replace	Okay	Okay		Lock is rusty	Replaced lock.
IWD	128.5/2.2	No	Okay	None/ see note	Replace	Okay	Okay		Top cap is not tight fitting/secure.	Lock to be replaced during 2011 sampling round.
MW10A	80.78/2.35	Yes	Okay	None/ Okay	Replace	Okay	Okay		No room for J-Plug	Replaced lock.
MW10B	40.40/2.7	Yes	Okay	None/ Okay	Replace	Okay	Okay		No room for J-Plug	Replaced lock.
WC3	163.70/2.0	Yes	Okay	Cap broken.	Okay	Okay	Okay			Replaced broken cap.
WC3B	23.71/1.75	Yes	Okay	None/ Okay	Okay	Okay	Okay		No room for J-Plug	
WC4	55.80/1.75	Yes	Okay	None/ Okay	Okay	Okay	Okay		No room for J-Plug	
WC4A	20.39/1.73	Yes	Okay	Okay/ Okay	Okay	Okay	Okay			
WC5	55.45/1.55	Yes	Okay	None/ Okay	Okay	Okay	Okay			
WC5A	20.38/1.7	Yes	Okay	None/ Okay	Okay	Okay	Okay			
WC7	54.96/1.62	Yes	Okay	None/ Okay	Okay	Okay	Okay		No room for J-Plug	
WW4	40.01/1.55	Yes	Okay	None/ Okay	Okay	Okay	Okay			Above-grade well converted to flush-mount
WW6	40.12/1.4	Yes	Crooked	None/ Okay	Okay	Okay	Okay			

TABLE 3.1

MONITORING WELL INSPECTION - 2010
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

Well Name	Total Depth from TOC/Stickup (ft.)	Well ID/Tag Visible?	Casing & Grout Condition	Well Cap Condition (inner/outer)	Lock Condition	Concrete Seal Condition	Ground Condition (subsidence?)	Flush Mount	Notes	Maintenance Completed
West Bank										
C2S	35.83/3.07	Yes	Okay	BP/ Okay	Okay	Okay	Okay			
C3S	40.64/3.4	Yes	Okay	Okay/ Okay	Okay	Okay	Okay			
C4S	4.82/3.05	Yes	Okay	Okay/ Okay	Okay	Okay	Okay			
C4D	99.95/2.9	Yes	Okay	BP - Okay/ Okay	Okay	Okay	Okay			
C6S	41.38/2.85	Yes	Okay	None/ Okay	Okay	Okay	Okay			
C7S	40.15/2.8	Yes	Okay	Okay/ Okay	Okay	Okay	Okay		Concrete cracked slightly	
GM2S	34.4/-0.5	No	Okay	Okay/ see note	Okay	Okay	Okay	FM	Standing water inside case, above J-plug	New gasket.
GM4D	54.05/1.65	Yes	Okay	None/ Okay	Replace	Okay	Okay		No room for J-plug	Replaced lock.
MW1A	125.96/1.65	Yes	Okay	BP - Okay/ Okay	Okay	Okay	Okay			
MW3A	74.42/-0.35	No	Okay	Okay/ Okay	J-plug Okay	Okay	Okay	FM		
MW4A	100.06/-0.2	Yes	Okay	Okay/ Okay	J-plug Okay	Okay	Okay	FM		
MW4B	58.66/-0.35	No	Okay	Okay/ Okay	J-plug Okay	Okay	Okay	FM		
MW7	44.15/-0.3	No	Okay	Okay/ see note	J-plug Okay	Okay	Okay	FM	Bolts not seating - replace	Under snow bank - to be completed later.
R1D	125.00/2.0	Yes	Okay	none/ Poor	Okay	Okay	Okay		Needs paint, rusty outer cap	
R2S	29.73/1.4	Yes	Okay	Okay/ Okay	Okay	Okay	Okay			
R2D	124.75/1.9	Yes	Okay	BP - Okay/ Okay	Okay	Okay	Okay			
R3S	28.6/2.5	Yes	Okay	Okay/ Okay	Replace	Okay	Okay		Top cap is rusty	Replaced lock.
R3D	139.3/2.5	Yes	Okay	Okay/ Okay	Replace	Okay	Okay		Top cap is rusty	Replaced lock.
R4D	125.01/3	Yes	Okay	BP - Okay/ Okay	Okay	Okay	Okay			
W50	85.28/2.75	Yes	Okay	None/ Okay	Okay	Okay	Okay			
W52	116.9/2.65	Yes	Okay	BP - Okay/ Okay	Okay	Okay	Okay			
W52A	38.23/2.77	Yes	Okay	Okay/ Okay	Okay	Okay	Okay		Needs J-Plug	
W53	124.6/-0.6	No	Okay	None/ Okay	Okay	Okay	Okay	FM		New gasket and new bolts.
W53A	36.2/-0.45	No	Okay	BP - Okay/ see note	Okay	Okay	Okay	FM	Missing bolts	New gasket and new bolts.
W54	59.9/-0.25	Yes	Okay	Okay/ Okay	Okay	Okay	Okay	FM		Under snow bank - to be completed later.
W55	107.4/-1.0	No	Okay	BP/ poor	None	Okay	Okay	FM		Install lock.
W55A	42.5/-0.55	No	see note	BP/ poor	None	NA	Okay	FM	Old style flush mount, soil in annulus	Install lock.
W56	67.10/-0.45	Yes	see note	Poor/ Poor	Replace	NA	Okay	FM	Old style flush mount, soil in annulus	Replace lock.
W57	NA	Yes	Broken	Poor/ Poor	Replace	Poor	Poor		Casing is broken. Well needs to be replaced.	Repaired well, converted to flush-mount.
WSWS	15.72/4.15	Yes	Okay	None/ Okay	Replace	Okay	Okay			Replaced lock.
WSWD	140.55/2.95	Yes	Okay	Okay/ Okay	Replace	Okay	Okay			Replaced lock.

TABLE 3.2

EXTRACTION WELL (EW1) PUMPING RATES - 2010
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

Date	*Elapsed Time (minutes)*	*Meter Reading*	*Total Flow*[1] *(gallons)*	*Average Flow Rate*[1] *(gpm)*	*Notes*
01/04/10		85,943,000			
02/05/10	45,060	97,176,000	11,233,000	249	
3/11/10	48,960	117,435,000	20,259,000	414	Off for 45 minutes on 2/12 to clean and inspect totalizer meter
4/1/10	30,240	132,447,000	15,012,000	496	
4/30/10	41,760	150,803,000	18,356,000	440	Off for 59 minutes on 4/23 to clean upper screen
6/1/10	46,080	174,305,000	23,502,000	510	
6/30/10	41,760	196,125,000	21,820,000	523	Off for 26 minutes on 6/22 to clean upper screen
8/3/10	49,418	218,999,000	22,874,000	463	Totalizer not operating full time. Actual flow rate approx. 590 gpm. Off for 22 minutes on 8/3 to clean totalizer meter
9/2/10	43,609	244,479,000	25,480,000	584	
10/5/10	47,523	272,644,000	28,165,000	593	
10/29/10	34,550	295,684,000	23,040,000	667	Off 32 minutes on 10/7 to clean upper screen
12/10/10	60,440	333,294,000	37,610,000	622	
1/1/11	30,860	348,850,000	15,556,000	504	Pump failure occurred on 12/28/10. Average pumping rate = 620 gpm when failure occurred
2010 Totals	**444,340**		**278,463,000**	**627**	

Notes:

[1] The total flows and the average flow rates shown are for the period preceding the date.

TABLE 3.3

CITY WELL OPERATIONAL DATA
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

		Well #3	*Well #6*	*Well #7*	*Well #9*	*Well #10*	*Well #11*
January	Hours	357.5	383	318.4	140	108	101.4
	Gallons	23.956	37.539	37.691	8.486	20.407	24.001
	gpm	1117	1634	1973	1010	3149	3945
February	Hours	288.9	379.9	301.4	222.8	64.4	149.1
	Gallons	19.319	36.929	35.202	13.368	12.147	29.573
	gpm	1115	1620	1947	1000	3144	3306
March	Hours	239.5	500.9	290.9	197.6	133.4	132.9
	Gallons	15.885	64.578	34.3	11.929	24.763	26.181
	gpm	1105	2149	1965	1006	3094	3283
April	Hours	238.7	477.1	251.3	0	258.4	65.3
	Gallons	24.499	46.693	27.802	0	48.37	11.929
	gpm	1711	1631	1844	0	3120	3045
May	Hours	353.6	384.1	464.6	0	363.1	5.5
	Gallons	34.643	37.539	56.157	0	65.251	0.49
	gpm	1633	1629	2015	0	2995	1485
June	Hours	240.84	474.3	244.7	91	145.7	209.5
	Gallons	24.727	47.617	30.704	5.506	26.966	42.337
	gpm	1711	1673	2091	1008	3085	3368
July	Hours	361.6	377.9	169.1	265.9	181	185.3
	Gallons	38.172	38.489	20.689	16.028	33.748	37.012
	gpm	1759	1697	2039	1005	3108	3329
August	Hours	321.3	406.1	279.4	212.5	152.6	207.5
	Gallons	34.911	40.773	33.709	12.804	27.693	41.948
	gpm	1811	1673	2011	1004	3025	3369
September	Hours	311.3	395.3	268	37.9	135.6	131.5
	Gallons	33.264	40.066	32.528	2.3	25.473	27.42
	gpm	1781	1689	2023	1011	3131	3475
October	Hours	447.4	293	326	135.2	73.1	114.4
	Gallons	47.833	29.167	48.959	8.196	13.528	23.81
	gpm	1782	1659	2503	1010	3084	3469
November	Hours	287.1	426.4	213.3	102.7	145.3	106.2
	Gallons	31.172	40.033	24.531	6.226	27.115	21.998
	gpm	1810	1565	1917	1010	3110	3452
December	Hours	596.3	138.4	240.8	147.9	95.4	138.8
	Gallons	64.898	13.582	30.218	8.958	17.616	28.645
	gpm	1814	1636	2092	1009	3078	3440
Average gpm:		1621	1700	2041	1006	3081	3396

Note: Hours indicate total hours pumped per month. Gallons indicates millions of galons pumped per mont

TABLE 4.1

MONITORING WELL LABORATORY RESULTS - 2010
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

Location	*Date*	*MCL*	*Acetone* - ug/L	*Benzene* 5 ug/L	*Ethylbenzene* 700 ug/L	*Toluene* 1000 ug/L	*Xylenes (total)* 10000 ug/L	*Chloroform* - ug/L	*Carbon tetrachloride* 5 ug/L	*Methylene chloride* 5 ug/L	*1,1-Dichloroethene* 7 ug/L	*1,1,2-Trichloroethane* 5 ug/L	*Tetrachloroethene* 5 ug/L	*Trichloroethene* 5 ug/L	*cis-1,2-Dichloroethene* 70 ug/L	*Vinyl chloride* 2 ug/L	*Total Chlorinated VOCs* - ug/L
East Bank																	
CW3	10/19/2010		< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2	0.75 J	1.3	0.31 J	4.36
E22A	10/20/2010		1.2 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.3	0.33 J	1.4	< 1.0	5.03
E23A	10/20/2010		2.8 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.24 J	< 1.0	12	4.1	13	1.6	30.94
E24A	10/19/2010		< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	20	< 1.0	< 1.0	< 1.0	20
E37A	10/20/2010		< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.2	1.2	3.5	1.1	7
FVD5	10/20/2010		< 170	69	300	29	1400	< 17	< 17	< 17	< 17	< 17	< 17	< 17	< 17	< 17	ND
IWD	10/21/2010		< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.4	0.27 J	< 1.0	4.67
MW10A	10/19/2010		< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	ND
MW10B	10/19/2010		< 10	< 1.0	< 1.0	< 1.0	< 1.0	0.69 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.69
MW10B	10/19/2010	D	< 10	< 1.0	< 1.0	< 1.0	< 1.0	0.41 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.41
WC3B	10/19/2010		< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.44 J	< 1.0	0.43 J	0.37 J	1.24
WC5A	10/19/2010		< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	8.5	1.1	0.26 J	< 1.0	9.86
WW4	10/20/2010		< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	ND
WW6	10/20/2010		1.1 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.24 J	< 1.0	10	2.8	26	7.3	46.34

MONITORING WELL LABORATORY RESULTS - 2010
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

Location	Date	MCL	Acetone - ug/L	Benzene 5 ug/L	Ethylbenzene 700 ug/L	Toluene 1000 ug/L	Xylenes (total) 10000 ug/L	Chloroform - ug/L	Carbon tetrachloride 5 ug/L	Methylene chloride 5 ug/L	1,1-Dichloroethene 7 ug/L	1,1,2-Trichloroethane 5 ug/L	Tetrachloroethene 5 ug/L	Trichloroethene 5 ug/L	cis-1,2-Dichloroethene 70 ug/L	Vinyl chloride 2 ug/L	Total Chlorinated VOCs - ug/L
West Bank																	
C2S	10/20/2010		< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.51 J	< 1.0	< 1.0	0.51
C4S	10/21/2010		1.1 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.36 J	0.36
CW6	10/20/2010		< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4	< 1.0	< 1.0	4
MW1A	10/20/2010		< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	ND
MW1A	10/20/2010	D	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	ND
R2D	10/20/2010		< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	6.2	< 1.0	< 1.0	6.2
R3D	10/21/2010		< 50	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	190	5.7	< 5.0	195.7
R4D	10/20/2010		< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	24	1.7	< 1.0	25.7
W52	10/21/2010		< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.77 J	< 1.0	< 1.0	0.77
W53A	10/20/2010		< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.28 J	< 1.0	< 1.0	< 1.0	< 1.0	11	2	< 1.0	13.28
W54	10/20/2010		< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	ND
W55	10/20/2010		< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.6	< 1.0	< 1.0	3.6
W56	10/21/2010		< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	ND
W56	10/21/2010	D	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	ND
WSWD	10/21/2010		< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.41 J	< 1.0	< 1.0	0.41

Notes:

Units = ug/L
MCL - Maximum Contaminant Levels for drinking water published by the United States Environmental Protection Agency
VOC - Volatile organic compound.
D - Duplicate Sample
J - Estimated value, below the reporting limit
ND - All VOCs were less than the reporting limit.
Shaded values exceed the MCL.

TABLE 4.2

EW1 LABORATORY RESULTS - 2010
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

Location	Date	Acetone	Benzene	Ethylbenzene	Toluene	Xylenes (total)	Carbon tetrachloride	Chloroform	1,1-Dichloroethene	Methylene chloride	1,1,2-Trichloroethane	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	Vinyl chloride
	MCL	--	5	700	1,000	10,000	5	--	7	5	5	5	5	70	2
Effluent	03/30/10	< 10	< 1	< 1	< 1	< 1	< 1	1.7	< 1	< 1	< 1	< 1	2.9	< 1	< 1
Effluent	06/21/10	< 10	< 1	< 1	< 1	< 1	< 1	0.33 J	< 1	< 1	< 1	< 1	3.3	0.22 J	< 1
Effluent	09/09/10	< 10	< 1	< 1	< 1	< 1	< 1	0.37 J	< 1	< 1	< 1	< 1	3.4	0.29 J	< 1
Effluent	11/17/10	< 10	< 1	< 1	< 1	< 1	< 1	2.1	< 1	< 1	< 1	< 1	3.8	0.23 J	< 1
Influent	03/30/10	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	6.5	0.4 J	< 1
Influent	06/21/10	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	7.7	0.44 J	< 1
Influent	09/09/10	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	7.2	0.45 J	< 1
Influent	11/17/10	1.8 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	8.9	0.48 J	< 1

Notes:

Units = mg/L
MCL - Maximum Contaminant Level for drinking water.
U - Estimated detection limit
J - Estimated value, value is below the reporting limit

APPENDIX A

DATA QUALITY VALIDATION MEMORANDA

CONESTOGA-ROVERS & ASSOCIATES

1801 Old Highway 8 NW, Suite #114
St. Paul, Minnesota 55112
Telephone: (651) 639-0913 Fax: (651) 639-0923
www.CRAworld.com

MEMORANDUM

TO: Chuck Ahrens, CRA

REF. NO.: 003978-10

FROM: Ruth Mickle/sb/4

DATE: April 15, 2010

CC: Analytical Data File

RE: Data Quality Assessment
March 30, 2010 Sampling Event
Wausau Superfund Site - Wausau, Wisconsin

The following details a data quality assessment for water samples collected March 30, 2010, at the Wausau - Superfund Site in Wausau, Wisconsin. The samples identified as W100330MV-486-1,2,3 (Influent) and W100330MV-487-1,2,3 (Effluent) were analyzed for Site list volatile organic compounds (VOCs).[1] The analyses were performed by TestAmerica Laboratories, Inc. (TestAmerica) in North Canton, Ohio. The quality assurance criteria were defined by the quality assurance project plan (QAPP).[2]

HOLDING TIME PERIOD

The holding time period for VOC analyses is 14 days from sample collection to completion of analyses.

On the basis of the sample collection date on the chain-of-custody form and the analytical report provided by TestAmerica, the analyses were completed within the specified holding time period.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries were within acceptance criteria.

---

1 VOC Method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, November 1986 and updates.

2 Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.

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METHOD BLANK SAMPLE

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. The method blank was free of target analytes.

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance of the analyses was monitored by means of LCS/LCSD data. The LCS recovery and RPD data for the analyses were within control limits criteria, indicating that overall performance was adequate.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. Since the MS/MSD spike sample data were derived from non-project samples, no evaluation of accuracy or precision was made based on the MS/MSD data.

FIELD QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of a trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. The trip blank was free of target analytes.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used without qualification.

CONESTOGA-ROVERS & ASSOCIATES

1801 Old Highway 8 NW, Suite #114
St. Paul, Minnesota 55112
Telephone: (651) 639-0913 Fax: (651) 639-0923
www.CRAworld.com

MEMORANDUM

TO: Chuck Ahrens, CRA

REF. NO.: 003978-10

FROM: Ruth Mickle/sb/5

DATE: July 13, 2010

CC: Analytical Data File

MN FILE COPY

RE: Data Quality Assessment
June 21, 2010 Sampling Event
Wausau Superfund Site - Wausau, Wisconsin

The following details a data quality assessment for water samples collected June 21, 2010, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W100621MV-488-1,2,3 (Influent) and W100621MV-489-1,2,3 (Effluent) were analyzed for Site list volatile organic compounds (VOCs).[1] The analyses were performed by TestAmerica Laboratories, Inc. (TestAmerica) in North Canton, Ohio. The quality assurance criteria were defined by the quality assurance project plan (QAPP).[2]

HOLDING TIME PERIOD

The holding time period for VOC analyses is 14 days from sample collection to completion of analyses.

On the basis of the sample collection date on the chain-of-custody form and the analytical report provided by TestAmerica, the analyses were completed within the specified holding time period.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries were within acceptance criteria.

---

1 VOC Method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, November 1986 and updates.

2 Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.

REGISTERED COMPANY
ISO 9001
ENGINEERING DESIGN

METHOD BLANK SAMPLE

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. With the exception of methylene chloride, the method blank was free of target analytes. Since there were no associated methylene chloride detections, no data qualification was required based on method blank data.

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance of the analyses was monitored by means of LCS/LCSD data. The LCS recovery and RPD data for the analyses were within control limits criteria, indicating that overall performance was adequate.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. Since the MS/MSD spike sample data were derived from non-project samples, no evaluation of accuracy or precision was made based on the MS/MSD data.

FIELD QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of a trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. The trip blank was free of target analytes.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used without qualification.

CONESTOGA-ROVERS & ASSOCIATES

1801 Old Highway 8 NW, Suite #114
St. Paul, Minnesota 55112
Telephone: (651) 639-0913 Fax: (651) 639-0923
www.CRAworld.com

MEMORANDUM

TO: Chuck Ahrens, CRA

REF. NO.: 003978-10

FROM: Ruth Mickle/sb/6

DATE: October 4, 2010

CC: Analytical Data File

RE: Data Quality Assessment
September 9, 2010 Sampling Event
Wausau Superfund Site - Wausau, Wisconsin

The following details a data quality assessment for water samples collected September 9, 2010, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W100909MV-490-1,2,3 (Influent) and W100909MV-491-1,2,3 (Effluent) were analyzed for Site list volatile organic compounds (VOCs).[1] The analyses were performed by TestAmerica Laboratories, Inc. (TestAmerica) in North Canton, Ohio. The quality assurance criteria were defined by the quality assurance project plan (QAPP).[2]

HOLDING TIME PERIOD

The holding time period for VOC analyses is 14 days from sample collection to completion of analyses.

On the basis of the sample collection date on the chain-of-custody form and the analytical report provided by TestAmerica, the analyses were completed within the specified holding time period.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries were within acceptance criteria.

---

1 VOC Method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, November 1986 and updates.

2 Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.

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METHOD BLANK SAMPLE

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. The method blank was free of target analytes.

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance of the analyses was monitored by means of LCS/LCSD data. The LCS recovery and RPD data for the analyses were within control limits criteria, indicating that overall performance was adequate.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. Since the MS/MSD spike sample data were derived from non-project samples, no evaluation of accuracy or precision was made based on the MS/MSD data.

FIELD QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of a trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. With the exception of acetone, the trip blank was free of target analytes. Since there were no associated acetone detections, no data qualification was required based on trip blank data.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used without qualification.

CONESTOGA-ROVERS & ASSOCIATES

1801 Old Highway 8 NW, Suite #114
St. Paul, Minnesota 55112
Telephone: (651) 639-0913 Fax: (651) 639-0923
www.CRAworld.com

MEMORANDUM

TO: Chuck Ahrens, CRA

REF. NO.: 003978-10

FROM: Ruth Mickle/sb/7

DATE: December 17, 2010

CC: Analytical Data File

MN FILE COPY

RE: **Data Quality Assessment**
November 17, 2010 Sampling Event
Wausau Superfund Site - Wausau, Wisconsin

The following details a data quality assessment for water samples collected November 17, 2010, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W111710-492-1,2,3 (Influent) and W111710-493-1,2,3 (Effluent) were analyzed for Site list volatile organic compounds (VOCs)[1]. The analyses were performed by TestAmerica Laboratories, Inc. (TestAmerica) in North Canton, Ohio. The quality assurance criteria were defined by the quality assurance project plan (QAPP)[2].

HOLDING TIME PERIOD

The holding time period for VOC analyses is 14 days from sample collection to completion of analyses.

On the basis of the sample collection date on the chain-of-custody form and the analytical report provided by TestAmerica, the analyses were completed within the specified holding time period.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for VOC analyses was monitored using surrogate recoveries. The surrogate recoveries were within acceptance criteria.

---

1 VOC Method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, November 1986 and updates.

2 Application of quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.

REGISTERED COMPANY
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ENGINEERING DESIGN

METHOD BLANK SAMPLE

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. With the exception of methylene chloride, the method blank was free of target analytes. Since there were no associated methylene chloride detections, no data qualification was required based on method blank data.

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance of the analyses was monitored by means of LCS/LCSD data. The LCS recovery and RPD data for the analyses were within control limits criteria, indicating that overall performance was adequate.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. Since the MS/MSD spike sample data were derived from non-project samples, no evaluation of accuracy or precision was made based on the MS/MSD data.

FIELD QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of a trip blank sample.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. With the exception of methylene chloride, the trip blank was free of target analytes. Since there were no associated methylene chloride detections, no data qualification was required based on trip blank data.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used without qualification.

CONESTOGA-ROVERS & ASSOCIATES

1801 Old Highway 8 NW, Suite #114
St. Paul, Minnesota 55112
Telephone: (651) 639-0913 Fax: (651) 639-0923
www.CRAworld.com

MEMORANDUM

TO: Chuck Ahrens, CRA

REF. NO.: 003978

FROM: Ruth Mickle/sb/8

DATE: December 17, 2010

CC: Analytical Data File

MN FILE COPY

RE: **Data Quality Assessment**
October 19-21, 2010, Annual Sampling Event
Wausau Superfund Site - Wausau, Wisconsin

The following details a data quality assessment for water samples collected October 19-21, 2010, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified in Table 1 were analyzed for Site list volatile organic compounds (VOCs)[1]. The analyses were performed by TestAmerica Laboratories, Inc. (TestAmerica) in North Canton, Ohio. The quality assurance criteria were established in the Quality Assurance Project Plan (QAPP)[2].

HOLDING TIME PERIODS

The holding time period for VOC analyses is 14 days from sample collection to analysis.

On the basis of sample collection dates on the chain-of-custody forms and the analytical report provided by TestAmerica, the analyses were completed within the specified holding time period.

METHOD BLANK SAMPLES

Contamination of the samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analyses of method blank samples. With the exception of methylene chloride, the method blank samples were free of target analytes. There were no associated methlyene chloride detections so no data qualification was required.

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1 VOC Method 8260B was derived from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW 846, Third Edition, November 1986 and updates.

2 Application of relevant quality assurance criteria was consistent with "National Functional Guidelines for Organic Data Review", October 1999.

SURROGATE COMPOUND PERCENT RECOVERIES (SURROGATE RECOVERIES)

Individual sample performance for the analyses was monitored by surrogate recoveries. The surrogate recoveries were within acceptance criteria, indicating that individual sample performance was adequate.

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

Overall performance for the analyses was monitored by means of a LCS/LCSD. The percent recoveries were within acceptance criteria.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

To assess the long-term accuracy and precision of the analytical method on various matrices, matrix spike percent recoveries and relative percent difference (RPD) of the spike recoveries were determined for the analyses. The percent recovery and RPD data for project samples were within acceptance criteria.

FIELD QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) SAMPLES

The field QA/QC associated with the sampling event consisted of one trip blank sample, two rinsate blanks, one field blank and three field duplicate sets.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, a trip blank sample was submitted to the laboratory for VOC analysis. The trip blank was free of target analytes.

As a check for cleanliness of sampling equipment, two rinsate blanks were collected as authentic samples for labeling and submission to the lab. The rinsate samples are identified in Table 1. The rinsate blank samples yielded toluene and acetone detections. However, since the associated results were nondetect for these parameters, no qualification was required based on rinsate blank results.

As a check for cleanliness of overall sampling conditions, one field blank was collected as an authentic sample for labeling and submission to the lab. The field blank sample is identified in Table 1. The field blank sample yielded toluene and acetone detections. However, since the associated results were nondetect for these parameters, no qualification was required based on field blank results.

Overall precision for the sampling event was monitored using field duplicate samples identified in Table 1. The RPD values for positive parameter results were found to be acceptable (RPD values less than or equal to 25 where both results are 5+ times the reporting limit), indicating an adequate level of precision was achieved.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision pertaining to the above criteria, and may be used without qualification.

TABLE 1

SAMPLE IDENTIFICATION NUMBERS
WAUSAU SUPERFUND SITE
OCTOBER 19-21, 2010 SAMPLING EVENT

Sample ID	*Sample Location*
W-101019-NE-01	CW3
W-101019-NE-02	MW10B
W-101019-NE-03	MW10B dup
W-101019-NE-04	MW10A
W-101019-NE-05	E24A rinsate blk
W-101019-NE-06	E24A
W-101019-NE-07	WC5A
W-101019-NE-08	WC3B
W-101020-NE-09	CW6
W-101020-NE-10	W55
W-101020-NE-11	W55 field blk
W-101020-NE-12	MW1A
W-101020-NE-13	MW1A dup
W-101020-NE-14	R2D
W-101020-NE-15	W53A
W-101020-NE-16	W54
W-101020-NE-17	R4D
W-101020-NE-18	E22A
W-101020-NE-19	C2S
W-101020-NE-20	FVD5
W-101020-NE-21	E37A
W-101020-NE-22	E23A
W-101020-NE-23	WW6
W-101020-NE-24	WW4
W-101021-NE-25	W56
W-101021-NE-26	W56 dup
W-101021-NE-27	C4S
W-101021-NE-28	W52
W-101021-NE-29	R3D rinsate blk
W-101021-NE-30	R3D
W-101021-NE-31	WSWD
W-101021-NE-32	IWD