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April 17, 2008

Reference No. 003978

Mr. Jeff Gore
UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY
77 West Jackson
Chicago, Illinois 60604

Ms. Eileen Kramer
WISCONSIN DEPARTMENT OF
NATURAL RESOURCES
1300 W. Clairemont, Box 4001
Eau Claire, Wisconsin 54702

Dear Mr. Gore and Ms. Kramer:

Re: 2005/2006 Biennial Monitoring Report
Wausau Water Supply NPL Site

On behalf of the Wausau Water Supply PRP Group, Conestoga-Rovers & Associates (CRA) is pleased to submit this 2005/2006 Biennial 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 call me at (651) 639-0913 if you have any questions or comments.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

Jason Twaddle

JT/jla/46
Enc.

c.c.: Dave Erickson; City of Wausau
Terry Kopplin; Marathon Electric
Art Flashinski: Wausau Chemical

2005/2006 BIENNIAL MONITORING REPORT

WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

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2005/2006 BIENNIAL MONITORING REPORT

WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

Prepared by:
Conestoga-Rovers & Associates

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1.0 INTRODUCTION

Conestoga-Rovers and Associates (CRA) has prepared this 2005/2006 Biennial 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 2005 and 2006. This Report also presents operational data for the 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. Figure 1.1 provides the Site location and Figure 1.2 provides a Site plan.

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.

Groundwater remediation is provided through two existing municipal production wells (CW3 and CW6) and one extraction well installed at Marathon Electric (EW1). Air strippers 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. Then, in an August 4, 1995 letter, the United States Environmental Protection Agency (USEPA) approved the optimum pumping configuration range from that report for the three extraction wells. Those pumping rates are:

- 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; and
- 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 not part of the ROD or the CD and operation ceased in 1996.

Historically, 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 2005 and 2006.

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 because of source remediation and volatile organic compound (VOC) removal from the aquifer.

Groundwater remediation at a site like Wausau is a long-term process that cannot be readily measured on a short-term basis using water quality data alone. Because of the time necessary to achieve groundwater remediation, containment of contaminated groundwater is the primary measurable and achievable short-term objective.

Actual remediation of the groundwater is a slower process that is more difficult to measure using field data on a short-term basis. Accordingly, water quality data is measured annually on a long-term basis to show the downward trend of VOC concentrations in groundwater. Significant VOC reductions are measured over a period of years.

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 designed to 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) (Figure 1.2).

1.3 SITE GEOLOGY

The Site is underlain by glacial outwash and alluvial sediments, which 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; and
- Vinyl chloride 2 µg/L.

2.0 2005 MONITORING

Groundwater monitoring during 2005, which included water level measurements and water sampling, was conducted in October in accordance with the Groundwater Monitoring Plan. Monitoring of EW1 was completed quarterly in January, April, June, and October in accordance with the Groundwater Monitoring Plan.

As reported previously, two monitoring wells (WC2 and W51A) were not monitored because they were abandoned in 2000 due to damage. Also, as approved by the USEPA and Wisconsin Department of Natural Resources (WDNR), the analysis of bis(2-ethylhexyl)phthalate at C4S and W53A was eliminated.

2.1 2005 WATER LEVEL MONITORING

Table 2.1 presents the groundwater elevation data measured on October 24-25, 2005. Water table contours based on these measurements are presented on Figure 2.1. Field staff measured water levels on the East Bank on October 24, 2005, while CW3 was running. CW3 was shut-off and CW6 was turned on the afternoon of October 24, 2005, after water levels were measured in the East Bank wells. West Bank water levels were then measured on October 25, 2005, after CW6 had been running overnight. Water levels in the City production wells were not measured.

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 2005 GROUNDWATER SAMPLING

Annual groundwater samples were collected on October 25-26, 2005, according to the Groundwater Monitoring Plan. Due to sampling equipment failure, monitoring wells MW1A, IWD, and WSWD were not sampled during October, but were sampled on November 23, 2005. Monitoring well samples were analyzed according to EPA Method 8260 for the Site specific VOC list presented in Table 2.2. A groundwater-sampling summary for 2005, which includes field parameters, is presented in Table 2.3.

Groundwater sampling was conducted according to the Quality Assurance Project Plan (QAPP), February 1994, as amended by a June 11, 1999, letter to the USEPA. Severn Trent Laboratories (STL) in Chicago, Illinois 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 Data Quality Validation memorandums for 2005 data are included in Appendix A.

2.3 2005 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 treatment of the groundwater extracted by EW1. This data is also used to measure the contaminant levels discharged to the Wisconsin River from the EW1 treatment system. The discharge should meet the substantive requirements of the Wisconsin Pollutant Discharge Elimination System (WPDES).

Influent and Effluent samples were collected from EW1 quarterly in January, April, June, and October according to the Groundwater Monitoring Plan. Both the influent and effluent samples were analyzed using EPA Method 8260 for the Site specific VOCs (Table 2.2).

Each quarterly sample was analyzed by STL. 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 memorandums for the 2005 data are included in Appendix A.

3.0 2006 MONITORING

Groundwater monitoring during 2006, which included water level measurements and water sampling, was conducted in October in accordance with the Groundwater Monitoring Plan. Monitoring of EW1 was completed quarterly in January, March, July, and October in accordance with the Groundwater Monitoring Plan.

As reported previously, two monitoring wells (WC2 and W51A) were not monitored because they were abandoned in 2000 due to damage. Also, as approved by the USEPA and Wisconsin Department of Natural Resources (WDNR), the analysis of bis(2 ethylhexyl)phthalate at C4S and W53A was eliminated.

3.1 2006 WATER LEVEL MONITORING

Table 2.1 presents the groundwater elevation data measured on October 9-10, 2006. Water table contours based on these measurements are presented on Figure 3.1. Field staff measured water levels on the East Bank on October 9, 2006, while CW3 was running. West Bank water levels were measured on October 10, 2006. CW6 was under repair and was not operating during monitoring activities. Hence, groundwater contours for that portion of the West Bank do not show any influence due to pumping. Water levels in the City production wells were not measured.

With the exception noted above for CW6, 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.

3.2 2006 GROUNDWATER SAMPLING

Annual groundwater samples were collected on October 9-10, 2006, according to the Groundwater Monitoring Plan. Monitoring well samples were analyzed according to EPA Method 8260 for the Site specific VOC list presented in Table 2.2. A groundwater-sampling summary, which includes field parameters, is shown on Table 3.1.

Groundwater sampling was conducted according to the Quality Assurance Project Plan (QAPP), February 1994, as amended by a June 11, 1999, letter to the USEPA. STL 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 Data Quality Validation memorandums for 2006 data are included in Appendix A.

3.3 2006 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 treatment of the groundwater extracted by EW1. This data is also used to measure the contaminant levels discharged to the Wisconsin River from the EW1 treatment system. The discharge should meet the substantive requirements of the Wisconsin Pollutant Discharge Elimination System (WPDES).

Influent and Effluent samples were collected from EW1 quarterly in January, March, July, and October according to the Groundwater Monitoring Plan. Both the influent and effluent samples were analyzed using EPA Method 8260 for the Site specific VOCs (Table 2.2).

Each quarterly sample was analyzed by STL. 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 memorandums for EW1 2006 data are included in Appendix A.

4.0 OPERATION AND MAINTENANCE

Operation and maintenance activities reported in this section, cover EW1, the city production wells, the groundwater monitoring wells, and the East Bank SVE system.

4.1 EXTRACTION WELL (EW1) OPERATION 2005 AND 2006

The West Bank extraction well (EW1) at Marathon Electric ran with only a few short shutdowns in 2005 and 2006. Approximately 428,361,000 gallons of water were extracted and treated during 2005 and 411,736,000 gallons were extracted and treated in 2006. The extraction well pumped at an average flow rate of 817 gallons per minute during 2005 and at an average rate of 785 gallons per minute during 2006. Tables 4.1 and 4.2 summarize EW1 operational data for 2005 and 2006 respectively.

In 2005, EW1 was shut down on two separate occasions for a total of 54 hours. The pump shut down for 51 hours on February 26-28 due to an electrical failure, and for 3 hours on August 3 for routine motor maintenance. Other than the two times noted, EW1 operated continuously in 2005 without any problems. If the 54 hours of downtime is excluded, the average pumping rate for 2005 was 822 gpm.

The primary maintenance issue in 2006 was the failure and replacement of the flow meter. During a routine inspection and meter reading on June 8, 2006, the flow meter was not working and therefore was removed. The previous valid meter reading was on May 2, 2006. Because that meter model was not in stock, a new meter had to be manufactured and was installed on August 28, 2006.

As a result of the meter failure, the flow rates and total flow had to be estimated between May 2, 2006, and August 28, 2006. The flow rate was estimated by averaging the flow rate immediately before May 2 (884 gpm) and the flow rate immediately after August 2 (612 gpm). Therefore, the flow rate was estimated as 748 gpm during this time period.

After the new meter was installed, the flow rates reflected on the meter seemed low. Therefore, the meter manufacturer calibrated the meter in place. Originally, the calibrator showed the meter recording 63% of actual flow. After adjusting the flow rate to approximately 800 gpm, a second calibration showed the meter recording 68% of the actual flow. A copy of the calibration report is presented in Appendix B. Based on these calibrations, the total flow and flow rates were adjusted to reflect the actual conditions (Table 4.2).

In addition to being shut down three times (total of 4 hours), for flow meter maintenance and repair in 2006, the pump shut down six times for a total of 29 hours due to electrical failures at the plant at different times during the year. Overall, EW1 was shut down on nine occasions for a total of approximately 33 hours. Other than the shut down times noted, EW1 operated continuously in 2006 without any problems. If the 33 hours of downtime is excluded, the average pumping rate for 2006 was 788 gpm.

The lower average pumping rate in 2006 is a result of the flow meter failure. While the meter was inoperable, and during the subsequent period while the new meter was being calibrated, the true flow rate was not known; therefore, the flow could not be adjusted to maintain a flow rate of 800 gpm. As shown on Table 4.2, the flow rate exceeded 800 gpm both before May 2, 2006, (meter failure) and after October 10, 2006 (final meter calibration).

4.2 CITY PRODUCTION WELLS - 2005 AND 2006

Both CW3 and CW6 operated as required in 2005 and 2006 with minimal shutdowns or repairs.

Tables 4.3 and 4.4 present pumping data for all six City wells in 2005 and 2006 respectively. While only CW3 and CW6 are part of the remediation system, data for all six City wells is presented, as has been done historically. 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 generally exceeded the operating requirements established in the Groundwater Flow Model report.

During 2005, with the exception of February and March 2005, CW3 operated for at least 280 hours each month at pumping rates greater than 1,480 gpm, exceeding the requirements of 65 hours per week at 1,200 gpm. CW6 operated for at least 358 hours each month at pumping rates greater than 1,400 gpm, exceeding the pumping requirements of 85 hours per week at 1,400 gpm.

During 2006, both CW3 and CW6 were shut down for maintenance. CW3 was shut down from July 3 to July 23 to replace a faulty check valve. With the exception of July 2006, CW3 operated for at least 280 hours each month at pumping rates greater than 1,390 gpm, exceeding the requirements of 65 hours per week at 1,200 gpm. CW6 was shut down from October 6 to October 15 for routine pump and motor maintenance. With the exception of October 2006, and the two months before October, CW6 operated

for at least 357 hours each month at a pumping rates greater than 1,410 gpm, exceeding the requirements of 85 hours per week at 1,400 gpm.

4.3 EAST BANK SVE SYSTEM

The East Bank SVE system (at Wausau Chemical) has been shut off since January 10, 2001, because of inefficient removal rates. A March 8, 2002, letter report recommended permanent closure of the East Bank source area remediation system based on soil sample results from the two "hot spots", a statistical analysis, and continued decrease in the groundwater VOC concentrations.

In 2002, the WDNR and the USEPA requested quarterly groundwater sampling at select wells in the vicinity of Wausau Chemical to verify that there was no significant contamination in the soil still contributing to the groundwater plume. Monitoring wells WC3B and WC5A were sampled in January, April, July, and October 2003. The results of these sampling events were reported in a March 5, 2004, letter report that requested permanent closure.

Discussions since that time have resulted in a tentative agreement for permanent closure of the East Bank source area. The WDNR requested a deed restriction be placed on the property as a condition for permanent closure. An agreement between Wausau Chemical, WDNR, and EPA was reached on the deed restriction language in November 2006. A condition of that agreement was the preparation of a Pavement Cover and Building Maintenance Plan to maintain the paved areas on the property to minimize rainwater infiltration and prevent direct human contact with soils. This plan was also approved in November 2006. A copy is presented in Appendix C. Permanent closure is expected in 2007, once the deed restriction is filed and recorded with the county.

4.4 MONITORING WELL MAINTENANCE

In addition to routine maintenance of replacing damaged locks, the following monitoring well maintenance was completed in November 2005:

- W53 and W53A - flush grade covers were replaced and were set 1/4 inch below the concrete collar so the snow plow does not catch them.
- WC5/WC5A well nest - replaced damaged bumper post.
- W52 and W52A - replaced concrete collars surrounding well casing.

- MW3A - converted from an above-ground well to an at-grade well at the request of the home owner where the well is located. The top of casing was subsequently resurveyed by the City.

5.0 EVALUATION OF 2005 GROUNDWATER DATA

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

Table 5.1 presents the laboratory results for monitoring well samples collected during 2005. The data indicate that, in general, the plume is stable or decreasing in size. Total chlorinated VOC data, included in Table 5.1 and presented on Figure 5.1, illustrates the plume configuration based on the October 2005 data.

5.1 WEST BANK – 2005 DATA

The primary VOC found in the West Bank groundwater in 2005 was trichloroethene (TCE). The degradation product cis-1,2-dichloroethene (C12DCE) was detected at a few locations with relatively low concentrations. Vinyl chloride was detected in one well on the West Bank. Monitoring wells with TCE concentrations greater than the MCL of 5 µg/L include R2D, R3D, R4D, and W55. The MCL for TCE was also exceeded in the samples from the two extraction wells, EW1 and CW6 (see Tables 5.1 and 5.2). Monitoring well C4S had a vinyl chloride concentration of 1.5 µg/L, which is less than the MCL of 2 µg/L.

In the portion of the plume north of extraction well EW1, chlorinated volatile organic compounds (CVOCs) are located in the deeper portions of the aquifer. All of the wells that exceeded the MCL for TCE were in the deeper portion of the aquifer north of EW1. 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.

In general, the West Bank plume concentrations decreased in 2005. Most of the monitoring wells on the West Bank had total CVOC concentrations in 2005 lower than their 2004 concentrations. The West Bank contaminant plume is discussed further in Section 6.1.

5.2 EAST BANK – 2005 DATA

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 most wells indicates an active natural biodegradation process (see Table 5.1). For example, at E23A, E37A, and WW6, the C12DCE concentrations were

higher than the respective PCE and TCE concentrations in 2005. Vinyl chloride was detected in five East Bank wells, with three wells exceeding the MCL of 2 µg/L (E23A at 12 µg/L, E37A at 6.2 µg/L, and WW6 at 12 µg/L.

Two East Bank wells had PCE concentrations that exceeded the MCL of 5 µg/L. The highest PCE concentration was 18 µg/L at E23A . Two wells (IWD and E23A) had TCE concentrations that slightly exceeded the MCL of 5 µg/L.

Two monitoring wells had significant increases in total CVOC concentrations in 2005. The total CVOC concentration at WW6 was 28 µg/L and the total CVOC concentration at E23A was 66 µg/L. The highest CVOC at an individual well in 2004 was 16.4 µg/L. These increases in CVOCs are probably due to ongoing movement of contaminant slugs as they migrate toward CW3.

There was a significant decrease in total CVOCs at WC3B, the well nearest the source.

Concentrations at the edge of the plume have remained constant and low. As shown in Table 5.1 and Figure 5.1, the concentrations at E24A, MW10A, MW10B, and WW4 are very low to "not detected".

The 2005 concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX) at monitoring well FVD5 were slightly lower than in 2004, but are consistent with historical data. The BTEX parameters found in this well are independent of the Wausau NPL site remediation process. During 2004, a third party conducted an investigation at the former Wausau Energy property where FVD5 is located.

5.3 EW1 – 2005 DATA - westbank

The 2005 influent and effluent laboratory results for EW1 are presented in Table 5.2. TCE was the primary VOC detected. C12DCE was also detected in samples from all sampling events, but its concentration was less than 1 µg/L.

Influent concentrations of TCE remained steady between 11 µg/L and 14 µg/L. The effluent concentrations indicate that the EW1 treatment system removes about 50 percent of the VOCs 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, Marathon Electric Manufacturing Co., Wausau, Wisconsin. None of

the discharge limits were exceeded during 2005. Results of quarterly EW1 influent and effluent sampling are also reported quarterly.

5.4 HYDRAULIC CAPTURE - 2005

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 5.1 and 5.2. 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 5.1 also demonstrates that hydraulic containment of the contaminants was maintained through 2005.

6.0 EVALUATION OF 2006 GROUNDWATER DATA

Table 6.1 presents the laboratory results for monitoring well and City well samples collected during 2006. The data indicate that, in general, the plume is stable. Total chlorinated VOC data, included in Table 6.1 and presented on Figure 6.1, illustrates the plume configuration based on the October 2006 data.

6.1 WEST BANK – 2006 DATA

West Bank groundwater results in 2006 were generally consistent with the 2005 results. The primary VOC detected was TCE. C12DCE was also detected at a few locations with relatively low concentrations. Vinyl chloride was detected in one well (C4S) with a concentration of 2.9 µg/L, which is slightly higher than the MCL of 2 µg/L. Monitoring wells with TCE concentrations greater than the MCL of 5 µg/L included R2D, R3D, R4D, and W55. The MCL for TCE was also exceeded in the samples from the two extraction wells, EW1 and CW6 (see Tables 6.1 and 6.2).

In the portion of the plume north of extraction well EW1, CVOC concentrations are highest in the deeper portions of the aquifer. All of the samples that exceeded the MCL for TCE were from the deeper monitoring wells north of EW1. 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.

In general, the 2006 West Bank plume concentrations remained stable compared to 2005 results.

Previous Annual Monitoring Reports discuss the probable migration of a relatively high concentration slug of CVOCs that is currently in the vicinity of R3D. 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. 2005 and 2006 data indicate that this slug continues to move south toward R4D and EW1 (see Figure 6.1). Historical data for R2D, R3D, and R4D are shown 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

As shown above, concentrations in R3D continued to decrease through 2005/2006, and have decreased by 75 percent from 1,800 µg/L in 2000 to the 2005/2006 average of 450 µg/L, suggesting that the center of this CVOC slug has moved past R3D. During approximately the same time period, the CVOC concentration in R4D has increased from a low concentration of 13 µg/L in 2001, to the 2005/2006 average of 49 µg/L. Continuation of these opposite trends at R3D and R4D indicates that this slug of higher concentrations is moving south toward EW1.

However, CVOC concentrations at W52, which is between R3D and R4D, have remained steady at less than 3 µg/L since 2000. The path that CVOCs travel in an aquifer is not necessarily a straight line, but follow preferential pathways. While these three wells are all screened in the deeper portion of the aquifer, their screens are at different elevations. The bottom of W52 is at an elevation of 1,092 feet, 17 feet higher than the bottom of R3D (1,075 feet) and 9 feet higher than R4D (1,083 feet). It is possible that higher concentration portions of the plume are passing under or around W52.

In the far north portion of the plume, within the capture area of City production well CW6, the total CVOC concentration in CW6 and W55 have been fairly consistent since 2001 (Figures 5.1 and 6.1). There has been a slight decrease at CW6 from 15 µg/L to 7.3 µg/L total CVOC during this time period. This area of the plume appears to be stable.

In the southern portion of the West Bank plume under the old landfill, CVOC concentrations remained stable from 2005 to 2006. The vinyl chloride concentration at C4S exceeded the MCL in 2006, although the increase in concentration was negligible. The TCE concentration at W53A remained below the MCL.

6.2 EAST BANK – 2006 DATA

The extent of the East Bank contaminant plume remained relatively stable from 2005 to 2006 (Figures 5.1 and 6.1). However, concentration trends were variable-- higher at some locations and lower at others. Higher concentrations were exhibited at monitoring wells WW6, E22A, and WC3B, while lower concentrations were measured at E23A, E37A, and WC5A. Although monitoring well concentrations generally have not shown a clear downward trend from 2004 through 2006, the CVOC concentrations at City well CW3 have decreased every year. Total CVOC concentrations from 2002 through 2006 for key East Bank wells are shown below:

	Total CVOCs (µg/L)				
Well	***2002***	***2003***	***2004***	***2005***	***2006***
CW3	7.7	7.7	7.2	6.4	4.6
WW6	23.6	10.6	10.1	28	78
E23A	7.3	15.6	15.2	66	47
E37A	8.5	3.4	16.4	17	8.5
E22A	11.7	10	9.2	ND	14
WC5A	11.4	5.6	10.1	12	8.4
WC3B	32.7	3.1	10.2	1.4	18
E24A	2.8	1.2	2.6	1.6	3.7
IWD	1.87	5.6	8.9	6.6	13

These data indicate that there is movement of contaminant slugs within the plume as groundwater moves toward capture at CW3.

The island well, IWD, has had a generally increasing TCE concentration since 2000, when no CVOCs were detected. The TCE concentration in 2006 was 13 µg/L. The aquifer at IWD was impacted by West Bank contaminants because, prior to operation of EW1, CW3 captured groundwater from the West Bank and caused it to migrate beneath the river over to the east side. There is likely a low concentration remnant of the West Bank contaminants in a relatively stagnant area between the capture zones of EW1 and

CW3. This remnant would move slowly toward one side or the other, depending on the pumping rates and pumping patterns of EW1 and CW3.

The data indicate that CW3 continues to effectively capture the East Bank plume and is effectively remediating the groundwater on the East Bank

6.3 EW1 - 2006 DATA

The 2006 influent and effluent laboratory results for EW1 are presented in Table 6.2. TCE was the primary VOC detected. C12DCE was also detected in samples from all sampling events, but its concentration was less than 1 µg/L.

Influent concentrations of TCE ranged from 9 µg/L to 11 µg/L in 2006, lower than the TCE concentrations in 2005 (11 µg/L to 14 µg/L). The effluent concentrations indicate that the EW1 treatment system removes approximately 50 percent of the VOCs 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, Marathon Electric Manufacturing Co., Wausau, Wisconsin. None of the discharge limits were exceeded during 2006. Results of quarterly EW1 influent and effluent sampling are also reported quarterly

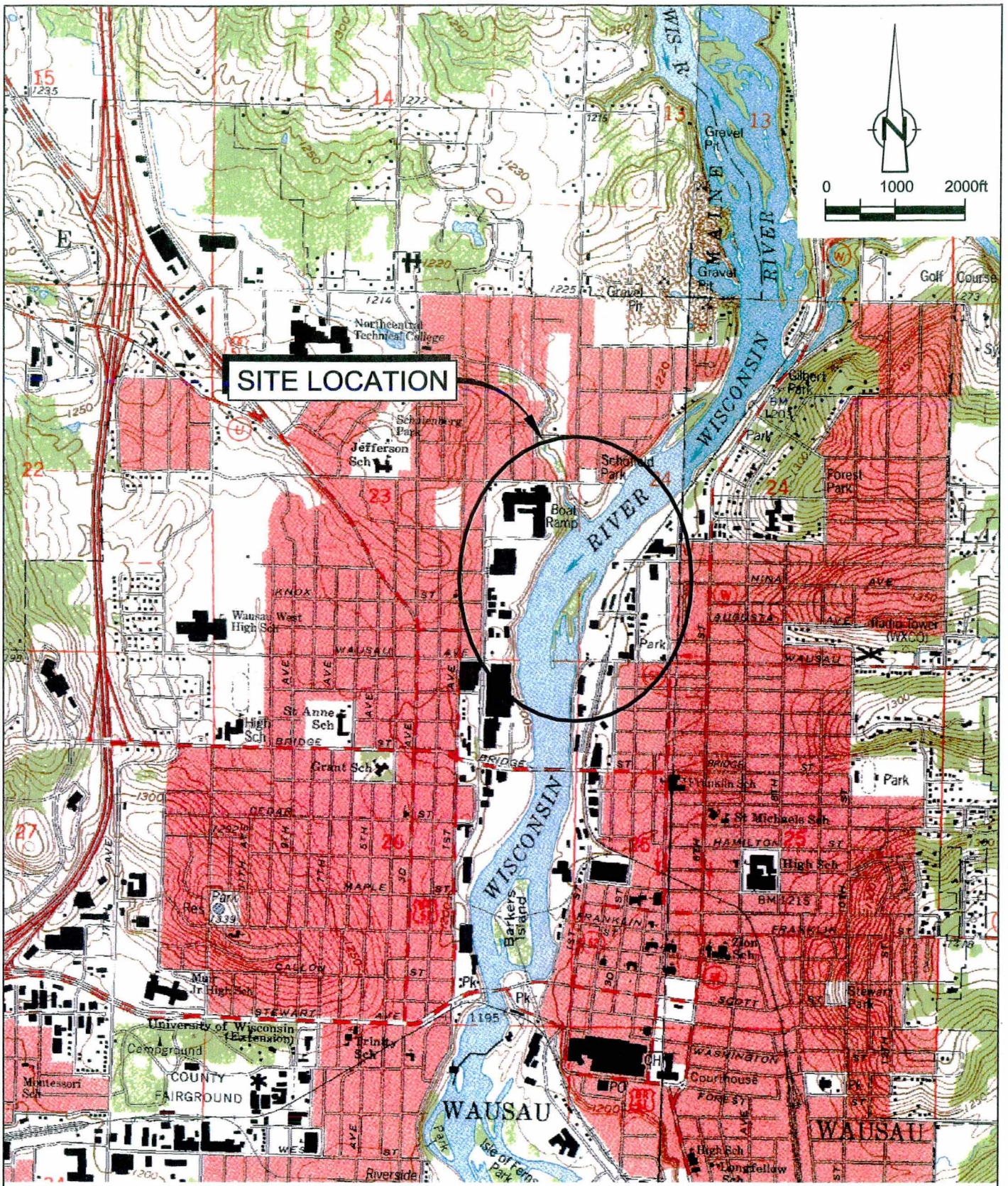
6.4 HYDRAULIC CAPTURE - 2006

Hydraulic containment of the contaminant plume is demonstrated on Figure 3.1. Note that the West Bank City supply wells were not operating during the water level round due to maintenance. Hence, the groundwater contours in the area of CW6 do not indicate the typical pattern of flow toward the supply well. The water table contours indicate that groundwater flow in the contaminated portions of the Site is toward the operating extraction wells - CW3 and EW1, which is supported by the analytical data as discussed in Sections 6.1 and 6.2. 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 6.1 also demonstrates that hydraulic containment of the contaminants has been maintained.

7.0 CONCLUSIONS AND RECOMMENDATIONS FOR 2005 AND 2006 DATA

- The Marathon Electric extraction well (EW1) and the two City production wells (CW3 and CW6) continue to capture the CVOC plume as evidenced by analysis of the hydraulic data and the chemical data.
- The East Bank CVOC plume has decreased in size and concentration historically and remained fairly stable through 2005 and 2006 with some shifting of contaminants within the plume. There is significant evidence of natural attenuation of the East Bank plume.
- The CVOC plume on the West Bank remained fairly stable in its extent and concentrations within the plume. The high concentration slug of CVOCs near R3D continued to move towards EW1. The plume is shallower and less concentrated under the old landfill than it is north of EW1.
- Four West Bank monitoring wells (R2D, R3D, R4D, and W55) and the two pumping wells (EW1 and CW6) had TCE concentrations greater than the MCL of 5µg/L.
- In 2005, two East Bank wells had a PCE concentration greater than the MCL of 5 µg/L - WC5A and E23A. In 2006, four East Bank wells had a PCE concentration greater than the MCL of 5 µg/L - WC5A, WW6, E22A, and E23A. Three East Bank wells had a vinyl chloride concentration greater then the MCL of 2 µg/L in both 2005 and 2006 (WW6, E23A, and E37A in 2005, and WW6, E23A, and WC3B in 2006). The TCE concentration at IWD and E23A exceeded the MCL of 5 µg/L in 2005 and 2006.
- EW1 removed approximately 428,361,000 gallons of water in 2005 at an average pumping rate of 817 gallons per minute.
- EW1 removed approximately 411,736,000 gallons of water in 2006 at an average pumping rate of 785 gallons per minute. The flow meter failed and had to be replaced in 2006, resulting in estimated flow rates for four months.
- The EW1 treatment system removed approximately 50 percent of the VOCs from the extracted groundwater. The effluent concentrations from the treatment system were well below the discharge limits.
- The City production wells operated as scheduled and within the requirements established in the Groundwater Flow Model Report.
- Wausau Chemical, WDNR, and EPA have reached an agreement on a deed restriction for the Wausau Chemical property that will result in permanent closure of the East Bank SVE system in 2007.
- Monitoring in 2007 should continue as described in the Groundwater Monitoring Plan with slight modifications discussed in previous reports. WC2 and W51A were eliminated from the monitoring schedule because of abandonment as described in

the 2000 Annual Monitoring Report. Analysis of bis(2-ethylhexyl)phthalate was eliminated as recommended in the 2002 Annual Monitoring Report.

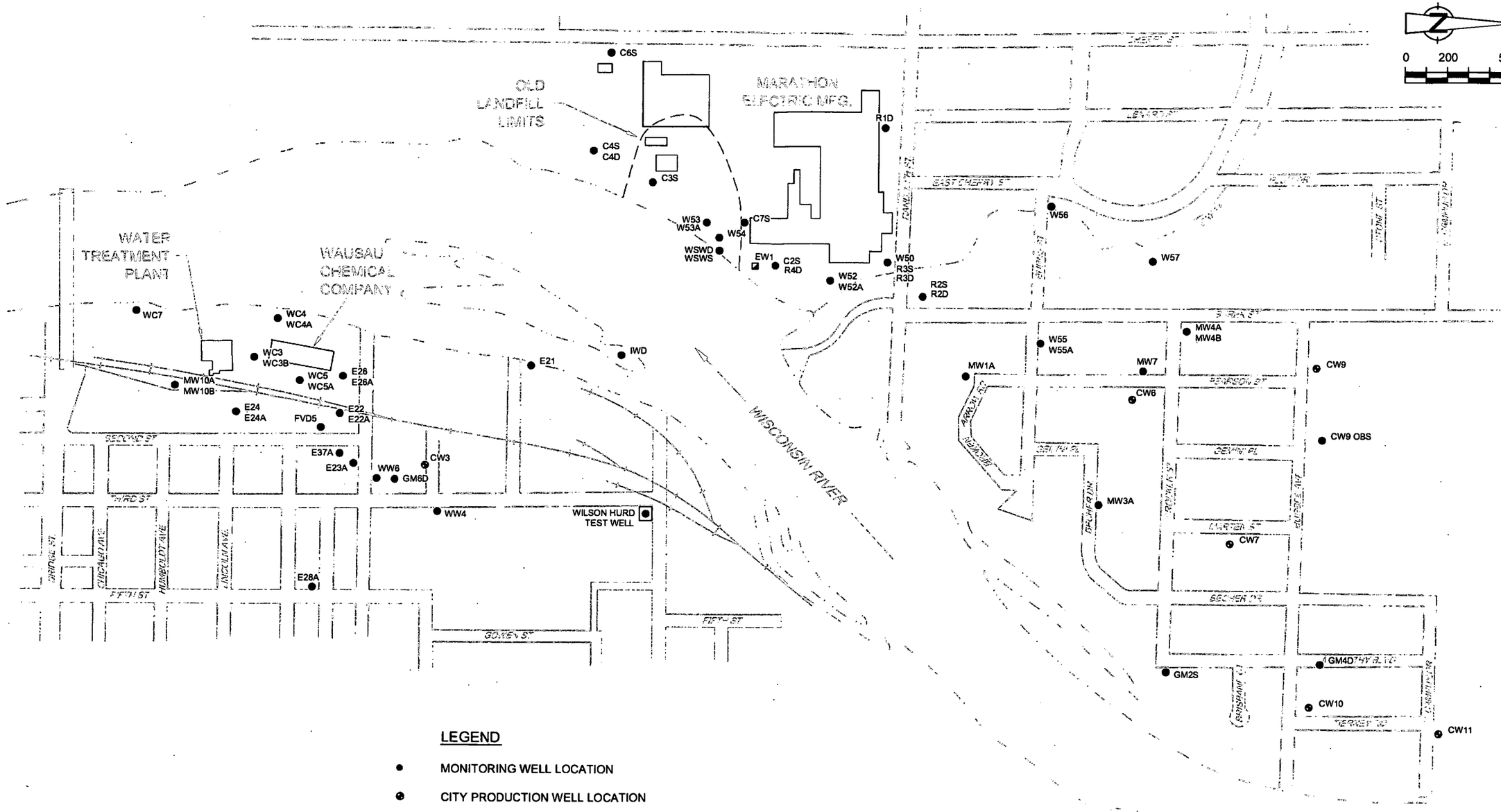


SOURCE: U.S.G.S. WAUSAU EAST AND WEST QUADRANGLE MAPS.

figure 1.1

SITE LOCATION
WAUSAU WATER SUPPLY NPL LOCATION
Wausau, Wisconsin

03978-00(024)GN-WA006 Jan 24/2008



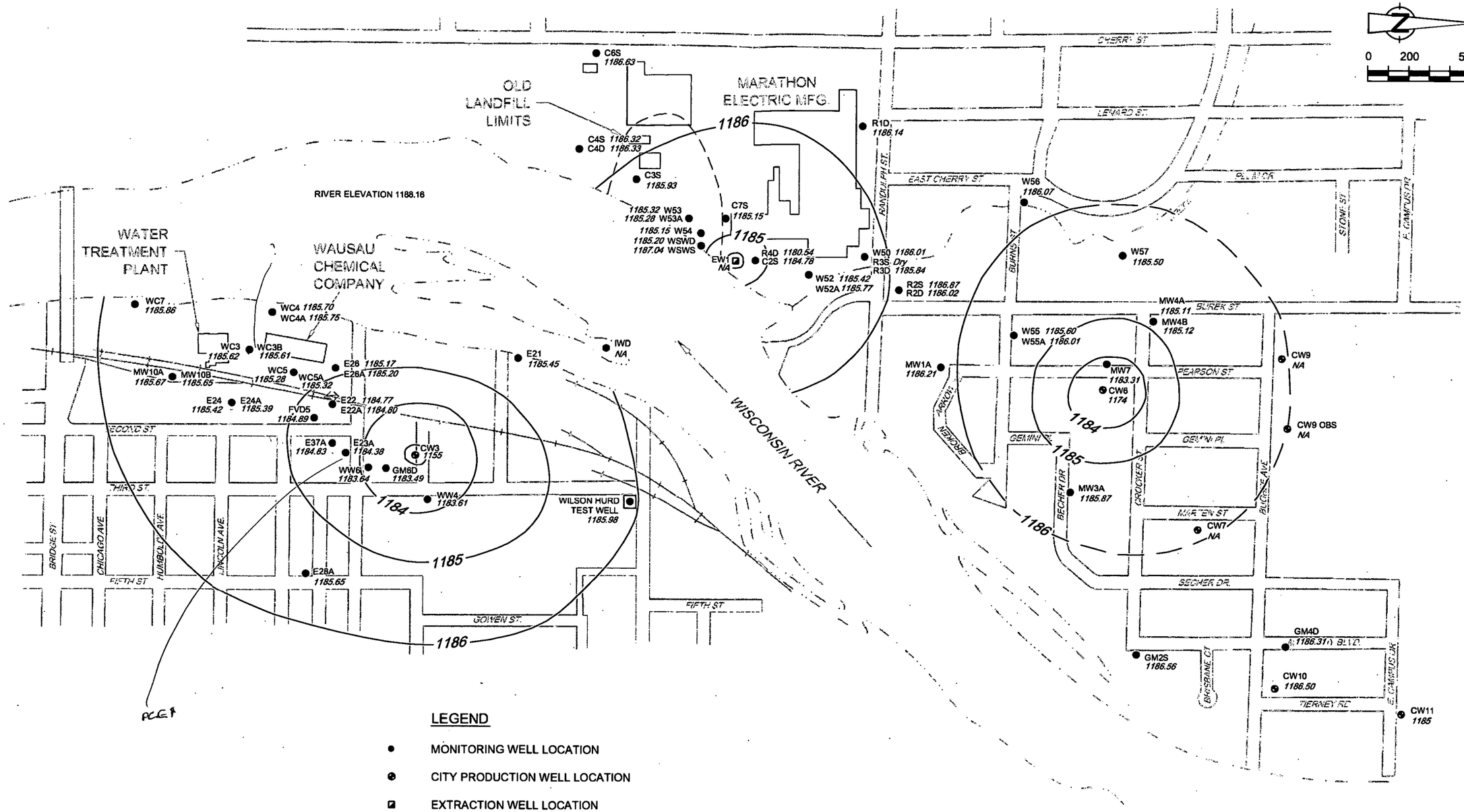
LEGEND

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

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

figure 1.2

SITE PLAN
WAUSAU WATER SUPPLY NPL SITE
Wausau, Wisconsin



LEGEND

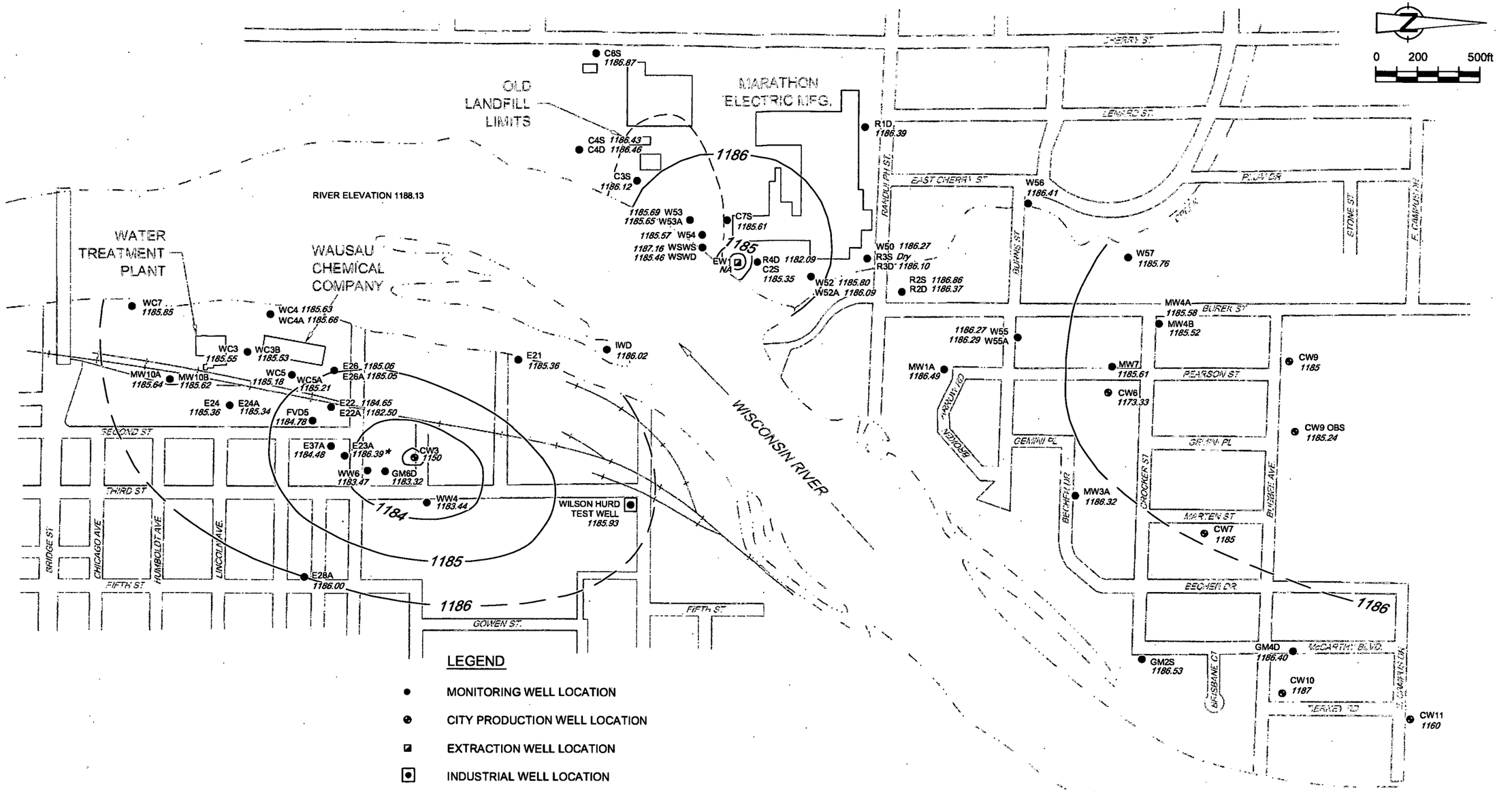
- MONITORING WELL LOCATION
- CITY PRODUCTION WELL LOCATION
- EXTRACTION WELL LOCATION
- INDUSTRIAL WELL LOCATION
- 1185.65 GROUNDWATER ELEVATION (NGVD)
- 1186 GROUNDWATER CONTOUR (NGVD)

NOTE: EAST BANK WATER LEVELS MEASURED ON OCTOBER 24, 2005.
WEST BANK WATER LEVELS MEASURED ON OCTOBER 25, 2005.

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

figure 2.1

WATER TABLE CONTOURS (10/24-25/05)
WAUSAU WATER SUPPLY NPL SITE
Wausau, Wisconsin



LEGEND

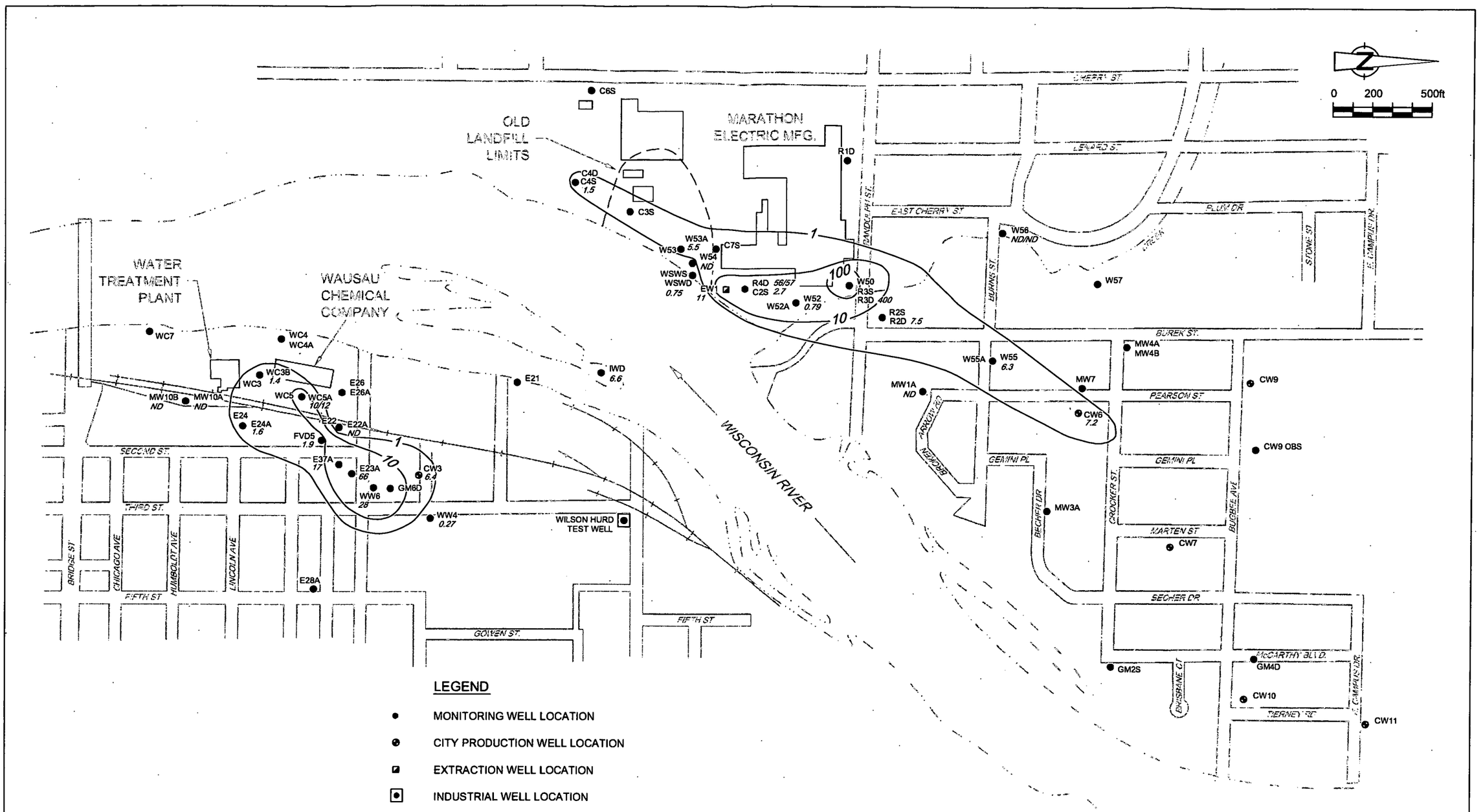
- MONITORING WELL LOCATION
- CITY PRODUCTION WELL LOCATION
- EXTRACTION WELL LOCATION
- INDUSTRIAL WELL LOCATION
- 1185.65 GROUNDWATER ELEVATION (NGVD)
- * APPARENTLY ERRONEOUS WATER LEVEL, NOT USED FOR CONTOURING
- 1186 GROUNDWATER CONTOUR (NGVD)

NOTES:
1. WEST BANK CITY SUPPLY WELLS WERE NOT OPERATING WHEN WEST BANK WATER LEVELS WERE MEASURED.
2. EAST BANK WATER LEVELS WERE MEASURED ON OCTOBER 9, 2006. WEST BANK WATER LEVELS WERE MEASURED ON OCTOBER 10, 2006.

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

figure 3.1

WATER TABLE CONTOURS (10/9-10/06)
WAUSAU WATER SUPPLY NPL SITE
Wausau, Wisconsin



LEGEND

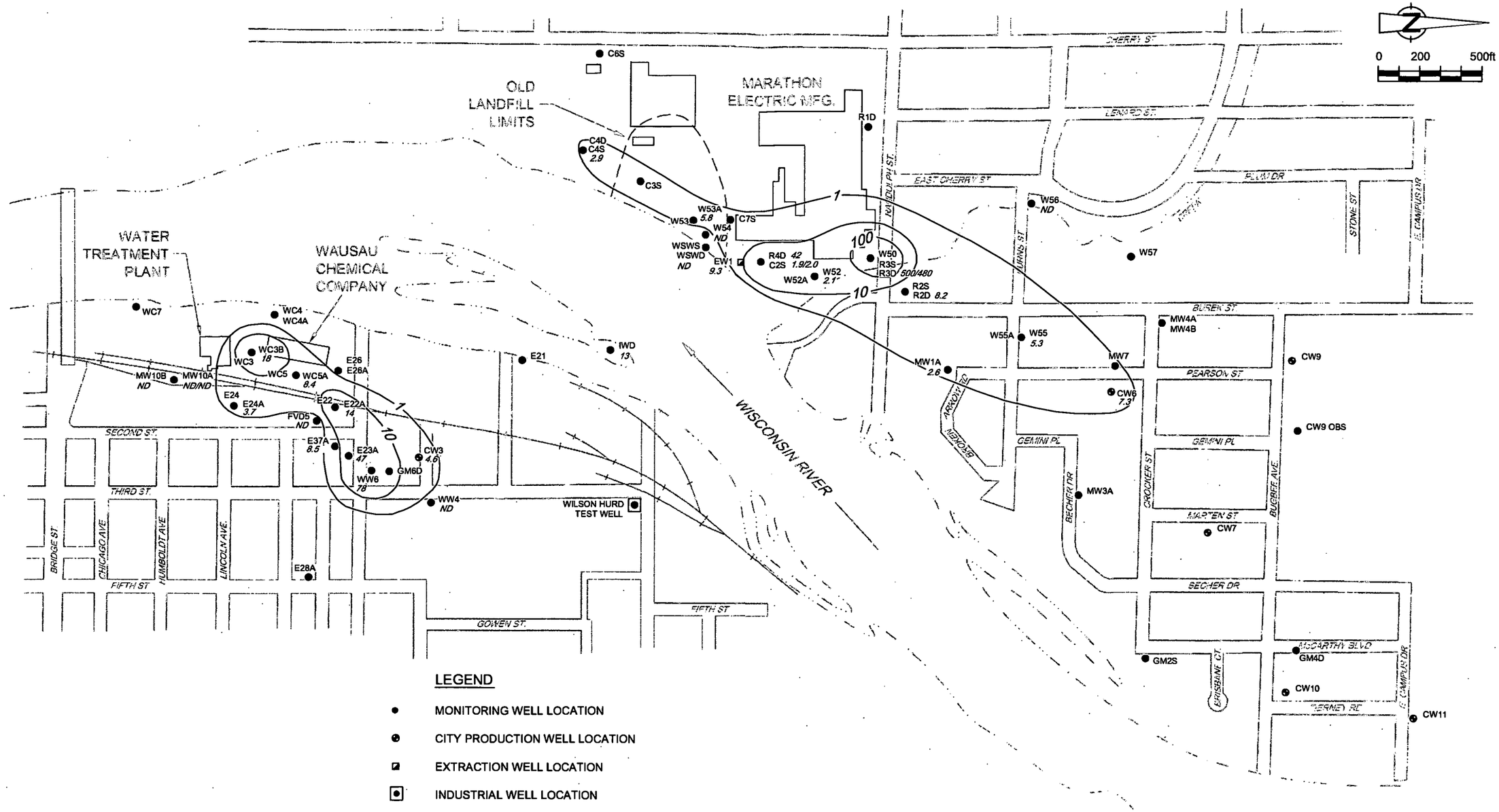
- MONITORING WELL LOCATION
- CITY PRODUCTION WELL LOCATION
- EXTRACTION WELL LOCATION
- INDUSTRIAL WELL LOCATION
- *1.9* TOTAL CHLORINATED VOC CONCENTRATION IN ug/L
- *10* TOTAL CHLORINATED VOC CONTOUR
- *ND* NOT DETECTED

WHERE NO VALUE IS SHOWN, WELL WAS NOT SAMPLED

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

figure 5.1

TOTAL CHLORINATED VOCS IN GROUNDWATER (OCTOBER 2005)
WAUSAU WATER SUPPLY NPL SITE
Wausau, Wisconsin



LEGEND

- MONITORING WELL LOCATION
- CITY PRODUCTION WELL LOCATION
- EXTRACTION WELL LOCATION
- INDUSTRIAL WELL LOCATION
- 4.64 — TOTAL CHLORINATED VOC CONCENTRATION IN ug/L
- 10 — TOTAL CHLORINATED VOC CONTOUR
- ND — NOT DETECTED
- WHERE NO VALUE IS SHOWN, WELL WAS NOT SAMPLED

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

figure 6.1

TOTAL CHLORINATED VOCS IN GROUNDWATER (OCTOBER 2006)
WAUSAU WATER SUPPLY NPL SITE
Wausau, Wisconsin

TABLE 2.1

GROUNDWATER ELEVATIONS - 2005/2006
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

	Reference Elevation	*Water Level 10/24-25/2005*	*Water Table Elevation 10/24-25/2005*	*Water Level 10/9-10/2006*	*Water Table Elevation 10/9-10/2006*
East Bank					
CW3	1202.15	47	1155.15	52	1150.15
E21	1197.51	12.06	1185.45	12.15	1185.36
E22	1195.47	10.7	1184.77	10.82	1184.65
E22A	1195.88	11.08	1184.80	13.38	1182.50
E23A	1197.61	13.23	1184.38	11.22	1186.39
E24	1210.01	24.59	1185.42	24.65	1185.36
E24A	1211.07	25.68	1185.39	25.73	1185.34
E26	1199.02	13.85	1185.17	13.96	1185.06
E26A	1199.13	13.93	1185.20	14.08	1185.05
E28A	1211.60	25.95	1185.65	25.6	1186.00
E37A	1197.84	13.21	1184.63	13.36	1184.48
FVD5	1198.89	14	1184.89	14.11	1184.78
GM6D	1198.57	15.08	1183.49	15.25	1183.32
W. HURD	1200.23	14.25	1185.98	14.3	1185.93
IWD	1192.10 [1]	NA	NA	6.08	1186.02
MW10A	1210.67	25	1185.67	25.03	1185.64
MW10B	1210.37	24.72	1185.65	24.75	1185.62
WC3	1198.26	12.64	1185.62	12.71	1185.55
WC3B	1198.04	12.43	1185.61	12.51	1185.53
WC4	1196.74	11.04	1185.70	11.11	1185.63
WC4A	1196.57	10.82	1185.75	10.91	1185.66
WC5	1196.62	11.34	1185.28	11.44	1185.18
WC5A	1196.66	11.34	1185.32	11.45	1185.21
WC7	1196.77	10.91	1185.86	10.92	1185.85
WW4	1202.23	18.62	1183.61	18.79	1183.44
WW6	1200.53	16.89	1183.64	17.06	1183.47

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 - 2005/2006
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

	Reference Elevation	*Water Level 10/24-25/2005*	*Water Table Elevation 10/24-25/2005*	*Water Level 10/9-10/2006*	*Water Table Elevation 10/9-10/2006*
West Bank					
EW1	NA	NA	NA	NA	NA
CW6	1220.33	46	1174.33	46	1174.33
CW7	1224.14	67	1157.14	40	1184.14
CW9	1226.16	39	1187.16	41	1185.16
CW9 OBS	1224.24	38.67	1185.57	39	1185.24
CW10	1218.49	32	1186.49	31	1187.49
CW11	1216.51	32	1184.51	57	1159.51
C2S	1219.05	34.27	1184.78	33.7	1185.35
C3S	1220.58	34.65	1185.93	34.46	1186.12
C4S	1216.70	30.38	1186.32	30.27	1186.43
C4D	1216.16	29.83	1186.33	29.7	1186.46
C6S	1221.58	34.95	1186.63	34.71	1186.87
C7S	1220.87	35.72	1185.15	35.26	1185.61
GM2S	1211.78	25.22	1186.56	25.25	1186.53
GM4D	1216.35	30.04	1186.31	29.95	1186.40
MW1A	1215.69	29.48	1186.21	29.2	1186.49
MW3A	23.13/1220. [2]	37.26	1185.87	34.55	1186.32
MW4A	1215.48	30.37	1185.11	29.9	1185.58
MW4B	1215.10	29.98	1185.12	29.58	1185.52
MW7	1218.53	35.22	1183.31	32.92	1185.61
R1D	1222.24	36.1	1186.14	35.85	1186.39
R2S	1209.70	22.83	1186.87	22.84	1186.86
R2D	1209.42	23.4	1186.02	23.05	1186.37
R3S	1215.17	Dry	Dry	Dry	Dry
R3D	1215.42	29.58	1185.84	29.32	1186.10
R4D	1218.90	38.36	1180.54	36.81	1182.09
W50	1215.54	29.53	1186.01	29.27	1186.27
W52	1219.16	33.74	1185.42	33.36	1185.80
W52A	1218.95	33.18	1185.77	32.86	1186.09
W53	1216.67	31.35	1185.32	30.98	1185.69
W53A	1216.90	31.62	1185.28	31.25	1185.65
W54	1216.19	31.04	1185.15	30.62	1185.57
W55	1217.04	31.44	1185.60	30.77	1186.27
W55A	1217.31	31.3	1186.01	31.02	1186.29
W56	1200.01	13.94	1186.07	13.6	1186.41
W57	1205.17	19.67	1185.50	19.41	1185.76
WSWS	1193.04	6	1187.04	5.88	1187.16
WSWD	1193.02	7.82	1185.20	7.56	1185.46

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.

[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 - OCTOBER 2005
WAUSAU WATER SUPPLY NLP SITE
WAUSAU, WISCONSIN

Well	*Time*	*pH*	*Conductivity (us)*	*Temperature (°C)*	*Water Clarity*	*Gallons Removed*	*Sample ID*	*QA/QC - Notes*
MW10A	14:15	6.82	166	12.2	Clear	30.0	W-051025-DS-09 W-051025-DS-08	 Rinssate
MW10B	14:32	6.39	218	11.2	Clear	9.0	W-051025-DS-10	
E24A	15:01	6.42	181	10.9	Clear	10.0	W-051025-DS-11	
FVD 5[(1)]	10:37	--	--	--	Clear	4.5	W-051026-DS-21	(Petroleum sheen)
E37A	16:28	6.40	350	13.1	Clear	6.0	W-051025-DS-15	
E23A	16:13	6.37	497	11.9	Clear	6.0	W-051025-DS-14	
WW4	15:25	6.30	478	10.1	Clear	12.0	W-051025-DS-12	MS/SMD
WW6	15:55	6.92	196	10.7	Clear	8.5	W-051025-DS-13	(Pumped dry)
E22A	16:50	5.89	590	12.2	Clear	7.0	W-051025-DS-17 W-051025-DS-16	 Rinsate
WC5A	17:40	6.40	271	12.7	Clear	4.5	W-051025-DS-18/19	Duplicate
WC3B	19:05	6.54	190	10.8	Clear	10.0	W-051025-DS-20	
MW1A	13:48	9.79	159	10.5	Cloudy	8.0	W-051123-DS-30	
W55	15:53	7.58	156	10.5	Clear	6.0	W-051025-DS-29	

TABLE 2.3

GROUNDWATER SAMPLING SUMMARY - OCTOBER 2005
WAUSAU WATER SUPPLY NLP SITE
WAUSAU, WISCONSIN

Well	*Time*	*pH*	*Conductivity (us)*	*Temperature (°C)*	*Water Clarity*	*Gallons Removed*	*Sample ID*	*QA/QC - Notes*
W56	11:20	6.35	497	9.5	Clear	27.0	W-051025-DS-05/06	Duplicate
R2D	15:14	7.23	181	11.3	Clear	6.0	W-051026-DS-28	
R3D	12:00	6.41	161	9.5	Clear	53.0	W-051025-DS-07	
C2S	11:56	6.47	336	11.5	Clear	8.0	W-051026-DS-22	
W52	14:47	7.29	168	11.2	Slightly Cloudy	6.0	W-051026-DS-27	MS/MSD
W54	13:21	7.08	185	12.1	Slightly Cloudy	6.0	W-051026-DS-25	
W53A	13:53	6.90	302	12.1	Clear	6.0	W-051026-DS-26	
IWD	15:30	6.80	156	11.6	Clear	6.0	W-051123-DS-32	
WSWD	14:45	7.00	188	11.9	Clear	8.0	W-051123-DS-31	
C4S	10:45	6.51	1199	11.7	Clear	2.1	W-051025-DS-04 W-051025-DS-03	Rinsate
R4D	12:30	6.64	277	10.7	Clear	6.0	W-051026-DS-23/24	Duplicate
City Well #3	7:45	6.63	263	8.7	Clear	Grab	W-051025-DS-01	
City Well #6	8:00	6.44	185	9.0	Clear	Grab	W-051025-DS-02	

Notes:
(1) FVD 5 has a srong petroleum like odor; therefore, field parameters were not measured to minimize the risk of damaging equipment. Samples were colled for VOC analysis at all well locations.

TABLE 3.1

GROUNDWATER SAMPLING SUMMARY - OCTOBER 2006
WAUSAU WATER SUPPLY NLP SITE
WAUSAU, WISCONSIN

Well	*Time*	*pH*	*Conductivity (us)*	*Temperature (°C)*	*Water Clarity*	*Gallons Removed*	*Sample ID Number*	*QA/QC*
MW10A	15:35	6.41	132	11.1	Clear	27.0	W-061010-RA-17 W-061010-RA-16	 Rinssate
MW10B	15:23	6.37	198	11.8	Clear	7.5	W-061010-RA-18/19	Duplicate
E24A	16:32	6.75	162	10.1	Clear	6.0	W-061010-RA-22	
FVD 5	11:07	6.23	290	11.9	Slightly Cloudy	3.0	W-061011-RA-27	
E37A	10:20	6.59	296	14.2	Slightly Cloudy	6.0	W-061011-RA-25 W-061011-RA-24	 Rinsate
E23A	10:33	6.44	600	11.4	Slightly Cloudy	4.5	W-061011-RA-23	
WW4	16:02	6.33	415	9.9	Clear	12.0	W-061010-RA-20	
WW6	16:17	6.52	166	10.6	Clear	12.0	W-061010-RA-21	
E22A	10:55	6.42	376	11.5	Slightly Cloudy	4.5	W-061011-RA-26	
WC5A	11:46	6.49	198	12.0	Clear	4.5	W-061011-RA-28	
WC3B	12:15	6.73	317	10.7	Slightly Cloudy	6.0	W-061011-RA-29	
MW1A	10:20	9.58	164	10.6	Clear	6.0	W-061010-RA-10	
W55	13:40	7.58	158	11.2	Clear	6.0	W-061010-RA-14	MS/MSD

TABLE 3.1

GROUNDWATER SAMPLING SUMMARY - OCTOBER 2006
WAUSAU WATER SUPPLY NLP SITE
WAUSAU, WISCONSIN

Well	*Time*	*pH*	*Conductivity (us)*	*Temperature (°C)*	*Water Clarity*	*Gallons Removed*	*Sample ID Number*	*QA/QC*
W56	10:45	6.30	477	10.4	Clear	30.0	W-061010-RA-11	
R2D	10:15	7.22	193	11.5	Clear	6.0	W-061010-RA-09	
R3D	13:10	6.62	145	8.2	Clear	51.0	W-061011-RA-30/31	Duplicate
C2S	7:50	6.18	435	11.4	Clear	2.1	W-061010-RA-01/02	Duplicate
W52	8:35	8.63	1437	12.4	Clear	6.0	W-061010-RA-04	
W54	8:55	7.04	157	11.8	Slightly Cloudy	6.0	W-061010-RA-05	
W53A	9:25	6.67	285	13.7	Clear	6.0	W-061010-RA-06	
City Well #3	0.663194	7.09	284	12.1	Clear	Grab	W-061010-RA-15	
IWD	11:40	6.87	136	12.6	Clear	4.5	W-061010-RA-13	
WSWD	11:10	7.09	160	14.9	Clear	6.0	W-061010-RA-12	
C4S	9:41	6.72	836	12.6	Slightly Cloudy	2.1	W-061010-RA-08 W-061010-RA-07	Rinsate
R4D	8:05	6.56	358	10.7	Clear	6.0	W-061010-RA-03	

Notes:
Samples were collected for VOC analysis at all well locations.

TABLE 4.1

EXTRACTION WELL (EW1) PUMPING RATES - 2005
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

Date	*Elapsed Time*	*Meter Reading*	*Total Flow* [1] *(gallons)*	*Flow Rate* [1] *(gpm)*
01/04/05		233,788,000		
02/01/05	40,530	265,784,000	31,996,000	789
03/01/05	40,535	296,461,000	30,677,000	757 [2]
04/04/05	48,740	337,279,000	40,818,000	837
05/02/05	40,170	368,518,000	31,239,000	778
06/07/05	52,215	410,519,000	42,001,000	804
06/30/05	32,625	440,413,000	29,894,000	916
08/03/05	49,450	478,706,000	38,293,000	774
09/01/05	41,720	513,032,000	34,326,000	823 [3]
10/04/05	47,550	552,573,000	39,541,000	832
11/01/05	40,360	585,539,000	32,966,000	817
12/13/05	60,310	637,158,000	51,619,000	856
01/03/06	30,010	662,149,000	24,991,000	833
2005 Total	524,215		**428,361,000**	**817**
Flow rate while pump was running (excluding downtimes)				822

Notes:

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

[2] Pump was shut down for 51 hours February 26-28 due to an electrical failure.

[3] Pump was shut down for 3 hours on August 17 for routine maintenance.

TABLE 4.2

EXTRACTION WELL (EW1) PUMPING RATES - 2006
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

Date	*Elapsed Time (minutes)*	*Meter Reading*	*Total Flow* [1] *(gallons)*	*Flow Rate* [1] *(gpm)*
01/03/06		662,149,000		
02/01/06	41,655	695,882,000	33,733,000	810
03/06/06	47,625	734,666,000	38,784,000	814
03/30/06	34,500	765,500,000	30,834,000	894 [2]
05/02/06	47,575	807,094,000	41,594,000	874 [2]
06/08/06	53,325	NA [3]	39,887,000	748 [3]
08/28/06	116,680	7,000	86,745,000	748 [2,3,4]
10/02/06	50,375	19,519,000	30,971,000	615 [2,5]
10/10/06	11,505	24,170,000	7,383,000	642 [4,5]
11/09/06	43,240	49,652,000	37,474,000	867 [6]
12/05/06	37,350	70,210,000	30,232,000	809 [6]
01/02/07	40,655	93,397,000	34,099,000	839 [2,6]
2006 Total	524,485		**411,736,000**	**785**
Flow rate while pump was running (excluding downtimes)				788

Notes:

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

[2] Pump was shut down due to an electrical failure or electrical repairs at the plant on the following dates: March 20 (45 minutes), March 31 (7.5 hrs), August 1 (4.5 hrs), August 25 (4.5 hrs), August 29 (3hrs), and December 23 (9 hrs).

[3] The flow meter was discovered to be not working on June 8 and was replaced on August 28. The flow rate and total flow for the periods from May 2 to August 28 were estimated by averaging the measured flow rates immediately before and after this period.

[4] Pump was shut down for maintenance related to meter repair, replacement and calibration on the following dates: June 9 (5 minutes), August 28 (3 hrs), October 10 (1 hr).

[5] Total flow calculated based on calibration of new flow meter that showed meter is reading 63% of actual flow.

[6] Total flow calculated based on calibration of new flow meter that showed meter is reading 68% of actual flow.

TABLE 4.3

CITY SUPPLY WELL PUMPING SUMMARY - 2005
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

Month		*Well #3*	*Well #6*	*Well #7*	*Well #9*	*Well #10*	*Well #11*
	Hours [1]	336.9	402.6	277.8	93.9	152.5	170.9
January	Gallons [2]	31.717	38.447	31.295	5.574	24.144	26.021
	gpm [3]	1569	1592	1878	989	2639	2538
	Hours	184.4	484.8	253.3	102	146.3	145.3
February	Gallons	17.187	45.719	27.983	5.886	23.81	22.265
	gpm	1553	1572	1841	962	2712	2554
	Hours	234.8	504.5	262.8	82.5	125.7	190.8
March	Gallons	22.704	47.598	29.403	4.449	20.286	29.383
	gpm	1612	1572	1865	899	2690	2567
	Hours	329	386.7	95.5	78.3	200.6	213.2
April	Gallons	31.35	36.837	10.502	4.109	32.717	32.929
	gpm	1588	1588	1833	875	2718	2574
	Hours	330.2	408.4	0.01	194.9	422.7	96.5
May	Gallons	30.914	37.886	0	7.638	68.822	14.988
	gpm	1560	1546	0	653	2714	2589
	Hours	288.9	426.1	336.9	219.3	232.6	364.7
June	Gallons	27.516	40.256	39.917	7.874	28.986	54.775
	gpm	1587	1575	1975	598	2077	2503
	Hours	517.3	465	416.9	155.3	48.2	470.5
July	Gallons	46.031	39.292	51.606	3.79	7.333	72.357
	gpm	1483	1408	2063	407	2536	2563
	Hours	313.9	427	312.9	22.8	260.7	326.8
August	Gallons	32.777	37.577	36.707	0.103	42.528	50.502
	gpm	1740	1467	1955	75	2719	2576
	Hours	330.4	386.6	299.7	0.01	220.9	228.9
September	Gallons	33.76	34.272	35.11	0	38.993	35.745
	gpm	1703	1477	1953	0	2942	2603
	Hours	379.9	359.5	295.9	0.01	145.3	140
October	Gallons	37.651	31.824	35.067	0	27.36	22.875
	gpm	1652	1475	1975	0	3138	2723
	Hours	280.6	436.2	228.8	0.01	162.7	127.2
November	Gallons	28.124	36.906	26.883	0	32.555	21.26
	gpm	1670	1410	1958	0	3335	2786
	Hours	383.1	358.5	303.5	0.01	128.1	129.6
December	Gallons	37.78	32.212	35.217	0	25.835	21.359
	gpm	1644	1498	1934	0	3361	2747
Average gpm		1609	1516	1944	692	2770	2588

Notes:

[1] Hours indicates total hours pumped each month.

[2] Gallons indicates millions of gallons pumped each month.

[3] gpm indicates the average flow rate for the month.

[4] A mechanical problem with the back-up drive for well #.7 prevented its use during May.

[5] Well #9 was taken out of service in August because it was not producing. It has since been cleaned and the pump has been replaced and is back in service.

TABLE 4.4

CITY SUPPLY WELL PUMPING SUMMARY - 2006
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

Month		*Well #3*	*Well #6*	*Well #7*	*Well #9*	*Well #10*	*Well #11*
	Hours [1]	333.6	408.9	268	58.7	123.3	146.5
January	Gallons [2]	32.171	36.23	31.498	3.864	24.211	24.127
	gpm [3]	1607	1477	1959	1097	3273	2745
	Hours	285.8	384.9	238.3	60.6	125.5	137.5
February	Gallons	27.171	33.988	27.521	3.587	24.703	22.762
	gpm	1584	1472	1925	987	3281	2759
	Hours	307.4	434.4	284.2	106.8	135.4	186
March	Gallons	28.382	38.378	32.562	6.475	28.122	30.555
	gpm	1539	1472	1910	1010	3462	2738
	Hours	351.1	366.3	325.8	142.4	150.7	140.2
April	Gallons	30.151	32.183	37.261	8.608	29.637	22.856
	gpm	1431	1464	1906	1007	3278	2717
	Hours	310.3	432.6	307.8	118.1	183.6	154.7
May	Gallons	25.9	37.798	32.255	7.438	35.696	24.454
	gpm	1391	1456	1747	1050	3240	2635
	Hours	311.1	407.5	277.8	404.3	195.6	197.6
June	Gallons	26.478	35.411	29.948	24.543	37.344	31.498
	gpm	1419	1448	1797	1012	3182	2657
	Hours	185.8	542	316.6	449	293.6	263.8
July	Gallons	18.492	46.318	32.494	27.404	51.029	41.457
	gpm	1659	1424	1711	1017	2897	2619
	Hours	333	403.2	240.5	209.3	167.1	231.2
August	Gallons	33.637	33.23	25.971	12.732	30.121	37.452
	gpm	1684	1374	1800	1014	3004	2700
	Hours	359.5	356.2	326.7	157.1	156	150.7
September	Gallons	36.705	27.918	35.197	9.789	26.674	24.583
	gpm	1702	1306	1796	1039	2850	2719
	Hours	436.7	304.9	228.1	36.8	94.8	188.4
October	Gallons	44.743	24.866	26.818	2.221	18.442	30.113
	gpm	1708	1359	1960	1006	3242	2664
	Hours	279.7	438	198.2	40.5	120	160
November	Gallons	28.178	37.171	24.126	2.409	23.399	25.577
	gpm	1679	1414	2029	991	3250	2664
	Hours	359.4	357.2	308.2	53.6	130.5	120.9
December	Gallons	38.592	30.245	35.029	2.976	25.366	19.726
	gpm	1790	1411	1894	925	3240	2719
Average gpm		1603	1426	1861	1016	3151	2689

Notes:

[1] Hours indicates total hours pumped each month.

[2] Gallons indicates millions of gallons pumped each month.

[3] gpm indicates the average flow rate for the month.

[4] Well #3 was offline from July 3 to July 23 to replace a faulty check-valve.

[5] Well #6 was offline from October 6 to October 15 for maintenance.

[6] The drawdown in Well #9 increased over the year and the wellscreen is scheduled for cleaning in 2007.

MONITORING WELL LABORATORY RESULTS - 2005 (µg/L)
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

Location	Date	MCL	Acetone --	Benzene 5	Ethylbenzene 700	Toluene 1000	Xylenes (total) 10000	Carbon tetrachloride 5	Chloroform --	1,1-Dichloroethene 7	Methylene chloride --	1,1,2-Trichloroethane 5	Tetrachloroethene 5	Trichloroethene 5	cis-1,2-Dichloroethene 70	Vinyl chloride 2	Total CVOCs --
East Bank																	
CW3	10/25/05		< 10 U	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	2.7	1.5	1.9	0.3 J	6.4
E22A	10/25/05		< 10 U	< 1	< 1	0.19 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	ND
E23A	10/25/05		< 10 U	< 1	< 1	< 1	< 1	< 1	< 1	1.4	< 1	< 1	18	6.6	28	12	66
E24A	10/25/05		< 10 U	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.6	< 1	< 1	< 1	1.6
E37A	10/25/05		< 10 U	< 1	< 1	< 1	< 1	< 1	< 1	0.58 J	< 1	< 1	3.7	2	4.9	6.2	17
FVD5	10/26/05		< 100 U	76	250	23	1000	< 10	< 10	< 10	< 10	< 10	1.9 J	< 10	< 10	< 10	1.9
IWD	11/23/05		< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	6.3	0.27 J	< 1	6.6
MW10A	10/25/05		< 10 U	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	ND
MW10B	10/25/05		< 10 U	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	ND
WC3B	10/25/05		< 10 U	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.39 J	0.58 J	0.44 J	1.4
WC5A	10/25/05		< 10 U	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	9.8	0.53 J	< 1	< 1	10
WC5A	10/25/05	D	< 10 U	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	11	0.54 J	< 1	< 1	12
WW4	10/25/05		< 10	< 1	< 1	< 1	< 1	< 1	< 1	0.27 J	< 1	< 1	< 1	< 1	< 1	< 1	0.27
WW6	10/25/05		< 10 U	< 1	< 1	< 1	< 1	< 1	< 1	0.31 J	< 1	< 1	1.5	0.91 J	13	12	28

MONITORING WELL LABORATORY RESULTS - 2005 (µg/L)
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

Location	Date	MCL	Acetone --	Benzene 5	Ethylbenzene 700	Toluene 1000	Xylenes (total) 10000	Carbon tetrachloride 5	Chloroform --	1,1-Dichloroethene 7	Methylene chloride --	1,1,2-Trichloroethane 5	Tetrachloroethene 5	Trichloroethene 5	cis-1,2-Dichloroethene 70	Vinyl chloride 2	Total CVOCs --
West Bank																	
C2S	10/26/05		< 10 U	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	2.7	< 1	< 1	2.7
C4S	10/25/05		< 10 U	1.1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.5	1.5
CW6	10/25/05		< 10 U	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 U	< 1	< 1	7.2	< 1	< 1	7.2
MW1A	11/23/05		< 10	< 1	< 1	0.39 J	0.83 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	ND
R2D	10/26/05		< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	7.5	< 1	< 1	7.5
R3D	10/25/05		< 150 U	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15	400	3.6 J	< 15	400
R4D	10/26/05		< 20 U	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	54	1.9 J	< 2	56
R4D	10/26/05	D	< 20 U	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	55	1.9 J	< 2	57
W52	10/26/05		< 10 U	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.79 J	< 1	< 1	0.79
W53A	10/26/05		< 10 U	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	4.1	1.4	< 1	5.5
W54	10/26/05		< 10 U	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	ND
W55	10/26/05		< 10 U	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	6.3	< 1	< 1	6.3
W56	10/25/05		< 10 U	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	ND
W56	10/25/05	D	< 10 U	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	ND
WSWD	11/23/05		< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.75 J	< 1	< 1	0.75

Notes:

MCL - Maximum Contaminant Levels for drinking water published by the United States Environmental Protection Agency

Total CVOCs - Total chlorinated voloatile organic compounds.

D - Duplicate Sample

U - Estimated detection limit

J - Estimated value, value is below the reporting limit

ND - All CVOCs are less than the reporting limit.

Shaded values exceed the MCL.

TABLE 5.2

EW1 LABORATORY RESULTS - 2005 (µg/L)
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	1000	10000	5	--	7	--	5	5	5	70	2
Effluent	1/5/05	< 10	< 1	< 1	< 1	< 1	< 1	0.18 J	< 1	< 1	< 1	< 1	6.2	0.29 J	< 1
Effluent	4/4/05	< 10	< 1	< 1	< 1	< 1	< 1	< 1 U	< 1	< 1	< 1	< 1	5.4	0.27 J	< 1
Effluent	6/30/05	< 10	< 1	< 1	< 1	< 1	< 1	< 1 U	< 1	< 1	< 1	< 1	5.7	0.28 J	< 1
Effluent	10/4/05	< 10 U	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	5.2	0.22 J	< 1
Influent	1/5/05	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	12	0.45 J	< 1
Influent	4/4/05	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	11	0.49 J	< 1
Influent	6/30/05	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	14	0.64 J	< 1
Influent	10/4/05	< 10 U	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	11	0.44 J	< 1

Notes:
U - Estimated detection limit
J - Estimated value, value is below the reporting limit
MCL - Maximum Contaminant Level for drinking water.

TABLE 6.1

MONITORING WELL LABORATORY RESULTS - 2006 (µg/L)
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

Location	Date	MCL	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	Total CVOCs
			–	5	700	1000	10000	5	–	7	–	5	5	5	70	2	–
East Bank																	
CW3	10/10/06		< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.9	1.1	1.3	0.34 J	4.6
E22A	10/11/06		< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	6.9	0.34 J	5.3	1.6	14
E23A	10/11/06		< 10	< 1	< 1	< 1	< 1	< 1	< 1	0.48 J	< 1	< 1	19	5	18	4.6	47
E24A	10/10/06		< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	3.7	< 1	< 1	< 1	3.7
E37A	10/11/06		< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	3.6	0.94 J	2.2	1.8	8.5
FVD5	10/11/06		< 100 U	120	250	24	980	< 10	< 10	< 10	< 25 U	< 10	< 10	< 10	< 10	< 10	ND
IWD	10/10/06		< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	13	0.25 J	< 1	13
MW10A	10/10/06		< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	ND
MW10A	10/10/06	D	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	ND
MW10B	10/10/06		< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	ND
WC3B	10/11/06		< 10	< 1	< 1	< 1	< 1	< 1	< 1	0.2 J	< 1	< 1	0.26 J	2.5	12	2.6	18
WC5A	10/11/06		< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	6.6	1.1	0.7 J	< 1	8.4
WW4	10/10/06		< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	ND
WW6	10/10/06		< 10	< 1	< 1	< 1	< 1	< 1	< 1	0.84 J	< 1	< 1	24	4.4	39	10	78

TABLE 6.1

MONITORING WELL LABORATORY RESULTS - 2006 (µg/L)
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

Location	Date	MCL	Acetone —	Benzene 5	Ethylbenzene 700	Toluene 1000	Xylenes, Total 10000	Carbon tetrachloride 5	Chloroform —	1,1-Dichloroethene 7	Methylene chloride —	1,1,2-Trichloroethane 5	Tetrachloroethene 5	Trichloroethene 5	cis-1,2-Dichloroethene 70	Vinyl chloride 2	Total CVOCs —
West Bank																	
C2S	10/10/06		< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.9	< 1	< 1	1.9
C2S	10/10/06	D	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	2	< 1	< 1	2
C4S	10/10/06		< 10 U	1.3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	2.9	2.9
CW6	10/31/06		< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	7.3	< 1	< 1	7.3
MW1A	10/10/06		< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	2.6	< 1	< 1	2.6
R2D	10/10/06		< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	8	0.24 J	< 1	8.2
R3D	10/11/06		< 130	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 13 U	< 13	< 13	490	6.8 J	< 13	500
R3D	10/11/06	D	< 180	< 18	< 18	< 18	< 18	< 18	< 18	< 18	< 18	< 18	< 18	470	6.7 J	< 18	480
R4D	10/10/06		< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	40	2	< 1	42
W52	10/10/06		< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	2.1	< 1	< 1	2.1
W53A	10/10/06		< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	4.7	1.1	< 1	5.8
W54	10/10/06		< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	ND
W55	10/10/06		< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	5.3	< 1	< 1	5.3
W56	10/10/06		< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	ND
WSWD	10/10/06		< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	ND

Notes:
MCL - Maximum Contaminant Levels for drinking water published by the United States Environmental Protection Agency
Total CVOCs - Total chlorinated volatile organic compounds
D - Duplicate Sample
U - Estimated detection limit
J - Estimated value, value is below the reporting limit
ND - All CVOCs are less than the reporting limit.
Shaded values exceed the MCL.

TABLE 6.2

EW1 LABORATORY RESULTS - 2006 (µg/L)
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	1000	10000	5	--	7	--	5	5	5	70	2
Effluent	1/3/06	< 10 U	< 1	< 1	< 1	< 1	< 1	0.19 J	< 1	< 1	< 1	< 1	4.8	0.39 J	< 1
Effluent	3/30/06	< 10	< 1	< 1	< 1	< 1	< 1	0.37 J	< 1	< 1	< 1	< 1	5.1	0.34 J	< 1
Effluent	7/20/06	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	4.6	0.29 J	< 1
Effluent	10/11/06	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	4.8	0.32 J	< 1
Influent	1/3/06	< 10 U	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 U	< 1	< 1	10	0.59 J	< 1
Influent	3/30/06	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	11	0.57 J	< 1
Influent	7/20/06	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 U	< 1	< 1	11	0.56 J	< 1 U
Influent	10/11/06	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	9.3	0.56 J	< 1

Notes:
U - Estimated detection limit
J - Estimated value, value is below the reporting limit
MCL - Maximum Contaminant Level for drinking water.

APPENDIX A

DATA QUALITY VALIDATION MEMORANDUMS

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MEMORANDUM

TO: Jason Twaddle

REF. NO.: 3978

FROM: Ruth Mickle

DATE: January 6, 2006

C.C.: Analytical Data File

RE: **Data Quality Assessment**
October 25 and November 23, 2005, Sampling Event
Wausau Superfund Site - Wausau, Wisconsin (COC 4852, 4827, 4828)

The following details a data quality assessment for water samples collected October 25 and November 23, 2005, 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 Severn Trent Laboratories (STL) 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 reports provided by STL, 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. Three method blank samples yielded VOC detections. The associated sample data from two of the three blanks should be qualified as non-detect (U), as presented in Table 2. There were no associated detections for the third blank.

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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 events consisted of two trip blank samples, three rinsate blanks, and three field duplicate sets.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, trip blank samples were submitted to the laboratory for VOC analysis. The October trip blank yielded detections of methylene chloride and acetone. There were no associated methylene chloride detections. The associated acetone data for samples identified in Table 3 should be qualified as non-detect (U). The November trip blank was free of target anlaytes.

As a check for cleanliness of sampling equipment, rinsate blanks were collected as authentic samples for labeling and submission to the lab. The rinsate samples were identified as W-051025-DS-03, W-051025-DS-08, and W-051025-DS-16. All three rinsate blank samples yielded VOC detections. However, since the associated sample data was reported as non-detect or previously qualified, no data qualification was required. The remaining rinsate blank data were non-detect.

Overall precision for the sampling event was monitored using field duplicate samples: W-051025-DS-05/W-051025-DS-06, W-051025-DS-18/W-051025-DS-19, and W-051025-DS-23/W-051025-DS-24. The relative percent difference (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 with the qualifications noted in Tables 2 and 3.

RLM/jla/67
Enc.

TABLE 1

SAMPLE IDENTIFICATION NUMBERS
WAUSAU SUPERFUND SITE
OCTOBER 25 & NOVEMBER 23, 2005 SAMPLING EVENTS

Sample ID	*Sample Location*
W-051025-DS-01	CW3
W-051025-DS-02	CW6
W-051025-DS-03	CS4 Rinsate
W-051025-DS-04	CS4
W-051025-DS-05	W56
W-051025-DS-06	W56 Duplicate
W-051025-DS-07	RD3
W-051025-DS-08	MW10A Rinsate
W-051025-DS-09	MW10A
W-051025-DS-10	MW10B
W-051025-DS-11	E24A
W-051025-DS-12	WW4
W-051025-DS-13	WW6
W-051025-DS-14	E23A
W-051025-DS-15	E37A
W-051025-DS-16	E22A Rinsate
W-051025-DS-17	E22A
W-051025-DS-18	WC5A
W-051025-DS-19	WC5A Duplicate
W-051025-DS-20	WC3B
W-051025-DS-21	FVD5
W-051025-DS-22	C2S
W-051025-DS-23	R4D
W-051025-DS-24	R4D Duplicate
W-051025-DS-25	W54
W-051025-DS-26	W53A
W-051025-DS-27	W52
W-051025-DS-28	R2D
W-051025-DS-29	W55
W-051123-DS-30	MW 1A
W-051123-DS-31	WMWD
W-051123-DS-32	IWD

TABLE 2

RESULTS QUALIFIED BASED ON METHOD BLANK DATA
WAUSAU SUPERFUND SITE
OCTOBER 25 & NOVEMBER 23, 2005 SAMPLING EVENTS

Blank ID	*Parameter*	*Blank Conc. (µg/L)*	*Associated Samples*	*Qualifier*[1]
5309025	Methylene Chloride	0.29	W-051025-DS-02	1.0U
			W-051025-DS-03	1.0U
5311056	Acetone	0.81	W-051025-DS-04	10U
			W-051025-DS-05	10U
			W-051025-DS-06	10U
			W-051025-DS-07	150U
			W-051025-DS-08	10U
			W-051025-DS-09	10U

Note:

[1] Sample result should be qualified as:

U - Not present at or above the associated value.

TABLE 3

RESULTS QUALIFIED BASED ON TRIP BLANK DATA
WAUSAU SUPERFUND SITE
OCTOBER 25 & NOVEMBER 23, 2005 SAMPLING EVENTS

Blank ID	*Parameter*	*Blank Conc. (µg/L)*	*Associated Samples*	*Qualifier*[1]
TB-01 October 2005	Acetone	1.2	W-051025-DS-01	10U
			W-051025-DS-02	10U
			W-051025-DS-03	10U
			W-051025-DS-10	10U
			W-051025-DS-11	10U
			W-051025-DS-13	10U
			W-051025-DS-14	10U
			W-051025-DS-15	10U
			W-051025-DS-16	10U
			W-051025-DS-17	10U
			W-051025-DS-18	10U
			W-051025-DS-19	10U
			W-051025-DS-20	10U
			W-051025-DS-21	100U
			W-051025-DS-22	10U
			W-051025-DS-23	20U
			W-051025-DS-24	20U
			W-051025-DS-25	10U
			W-051025-DS-26	10U
			W-051025-DS-27	10U
			W-051025-DS-29	10U

Note:

[1] Sample result should be qualified as:

U - Not present at or above the associated value.

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MEMORANDUM

TO: Jason Twaddle

REF. NO.: 003978

FROM: Ruth Mickle

DATE: December 15, 2006

C.C.: Analytical Data File

RE: **Data Quality Assessment**
October 10-11 and October 31, 2006, Sampling Events
Wausau Superfund Site - Wausau, Wisconsin (COC 4681, 4682, 303336)

The following details a data quality assessment for water samples collected October 10-11 and October 31, 2006, 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 Severn Trent Laboratories (STL) 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 reports provided by STL, 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. Three method blank samples yielded VOC detections. The associated sample data from two of the three blanks should be qualified as non-detect (U), as presented in Table 2.

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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 events consisted of two trip blank samples, three rinsate blanks, and three field duplicate sets.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, trip blank samples were submitted to the laboratory for VOC analysis. The October 11th trip blank yielded a detection of methylene chloride. Since the data were previously qualified based on method blank results or the associated data were nondetect, no qualification was required based on trip blank results.

As a check for cleanliness of sampling equipment, rinsate blanks were collected as authentic samples for labeling and submission to the lab. The rinsate samples are identified in Table 1. All three rinsate blank samples yielded VOC detections. However, since the majority of associated sample data was reported as non-detect or previously qualified, data qualification was not required in most cases. The acetone result for sample W-061010-RA-08 should be qualified as nondetect (10U) based on the acetone detected in rinsate sample W-061010-RA-07.

Overall precision for the sampling event was monitored using field duplicate samples identified in Table 1. The relative percent difference (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 with the qualifications noted above.

RLM/jla/72
Enc.

TABLE 1

SAMPLE IDENTIFICATION NUMBERS
WAUSAU SUPERFUND SITE
OCTOBER 10-11 & OCTOBER 31, 2006 SAMPLING EVENTS

Sample ID	*Sample Location*
W-061010-RA-01	C2S
W-061010-RA-02	C2S Dup
W-061010-RA-03	R4D
W-061010-RA-04	W52
W-061010-RA-05	W54
W-061010-RA-06	W53A
W-061010-RA-07	C45 Rinsate
W-061010-RA-08	C45
W-061010-RA-09	R2D
W-061010-RA-10	MW1A
W-061010-RA-11	W56
W-061010-RA-12	WSWD
W-061010-RA-13	IWD
W-061010-RA-14	WS5
W-061010-RA-15	CW3
W-061010-RA-16	MW10A Rinsate
W-061010-RA-17	MW10A
W-061010-RA-18	MW10B Dup
W-061010-RA-19	MW10B
W-061010-RA-20	WW4
W-061010-RA-21	WW6
W-061010-RA-22	E24A
W-061011-RA-23	E23A
W-061011-RA-24	E37A Rinsate
W-061011-RA-25	E37A
W-061011-RA-26	E22A
W-061011-RA-27	FVD5
W-061011-RA-28	WC5A
W-061011-RA-29	WC5B
W-061011-RA-30	R3D
W-061011-RA-31	R3D Dup
W-061031-MT-31	CW6

TABLE 2

RESULTS QUALIFIED BASED ON METHOD BLANK DATA
WAUSAU SUPERFUND SITE
OCTOBER 10-11 & OCTOBER 31, 2006 SAMPLING EVENTS

Blank ID	*Parameter*	*Blank Conc. (µg/L)*	*Associated Samples*	*Qualifier*[1]
6296338	Methylene Chloride	2.2	W-061011-RA-30	13U
6296519	Acetone	4.1	W-061011-RA-24	10U
			W-061011-RA-27	100U
6296519	Methylene Chloride	2.6	W-061011-RA-27	25U

Note:

[1] Sample result should be qualified as:

U - Not present at or above the associated value.

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MEMORANDUM

TO: Jason Twaddle

REF. NO.: 3978-10

FROM: Ruth L. Mickle

DATE: January 25, 2005

C.C.: Analytical Data File

RE: **Data Quality Assessment**
January 5, 2005 Sampling Event
Wausau Superfund Site - Wausau, Wisconsin (COC 173112)

The following details a data quality assessment for groundwater samples collected January 5, 2005, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W050105MT-442 and W050105MT-443 were analyzed for volatile organic compounds (VOCs).[1] The analyses were performed by Severn Trent Laboratories (STL) 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 STL, 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.

METHOD BLANK SAMPLES

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

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

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 samples were non-project samples, no evaluation of project samples was made based on matrix spike results.

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

The field QA/QC associated with the sampling event consisted of one 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 yielded acetone (11 μg/L), methylene chloride (13 μg/L), and toluene (0.20 μg/L) detections. Since there were no associated detections in the project samples, no qualification was required based on trip blank results.

OVERALL ASSESSMENT

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

RLM/jla/63

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MEMORANDUM

TO: Jason Twaddle

REF. NO.: 3978-10

FROM: Grant Anderson

DATE: July 29, 2005

C.C.: Analytical Data File

RE: **Data Quality Assessment**
April 4, 2005, Sampling Event
Wausau Superfund Site - Wausau, Wisconsin (COC 200777)

The following details a data quality assessment for groundwater samples collected April 4, 2005, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W050404MT-444 and W050404MT-445 were analyzed for volatile organic compounds (VOCs).[1] The analyses were performed by Severn Trent Laboratories (STL) 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 analysis date on the analytical report provided by STL, 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, indicating that individual sample performance was adequate.

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.

METHOD BLANK SAMPLES

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analyses of method blank samples. The method blank sample yielded a detectable concentration of methylene chloride. However, methylene chloride was not detected in any of the associated samples. Therefore, no qualification of data was necessary due to laboratory contamination.

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 samples were non-project samples, no evaluation of project samples was made based on matrix spike results.

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

The field QA/QC associated with the sampling event consisted of one 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 yielded a chloroform (0.26 μg/L) detection. The associated chloroform detection for sample W050630MT-445 should be qualified as nondetect (1.0U). The trip blank was free of the remaining target analytes.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used with the qualification noted above.

GDA/jla/65

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MEMORANDUM

TO: Jason Twaddle

REF. NO.: 3978-10

FROM: Ruth L. Mickle

DATE: July 22, 2005

C.C.: Analytical Data File

RE: **Data Quality Assessment**
June 30, 2005, Sampling Event
Wausau Superfund Site - Wausau, Wisconsin (COC 232959)

The following details a data quality assessment for groundwater samples collected June 30, 2005, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W050630MT-446 and W050630MT-447 were analyzed for volatile organic compounds (VOCs).[1] The analyses were performed by Severn Trent Laboratories (STL) 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 STL, 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.

METHOD BLANK SAMPLES

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analyses of method blank samples. The VOC 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 samples were non-project samples, no evaluation of project samples was made based on matrix spike results.

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

The field QA/QC associated with the sampling event consisted of one 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 yielded a chloroform (0.21 μg/L) detection. The associated chloroform detection for sample W050630MT-447 should be qualified as nondetect (1.0U). The trip blank was free of the remaining target analytes.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used with the qualification noted above.

RLM/jla/64

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: Jason Twaddle

REF. NO.: 3978-10

FROM: Ruth Mickle

DATE: December 8, 2005

C.C.: Analytical Data File

RE: **Data Quality Assessment**
October 4, 2005, Sampling Event
Wausau Superfund Site - Wausau, Wisconsin (COC 247497)

The following details a data quality assessment for water samples collected on October 4, 2005, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W051004MT-448 and W051004MT-449 were analyzed for volatile organic compounds (VOCs).[1] The analyses were performed by Severn Trent Laboratories (STL) in North Canton, Ohio. The quality assurance criteria were established in the Quality Assurance Project Plan (QAPP).[2]

HOLDING TIME PERIOD & SAMPLE PRESERVATION

The holding time period for the VOC analysis is 14 days from sample collection to analysis. On the basis of sample collection dates on the chain-of-custody form and the analytical report provided by STL, the analyses were completed within the specified holding time period. The samples were properly preserved to a pH less than 2.

METHOD BLANK SAMPLE

Contamination of the samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. The method blank yielded acetone (3.6 µg/L) and methylene chloride (1.1 µg/L) detections. The associated acetone detections for samples W051004MT-448 and W051004MT-449 should be qualified as non-detect (10U). Since the associated investigative sample data were nondetect for methylene chloride, no data qualification was required. The remaining method blank results were free of target analytes.

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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 VOC 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. LCS/LCSD results 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. Since the MS/MSD spike samples were non-project samples, no evaluation of project samples was made based on matrix spike results.

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

The field QA/QC associated with the sampling event consisted of one 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 yielded methylene chloride (1.7 µg/L) and acetone (3.8 µg/L) detections. Since the associated sample data were nondetect for methylene chloride, no methylene chloride data qualification was required. The acetone detections for samples W051004MT-448 and W051004MT-449 were previously qualified based on method blank results.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision pertaining to the above criteria, and may be used with the qualifications noted.

RLM/jla/66

CONESTOGA-ROVERS & ASSOCIATES

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St. Paul, Minnesota 55112
Telephone: (651) 639-0913 Fax: (651) 639-0923
www.CRAworld.com

MEMORANDUM

TO: Jason Twaddle

REF. NO.: 3978-10

FROM: Ruth L. Mickle

DATE: March 14, 2006

C.C.: Analytical Data File

RE: **Data Quality Assessment**
January 3, 2006, Sampling Event
Wausau Superfund Site - Wausau, Wisconsin (COC 245613)

The following details a data quality assessment for groundwater samples collected January 3, 2006, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W060103MT-450 and W060103MT-451 were analyzed for volatile organic compounds (VOCs).[1] The analyses were performed by Severn Trent Laboratories (STL) 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 STL, 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.

METHOD BLANK SAMPLE

Contamination of samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analyses of a method blank sample. The VOC blank yielded a methylene

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.

chloride detection (0.55 µg/L). The associated methylene chloride detection for sample W060103MT-450 should be qualified as nondetect (1.0U).

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 samples were non-project samples, no evaluation of project samples was made based on matrix spike results.

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

The field QA/QC associated with the sampling event consisted of one 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 yielded acetone (3.1 µg/L), methylene chloride (0.93 µg/L), and 2-butanone (0.49 µg/L) detections. Since there were no associated 2-butanone detections in the project samples, no qualification was required based on trip blank results. The associated methylene chloride detection was previously qualified as nondetect (1U) based on method blank results. The associated acetone detections for samples W060103MT-450 and W060103MT-451 should be qualified as nondetect (10U).

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision and may be used with the qualifications noted.

RLM/jla/68

CONESTOGA-ROVERS
& ASSOCIATES

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www.CRAworld.com

MEMORANDUM

TO: Jason Twaddle

REF. NO.: 003978-10

FROM: Ruth Mickle

DATE: May 26, 2006

C.C.: Analytical Data File

RE: **Data Quality Assessment**
March 30, 2006, Sampling Event
Wausau Superfund Site - Wausau, Wisconsin (COC 269667)

The following details a data quality assessment for water samples collected on March 30, 2006, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W060330MT-452 and W060330MT-453 were analyzed for volatile organic compounds (VOCs).[1] The analyses were performed by Severn Trent Laboratories (STL) in North Canton, Ohio. The quality assurance criteria were established in the Quality Assurance Project Plan (QAPP).[2]

HOLDING TIME PERIOD & SAMPLE PRESERVATION

The holding time period for the VOC analysis is 14 days from sample collection to analysis. On the basis of sample collection dates on the chain-of-custody form and the analytical report provided by STL, the analyses were completed within the specified holding time period. The samples were properly preserved to a pH less than 2.

METHOD BLANK SAMPLE

Contamination of the samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. The method blank yielded a methylene chloride (0.53 µg/L) detection. However, since the associated investigative sample data were nondetect for this parameter, no data qualification was required. The remaining method blank results were free of target analytes.

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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 VOC 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. LCS/LCSD results 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. Since the MS/MSD spike samples were non-project samples, no evaluation of project samples was made based on matrix spike results.

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

The field QA/QC associated with the sampling event consisted of one 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 yielded methylene chloride (7.1 µg/L) and acetone (5.0 µg/L) detections. Since the associated sample data were nondetect for methylene chloride, no methylene chloride data qualification was required.

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.

RLM/jla/69

CONESTOGA-ROVERS & ASSOCIATES

1801 Old Highway 8 NW, Suite #114
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www.CRAworld.com

MEMORANDUM

TO: Jason Twaddle

REF. NO.: 003978-10

FROM: Ruth Mickle

DATE: August 30, 2006

C.C.: Analytical Data File

RE: **Data Quality Assessment**
July 20, 2006, Sampling Event
Wausau Superfund Site - Wausau, Wisconsin (COC 305984)

The following details a data quality assessment for water samples collected on July 20, 2006, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W060720MT-454 and W060720MT-455 were analyzed for volatile organic compounds (VOCs).[1] The analyses were performed by Severn Trent Laboratories (STL) in North Canton, Ohio. The quality assurance criteria were established in the Quality Assurance Project Plan (QAPP).[2]

HOLDING TIME PERIOD

The holding time period for the VOC analysis is 14 days from sample collection to analysis. On the basis of sample collection dates on the chain-of-custody form and the analytical report provided by STL, the analyses were completed within the specified holding time period.

METHOD BLANK SAMPLE

Contamination of the samples contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of a method blank sample. The method blank sample yielded several detections. The associated methylene chloride and vinyl chloride data for sample W060720MT-454 should be qualified as nondetect (1U).

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 VOC 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 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.

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 sample yielded methylene chloride and vinyl chloride detections. However, since the associated samples were previously qualified as nondetect, no data qualification was required based on trip blank results.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision pertaining to the above criteria, and may be used with the qualifications noted.

RLM/jla/70

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www.CRAworld.com

MEMORANDUM

TO: Jason Twaddle

REF. NO.: 003978-10

FROM: Ruth Mickle

DATE: December 15, 2006

C.C.: Analytical Data File

RE: **Data Quality Assessment**
October 11, 2006, Sampling Event
Wausau Superfund Site - Wausau, Wisconsin (COC 4680)

The following details a data quality assessment for water samples collected on October 11, 2006, at the Wausau Superfund Site in Wausau, Wisconsin. The samples identified as W-061011-RA-32 and W-061011-RA-33 were analyzed for volatile organic compounds (VOCs).[1] The analyses were performed by Severn Trent Laboratories (STL) in North Canton, Ohio. The quality assurance criteria were established in the Quality Assurance Project Plan (QAPP).[2]

HOLDING TIME PERIOD

The holding time period for the VOC analysis is 14 days from sample collection to analysis. On the basis of sample collection dates on the chain-of-custody form and the analytical report provided by STL, the analyses were completed within the specified holding time period.

METHOD BLANK SAMPLE

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

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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 VOC 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 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.

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 sample was free of target analytes.

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.

RLM/jla/73

APPENDIX B

CALIBRATION REPORT, NEW FLOW METER FOR EW1

northern water works supply

FERGUSON WATERWORKS

Northern Water Works Supply
1694 91st Avenue NE
Blaine, Minnesota 55449
800. 844. 8334 / 763.560.5200
Wednesday 15 November 2006

Terry S. Kopplin, P.E.
Regal Beloit Corporation
100 E. Randolph Street
Wausau, Wisconsin 54402

Dear Mr. Kopplin,

Please find the enclosed reports of recent work at The Marathon Property.

The first report reflects evaluation of the meter in its "as found" state. The report entitled "Second Session" indicates the percentage accuracy of the meter post changes.

I would be glad to change or improve the format, should you deem necessary.

Thank you.

Sincerely,

Jim Doyle

Jim Doyle
612.418.5617 cell one
612.850.4044 cell two
jimmydoyle123@yahoo.com

northern
water works supply
FERGUSON WATERWORKS

Testing Report for
Water Meter of "Groundwater Remediation" Well
Marathon Electric Manufacturing Corporation Property
Wausau, Wisconsin

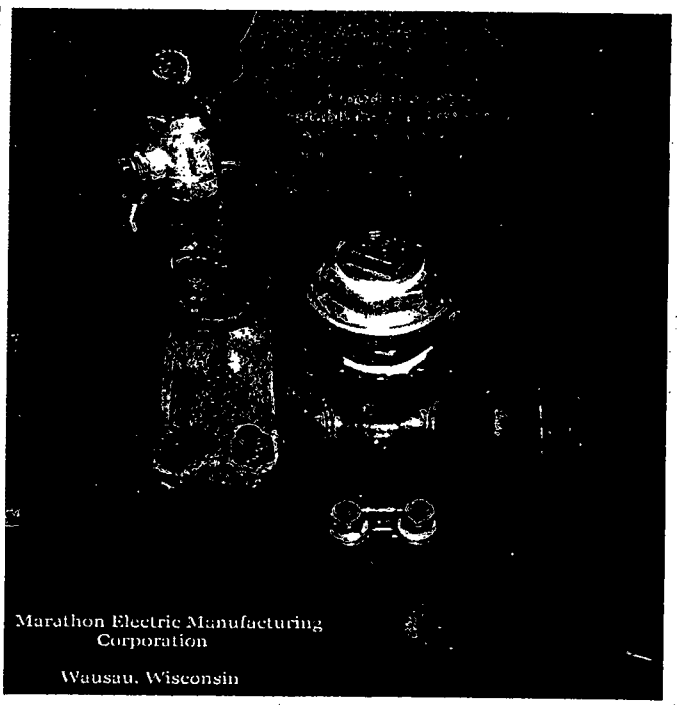
Subject Meter:
10" Neptune HP Turbine Water Meter
Serial Number 31937600

Test Meter:
Marsh McBirney Model 285 Multi-Mag
Insertable Electromagnetic Averaging Flowmeter

Date of Test: Tuesday 10 October 2006
Test Perfomed by Jim Doyle of Northern Water Works.
Northern Water Works Sales Representative Shawn McArdle on site.

285 Probe Test Meter placed into constructed 2" port arrangement.

Comparison run effected between the two meters, with the subject meter remaining in its installation as found and in ordinary service.
Subject meter registered 6000.00+/- gallons of product from the well, with the test meter recording 9400.00+/- gallons.
Based on this comparison, the subject meter is 63.82+/-% accurate.
This test conducted during flow rates averaging 600.00+/- GPM.



1917 First Avenue North • Fargo, ND 58102 • Phone: (701) 293-5511 • Fax: (701) 232-8129
1201 Airport Road • Bismarck, ND 58504 • Phone: (701) 258-9700 • Fax: (701) 258-1452
1694 91st Avenue NE • Blaine, MN 55449 • Phone: (763) 560-5200 • Fax: (763) 560-1799
331 4th Avenue South • Sartell, MN 56377 • Phone: (320) 229-0125 • Fax: (320) 229-0128
1720 State Street • DeKalb, IL 60115-2617 • Phone: (815) 756-2800 • Fax: (815) 756-2877
5555 Irish Lane • Madison, WI 53711 • Phone: (608) 271-1770 • Fax: (608) 271-5263

northern
water works supply
FERGUSON WATERWORKS

Testing Report; Second Session for
Water Meter of "Groundwater Remediation" Well
Marathon Electric Manufacturing Corporation Property
Wausau, Wisconsin

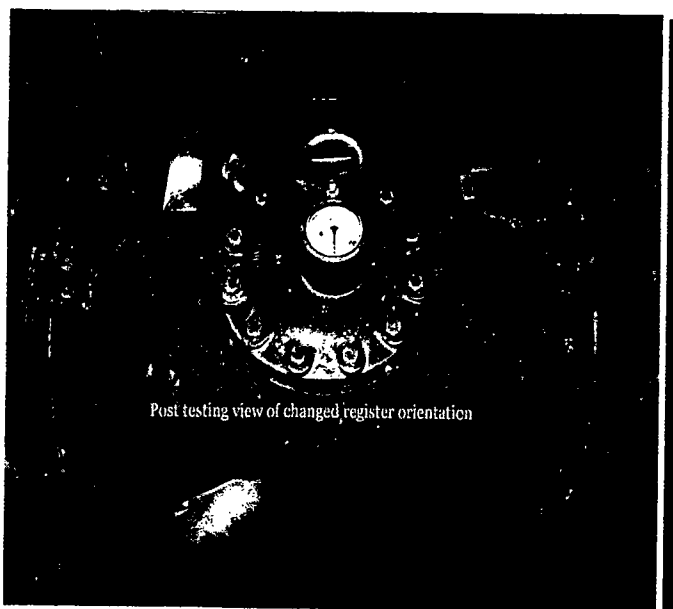
Subject Meter:
10" Neptune HP Turbine Water Meter
Serial Number 31937600

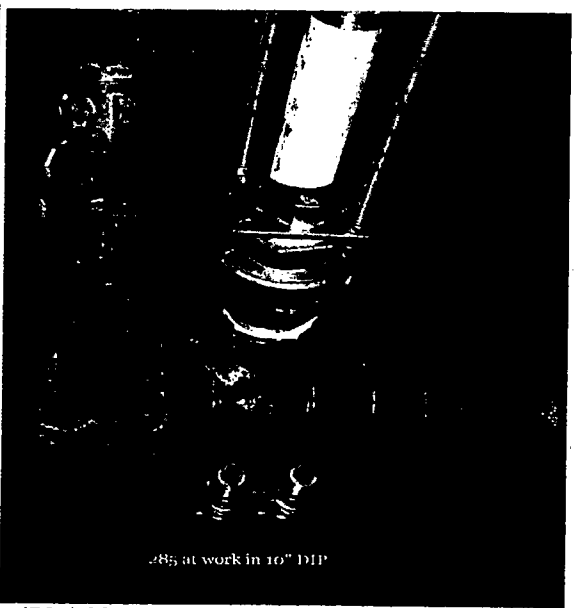
Test Meter:
Marsh McBirney Model 285 Multi-Mag
Insertable Electromagnetic Averaging Flowmeter

Date of Test: Tuesday 10 October 2006
Test Perfomed by Jim Doyle of Northern Water Works.
Northern Water Works Sales Representative Shawn McArdle on site.

285 Probe Test Meter placed into constructed 2" port arrangement.

Comparison run effected between the two meters, with the subject meter remaining in "changed" installation; change being positioning of down-stream butterfly valve to allow flow of 800.00+/- GPM. This rate of flow established by the test meter. PI observed previously to show 47.00+/- PSI, now reduced to 25.00+/- PSI. During this "second session" comparison run the subject meter registered 18000.00+/- gallons of product from the well, with the test meter recording 26296.00+/- gallons.
Based on this comparison, the subject meter is now 68.45+/-% accurate.
Butterfly valve left in "changed" position.


Post testing view of changed register orientation


285 at work in 10" DIP

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1694 91st Avenue NE • Blaine, MN 55449 • Phone: (763) 560-5200 • Fax: (763) 560-1799
331 4th Avenue South • Sartell, MN 56377 • Phone: (320) 229-0125 • Fax: (320) 229-0128
1720 State Street • DeKalb, IL 60115-2617 • Phone: (815) 756-2800 • Fax: (815) 756-2877
5555 Irish Lane • Madison, WI 53711 • Phone: (608) 271-1770 • Fax: (608) 271-5263

APPENDIX C

PAVEMENT COVER AND BUILDING BARRIER MAINTENANCE PLAN, WAUSAU CHEMICAL

PAVEMENT COVER AND BUILDING BARRIER MAINTENANCE PLAN
WAUSAU CHEMICAL CORPORATION

October 17, 2006

Property Located at:

2001 N. River Drive
Wausau, Wisconsin 54401

FID #: 737061160 **WDNR BRRTS/Activity #:** 02-37-000017

Parcel Identification Numbers (PIN):

291-2907-252-0990
291-2907-252-0997

INTRODUCTION

This document is the Maintenance Plan for a pavement cover and building barrier at the above-referenced property. The maintenance activities relate to the existing slab-on-grade building and other paved surfaces occupying the area over the contaminated soil on-Site. The contaminated soil is impacted by tetrachloroethylene, trichloroethylene, and cis-1,2-dichloroethylene. The location of the paved surfaces and building to be maintained in accordance with this Maintenance Plan are identified on Figure 1.

COVER AND BUILDING BARRIER PURPOSE

The paved surfaces and the building foundation over the contaminated soil serve as a barrier to prevent direct human contact with residual soil contamination that might otherwise pose a threat to human health. These paved surfaces and building foundation also act as a partial infiltration barrier to minimize future soil-to-groundwater contamination migration that would violate the groundwater standards in Ch. NR 140, Wisconsin Administrative Code. Based on the current and future use of the property, the barrier should function as intended unless disturbed.

ANNUAL INSPECTION

The paved surfaces and building foundation overlying the contaminated soil as depicted on Figure 1 will be inspected once a year, normally in the spring after all snow and ice is gone, for deterioration, cracks, and other potential problems that can cause additional infiltration into underlying soils. The inspection will be performed to evaluate damage due to settling, exposure to the weather, wear from traffic, increasing age, and other factors. Any area where soils have become or are likely to become exposed will be documented. A log of the inspection and any repairs will be maintained by the property owner and is included as Table 1, Barrier Inspection Log. The log will include recommendations for necessary repair of any areas where underlying soils are exposed. Once repairs are completed, they will be documented in the inspection log.

MAINTENANCE ACTIVITIES

If problems are noted, repairs will be scheduled as soon as practical.

In the event the paved surfaces and/or the building overlying the contaminated soil are removed or replaced, the replacement barrier must be equally impervious. Any replacement barrier will be subject to the same maintenance and inspection guidelines as outlined in this Maintenance Plan unless indicated otherwise by the WDNR or its successor.

The property owner, in order to maintain the integrity of the paved surfaces and/or the building, will maintain a copy of this Maintenance Plan on-Site and make it available to all interested parties (i.e., employees, contractors, future property owners, etc.) for viewing.

AMENDMENT OR WITHDRAWAL OF MAINTENANCE PLAN

This Maintenance Plan can be amended or withdrawn by the property owner and its successors with the written approval of WDNR.

CONTACT INFORMATION

October 2006

Operations Manager:

Art Flashinski
Wausau Chemical Corp.
2001 N. River Drive
Wausau, Wisconsin 54401
Ph. (715) 842-2285

Consultant:

Jason Twaddle
Conestoga-Rovers & Associates
1801 Old Highway 8 NW
Suite 114
Saint Paul, Minnesota 55112
Ph. (651) 639-0913

WDNR:

Eileen Kramer
Wisconsin Department of Natural Resources
Post Office Box 4001
Eau Claire, Wisconsin 54702
Ph. (715) 839-3824

35-7	
DEPTH - 4' BGS	
TETRACHLOROETHYLENE	0.67 mg/Kg
TRICHLOROETHYLENE	0.43 mg/Kg
cis-1,2-DICHLOROETHANE	0.13 mg/Kg

WISCONSIN RIVER

N

0 20 60ft

WC4A WC4 GPN-12 GPN-9 GPN-18 GPN-16 GP-20 WC-SVE-6 WC-SVE-2 GPN-8

19-4	
DEPTH - 8' BGS	
TETRACHLOROETHYLENE	1.0 mg/Kg

WAUSAU CHEMICAL CORPORATION

WC-SVE-5 GPN-15 GPN-17 WC3 WC3B GPN-14 GP-16 E26A E26 GP-15

WATER TREATMENT PLANT

SVE SYSTEM SHED

WC-SVE-4 CARBON VESSELS GPN-19 GP-17 GP-18 WC5 WC5A

WC2 WC-SVE-3 GP-14

GP-19 GPN-7 GPN-6

LEGEND

- ⊕ SOIL VAPOR EXTRACTION WELL LOCATION
- ▲ SOIL GAS PROBE LOCATION
- GPN NESTED PROBES (4',8') EXCEPT GPN-15 & GPN-16 (4',8',11')
- GP SINGLE PROBE (2'-12')
- o MONITORING WELL LOCATION

TWO LEVEL SOIL SAMPLING GRID

35-7 SOIL SAMPLING LOCATION

ASPHALT PAVEMENT

1	2	3
4	5	6
7	8	9

SUBGRID LAYOUT

CRA

figure 1

EAST BANK/SOUTH LOADING DOCK
NOVEMBER 2001 SOIL SAMPLE RESULTS
Wausau Water Supply NPL Site

03978-20(MISC001)GN-SP001 DEC 01/2005

TABLE 1

BARRIER INSPECTION LOG
WAUSAU CHEMCIAL CORP.

Inspection Date	*Inspector*	*Condition of Cap*	*Recommendations*	*Have Recommendations From Previous Inspection Been Implemented?*