



EW-1 Shutdown Pilot Study Report Wausau Water Supply NPL Site Wausau, Wisconsin

Draft for Review

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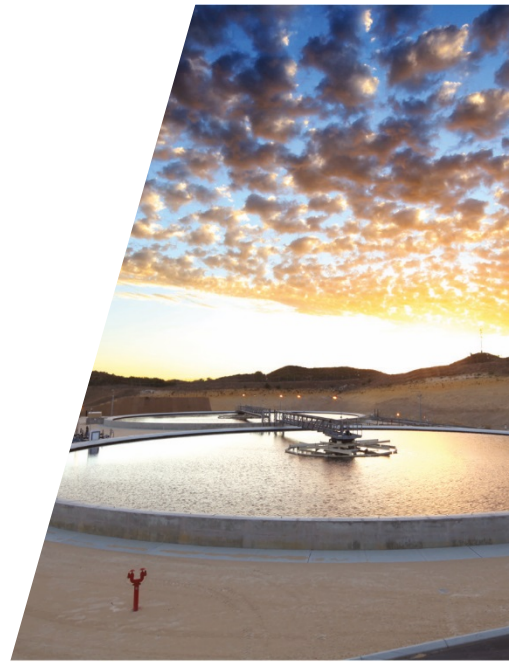




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1. Introduction

This EW-1 Shutdown Pilot Study¹ was originally submitted as a draft document to the United States Environmental Protection Agency (EPA) in the spring of 2015. The original draft report was combined with the 2014 Annual Groundwater Monitoring Report. In October 2018 EPA requested that the pilot study report be submitted as a separate report.² This report attempts to include all relevant information from the original report while removing the annual monitoring report portion. Although this is a new report submitted in 2019, it is intended to include the same information as the 2015 report and does not include any post-2014 information.

The 2015 report included an evaluation of institutional controls (IC). As this is helpful in evaluating the proposed shutdown of EW-1, the IC evaluation is included with this revision.

1.1 History

The 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 (CW3 and CW6) and a remediation well (EW-1). The Site location is shown on Figure 1.1 and a Site plan is presented on Figure 1.2.

Source area remediation was accomplished by the installation of SVE systems at Marathon Electric³ (West Bank) and Wausau Chemical (East Bank) in January 1994. 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 SVE system was shut down while evaluation for final closure occurred. The East Bank source remediation was approved as complete in 2007.

Groundwater remediation is provided through two existing municipal production wells (CW3 and CW6) and one extraction well installed at Marathon Electric (EW-1). Air strippers, located at the Wausau water treatment plant, treat water from the municipal supply wells. Water from EW-1 is also treated by air stripping (over riprap on the riverbank) before being discharged to the Wisconsin River.

EW-1 stopped operating in July 2012 due to pump failure. Since EW-1 has essentially completed its performance goal, the Group proposed a pilot study to confirm that the groundwater containment network of pumping wells will continue to be effective without the need for pumping at EW-1. The EW-1 Shutdown Pilot Study Work Plan proposal was submitted to the EPA on September 3, 2013.

¹ EW-1 Shutdown Pilot Study Work Plan, Wausau Water Supply NPL Site, Wausau, Wisconsin, CRA, September 2013.

² The 2015 report was submitted by CRA Inc. prior to the corporate merger with GHD. Thus, this report is submitted under the new company name, GHD Services Inc.

³ Marathon Electric was acquired by Regal Beloit Corporation and is now doing business at the Wausau plant under the Regal Beloit name.



Via email, dated November 5, 2013, EPA requested that the supplemental data collection for the Pilot Study commence in the 4th quarter of 2013, concurrent with the 2013 annual monitoring event.

The pumping rates for the three extraction wells were originally defined in the CD. In the Groundwater Flow Model report (CRA, May 1993), CRA established a range of pumping rates that would maintain capture of the groundwater plume. Subsequently, in an August 4, 1995 letter, the EPA approved a pumping configuration range for the three extraction wells. Those pumping rates were:

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

1.2 Site Groundwater Monitoring Background

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

Groundwater remediation at the Wausau Site has been ongoing for over 20 years and contaminant concentrations have been reduced significantly at the Site. The aquifer has been monitored annually to document the downward trend of VOC concentrations in groundwater and demonstrate that contaminated groundwater is contained, removed, and treated.

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. Since EW-1 stopped operating, two groundwater extraction wells have been operated to contain and remove VOC contaminated groundwater. One extraction well is on the West Bank, (CW6) and one is on the East Bank (CW3) (see Figure 1.2).

1.3 Site Geology

The Site is underlain by glacial outwash and alluvial sediments that have filled in the pre-glacial 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 pre-glacial 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 (C12DCE) 70 µg/L
- Vinyl chloride 2 µg/L

With the exception of vinyl chloride, these standards are the same as the Wisconsin Department of Natural Resources (WDNR) Enforcement Standards (ES). The Wisconsin ES for vinyl chloride is 0.2 µg/L (WDNR Chapter NR 140).

2. EW-1 Shutdown Pilot Study

The EW-1 Shutdown Pilot Study was initiated with the fall, 2013, monitoring event and continued through each quarter of 2014 for a total of five monitoring events. The monitoring was conducted in accordance with the approved schedule presented in the EW-1 Shutdown Pilot Study Work Plan. Table 2.1 presents the monitoring plan for the five quarters of pilot study monitoring. The results of the first four monitoring events were presented in the 2013 annual monitoring report and quarterly reports for the first three quarters of 2014. Copies of these reports are provided in Appendix A. The results of the fourth quarter 2014 monitoring event are summarized below.

2.1 EW-1 Shutdown Pilot Study Data Collection

Table 2.2 presents the analytical data for the five quarterly monitoring events conducted during the EW-1 Shutdown Pilot Study. Four monitoring wells and City well CW6 were sampled each of the five quarters and an additional 12 monitoring wells and two City wells (CW10 and CW11) were sampled on three or four of the five quarters.

The additional groundwater analyses conducted for the pilot study are described as follows.

1. Collection of groundwater samples from monitoring wells E21 and IWD for VOC analysis. The IWD TCE concentration remained low and did not show an upward or downward trend. The November 2014 concentration was 2.5 µg/L. No VOCs were detected in the five quarterly samples from monitoring well E21, which is between IWD and CW3, on the East Bank.
2. Laboratory results from West Bank monitoring wells near EW-1 indicated the following:

In the portion of the plume north of EW-1, CVOCs are typically located in the deeper portion of the aquifer. Wells north of EW-1 that exceeded the MCL for TCE included R2D, W55, W52, and C2S. C2S is a shallow aquifer well nested with R4D. TCE concentrations at C2S were below 5 µg/L from 2002 through 2012. However, concentrations increased to levels that are slightly greater than 5 µg/L after EW-1 stopped operating. This increase indicates that a portion of the impacted groundwater from the old landfill source area is migrating north to CW6 and the West Well Field. Prior to the shutdown of EW-1, this portion of the groundwater plume would have been captured by EW-1.



In the southern portion of the plume, in the vicinity of the old landfill, CVOCs are more prevalent in the shallower portion of the aquifer. Monitoring wells south of EW-1 that exceeded the MCL for TCE included W53A and W54. W53A is beneath the old landfill source area and TCE concentrations have fluctuated between 5 µg/L to 40 µg/L over the last 20 years. Since 2011, W53A concentrations have increased to concentrations ranging between 54 µg/L to 88 µg/L. This corresponds to the shutdown of EW-1 and is likely due to a reduced groundwater flow velocity in the vicinity of the well, due to the reduced hydraulic gradient since EW-1 was shut down. Given equal diffusion rates from the VOC source, the reduced groundwater velocity would result in higher VOC concentrations (i.e. a reduced volume of water with the same VOC mass would create a higher concentration). Thus the increased concentrations observed at W53A since 2011 are not likely due to changes within the source area, such as a new source point within the landfill, but are a result of less groundwater flux through the area.

VOC concentrations at W54 continued to show a sharp increase through 2014. With the change in groundwater flow patterns since EW-1 stopped pumping, the higher concentrations at W54 indicate that the impacted groundwater in the area of the old landfill is migrating east toward CW3. The groundwater in that area may be influenced by both CW3 and CW6.

As described in previous Annual Monitoring Reports, historically there has been a remnant of higher TCE concentrations in the area of monitoring wells R2D and R3D. Prior to the installation of EW-1, this remnant of higher concentrations was in the area of R2D, migrating north toward CW6. When EW-1 began pumping, the flow gradient was reversed and over the past 20 years the remnant has been slowly drawn to the south toward EW-1. The capture zone flow divide between CW6 and EW-1 was near the R2D/R3D area. As such, groundwater in this area was in a stagnation zone. Also, as pumping rates and pumping schedules varied at EW-1 and CW6, the capture divide moved back and forth, causing the plume remnant to occasionally switch flow direction, having the effect of minimal movement in one direction or the other. From 1997 through 2000, the TCE concentrations at monitoring well R3D increased as the remnant moved south from R2D. R3D concentrations then began decreasing as the remnant continued south to EW-1. This trend later reversed as the pumping rate at EW-1 declined from 2010 through 2012 and then EW-1 was shutdown in mid-2012. This resulted in increasing TCE concentrations at R3D as a portion of the higher concentration remnant would have been recaptured by the pumping influence of the West Well Field and migrated north toward CW6.

The 2014 data indicate continued decline of VOC concentrations at R3D and increased concentrations at R2D. This suggests that the remnant of higher concentrations is moving north to CW6. The historical data for R2D, R3D, and R4D are presented below.

Total Chlorinated VOCs (µg/L)			
Year	R2D	R3D	R4D
1996	1600	2	540
1997	720	5	65
1998	320	580	55
1999	110	1200	33



Total Chlorinated VOCs (µg/L)			
Year	R2D	R3D	R4D
2000	45	1800	58
2001	17	1500	13
2002	15	1200	36
2003	10	980	38
2004	11	899	51
2005	7.5	400	56.5
2006	8.2	490	42
2007	9.9	280	1.3
2008	6.5	180	13
2009	7.3	92	22.9
2010	6.2	195.7	25.7
2011	11	203.1	27.6
2012	6.4	20.7	4.9
Nov 2013	20	4.8	16.6
March 2014	18.2	73.7	NA
May 2014	19.1	4.7	7.89
August 2014	33.2	2.9	NA
Nov 2014	47.2	2.6	1.8

In the far north portion of the West Bank plume, within the capture area of City well CW6, the only detected VOCs are TCE and C12DCE and the concentrations have not changed significantly since the shutdown of EW-1.

The overall areal extent of the West Bank contaminant plume has not changed significantly since EW-1 was shutdown. Charts showing TCVOC concentrations for select West Bank wells are presented in Appendix B.

3. Collection of samples from West Well Field water supply wells in addition to CW6. The priority water supply well on the West Bank is CW6. When additional water is required, CW10 and CW11 are also used. As proposed in the Pilot Study Work Plan, the intention was to collect a sample of the combined CW10 and CW11 influent at the City's treatment plant, prior to treatment. However, there is no sample port at the treatment plant for West Well Field influent. Neither CW10 nor CW11 were running during the November 2014 sampling event. No VOCs were detected in CW10 samples from the four previous quarters. CW11 was sampled on three of the quarterly events and no Site-related VOCs were detected.
4. Obtain copies of City Treatment Plant analytical data for post-treatment VOC samples. The City Treatment Plant collects samples of the City water supply on a quarterly basis. The samples are collected at two exit points where the treated water leaves the plant. The results for samples collected in March, June, September, and October 2014 are presented in Appendix C. The only VOCs detected during 2014 were chloroform and bromodichloromethane. Neither of these compounds are associated with the Site groundwater contamination and both are common drinking water disinfection byproducts.



5. Obtain City well pumping rate summaries. CW3 pumping rates exceeded the requirements of 65 hours per week at 1,200 gpm. CW6 operated for an average of 88.6 hours per week with an average pumping rate of 1,339 gpm. The total-gallons-pumped by CW6 during 2014 was 99.7% of the requirement established by USEPA. CW6 underwent routine maintenance in 2015, which increased the pumping rate and the total weekly discharge.

EW-1 did not operate during 2013 or 2014, hence, influent and post-treatment effluent samples were not collected. Grab samples were collected from EW-1 on May 20, 2014, August 12, 2014, and November 4, 2014, as part of the EW-1 Shutdown Pilot Study. No VOCs were detected in those three samples, which is an indication that the change in groundwater flow direction on the West Bank, due to EW-1 no longer operating, has shifted the contaminant plume in that area away from EW-1.

2.1.1 City Water Supply/Remediation Wells

Supply wells CW3 and CW6 operated as required during the EW-1 Shutdown Pilot Study. Table 2.2 presents 2014 pumping data for the six City wells. The table shows, by month, the number of hours each well was operated, the number of gallons pumped from each well, and the average pumping rate while the pump was operating.

CW3 and CW6 operated on alternate schedules at rates that exceeded the operating requirements established by the USEPA approval letter dated August 4, 1995. CW3 operated for an average of 77.8 hours per week with an average pumping rate of 1,474 gpm, exceeding the requirements of 65 hours per week at 1,200 gpm.

CW6 operated for an average of 88.6 hours per week with an average pumping rate of 1,339 gpm. The average pumping rate was less than the initial requirement of 1,400 gpm, however the total gallons pumped during 2014 (370,142,500 gallons) was 99.7% of the requirement of 371,280,000 gallons (85 hours per week at 1,400 gpm for 52 weeks). Thus, the hydraulic containment provided by CW6 during 2014 was very close to the requirements of USEPA's August 4, 1995 letter. CW6 underwent routine maintenance in 2015, which increased the pumping rate and the total weekly discharge.

2.1.2 Groundwater Remediation System Hydraulic Capture

Hydraulic capture of the contaminant plume is demonstrated by the water table contours illustrated on Figure 2.1. The water table contours indicate that groundwater flow at the Site was toward the two operating extraction wells (CW3 and CW6). At nested well locations, the water table elevations for shallow and deep wells were similar, indicating horizontal flow and hydraulic containment of the shallow and deeper portions of the aquifer. Figure 2.1 also demonstrates that hydraulic containment of the contaminant plume was maintained through 2014.

The West Bank contours depict a large cone of influence created by CW6. Under normal pumping conditions, CW10 and CW11 would also show significant drawdown and would augment the cone of influence created by the West Well Field. However, due to low water demand, the City was only pumping CW6 on November 4. Under natural conditions, groundwater would flow toward and



discharge to the Wisconsin River. Under existing conditions however, groundwater flows toward the City supply wells.

2.2 EW-1 Shutdown Pilot Study Conclusions

The Pilot Study was designed to provide data to detect or confirm aquifer conditions in six principal areas:

1. **Plume Containment:** Water level data collected since EW-1 was shut down in mid-2012, indicate that the VOC plumes on both sides of the river are contained by the pumping of the City water supply wells in the West Well Field and at CW3 on the East Bank. The five quarters of water level data collected during the pilot study confirm that the capture zones created by the City wells are consistent and effective at containment and removal of the contaminant plumes. Groundwater contour figures for each quarter during the pilot study are presented in Appendix D.
2. **No Groundwater Receptors:** No private wells have been identified in the area of groundwater contamination and there are City ordinances that will prevent the installation of wells in the areas near the Superfund Site. Institutional controls are evaluated further in Section 3.0.
3. **Safe City Water Supply:** Groundwater pumped by the municipal wells is treated by air stripping and is also blended with un-impacted groundwater to ensure a safe water supply. Current influent concentrations at CW3 and CW6 (prior to treatment) are below the Wisconsin and Federal drinking water standards. In addition to the groundwater monitoring conducted for the Superfund Site, the City monitors the post-treatment water supply by performing quarterly sampling and analyses.
4. **Remediation of R3D Stagnation Area:** The aquifer in the R3D area was near the flow divide between EW-1 and CW6 (Figure 2.1). Over the remediation history, aquifer flushing of VOCs in the R3D area has been slower than other areas because this area was in a stagnation zone. Data collected from R2D, R3D, R4D, W52, and W55 over the last five quarters are consistent with plume migration to the north toward CW6. VOC concentrations have declined at R3D while increasing at R2D. Groundwater elevations and contours, as shown on the drawings in Appendix D, suggest that the flow divide between CW6 and CW3 is south of R3D in the approximate area of R4D, which is approximately 500 to 700 feet south from where the flow divide was when EW-1 was operating. Thus, groundwater north of the R4D area will be captured by CW6.
5. **Continued Remediation of EW-1 Area:** As illustrated on the groundwater contour figures presented in Appendix D, the West Bank aquifer south of EW-1 appears to be in the capture zone of CW3. Groundwater flow from this area will likely be to the east-southeast beneath the river and eventually to CW3 where it will be removed and treated by the City Water Treatment Plant. Since it is near the flow divide between CW3 and CW6, a portion of the aquifer in this area may be captured by CW6 and flow north.

In the vicinity of the old landfill, CVOCs are more prevalent in the shallower portion of the aquifer. W53A is within the old landfill source area and TCE concentrations have increased slightly since the shutdown of EW-1. This is likely due to a decreased groundwater flow



velocity. VOC concentrations at W54 have increased sharply since 2012 (see chart in Appendix B), from “non-detect” to 96 µg/L in November 2014. This is due to the change in groundwater flow patterns since EW-1 stopped pumping. The higher concentrations at W54 indicate that the impacted groundwater on the north side of the old landfill is migrating east toward CW3.

Total CVOC concentrations at C2S were below 5 µg/L from 2002 through 2012. However, concentrations increased to levels that are slightly greater than 5 µg/L after EW-1 stopped operating. This may be a temporary increase, but it suggests that a portion of the impacted groundwater from the old landfill source area is migrating north to CW6 and the West Well Field. Prior to the shutdown of EW-1, this portion of the groundwater plume would have been captured by EW-1.

Monitoring wells IWD and E21 were sampled during the pilot study to monitor potential increases in CVOC concentrations due to West Bank plume migration beneath the river toward CW3. No concentration increases were observed at either location. TCE and C12DCE were detected at IWD, but the concentrations were less than the State and Federal drinking water standards. VOCs were not detected at E21.

6. **Continued Remediation of the East Bank Plume:** The shutdown of EW-1 does not impact the continued remediation of the East Bank plume. Groundwater on the East Bank is controlled by the pumping of CW3 and the East Bank plume is completely within the capture area of CW3.

EW-1 was installed in 1990 to remove a hot spot of groundwater contamination and the hot spot has been removed. By 2006, the reduction of VOCs at EW-1 had flat lined with TCVOC concentrations less than 10 µg/L (see the EW-1 chart in Appendix B), but operation of the well continued because VOC concentrations at certain monitoring wells still exceeded the cleanup standards.

EW-1 has accomplished its performance goal, which was to prevent the migration of high concentrations of VOCs in the source area groundwater to the West Well Field. Given that the current groundwater VOC concentrations near the former source area are much lower, and that EW-1 lies within the capture area of other extraction wells, continued operation of EW-1 is not critical relative to the protection of potential groundwater receptors.

Through a combination of more than 20 years of groundwater remediation, source area remediation, institutional controls, and continued hydraulic control and treatment of the remaining plume by CW6 and CW3, the shutdown of EW-1 has not created additional exposure risk to human health or the environment. To summarize:

7. The potential for higher VOC concentrations to migrate from west side source areas to the West Well Field has been eliminated by more than 20 years of EW-1 operation and SVE remediation of the former municipal landfill.
8. City Treatment Plant sample results do not indicate potential impact due to contaminated groundwater. The west side plume is captured by CW6 and CW3. CW6 creates a hydraulic barrier to protect the other West Well Field supply wells.



9. Institutional controls maintained by the City of Wausau restrict the installation of private wells and can require abandonment of existing wells. Although well surveys indicate that there are no private wells near the Site.

Thus, the continued operation and associated expense of EW-1 is no longer necessary and permanent shutdown of EW-1 is requested.

3. Institutional Controls Evaluation

The subject properties of the three RPs are on both sides of the river. City of Wausau properties that are subject to the provisions of the ROD include the City Water Treatment Plant, City Well CW6, and City Well CW3. The following provides location and parcel information for the RP properties. The parcels are also depicted on Figure 3.1.

- Wausau Chemical property is on 3.3 acres lying south of Wausau Avenue, east of N. River Drive, and west of railroad tracks. The property is currently listed as one parcel with property identification number (PIN) 291-2907-252-0987.
- City of Wausau Water Treatment Plant property is on 6.2 acres, lying directly south of Wausau Chemical, east of N. River Drive, and west of the railroad. PIN 291-2907-252-0996.
- City of Wausau City Well CW3 is east of the river on 0.03 acres at 205 E. Union Avenue. PIN 291-2907-243-0982.
- City of Wausau City Well CW6 is west of the river on 1.92 acres at 1531 Pearson Street. PIN 291-2907-242-0961.
- Regal Beloit property is on 39 acres lying south of Randolph Street, east of Cherry Street, and west of the Wisconsin River. The property comprises two parcels, a 37 acre parcel: PIN 291-2907-234-0996 and a 2 acre parcel: PIN 291-2907-234-0998.

This IC evaluation was conducted in accordance with guidance provided by USEPA in their Memorandum to File dated July 24, 2013. The IC evaluation information is provided as responses to the specific topics and questions presented below.

1. ***Description of the areas where groundwater exceeds the performance standards (areas which will not allow Unlimited Use/Unrestricted Exposure).***

Based on groundwater VOC data reported over the past five years, the areas where the groundwater cleanup performance standards have been exceeded are shown on Figure 3.1.

2. ***Description of existing ICs and IC objectives that ensure protection of human health and the environment.***

The existing ICs and IC objectives include property deed restrictions and City ordinances. These are summarized in Table 3.1.

3. ***Explanation and documentation of private water well surveys conducted in the area and planned follow-up actions, if any.***



A private water well survey was conducted in the area outlined on Figure 3.2. City of Wausau personnel searched their private well database in May of 2013 and did not locate any wells within the area. The City database is maintained and updated continuously. The City does not permit water wells to be drilled in the Site area.

CRA (now GHD) also searched the Wisconsin Water Well Database (January 2012, Gen Ver 4.0) and no wells were located within the area.

4. ***Demonstrate that governmental controls are currently in effect by providing a current dated and official copy of existing governmental controls (ordinance, statutes etc.) that implement the IC objectives for the restricted areas. Identify any sunset provisions in the governmental control.***

The City of Wausau Municipal Code contains a Wellhead Protection ordinance in Chapter 23.54 and also a Private Water Well ordinance in Chapter 19.30. The Private Water Well ordinance gives the City the authority to deny applications for groundwater wells, to regulate installation of wells, and to require abandonment of existing groundwater wells. The Wellhead Protection ordinance prevents certain activities within a delineated area that could potentially increase the risk of groundwater contamination. These ordinances do not contain any sunset provisions regarding notification of WDNR or EPA upon potential revocation. The boundaries of the Wellhead Protection Area (WHPA) in the area of the Site are depicted on Figure 3.1. Copies of the City ordinances are presented in Appendix E.

5. ***Evaluate whether existing governmental controls cover the entire area that needs to be restricted, including information used to depict the restricted area covered by the control (is the restricted area and control based on reliable and up to date information, data and maps?)***

The Site and CVOC plumes are completely within the City limits, thus the governmental controls cover the entire area that may need restrictions.

6. ***Provide Map and GIS information of restricted areas including area where groundwater exceeds performance standards and area remediated to Site cleanup standards based on current and up to date monitoring data.***

A map showing the Site, RP properties, and areas where groundwater concentrations exceed the Site cleanup standards is presented on Figure 3.1 and provided in GIS format on the enclosed CD.

7. ***Provide Map and GIS information of the areas regulated by governmental controls.***

A map showing the Site, RP properties and WHP Overlay District is presented on Figure 3.1 and provided in GIS format on the enclosed CD.

8. ***Provide maps and GIS that overlay the information of 6 and 7 above.***

A map showing the Site, RP properties, and WHP Overlay District is presented on Figure 3.1 and provided in GIS format on the enclosed CD.

The GIS files conform to the following guidelines:

- Identification of site boundaries, property ownership, and assessor's parcel numbers.



- GIS coordinates are formatted into an ESRI polygon-shape file. The shape file was projected into the UTM, NAD 83 projection system, UTM zone.
- Attribute names are included with the shape file for each polygon submitted.

The following assessment evaluates and documents monitoring and compliance with Institutional Controls.

1. *How, when, and by whom is compliance with the institutional controls monitored?*

The Site is inspected by the RPs consultant on an annual basis. Should any source area disturbances be noted, this information would be reported to EPA and WDNR. EPA also conducts Site inspections on a regular basis. Wausau Chemical personnel are aware of the deed restrictions on their property. They perform routine inspections of the asphalt cover and perform repairs when necessary. Regal Beloit personnel are aware of the former landfill beneath their property and, although there is no specific use restriction in their deed, will notify EPA and WDNR prior to conducting subsurface works in that area.

The City of Wausau enforces the City ordinance that requires a permit for the installation of new water wells within the City limits. The Inspection Department's Plumbing Inspector is responsible for doing inspections, issuing permits, and sending compliance/abandonment letters, etc. Records of these activities are kept in the Inspections Department. The City does not issue permits for wells within the Wausau Water Supply NPL Site area.

Well permit files are kept in the Inspections Department. A summary spreadsheet of active and abandoned wells and associated permits is also maintained by the Utilities Coordinator.

2. *Are the results of the IC monitoring routinely and promptly shared with EPA and the State of Wisconsin?*

The annual monitoring report, which is submitted to EPA and WDNR, includes the results of Site and property inspections.

3. *Are measures in place to ensure that modifications to the restrictions require EPA and State approval?*

There are no statements in the Consent Decree, ROD, or Remedial Scope of Work addressing approvals for modifications to the property restrictions. There are no sunset clauses in the City ordinances that require notification of WDNR and EPA if the ordinances are revoked or modified. The deed restriction on WCC property includes a requirement that the existing pavement shall not be removed without the approval of WDNR.

4. *Do EPA and/or the State have a Memorandum of Understanding with the governmental entity?*

The City of Wausau is an RP and, as such, is subject to the provisions of the Consent Decree and ROD; thus a MOU is not necessary.



5. *Is the property being used in a manner consistent with the restrictions?*

The operations and usages of the source properties have not changed since the ROD was signed. The properties are zoned and utilized for industrial/commercial operations.

6. *Provide a summary of the results of Site inspections and interviews with owners, lessees and other holders of property interests (are owners, lessees and other holders of property interests aware of and complying with the restrictions?)*

Site inspections are conducted at least once annually. Recent inspections were conducted on October 1 and November 10, 2014. No significant issues were identified. Asphalt inspections on Wausau Chemical Corporation (WCC) property were conducted by WCC personnel. Inspection results are presented in each annual monitoring report.

7. *Where can information be obtained about the governmental control (ordinance, code)? How do affected parties such as homeowners, contractors and resource users obtain information about the governmental control?*

Wausau City ordinances and codes are available to the public at City Hall, City libraries and on the City's website. Affected parties obtain information through the City's permitting requirements.

8. *Are affected parties and resource users aware of and understand the IC restrictions?*

Local well drillers are made aware of the well drilling restrictions through the City's well permitting process. WCC management personnel are aware of their property deed restrictions.

9. *Have there been breaches of IC use restrictions. If so, how were they addressed by the governmental agency?*

The City is not aware of any breaches of ordinances.

The following describes the effectiveness of groundwater ICs.

1. *Assess whether the controls are effective in the short term in maintaining objectives/restrictions/performance standards in Table 3.1.*

Current ICs are effective. Water wells cannot be installed within the City limits without obtaining a permit from the City and the City can require the sealing and abandonment of existing wells, although there aren't any known existing wells in the area of the CVOC plumes.

2. *Assess whether the control will be effective in the long term in maintaining the objectives/restrictions/performance standards in Table 3.1.*

ICs are effective in the long term because the deed restriction on WCC property will stay with the property. The applicable City ordinances apply City-wide and are not likely to be revoked.

3. *Discuss whether existing ICs are preventing exposure.*

Potential exposure to CVOC impacted groundwater is prevented because there are no private water wells within the area of the CVOC plume. The engineered barrier (asphalt) at WCC prevents potential direct contact with impacted soils (if any) and prevents potential leaching of CVOC in soils



to groundwater. The potential for exposure due to possible vapor intrusion will continue to decrease as the groundwater plumes are remediated.

4. Discuss whether land and/or resource use has changed since execution of the ROD.

Land use has not changed since execution of the ROD. Source properties are being utilized for the same industrial/commercial operations.

5. Is current or expected land use consistent with the City or County Master Plan?

Current land use, zoned industrial, is consistent with the current master plan.

6. Does the property owner have any plans to sell or transfer the property?

WCC and the City of Wausau are in preliminary discussions regarding potential residential use of WCC property in the future. However, the City's master plan will not be revised unless this potential property transfer is realized.

7. Are there any new developments, either constructed or planned, in the area?

No changes to the zoning districts or property uses are anticipated at this time and there are no new construction permits pending. WCC and the City are in preliminary discussions regarding potential residential use of WCC property in the future.

8. Discuss how the current land and resource uses relate to exposure assumptions and risk calculations.

Land uses have remained industrial/commercial, thus exposure and risk assumptions are consistent with the original assumptions described in the Consent Decree. The groundwater resource is utilized only by the City. CVOC impacted groundwater is treated to be protective of residential exposure levels.

9. Discuss whether there are any unintended consequences resulting from the use of a particular restriction.

Not aware of any unintended consequences.

10. Based on the results of the IC evaluations proposed above, recommendations may be made if there are any identified deficiencies in the current communication, implementation, or compliance with the ICs.

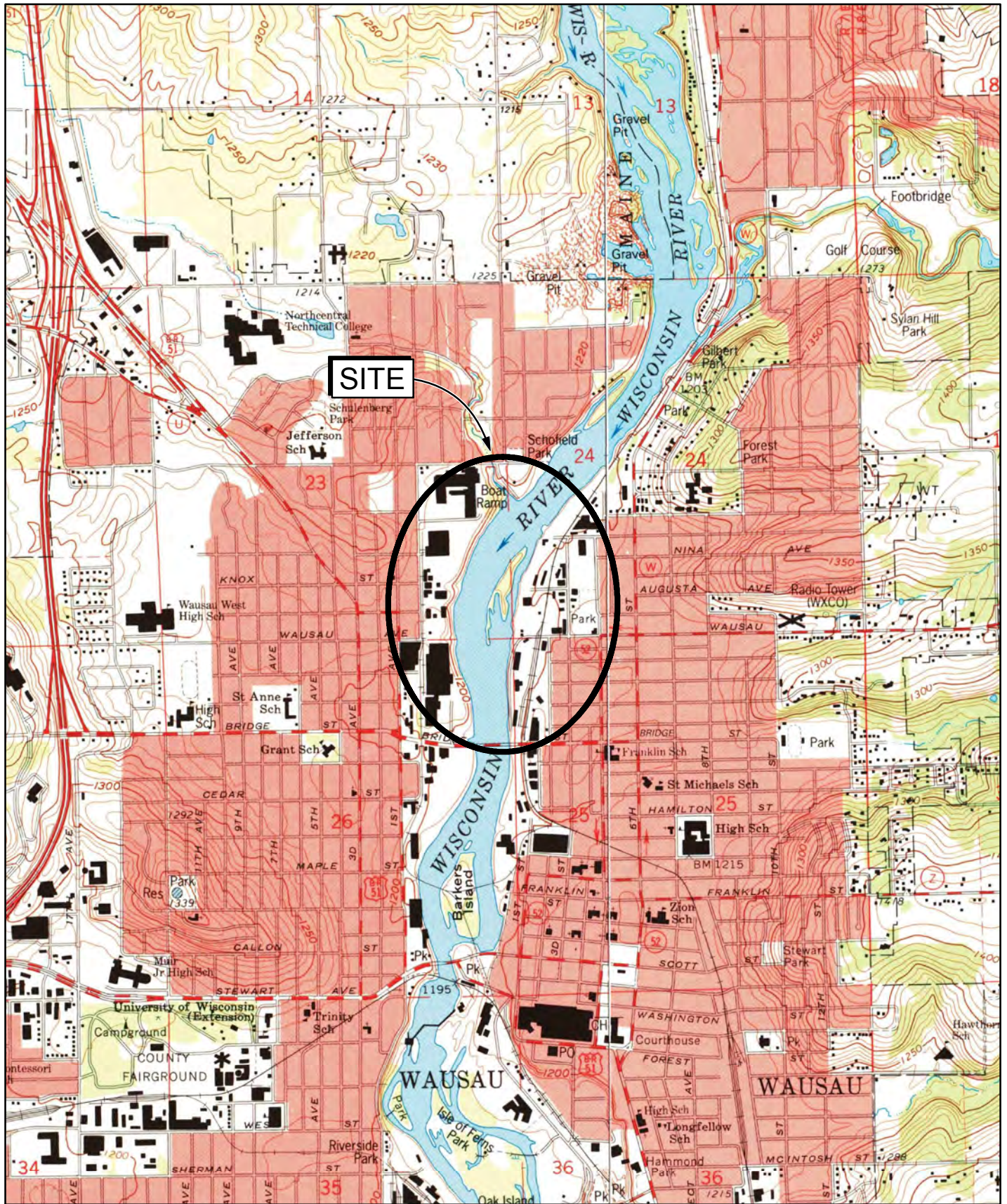
Based on the information presented herein, the only potential identified deficiency is the lack of a mechanism to ensure that proposed modifications to the restrictions are approved by EPA and WDNR. This deficiency could be resolved by adding a requirement to the Site O&M Plan that the restrictions be reviewed annually and, if any proposed modifications are identified, EPA and WDNR would be notified for evaluation and potential approval.

11. Potential modifications to the IC monitoring requirements and the Operation and Maintenance Plan may be proposed to ensure that ICs are maintained and complied with in the short term and in the long term. A modified monitoring plan would include

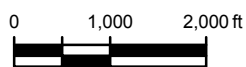


a schedule and an annual certification to EPA that ICs are in place and remain effective.

A revised O&M Plan is currently being prepared. The new O&M Plan will include a scheduled certification that ICs are in place and effective.



Source: USGS 7.5 Minute Quads - Wausau East; Wausau West

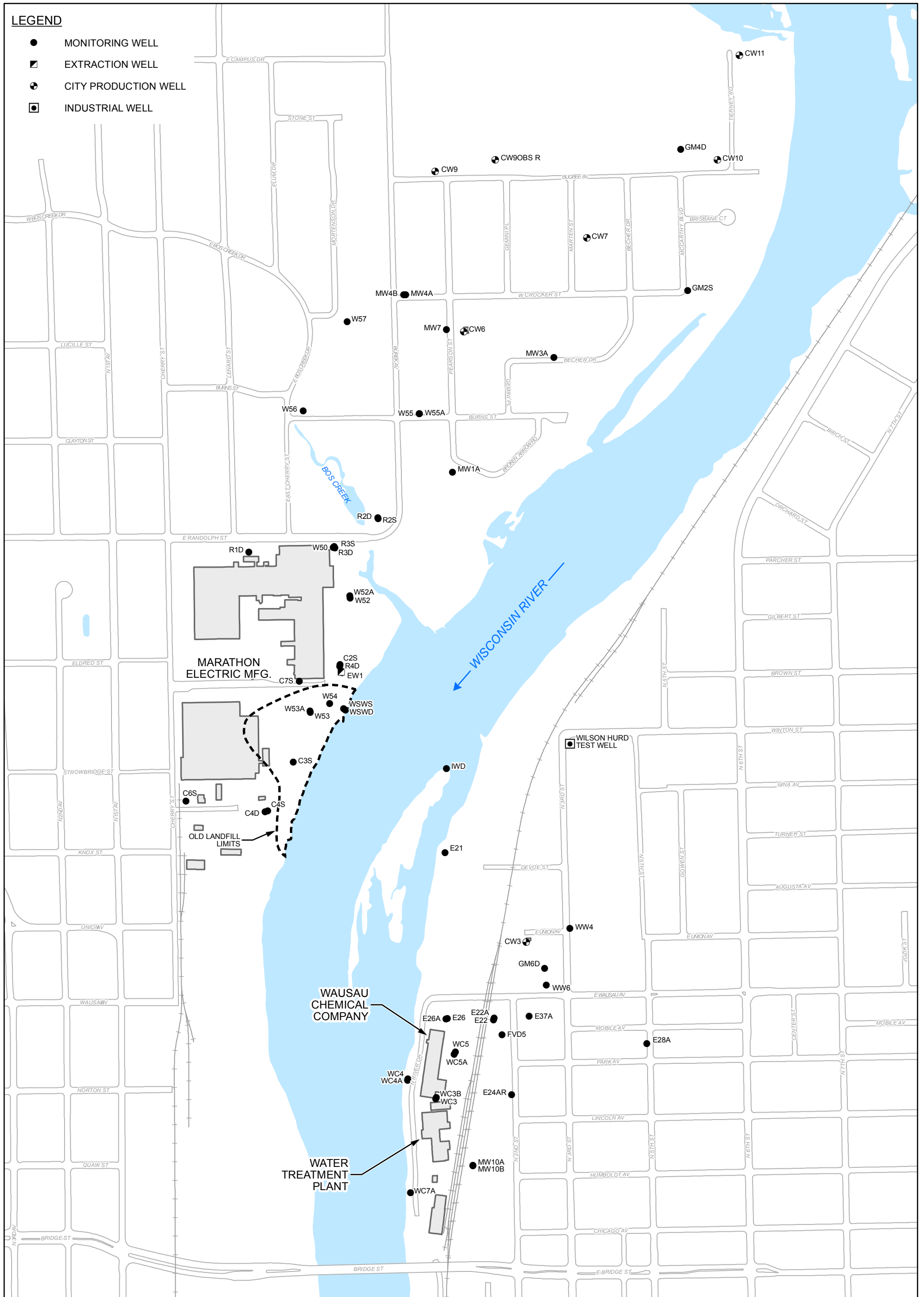


WAUSAU WATER SUPPLY NPL SITE
 WAUSAU, WISCONSIN
 EW1 SHUTDOWN PILOT STUDY REPORT

003978-00
 Apr 30, 2019

SITE LOCATION

FIGURE 1.1



Source: Marathon County

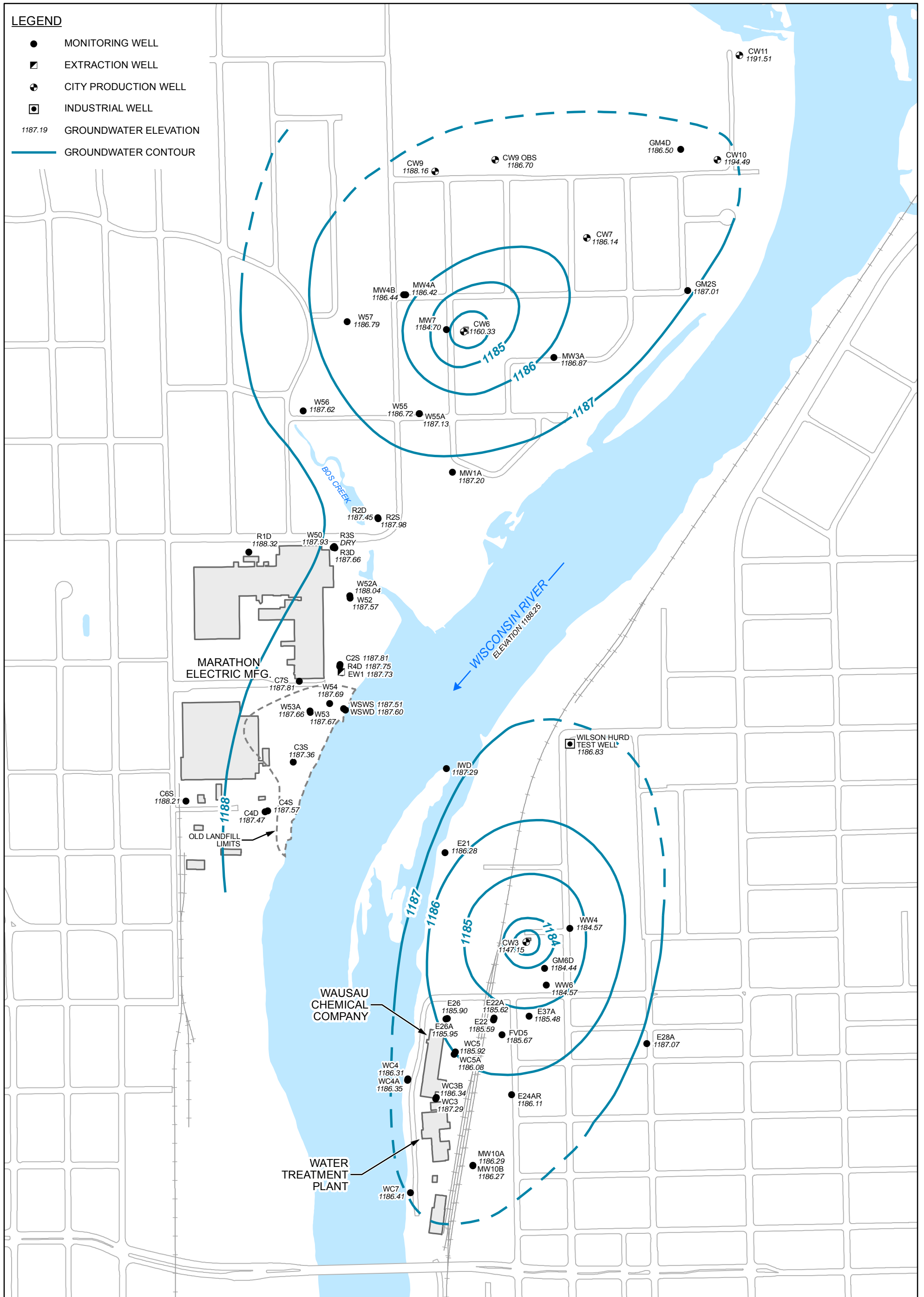


WAUSAU WATER SUPPLY NPL SITE
 WAUSAU, WISCONSIN
 EW1 SHUTDOWN PILOT STUDY REPORT

SITE PLAN

003978-00
 Apr 30, 2019

FIGURE 1.2



Source: Marathon County

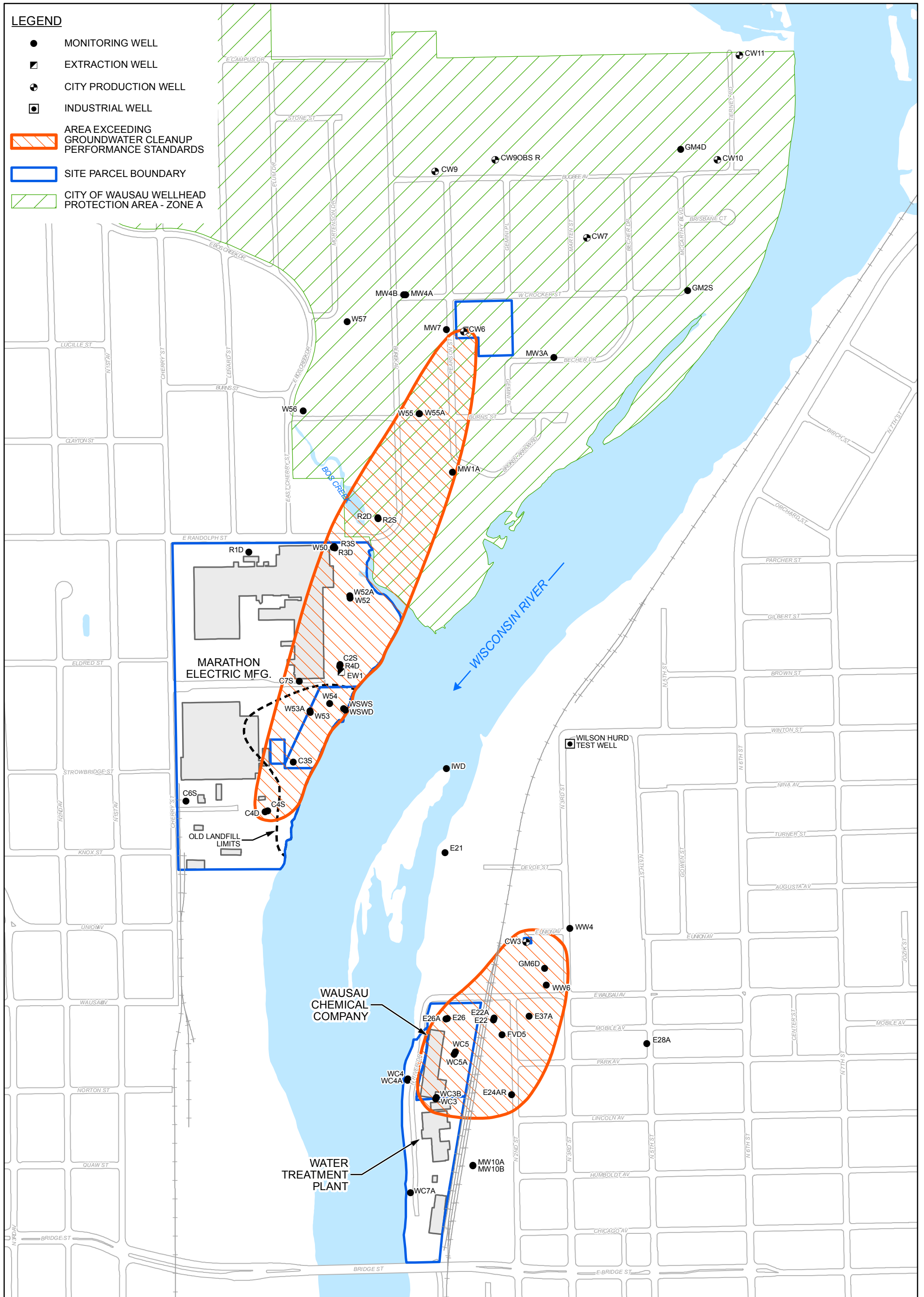


WAUSAU WATER SUPPLY NPL SITE
 WAUSAU, WISCONSIN
 EW1 SHUTDOWN PILOT STUDY REPORT

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GROUNDWATER ELEVATIONS - NOVEMBER 3-4, 2014

FIGURE 2.1



Source: Marathon County



WAUSAU WATER SUPPLY NPL SITE
 WAUSAU, WISCONSIN
 EW1 SHUTDOWN PILOT STUDY REPORT
 GROUNDWATER CLEANUP PERFORMANCE
 STANDARDS EXCEEDED

003978-00
 Apr 30, 2019

FIGURE 3.1

Table 2.1

**EW1 Shutdown Pilot Study Monitoring Plan
Wausau Water Supply NPL Site
Wausau, Wisconsin**

Monitoring Event	VOC Sample Locations			Laboratory Analysis	Groundwater Elevations
	East Bank	West Bank	West Wellfield		
November 4th Quarter 2013	CW3, E24AR, MW10A, MW10B, WW4, FVD5, E22A, E23A, E37A, WC3B, WW6, WC5A, E21, IWD	EW1, CW6, W53A, W54, R4D, C2S, R3D, C4S, W52, W56, R2D, WSWD, W55, MW1A	West Well Field wells other than CW6 (CW9, CW10, CW11 if operating on day of monitoring)	VOC (8260)	All Monitoring Wells, City Wells, and EW1 (63 wells total)
February 1st Quarter 2014	CW3, E21, IWD	CW6, R2D, R3D, W53A, W55	West Well Field wells other than CW6 (CW9, CW10, CW11 if operating on day of monitoring)	VOC (8260)	All Monitoring Wells, City Wells, and EW1 (63 wells total)
May 2nd Quarter 2014	CW3, E21, IWD	EW1, CW6, W53A, W54, R4D, C2S, R3D, C4S, W52, W56, R2D, WSWD, W55, MW1A	West Well Field wells other than CW6 (CW9, CW10, CW11 if operating on day of monitoring)	VOC (8260)	All Monitoring Wells, City Wells, and EW1 (63 wells total)
August 3rd Quarter 2014	CW3, E21, IWD	CW6, R2D, R3D, W53A, W55, EW1	West Well Field wells other than CW6 (CW9, CW10, CW11 if operating on day of monitoring)	VOC (8260)	All Monitoring Wells, City Wells, and EW1 (63 wells total)
November 4th Quarter 2014	CW3, E24AR, MW10A, MW10B, WW4, FVD5, E22A, E37A, WC3B, WW6, WC5A, E21, IWD	EW1, CW6, W53A, W54, R4D, C2S, R3D, C4S, W52, W56, R2D, WSWD, W55, MW1A	West Well Field wells other than CW6 (CW9, CW10, CW11 if operating on day of monitoring)	VOC (8260)	All Monitoring Wells, City Wells, and EW1 (63 wells total)

Notes:

Additional data to be obtained includes:

1. Pumping rates of all City wells on a quarterly basis
2. City water supply quarterly VOC analytical results. These data will be provided by the City Water Treatment Plant.

VOC Laboratory Results
EW1 Pilot Study and Annual Groundwater Monitoring Event - November 2014
Wausau Water Supply NPL Site
Wausau, Wisconsin

Sample Location:			CW3	CW3	CW3	CW3	CW3	CW3	E21	E21	E21	E21	E21	E22A
Sample Date:			11/11/2013	3/24/2014	5/19/2014	5/19/2014	8/11/2014	11/3/2014	11/11/2013	3/24/2014	5/19/2014	8/11/2014	11/3/2014	11/12/2013
Sample Type:						Duplicate								
		MCL												
1,1,2-Trichloroethane	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.9 U
1,1-Dichloroethene	ug/L	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.9 U
Acetone	ug/L	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	29 U
Benzene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.9 U
Carbon tetrachloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.9 U
Chloroform (Trichloromethane)	ug/L	80*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.9 U
cis-1,2-Dichloroethene	ug/L	70	0.50 J	0.74 J	0.90 J	0.82 J	0.59 J	0.58 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	97
Ethylbenzene	ug/L	700	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.9 U
Methylene chloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.9 U
Tetrachloroethene	ug/L	5	1.40	1.40	1.4	1.4	1.6	1.6	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	17
Toluene	ug/L	1000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.9 U
Trichloroethene	ug/L	5	0.72 J	0.78 J	0.78 J	0.79 J	0.75 J	0.85 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.9
Vinyl chloride	ug/L	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 J
Xylenes (total)	ug/L	10000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.9 U
Total Chlorinated VOCs	ug/L		2.62	2.92	3.08	3.01	2.94	3.03	0.0	0.0	0.0	0.0	0.0	121.9

Table 2.2

VOC Laboratory Results
 EW1 Pilot Study and Annual Groundwater Monitoring Event - November 2014
 Wausau Water Supply NPL Site
 Wausau, Wisconsin

Sample Location:		E22A	E24AR	E24AR	E37A	E37A	WC3B	WC3B	WC5A	WC5A	WW4	WW4	FVD5	FVD5
Sample Date:		11/3/2014	11/12/2013	11/3/2014	11/12/2013	11/3/2014	11/11/2013	11/3/2014	11/11/2013	11/3/2014	11/12/2013	11/3/2014	11/12/2013	11/3/2014
Sample Type:														
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	25 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	25 U
Acetone	ug/L	10 U	10 U	40 U	10 U	10 U	10 U	4.3 J	10 U	10 U	10 U	10 U	50 U	250 U
Benzene	ug/L	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	19	23 J
Carbon tetrachloride	ug/L	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	25 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 J	0.94 J	5.0 U	25 U
cis-1,2-Dichloroethene	ug/L	3.5	3.5	120	1.9	1.1	1.0 U	0.35 J	1.0 U	1.7	1.0 U	1.0 U	5.0 U	25 U
Ethylbenzene	ug/L	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	210	370
Methylene chloride	ug/L	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	25 U
Tetrachloroethene	ug/L	8.1	15	86	1.4	2.0	1.0 U	5.5	7.3	12	1.0 U	1.0 U	5.0 U	25 U
Toluene	ug/L	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	9.5	23 J
Trichloroethene	ug/L	0.90 J	2.3	11	0.78 J	0.63 J	1.0 U	0.46 J	1.0 U	0.52 J	1.0 U	1.0 U	5.0 U	5.7 J
Vinyl chloride	ug/L	1.0 U	1.2	5.5	0.59 J	1.0 U	0.26 J	1.0 U	1.0 U	0.71 J	1.0 U	1.0 U	5.0 U	25 U
Xylenes (total)	ug/L	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	440	980
Total Chlorinated VOCs	ug/L	12.5	22.0	222.5	4.67	3.73	0.26	6.31	7.3	14.93	0.20	0.94	0.0	5.7

VOC Laboratory Results
 EW1 Pilot Study and Annual Groundwater Monitoring Event - November 2014
 Wausau Water Supply NPL Site
 Wausau, Wisconsin

Sample Location:		FVD5	WW6	WW6	MW10A	MW10A	MW10B	MW10B	IWD	IWD	IWD	IWD	CW6	CW6
Sample Date:		11/3/2014	11/12/2013	11/3/2014	11/11/2013	11/3/2014	11/11/2013	11/3/2014	11/13/2013	5/20/2014	8/12/2014	11/4/2014	11/12/2013	3/25/2014
Sample Type:		Duplicate												
1,1,2-Trichloroethane	ug/L	33 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	33 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	ug/L	330 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	ug/L	20 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	33 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	33 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	33 U	21	28	1.0 U	1.0 U	1.0 U	1.0 U	1.1	1.8	0.87 J	0.30 J	1.0 U	1.0 U
Ethylbenzene	ug/L	360	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	33 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	33 U	3.8	6.0	1.0 U	1.0 U	1.0 U	0.29 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	21 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	33 U	2.0	5.9	1.0 U	1.0 U	1.0 U	1.0 U	2.2	3.3	2.7	2.5	3.9	3.7
Vinyl chloride	ug/L	33 U	19	12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	920	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Chlorinated VOCs	ug/L	0.0	45.8	51.9	0.0	0.0	0.0	0.29	3.3	5.1	3.57	2.8	3.9	3.7

VOC Laboratory Results
 EW1 Pilot Study and Annual Groundwater Monitoring Event - November 2014
 Wausau Water Supply NPL Site
 Wausau, Wisconsin

Sample Location:		CW6	CW6	CW6	CW10	CW10	CW10	CW10	CW11	CW11	CW11	EW1	EW1	EW1
Sample Date:		5/20/2014	8/12/2014	11/4/2014	11/12/2013	3/25/2014	5/20/2014	8/12/2014	11/12/2013	3/25/2014	8/12/2014	11/12/2013	5/20/2014	8/12/2014
Sample Type:														
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.4 J
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	0.19 J	0.27 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 J	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	3.4	4.0	4.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.59 J	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Chlorinated VOCs	ug/L	3.4	4.19	4.27	0.0	0.0	0.0	0.0	0.0	0.0	0.63	0.79	0.0	0.0

VOC Laboratory Results
 EW1 Pilot Study and Annual Groundwater Monitoring Event - November 2014
 Wausau Water Supply NPL Site
 Wausau, Wisconsin

Sample Location:		EW1	MW1A	MW1A	MW1A	C2S	C2S	C2S	C4S	C4S	C4S	R2D	R2D	R2D
Sample Date:		11/4/2014	11/12/2013	5/20/2014	11/4/2014	11/13/2013	5/20/2014	11/3/2014	11/13/2013	5/20/2014	11/4/2014	11/12/2013	3/24/2014	3/24/2014
Sample Type:														Duplicate
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	ug/L	10 U	10 U	10 U	12	10 U	10 U	10 U	10 U	1.3 J	10 U	10 U	10 U	10 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.23 J	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0	0.67 J	0.52 J	1.0 U	1.0 U	1.0 U	1.0	0.61 J	0.62 J
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	0.42 J	0.18 J	7.9	5.5	5.4	1.1	1.4	2.2	19	18	17
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	1.0 U	1.0 U	0.25 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Chlorinated VOCs	ug/L	0.0	0.0	0.42	0.18	8.9	6.17	5.92	1.1	1.4	2.43	20.0	18.61	17.62

VOC Laboratory Results
 EW1 Pilot Study and Annual Groundwater Monitoring Event - November 2014
 Wausau Water Supply NPL Site
 Wausau, Wisconsin

Sample Location:		R2D	R2D	R2D	R3D	R3D	R3D	R3D	R3D	R4D	R4D	R4D	W52	W52
Sample Date:		5/19/2014	8/11/2014	11/4/2014	11/13/2013	3/24/2014	5/20/2014	8/12/2014	11/4/2014	11/12/2013	5/20/2014	11/3/2014	11/13/2013	5/20/2014
Sample Type:														
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.7 U	1.0 U	3.3 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.7 U	1.0 U	3.3 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	ug/L	1.4 J	10 U	17 U	10 U	33 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	ug/L	1.0 U	1.0 U	1.7 U	1.0 U	3.3 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.7 U	1.0 U	3.3 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.7 U	1.0 U	3.3 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.1	1.2	1.2 J	1.0 U	5.7	1.0 U	1.0 U	1.0 U	0.58 J	0.49 J	1.0 U	0.32 J	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.7 U	1.0 U	3.3 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	1.0 U	1.0 U	1.7 U	1.0 U	3.3 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.7 U	1.0 U	3.3 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.7 U	1.0 U	3.3 U	1.0 U	0.14 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	18	32	46	4.8	68	4.7	2.9	2.6	16	7.4	1.8	2.6	3.4
Vinyl chloride	ug/L	1.0 U	1.0 U	1.7 U	1.0 U	3.3 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	1.0 U	1.0 U	1.7 U	1.0 U	3.3 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Chlorinated VOCs	ug/L	19.1	33.2	47.2	4.8	73.7	4.7	2.9	2.6	16.58	7.89	1.8	2.92	3.40

VOC Laboratory Results
 EW1 Pilot Study and Annual Groundwater Monitoring Event - November 2014
 Wausau Water Supply NPL Site
 Wausau, Wisconsin

Sample Location:		W52	W53A	W53A	W53A	W53A	W53A	W54	W54	W54	W55	W55	W55	W55
Sample Date:		11/3/2014	11/13/2013	5/20/2014	8/12/2014	11/3/2014	11/3/2014	11/13/2013	5/20/2014	11/3/2014	11/12/2013	5/20/2014	8/12/2014	8/12/2014
Sample Type:						Duplicate								Duplicate
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	3.3 U	1.3 U	2.0 U	2.0 U	1.0 U	1.4 U	3.3 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	3.3 U	1.3 U	2.0 U	2.0 U	0.22 J	1.4 U	3.3 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	ug/L	10 U	10 U	33 U	1.3 U	20 U	20 U	10 U	14 U	33 U	10 U	10 U	10 U	10 U
Benzene	ug/L	1.0 U	1.0 U	3.3 U	1.3 U	2.0 U	2.0 U	1.0 U	1.4 U	3.3 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	3.3 U	1.3 U	2.0 U	2.0 U	1.0 U	1.4 U	3.3 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	3.3 U	1.3 U	2.0 U	2.0 U	1.0 U	1.4 U	3.3 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	0.42 J	1.0 U	3.3 U	0.31 J	0.43 J	2.0 U	0.74 J	1.5	1.1 J	0.47 J	0.39 J	0.38 J	0.38 J
Ethylbenzene	ug/L	1.0 U	1.0 U	3.3 U	1.3 U	2.0 U	2.0 U	1.0 U	1.4 U	3.3 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	1.0 U	1.0 U	3.3 U	1.3 U	2.0 U	2.0 U	1.0 U	1.4 U	3.3 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	3.3 U	1.3 U	2.0 U	2.0 U	1.0 U	1.4 U	3.3 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	3.3 U	1.3 U	2.0 U	2.0 U	1.0 U	1.4 U	3.3 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	8.5	54	88	77	73	70	23	39	95	4.7	4.6	5.0	5.0
Vinyl chloride	ug/L	1.0 U	1.0 U	3.3 U	1.3 U	2.0 U	2.0 U	1.0 U	1.4 U	3.3 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	1.0 U	1.0 U	3.3 U	1.3 U	2.0 U	2.0 U	1.0 U	1.4 U	3.3 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Chlorinated VOCs	ug/L	8.92	54	88	77.31	73.43	70.0	23.96	40.5	96.1	5.17	4.99	5.38	5.38

Table 2.2

VOC Laboratory Results
 EW1 Pilot Study and Annual Groundwater Monitoring Event - November 2014
 Wausau Water Supply NPL Site
 Wausau, Wisconsin

Sample Location:		W55	W56	W56	W56	WSWD	WSWD	WSWD	WSWD
Sample Date:		11/3/2014	11/12/2013	5/19/2014	11/4/2014	11/13/2013	5/20/2014	11/4/2014	11/4/2014
Sample Type:									Duplicate
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	0.48 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.40 J	0.39 J
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	5.9	1.0 U	1.0 U	1.0 U	0.45 J	0.48 J	3.2	3.8
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Chlorinated VOCs	ug/L	6.38	0.0	0.0	0.0	0.45	0.48	3.60	4.19

Notes:

- U - Not detected at the associated reporting limit
- J - Estimated concentration
- FD - Field Duplicate
- * - Total trihalomethanes
- MCL - EPA Maximum Contaminant Level for Drinking Water

Table 2.3

**City Water Supply Well Pumping Averages
Wausau Water Supply NPL Site
Wausau, Wisconsin**

Hours indicates total hours pumped per month

Gallons indicates millions of gallons pumped per month

		Well #3	Well #6	Well #7	Well #9	Well #10	Well #11
January	Hours	356.6	383.1	235.1	82.7	99.8	96.9
	Gallons	33.051	30.469	24.37	4.479	19.925	16.943
	gpm	1545	1326	1728	903	3327	2914
February	Hours	308.7	359.5	275.4	185.4	169.5	208.8
	Gallons	27.344	29.992	28.45	10.097	31.838	36.443
	gpm	1476	1390	1722	908	3131	2909
March	Hours	387.8	353.9	200	124	269.6	399
	Gallons	33.915	32.04	19.445	6.713	50.23	69.454
	gpm	1458	1509	1620	902	3105	2901
April	Hours	240.3	476.3	190.3	76.2	221.3	281.9
	Gallons	20.477	38.436	18.002	3.851	46.201	49.107
	gpm	1420	1345	1577	842	3480	2903
May	Hours	394.5	350.8	304.7	112.8	133.2	141.8
	Gallons	29.449	28.034	31.826	6.061	26.162	24.63
	gpm	1244	1332	1741	896	3274	2895
June	Hours	333.1	380.8	267.4	111.9	157.1	149.12
	Gallons	30.637	31.065	27.356	6.256	30.027	26.889
	gpm	1533	1360	1705	932	3186	3005
July	Hours	313.9	423.8	240	120.5	333.7	6.3
	Gallons	29.927	34.03	26.158	6.541	77.64	1.058
	gpm	1589	1338	1817	905	3878	2799
August	Hours	406.3	310	279.3	183.6	191.8	97.4
	Gallons	36.399	24.2	30.38	9.929	36.525	16.979
	gpm	1493	1301	1813	901	3174	2905
September	Hours	287.3	394.3	204.7	39.9	84.4	152.7
	Gallons	30.434	30.78	22.18	2.152	15.999	26.622
	gpm	1766	1301	1806	899	3159	2906
October	Hours	338.8	400.1	220.8	49.3	147	129.7
	Gallons	28.574	30.234	22.713	2.693	23.202	22.546
	gpm	1406	1259	1714	910	2631	2897
November	Hours	393.5	320.5	242.9	36.6	85	98.9
	Gallons	32.621	24.922	24.933	2.005	16.542	17.232
	gpm	1382	1296	1711	913	3244	2904
December	Hours	287	452.4	197.6	37.1	144.7	117.3
	Gallons	23.737	35.43	20.237	2.007	28.668	19.813
	gpm	1378	1305	1707	902	3302	2815
Average hours per week:		77.8	88.6	55.0	22.3	39.2	36.2
Average gpm:		1474	1339	1722	901	3241	2896

Table 3.1

**Institutional Controls Summary
Wausau Water Supply NPL Site
Wausau, Wisconsin**

Media, Engineered Controls, and Areas that Do Not Support UU/UE Based on Current Conditions	IC Objective	Title of Institutional Control Instrument Implemented
Groundwater – Wellhead Protection Zone A	Prevent activities that increase risk of groundwater contamination	City of Wausau Municipal Code Chapter 23.54
Groundwater – all areas within Wausau City limits	Restricts private groundwater use through the permitting process for private water supply well installations and provides authority to require abandonment of existing private wells	City of Wausau Municipal Code Chapter 19.30
Groundwater - Impermeable surface maintenance (paved parking lot) at Wausau Chemical Corp.	Prohibit infiltration of precipitation in the former source area on the south end of the facility	Deed Restriction - Document # 1475599

Appendix A
Quarterly Monitoring Reports for
EW 1 Shutdown Pilot Study



**CONESTOGA-ROVERS
& ASSOCIATES**

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Telephone: (651) 639-0913 Fax: (651) 639-0923
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May 1, 2014

Reference No. 003978-10

Ms. Sheri Bianchin
United States Environmental
Protection Agency
77 West Jackson Blvd. (SR-6J)
Chicago, Illinois 60604

Ms. Erin Endsley
Wisconsin Department of
Natural Resources
DNR Service Center
1701 North 4th St.
Superior, Wisconsin 54880

Dear Ms. Bianchin and Ms. Endsley:

Re: EW1 Shutdown Pilot Study
1st Quarter 2014 Results
Wausau Water Supply NPL Site

In accordance with the EW1 Shutdown Pilot Study Work Plan¹, this letter presents the results of groundwater monitoring conducted in the first quarter of 2014. The first quarter 2014 monitoring event was conducted on March 24 and 25 and represents the second monitoring event of the five quarterly events proposed for the EW1 Shutdown Pilot Study. Implementation of the EW1 Shutdown Pilot Study Work Plan was approved by USEPA in an e-mail to CRA dated November 5, 2013.

EW1 Shutdown Pilot Study Monitoring

As proposed in the Pilot Study Work Plan, the first quarter 2014 monitoring event was intended to complete of the following tasks:

- Collect groundwater samples from East Bank wells CW3, E21 and IWD for analysis of volatile organic compounds (VOCs)
- Collect groundwater samples from West Bank wells CW6, R2D, R3D, W53A and W55 for VOC analysis
- Collect water samples from West Well Field water supply wells CW10 and CW11

¹ EW1 Shutdown Pilot Study Work Plan, Wausau Water Supply NPL Site, Wausau, Wisconsin, CRA, September 2013.

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- Measure water levels at all East Bank and West Bank monitoring wells
- Obtain copies of City Treatment Plant analytical data for post-treatment VOC samples
- Obtain City well pumping rate summaries

Due to an unusually harsh winter, the monitoring event was postponed until late March, but a portion of the proposed scope of work still could not be accomplished because many wells were buried beneath large snow banks. Water levels could not be measured at 7 of the 25 East Bank wells and at 16 of the 38 West Bank wells. Also, groundwater samples could not be collected from IWD, W53A, and W55. Well locations are presented on the Site Plan, which is provided as Figure 1.

Water Level Monitoring

Table 1 presents the first quarter 2014 water level data. Water table contours based on these measurements are presented on Figure 1. Field staff measured water levels on the East Bank on March 24 while CW-3, the East Bank remediation well, was pumping. West Bank water levels were measured on March 25 while CW-6, the West Bank remediation well, was operating. Water levels in the City production wells were measured with the assistance of City staff.

The East Bank contours are consistent with flow patterns observed in previous years. The East Bank flow patterns are controlled by the operation of CW3. The West Bank contours depict a large cone of influence created by CW6 and CW10, the two wells that were pumping on March 25. Under natural, non-pumping, conditions groundwater would flow toward and discharge to the Wisconsin River. Under existing conditions however, groundwater flows toward the City production wells.

Groundwater Sampling

Groundwater sampling was conducted on March 24 and 25, 2014. Monitoring well samples were analyzed for the Site specific VOC list by EPA Method 8260. A summary of the groundwater sampling event, including field parameter measurements, is presented in Table 2.



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Groundwater sampling was conducted in accordance with the Pilot Study Work Plan, with the exceptions noted above due to deep snow. Groundwater samples were analyzed by TestAmerica Laboratories Inc., of North Canton, Ohio. Laboratory results will be submitted electronically in the Region V Electronic Data Deliverable (EDD) format for inclusion in the Region V EPA database. A copy of the laboratory report is presented in Attachment 1.

Evaluation of Groundwater Data

The objectives of the first quarter monitoring at the Site are to detect potential changes in the contaminant plume configuration due to the shut-down of EW1, and confirm that the plume is contained by the other remediation system extraction wells, CW3 and CW6.

Table 3 presents the laboratory results for monitoring well samples collected in March 2014. November 2013 data are included in Table 3 for comparison purposes.

West Bank VOC Results

West Bank wells that were sampled in March included monitoring wells R2D and R3D, and City production wells CW6, CW9, CW10, and CW11. The primary chlorinated VOC found in the West Bank groundwater is trichloroethene (TCE), which was detected at R2D, R3D, and CW6. The degradation product, cis-1,2-dichloroethene (C12DCE), was also detected at R2D and R3D. The TCE concentration at CW6 (3.7 µg/L) was below the MCL. No VOCs were detected in the samples from City wells CW9, CW10 and CW11.

The only significant change from the November 2013 results was an increase in the total chlorinated VOC concentration at R3D from 4.8 µg/L to 73.7 µg/L. This increase may be due to a higher concentration remnant that was south of R3D that is now migrating north to CW6 and the West Wellfield. The historical data for R2D and R3D are presented below.



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Total CVOCs ($\mu\text{g/L}$)			
Year	R2D	R3D	R4D
1996	1600	2	540
1997	720	5	65
1998	320	580	55
1999	110	1200	33
2000	45	1800	58
2001	17	1500	13
2002	15	1200	36
2003	10	980	38
2004	11	899	51
2005	7.5	400	56.5
2006	8.2	490	42
2007	9.9	280	1.3
2008	6.5	180	13
2009	7.3	92	22.9
2010	6.2	195.7	25.7
2011	11	203.1	27.6
2012	6.4	20.7	4.9
Nov-2013	20	4.8	16.6
March-2014	18.2	73.7	NA

Charts showing total CVOc concentrations for select West Bank wells are presented in Attachment 2.

East Bank VOC Results

East Bank wells that were sampled in March included monitoring well E21 and City production well CW3. The primary chlorinated VOC found in the East Bank groundwater is tetrachloroethene (PCE), which was detected at CW3 with a concentration of 1.4 $\mu\text{g/L}$. The total CVOc trend at CW3 is depicted in the chart presented in Attachment 2. No VOCs were detected in the E21 sample, which is consistent with the November 2013 result and indicates that the West Bank plume does not currently extend all the way across the river. There were no significant changes in VOC concentrations in the East Bank wells.



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City Production Wells Pumping Volumes

CW3 and CW6 operated as required in the first quarter of 2014. Table 4 presents pumping data for the six City wells during January, February, and March 2014. While only CW3 and CW6 are part of the remediation system, data for all City wells are presented, consistent with previous reports. The table shows, by month, the number of hours each well was operated, the number of gallons pumped from each well, and the average pumping rate while the pump was operating.

CW3 and CW6 operated on alternate schedules at rates that exceeded the operating requirements established by the USEPA approval letter dated August 4, 1995. CW3 operated for an average of 77.6 hours per week with an average pumping rate of 1,493 gpm, exceeding the requirements of 65 hours per week at 1,200 gpm.

CW6 operated for an average of 89.1 hours per week with an average pumping rate of 1,408 gpm, exceeding the requirement of 85 hours per week at 1,400 gpm.

Hydraulic Capture

Hydraulic capture of the contaminant plume is demonstrated by the water table contours illustrated on Figure 2. Due to the reduced number of data points, interpretation of the groundwater contours was partially based on historical contours. The water table contours indicate that groundwater flow at the Site was toward CW3 on the East Bank, and to CW6 and CW10 on the West Bank. At nested well locations the water table elevations for shallow and deep wells were similar, indicating horizontal flow and hydraulic containment of the shallow and deeper portions of the aquifer.

City Treatment Plant Analytical Data

The Wausau City Treatment Plant collects samples of the City water supply on a quarterly basis. The samples are collected at two exit points where the treated water leaves the plant. The results for samples collected in December 2013 and March 2014 are presented in Attachment 3. The only VOCs detected were chloroform, bromodichloromethane, dibromochloromethane, and chlorobenzene. The reported concentrations for chlorobenzene



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and dibromochloromethane were above the detection limit but below the quantitation limit. None of these compounds are associated with the Site groundwater contamination and they are common drinking water disinfection byproducts.

Conclusions and Recommendations

Conclusions

- The City production wells, CW3 and CW6, operated within the requirements established by EPA and continue to capture the CVOC plume as demonstrated by the hydraulic data.
- Based on the non-detect result at E21, the West Bank plume does not extend all the way to CW3 on the East Bank.
- R3D exhibited increased VOC concentrations, suggesting plume migration to the north toward CW6.

Recommendations

Groundwater monitoring should continue as proposed in the Pilot Study Work Plan. The next monitoring event is scheduled for the second quarter of 2014 and will be conducted in late May or early June.



**CONESTOGA-ROVERS
& ASSOCIATES**

May 1, 2014

Reference No. 003978-10

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Please contact me if you have any questions.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

Charles Ahrens

CA/ma/30

Encl.

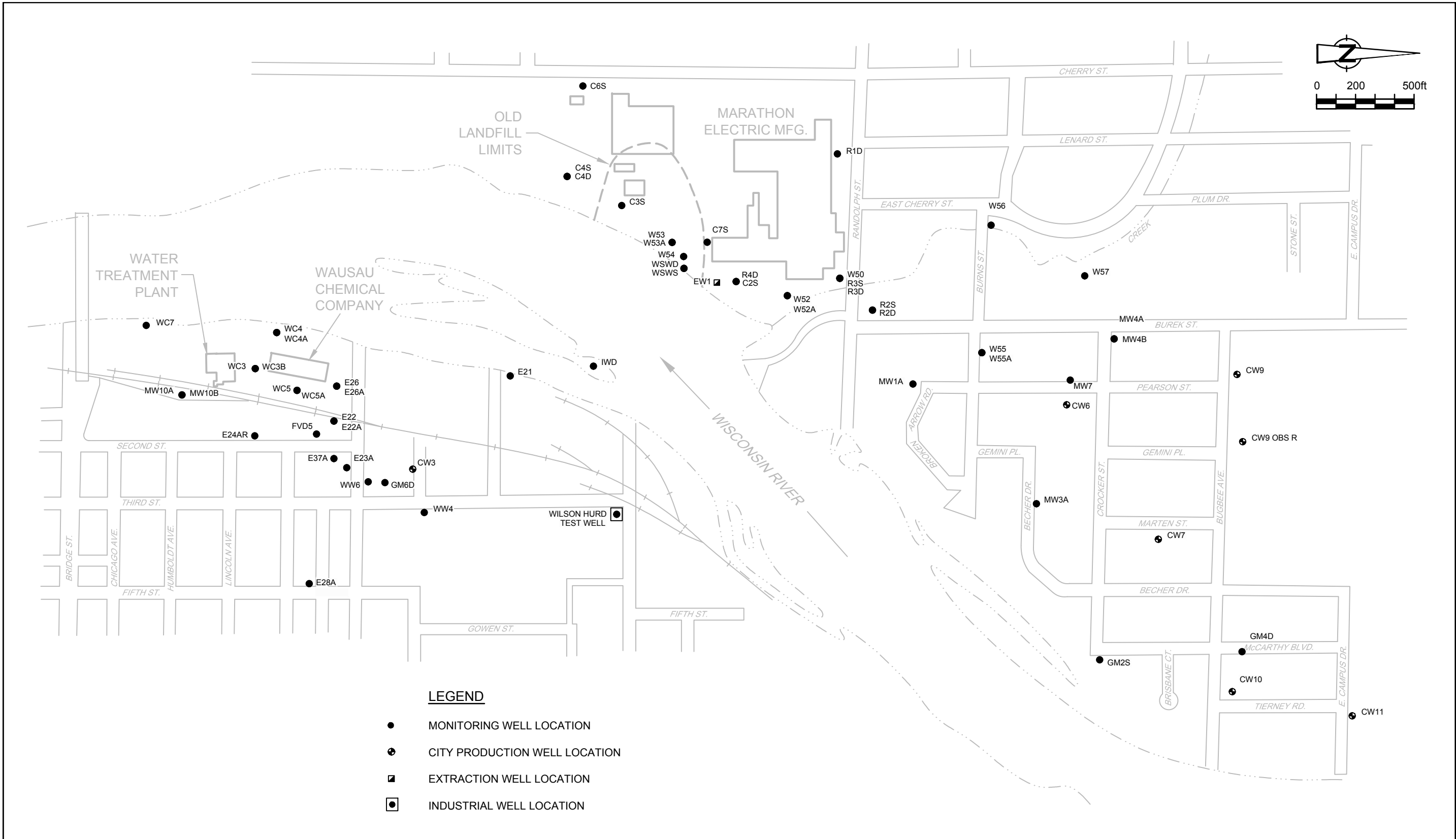


figure 1
 SITE PLAN
 WAUSAU WATER SUPPLY NPL SITE
 Wausau, Wisconsin

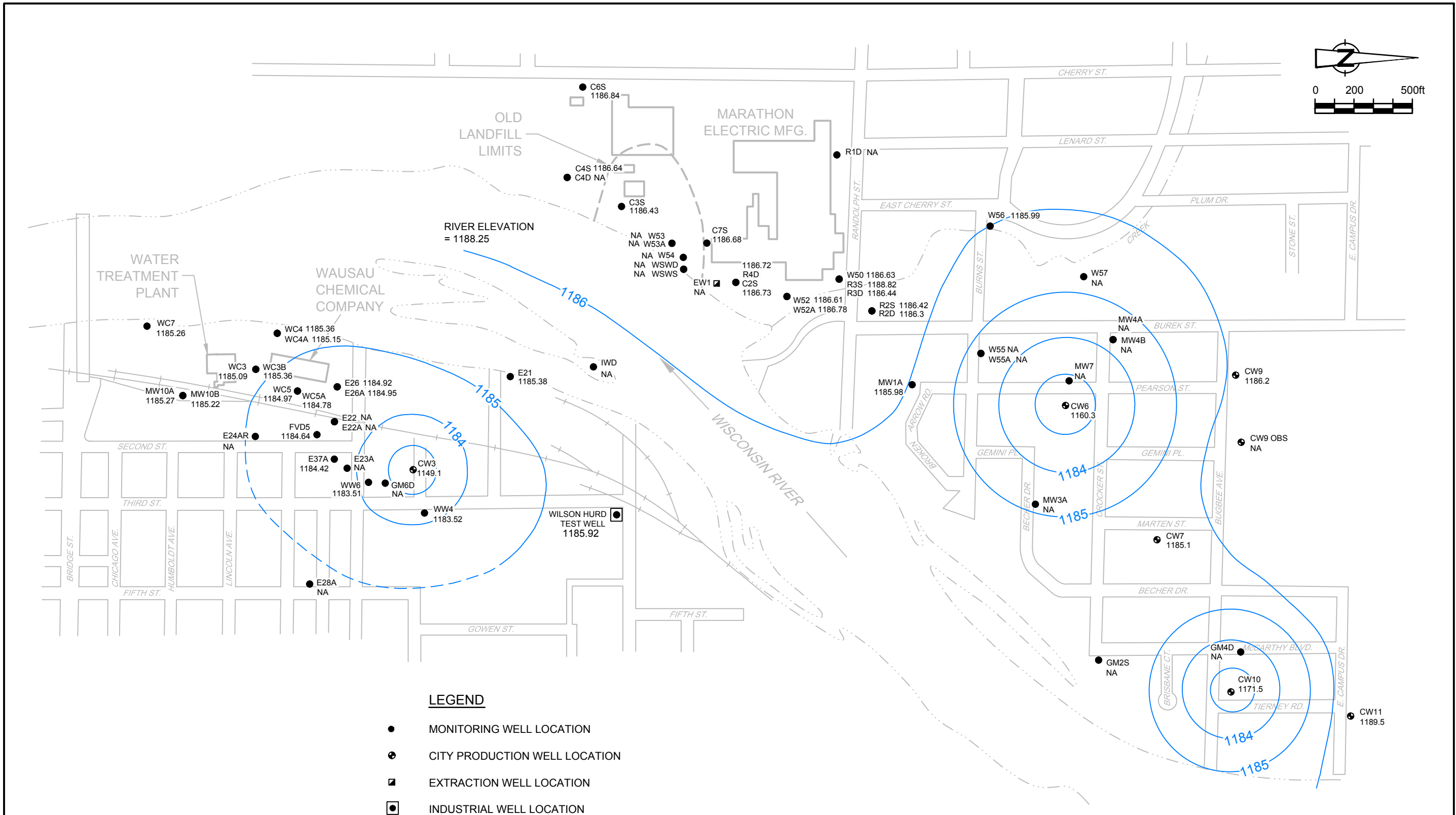


figure 2
 GROUNDWATER ELEVATIONS
 MARCH 24, 25, 2014
 WAUSAU WATER SUPPLY NPL SITE
 Wausau, Wisconsin



**GROUNDWATER ELEVATIONS - NOVEMBER 2013
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

	<i>Reference Elevation</i>		<i>Water Level (ft BTOC)</i>	<i>Water Table Elevation (ft AMSL)</i>	<i>Water Level (ft BTOC)</i>	<i>Water Table Elevation (ft AMSL)</i>
			<i>11/11/2013</i>	<i>11/11/2013</i>	<i>3/25/2014</i>	<i>3/25/2014</i>
East Bank						
CW3	1202.15	*	54.00	1148.15	53.00	1149.15
E21	1197.51		11.62	1185.89	12.13	1185.38
E22	1195.47		10.40	1185.07	NA	NA
E22A	1195.88		10.80	1185.08	NA	NA
E23A	1197.61		12.93	1184.68	NA	NA
E24AR	1209.33	(1),(2)	23.82	1185.51	NA	NA
E26	1199.02		13.59	1185.43	14.10	1184.92
E26A	1199.13		13.66	1185.47	14.18	1184.95
E28A	1211.60		25.40	1186.20	NA	NA
E37A	1197.84		12.95	1184.89	13.42	1184.42
FVD5	1198.89		13.75	1185.14	14.25	1184.64
GM6D	1198.57		14.68	1183.89	NA	NA
W. HURD	1200.23		14.41	1185.82	14.31	1185.92
IWD	1192.10		4.90	1187.20	NA	NA
MW10A	1210.67		24.90	1185.77	25.40	1185.27
MW10B	1210.37		24.65	1185.72	25.15	1185.22
WC3	1198.26		12.48	1185.78	13.17	1185.09
WC3B	1196.11	(2)	10.25	1185.86	10.75	1185.36
WC4	1196.74		10.87	1185.87	11.38	1185.36
WC4A	1196.57		10.66	1185.91	11.42	1185.15
WC5	1196.62		11.11	1185.51	11.65	1184.97
WC5A	1196.66		11.08	1185.58	11.88	1184.78
WC7	1196.77		10.85	1185.92	11.51	1185.26
WW4	1200.34	(2)	16.36	1183.98	16.82	1183.52
WW6	1200.53		16.55	1183.98	17.02	1183.51
West Bank						
EW1	NA		30.80	NA	33.32	NA
CW6	1220.33	*	60.00	1160.33	60.00	1160.33
CW7	1224.14		38.00	1186.14	39.00	1185.14
CW9	1226.16		38.00	1188.16	40.00	1186.16
CW9 OBS R	(3)		38.11	NA	41.00	-44.00
CW10	1218.49		31.00	1187.49	47.00	1171.49
CW11	1216.51		26.00	1190.51	27.00	1189.51
C2S	1219.05		31.71	1187.34	32.32	1186.73
C3S	1220.58		33.62	1186.96	34.15	1186.43
C4S	1216.70		29.60	1187.10	30.06	1186.64
C4D	1216.16		29.12	1187.04	NA	NA
C6S	1221.58		34.11	1187.47	34.74	1186.84
C7S	1220.87		32.60	1188.27	34.19	1186.68
GM2S	1211.78		24.50	1187.28	NA	NA
GM4D	1216.35		29.30	1187.05	NA	NA
MW1A	1215.69		28.80	1186.89	29.71	1185.98

**GROUNDWATER ELEVATIONS - NOVEMBER 2013
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

	<i>Reference Elevation</i>	<i>Water Level (ft BTOC)</i>	<i>Water Table Elevation (ft AMSL)</i>	<i>Water Level (ft BTOC)</i>	<i>Water Table Elevation (ft AMSL)</i>
West Bank Cont.					
MW3A	1220.87	34.20	1186.67	NA	NA
MW4A	1215.48	29.48	1186.00	NA	NA
MW4B	1215.10	29.08	1186.02	NA	NA
MW7	1218.53	34.22	1184.31	NA	NA
R1D	1222.24	35.59	1186.65	NA	NA
R2S	1209.70	22.11	1187.59	23.28	1186.42
R2D	1209.42	22.33	1187.09	23.12	1186.30
R3S	1215.17	Dry	Dry	26.35	1188.82
R3D	1215.42	28.20	1187.22	28.98	1186.44
R4D	1218.90	31.59	1187.31	32.18	1186.72
W50	1215.54	28.12	1187.42	28.91	1186.63
W52	1219.16	31.81	1187.35	32.55	1186.61
W52A	1218.95	31.46	1187.49	32.17	1186.78
W53	1216.67	29.46	1187.21	NA	NA
W53A	1216.90	29.76	1187.14	NA	NA
W54	1216.19	28.95	1187.24	NA	NA
W55	1217.04	30.02	1187.02	NA	NA
W55A	1217.31	30.55	1186.76	NA	NA
W56	1200.01	12.91	1187.10	14.02	1185.99
W57	1201.76	(2) 16.03	1185.73	NA	NA
WSWS	1193.04	5.58	1187.46	NA	NA
WSWD	1193.02	5.80	1187.22	NA	NA

Notes:

Elevations relative to National Geodetic Vertical Datum

ft BTOC - Feet below top of casing.

ft AMSL - Feet above mean sea level.

* - Well was pumping.

NA - Not Applicable.

(1) Wells E24 and E24A were abandoned in 2012, replaced by E24AR in 2012.

(2) Reference elevation resurveyed in 2012.

(3) Replacement observation well. Reference elevation to be surveyed.

TABLE 2

**GROUNDWATER SAMPLING SUMMARY - MARCH 2014
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

<i>Well</i>	<i>Date</i>	<i>pH</i>	<i>Conductivity (us)</i>	<i>Temperature (°C)</i>	<i>Water Clarity</i>	<i>Gallons Removed</i>	<i>Sample ID Number</i>	<i>QA/QC</i>
CW3	3/24/2014	6.12	390	10.5	Clear	Grab	W-140324-RA-01	
E21	3/24/2014	6.64	133	8.7	Clear	60.0	W-140324-RA-02	
R3D	3/24/2014	6.48	379	6.1	Clear	60.0	W-140324-RA-03	
R2D	3/24/2014	7.13	109	8.8	Clear	75.0	W-140324-RA-04 W-140324-RA-05	Duplicate
CW6	3/25/2014	6.30	246	9.5	Clear	Grab	W-140325-RA-06	
CW-10	3/25/2014	6.55	140	12.1	Clear	Grab	W-140325-RA-07	MS/MSD
CW9	3/25/2014	6.58	303	9.5	Clear	Grab	W-140325-RA-08	
CW11	3/25/2014	6.52	151	9.6	Clear	Grab	W-140325-RA-09 W-140325-RA-10	Field Blank

TABLE 3

**GROUNDWATER MONITORING LABORATORY RESULTS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

<i>Sample Location:</i>			<i>CW3</i>	<i>CW3</i>	<i>E21</i>	<i>E21</i>	<i>R2D</i>	<i>R2D</i>	<i>R2D</i>	<i>R3D</i>	<i>R3D</i>
<i>Sample Date:</i>			<i>11/11/2013</i>	<i>3/24/2014</i>	<i>11/11/2013</i>	<i>3/24/2014</i>	<i>11/12/2013</i>	<i>3/24/2014</i>	<i>3/24/2014</i>	<i>11/13/2013</i>	<i>3/24/2014</i>
VOAs		MCL							Duplicate		
1,1,2-Trichloroethane	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U
1,1-Dichloroethene	ug/L	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U
Acetone	ug/L	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	33 U
Benzene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U
Carbon tetrachloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U
Chloroform	ug/L	80*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U
cis-1,2-Dichloroethene	ug/L	70	0.50 J	0.74 J	1.0 U	1.0 U	1.0	0.61 J	0.62 J	1.0 U	5.7
Ethylbenzene	ug/L	700	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U
Methylene chloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U
Tetrachloroethene	ug/L	5	1.40	1.40	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U
Toluene	ug/L	1000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U
Trichloroethene	ug/L	5	0.72 J	0.78 J	1.0 U	1.0 U	19	18	17	4.8	68
Vinyl chloride	ug/L	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U
Xylenes (total)	ug/L	10000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U
Total Chlorinated VOC			2.62	2.92	0.0	0.0	20.0	18.61	17.62	4.8	73.7

TABLE 3

**GROUNDWATER MONITORING LABORATORY RESULTS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

<i>Sample Location:</i>			<i>CW6</i>	<i>CW6</i>	<i>CW9</i>	<i>CW10</i>	<i>CW10</i>	<i>CW11</i>	<i>CW11</i>
<i>Sample Date:</i>			<i>11/12/2013</i>	<i>3/25/2014</i>	<i>3/25/2014</i>	<i>11/12/2013</i>	<i>3/25/2014</i>	<i>11/12/2013</i>	<i>3/25/2014</i>
VOAs		MCL							
1,1,2-Trichloroethane	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	ug/L	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	ug/L	80*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	70	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	700	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	5	3.9	3.7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	10000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Chlorinated VOC			3.9	3.7	0.0	0.0	0.0	0.0	0.0

Notes:

U - not detected

J - reported value is estimated

MCL - EPA maximum contaminant level for drinking water

* - the MCL for chloroform is for total trihalomethanes

**CITY WATER SUPPLY WELL PUMPING AVERAGES -FIRST QUARTER 2014
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

		Well #3	Well #6	Well #7	Well #9	Well #10	Well #11
January	Hours	356.6	383.1	235.1	82.7	99.8	96.9
	Gallons	33.051	30.469	24.37	4.479	19.925	16.943
	gpm	1545	1326	1728	903	3327	2914
February	Hours	308.7	359.5	275.4	185.4	169.5	208.8
	Gallons	27.344	29.992	28.45	10.097	31.838	36.443
	gpm	1476	1390	1722	908	3131	2909
March	Hours	387.8	353.9	200	124	269.6	399
	Gallons	33.915	32.04	19.445	6.713	50.23	69.454
	gpm	1458	1509	1620	902	3105	2901
Average hours/week:		77.6	89.1	49.2	15.8	27.6	25.6
Average gpm:		1493	1408	1690	904	3188	2908

Note:

"Hours" indicates total hours pumped per month - "Gallons" indicates millions of gallons pumped per month

Attachment 1

Laboratory Report

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Canton

4101 Shuffel Street NW

North Canton, OH 44720

Tel: (330)497-9396

TestAmerica Job ID: 240-35472-1

Client Project/Site: 3978, Wausau

For:

Conestoga-Rovers & Associates, Inc.

1801 Old Highway 8 NW

Suite 114

St. Paul, Minnesota 55112

Attn: Mr. Grant Anderson



Authorized for release by:

4/4/2014 9:55:32 AM

Denise Heckler, Project Manager II

(330)966-9477

denise.heckler@testamericainc.com

LINKS

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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-35472-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-35472-1

Job ID: 240-35472-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: Conestoga-Rovers & Associates, Inc.

Project: 3978, Wausau

Report Number: 240-35472-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 03/27/2014; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.8 C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples W-140324-RA-01 (240-35472-1), W-140324-RA-02 (240-35472-2), W-140324-RA-03 (240-35472-3), W-140324-RA-04 (240-35472-4), W-140324-RA-05 (240-35472-5), W-140325-RA-06 (240-35472-6), W-140325-RA-07 (240-35472-7), W-140325-RA-08 (240-35472-8), W-140325-RA-09 (240-35472-9), W-140325-RA-10 (240-35472-10) and TRIP BLANK (240-35472-11) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/02/2014.

Sample W-140324-RA-03 (240-35472-3)[3.33X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the VOCs analysis.

All quality control parameters were within the acceptance limits.

Method Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-35472-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-35472-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-35472-1	W-140324-RA-01	Water	03/24/14 13:15	03/27/14 09:15
240-35472-2	W-140324-RA-02	Water	03/24/14 13:50	03/27/14 09:15
240-35472-3	W-140324-RA-03	Water	03/24/14 15:35	03/27/14 09:15
240-35472-4	W-140324-RA-04	Water	03/24/14 16:30	03/27/14 09:15
240-35472-5	W-140324-RA-05	Water	03/24/14 16:30	03/27/14 09:15
240-35472-6	W-140325-RA-06	Water	03/25/14 08:00	03/27/14 09:15
240-35472-7	W-140325-RA-07	Water	03/25/14 08:15	03/27/14 09:15
240-35472-8	W-140325-RA-08	Water	03/25/14 08:30	03/27/14 09:15
240-35472-9	W-140325-RA-09	Water	03/25/14 08:45	03/27/14 09:15
240-35472-10	W-140325-RA-10	Water	03/25/14 08:45	03/27/14 09:15
240-35472-11	TRIP BLANK	Water	03/25/14 00:00	03/27/14 09:15

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-35472-1

Client Sample ID: W-140324-RA-01

Lab Sample ID: 240-35472-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.74	J	1.0	0.17	ug/L	1		8260B	Total/NA
Tetrachloroethene	1.4		1.0	0.29	ug/L	1		8260B	Total/NA
Trichloroethene	0.78	J	1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-140324-RA-02

Lab Sample ID: 240-35472-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	2.0	J	10	1.1	ug/L	1		8260B	Total/NA

Client Sample ID: W-140324-RA-03

Lab Sample ID: 240-35472-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	5.7		3.3	0.57	ug/L	3.33		8260B	Total/NA
Trichloroethene	68		3.3	0.57	ug/L	3.33		8260B	Total/NA

Client Sample ID: W-140324-RA-04

Lab Sample ID: 240-35472-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	1.8	J	10	1.1	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	0.61	J	1.0	0.17	ug/L	1		8260B	Total/NA
Trichloroethene	18		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-140324-RA-05

Lab Sample ID: 240-35472-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	1.4	J	10	1.1	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	0.62	J	1.0	0.17	ug/L	1		8260B	Total/NA
Trichloroethene	17		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-140325-RA-06

Lab Sample ID: 240-35472-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	1.2	J	10	1.1	ug/L	1		8260B	Total/NA
Trichloroethene	3.7		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-140325-RA-07

Lab Sample ID: 240-35472-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	1.5	J	10	1.1	ug/L	1		8260B	Total/NA

Client Sample ID: W-140325-RA-08

Lab Sample ID: 240-35472-8

No Detections.

Client Sample ID: W-140325-RA-09

Lab Sample ID: 240-35472-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	1.1	J	10	1.1	ug/L	1		8260B	Total/NA

Client Sample ID: W-140325-RA-10

Lab Sample ID: 240-35472-10

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-35472-1

Client Sample ID: W-140325-RA-10 (Continued)

Lab Sample ID: 240-35472-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	4.3	J	10	1.1	ug/L	1		8260B	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-35472-11

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

- 1
- 2
- 3
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- 12
- 13
- 14

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-35472-1

Client Sample ID: W-140324-RA-01

Lab Sample ID: 240-35472-1

Date Collected: 03/24/14 13:15

Matrix: Water

Date Received: 03/27/14 09:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			04/02/14 00:31	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/02/14 00:31	1
Acetone	10	U	10	1.1	ug/L			04/02/14 00:31	1
Benzene	1.0	U	1.0	0.13	ug/L			04/02/14 00:31	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			04/02/14 00:31	1
Chloroform	1.0	U	1.0	0.16	ug/L			04/02/14 00:31	1
cis-1,2-Dichloroethene	0.74	J	1.0	0.17	ug/L			04/02/14 00:31	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			04/02/14 00:31	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			04/02/14 00:31	1
Tetrachloroethene	1.4		1.0	0.29	ug/L			04/02/14 00:31	1
Toluene	1.0	U	1.0	0.13	ug/L			04/02/14 00:31	1
Trichloroethene	0.78	J	1.0	0.17	ug/L			04/02/14 00:31	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			04/02/14 00:31	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			04/02/14 00:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		63 - 129					04/02/14 00:31	1
4-Bromofluorobenzene (Surr)	89		66 - 120					04/02/14 00:31	1
Toluene-d8 (Surr)	85		74 - 120					04/02/14 00:31	1
Dibromofluoromethane (Surr)	90		75 - 121					04/02/14 00:31	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-35472-1

Client Sample ID: W-140324-RA-02

Lab Sample ID: 240-35472-2

Date Collected: 03/24/14 13:50

Matrix: Water

Date Received: 03/27/14 09:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			04/02/14 00:53	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/02/14 00:53	1
Acetone	2.0	J	10	1.1	ug/L			04/02/14 00:53	1
Benzene	1.0	U	1.0	0.13	ug/L			04/02/14 00:53	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			04/02/14 00:53	1
Chloroform	1.0	U	1.0	0.16	ug/L			04/02/14 00:53	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			04/02/14 00:53	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			04/02/14 00:53	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			04/02/14 00:53	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			04/02/14 00:53	1
Toluene	1.0	U	1.0	0.13	ug/L			04/02/14 00:53	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			04/02/14 00:53	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			04/02/14 00:53	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			04/02/14 00:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		63 - 129					04/02/14 00:53	1
4-Bromofluorobenzene (Surr)	89		66 - 120					04/02/14 00:53	1
Toluene-d8 (Surr)	85		74 - 120					04/02/14 00:53	1
Dibromofluoromethane (Surr)	93		75 - 121					04/02/14 00:53	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-35472-1

Client Sample ID: W-140324-RA-03

Lab Sample ID: 240-35472-3

Date Collected: 03/24/14 15:35

Matrix: Water

Date Received: 03/27/14 09:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	3.3	U	3.3	0.90	ug/L			04/02/14 01:16	3.33
1,1-Dichloroethene	3.3	U	3.3	0.63	ug/L			04/02/14 01:16	3.33
Acetone	33	U	33	3.7	ug/L			04/02/14 01:16	3.33
Benzene	3.3	U	3.3	0.43	ug/L			04/02/14 01:16	3.33
Carbon tetrachloride	3.3	U	3.3	0.43	ug/L			04/02/14 01:16	3.33
Chloroform	3.3	U	3.3	0.53	ug/L			04/02/14 01:16	3.33
cis-1,2-Dichloroethene	5.7		3.3	0.57	ug/L			04/02/14 01:16	3.33
Ethylbenzene	3.3	U	3.3	0.57	ug/L			04/02/14 01:16	3.33
Methylene Chloride	3.3	U	3.3	1.1	ug/L			04/02/14 01:16	3.33
Tetrachloroethene	3.3	U	3.3	0.97	ug/L			04/02/14 01:16	3.33
Toluene	3.3	U	3.3	0.43	ug/L			04/02/14 01:16	3.33
Trichloroethene	68		3.3	0.57	ug/L			04/02/14 01:16	3.33
Vinyl chloride	3.3	U	3.3	0.73	ug/L			04/02/14 01:16	3.33
Xylenes, Total	3.3	U	3.3	0.47	ug/L			04/02/14 01:16	3.33
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		63 - 129					04/02/14 01:16	3.33
4-Bromofluorobenzene (Surr)	88		66 - 120					04/02/14 01:16	3.33
Toluene-d8 (Surr)	86		74 - 120					04/02/14 01:16	3.33
Dibromofluoromethane (Surr)	90		75 - 121					04/02/14 01:16	3.33

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-35472-1

Client Sample ID: W-140324-RA-04

Lab Sample ID: 240-35472-4

Date Collected: 03/24/14 16:30

Matrix: Water

Date Received: 03/27/14 09:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			04/02/14 01:38	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/02/14 01:38	1
Acetone	1.8	J	10	1.1	ug/L			04/02/14 01:38	1
Benzene	1.0	U	1.0	0.13	ug/L			04/02/14 01:38	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			04/02/14 01:38	1
Chloroform	1.0	U	1.0	0.16	ug/L			04/02/14 01:38	1
cis-1,2-Dichloroethene	0.61	J	1.0	0.17	ug/L			04/02/14 01:38	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			04/02/14 01:38	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			04/02/14 01:38	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			04/02/14 01:38	1
Toluene	1.0	U	1.0	0.13	ug/L			04/02/14 01:38	1
Trichloroethene	18		1.0	0.17	ug/L			04/02/14 01:38	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			04/02/14 01:38	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			04/02/14 01:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		63 - 129					04/02/14 01:38	1
4-Bromofluorobenzene (Surr)	88		66 - 120					04/02/14 01:38	1
Toluene-d8 (Surr)	84		74 - 120					04/02/14 01:38	1
Dibromofluoromethane (Surr)	92		75 - 121					04/02/14 01:38	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-35472-1

Client Sample ID: W-140324-RA-05

Lab Sample ID: 240-35472-5

Date Collected: 03/24/14 16:30

Matrix: Water

Date Received: 03/27/14 09:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			04/02/14 02:01	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/02/14 02:01	1
Acetone	1.4	J	10	1.1	ug/L			04/02/14 02:01	1
Benzene	1.0	U	1.0	0.13	ug/L			04/02/14 02:01	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			04/02/14 02:01	1
Chloroform	1.0	U	1.0	0.16	ug/L			04/02/14 02:01	1
cis-1,2-Dichloroethene	0.62	J	1.0	0.17	ug/L			04/02/14 02:01	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			04/02/14 02:01	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			04/02/14 02:01	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			04/02/14 02:01	1
Toluene	1.0	U	1.0	0.13	ug/L			04/02/14 02:01	1
Trichloroethene	17		1.0	0.17	ug/L			04/02/14 02:01	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			04/02/14 02:01	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			04/02/14 02:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		63 - 129					04/02/14 02:01	1
4-Bromofluorobenzene (Surr)	89		66 - 120					04/02/14 02:01	1
Toluene-d8 (Surr)	85		74 - 120					04/02/14 02:01	1
Dibromofluoromethane (Surr)	92		75 - 121					04/02/14 02:01	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-35472-1

Client Sample ID: W-140325-RA-06

Lab Sample ID: 240-35472-6

Date Collected: 03/25/14 08:00

Matrix: Water

Date Received: 03/27/14 09:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			04/02/14 02:23	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/02/14 02:23	1
Acetone	1.2	J	10	1.1	ug/L			04/02/14 02:23	1
Benzene	1.0	U	1.0	0.13	ug/L			04/02/14 02:23	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			04/02/14 02:23	1
Chloroform	1.0	U	1.0	0.16	ug/L			04/02/14 02:23	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			04/02/14 02:23	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			04/02/14 02:23	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			04/02/14 02:23	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			04/02/14 02:23	1
Toluene	1.0	U	1.0	0.13	ug/L			04/02/14 02:23	1
Trichloroethene	3.7		1.0	0.17	ug/L			04/02/14 02:23	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			04/02/14 02:23	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			04/02/14 02:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		63 - 129					04/02/14 02:23	1
4-Bromofluorobenzene (Surr)	90		66 - 120					04/02/14 02:23	1
Toluene-d8 (Surr)	86		74 - 120					04/02/14 02:23	1
Dibromofluoromethane (Surr)	91		75 - 121					04/02/14 02:23	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-35472-1

Client Sample ID: W-140325-RA-07

Lab Sample ID: 240-35472-7

Date Collected: 03/25/14 08:15

Matrix: Water

Date Received: 03/27/14 09:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			04/02/14 07:24	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/02/14 07:24	1
Acetone	1.5	J	10	1.1	ug/L			04/02/14 07:24	1
Benzene	1.0	U	1.0	0.13	ug/L			04/02/14 07:24	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			04/02/14 07:24	1
Chloroform	1.0	U	1.0	0.16	ug/L			04/02/14 07:24	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			04/02/14 07:24	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			04/02/14 07:24	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			04/02/14 07:24	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			04/02/14 07:24	1
Toluene	1.0	U	1.0	0.13	ug/L			04/02/14 07:24	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			04/02/14 07:24	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			04/02/14 07:24	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			04/02/14 07:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		63 - 129					04/02/14 07:24	1
4-Bromofluorobenzene (Surr)	90		66 - 120					04/02/14 07:24	1
Toluene-d8 (Surr)	84		74 - 120					04/02/14 07:24	1
Dibromofluoromethane (Surr)	93		75 - 121					04/02/14 07:24	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-35472-1

Client Sample ID: W-140325-RA-08

Lab Sample ID: 240-35472-8

Date Collected: 03/25/14 08:30

Matrix: Water

Date Received: 03/27/14 09:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			04/02/14 02:45	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/02/14 02:45	1
Acetone	10	U	10	1.1	ug/L			04/02/14 02:45	1
Benzene	1.0	U	1.0	0.13	ug/L			04/02/14 02:45	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			04/02/14 02:45	1
Chloroform	1.0	U	1.0	0.16	ug/L			04/02/14 02:45	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			04/02/14 02:45	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			04/02/14 02:45	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			04/02/14 02:45	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			04/02/14 02:45	1
Toluene	1.0	U	1.0	0.13	ug/L			04/02/14 02:45	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			04/02/14 02:45	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			04/02/14 02:45	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			04/02/14 02:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 129					04/02/14 02:45	1
4-Bromofluorobenzene (Surr)	89		66 - 120					04/02/14 02:45	1
Toluene-d8 (Surr)	84		74 - 120					04/02/14 02:45	1
Dibromofluoromethane (Surr)	94		75 - 121					04/02/14 02:45	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-35472-1

Client Sample ID: W-140325-RA-09

Lab Sample ID: 240-35472-9

Date Collected: 03/25/14 08:45

Matrix: Water

Date Received: 03/27/14 09:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			04/02/14 03:08	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/02/14 03:08	1
Acetone	1.1	J	10	1.1	ug/L			04/02/14 03:08	1
Benzene	1.0	U	1.0	0.13	ug/L			04/02/14 03:08	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			04/02/14 03:08	1
Chloroform	1.0	U	1.0	0.16	ug/L			04/02/14 03:08	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			04/02/14 03:08	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			04/02/14 03:08	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			04/02/14 03:08	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			04/02/14 03:08	1
Toluene	1.0	U	1.0	0.13	ug/L			04/02/14 03:08	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			04/02/14 03:08	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			04/02/14 03:08	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			04/02/14 03:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 129					04/02/14 03:08	1
4-Bromofluorobenzene (Surr)	86		66 - 120					04/02/14 03:08	1
Toluene-d8 (Surr)	85		74 - 120					04/02/14 03:08	1
Dibromofluoromethane (Surr)	92		75 - 121					04/02/14 03:08	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-35472-1

Client Sample ID: W-140325-RA-10

Lab Sample ID: 240-35472-10

Date Collected: 03/25/14 08:45

Matrix: Water

Date Received: 03/27/14 09:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			04/02/14 03:30	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/02/14 03:30	1
Acetone	4.3	J	10	1.1	ug/L			04/02/14 03:30	1
Benzene	1.0	U	1.0	0.13	ug/L			04/02/14 03:30	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			04/02/14 03:30	1
Chloroform	1.0	U	1.0	0.16	ug/L			04/02/14 03:30	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			04/02/14 03:30	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			04/02/14 03:30	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			04/02/14 03:30	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			04/02/14 03:30	1
Toluene	1.0	U	1.0	0.13	ug/L			04/02/14 03:30	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			04/02/14 03:30	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			04/02/14 03:30	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			04/02/14 03:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 129					04/02/14 03:30	1
4-Bromofluorobenzene (Surr)	88		66 - 120					04/02/14 03:30	1
Toluene-d8 (Surr)	86		74 - 120					04/02/14 03:30	1
Dibromofluoromethane (Surr)	93		75 - 121					04/02/14 03:30	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-35472-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-35472-11

Date Collected: 03/25/14 00:00

Matrix: Water

Date Received: 03/27/14 09:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			04/02/14 03:53	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/02/14 03:53	1
Acetone	10	U	10	1.1	ug/L			04/02/14 03:53	1
Benzene	1.0	U	1.0	0.13	ug/L			04/02/14 03:53	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			04/02/14 03:53	1
Chloroform	1.0	U	1.0	0.16	ug/L			04/02/14 03:53	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			04/02/14 03:53	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			04/02/14 03:53	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			04/02/14 03:53	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			04/02/14 03:53	1
Toluene	1.0	U	1.0	0.13	ug/L			04/02/14 03:53	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			04/02/14 03:53	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			04/02/14 03:53	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			04/02/14 03:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		63 - 129					04/02/14 03:53	1
4-Bromofluorobenzene (Surr)	87		66 - 120					04/02/14 03:53	1
Toluene-d8 (Surr)	84		74 - 120					04/02/14 03:53	1
Dibromofluoromethane (Surr)	92		75 - 121					04/02/14 03:53	1

Surrogate Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-35472-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (63-129)	BFB (66-120)	TOL (74-120)	DBFM (75-121)
240-35472-1	W-140324-RA-01	99	89	85	90
240-35472-2	W-140324-RA-02	100	89	85	93
240-35472-3	W-140324-RA-03	98	88	86	90
240-35472-4	W-140324-RA-04	99	88	84	92
240-35472-5	W-140324-RA-05	100	89	85	92
240-35472-6	W-140325-RA-06	99	90	86	91
240-35472-7	W-140325-RA-07	99	90	84	93
240-35472-7 MS	W-140325-RA-07	94	96	92	88
240-35472-7 MSD	W-140325-RA-07	91	97	92	88
240-35472-8	W-140325-RA-08	101	89	84	94
240-35472-9	W-140325-RA-09	101	86	85	92
240-35472-10	W-140325-RA-10	101	88	86	93
240-35472-11	TRIP BLANK	100	87	84	92
LCS 240-124862/4	Lab Control Sample	91	94	91	89
MB 240-124862/6	Method Blank	96	86	89	90

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-35472-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-124862/6

Matrix: Water

Analysis Batch: 124862

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			04/01/14 23:23	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/01/14 23:23	1
Acetone	10	U	10	1.1	ug/L			04/01/14 23:23	1
Benzene	1.0	U	1.0	0.13	ug/L			04/01/14 23:23	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			04/01/14 23:23	1
Chloroform	1.0	U	1.0	0.16	ug/L			04/01/14 23:23	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			04/01/14 23:23	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			04/01/14 23:23	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			04/01/14 23:23	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			04/01/14 23:23	1
Toluene	1.0	U	1.0	0.13	ug/L			04/01/14 23:23	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			04/01/14 23:23	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			04/01/14 23:23	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			04/01/14 23:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		63 - 129		04/01/14 23:23	1
4-Bromofluorobenzene (Surr)	86		66 - 120		04/01/14 23:23	1
Toluene-d8 (Surr)	89		74 - 120		04/01/14 23:23	1
Dibromofluoromethane (Surr)	90		75 - 121		04/01/14 23:23	1

Lab Sample ID: LCS 240-124862/4

Matrix: Water

Analysis Batch: 124862

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2-Trichloroethane	10.0	9.87		ug/L		99	80 - 120
1,1-Dichloroethene	10.0	9.66		ug/L		97	78 - 131
Acetone	20.0	16.2		ug/L		81	43 - 136
Benzene	10.0	9.84		ug/L		98	80 - 120
Carbon tetrachloride	10.0	8.43		ug/L		84	66 - 128
Chloroform	10.0	10.2		ug/L		102	79 - 120
cis-1,2-Dichloroethene	10.0	9.36		ug/L		94	80 - 120
Ethylbenzene	10.0	9.28		ug/L		93	80 - 120
m-Xylene & p-Xylene	10.0	9.31		ug/L		93	80 - 120
Methylene Chloride	10.0	10.3		ug/L		103	66 - 131
o-Xylene	10.0	9.81		ug/L		98	80 - 120
Tetrachloroethene	10.0	9.30		ug/L		93	79 - 120
Toluene	10.0	9.67		ug/L		97	80 - 120
Trichloroethene	10.0	9.35		ug/L		93	76 - 120
Vinyl chloride	10.0	8.41		ug/L		84	53 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	91		63 - 129
4-Bromofluorobenzene (Surr)	94		66 - 120
Toluene-d8 (Surr)	91		74 - 120
Dibromofluoromethane (Surr)	89		75 - 121

TestAmerica Canton

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-35472-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-35472-7 MS

Matrix: Water

Analysis Batch: 124862

Client Sample ID: W-140325-RA-07

Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
1,1,2-Trichloroethane	1.0	U	10.0	10.1		ug/L		101	75 - 120
1,1-Dichloroethene	1.0	U	10.0	9.53		ug/L		95	74 - 135
Acetone	1.5	J	20.0	18.6		ug/L		86	33 - 145
Benzene	1.0	U	10.0	9.74		ug/L		97	72 - 121
Carbon tetrachloride	1.0	U	10.0	7.43		ug/L		74	59 - 129
Chloroform	1.0	U	10.0	10.2		ug/L		102	76 - 120
cis-1,2-Dichloroethene	1.0	U	10.0	9.34		ug/L		93	70 - 120
Ethylbenzene	1.0	U	10.0	8.61		ug/L		86	75 - 120
m-Xylene & p-Xylene	1.0		10.0	8.63		ug/L		86	75 - 120
Methylene Chloride	1.0	U	10.0	10.3		ug/L		103	63 - 128
o-Xylene	1.0		10.0	9.16		ug/L		92	76 - 120
Tetrachloroethene	1.0	U	10.0	8.18		ug/L		82	70 - 120
Toluene	1.0	U	10.0	9.27		ug/L		93	78 - 120
Trichloroethene	1.0	U	10.0	8.92		ug/L		89	66 - 120
Vinyl chloride	1.0	U	10.0	8.06		ug/L		81	49 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	94		63 - 129
4-Bromofluorobenzene (Surr)	96		66 - 120
Toluene-d8 (Surr)	92		74 - 120
Dibromofluoromethane (Surr)	88		75 - 121

Lab Sample ID: 240-35472-7 MSD

Matrix: Water

Analysis Batch: 124862

Client Sample ID: W-140325-RA-07

Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier		Result	Qualifier						
1,1,2-Trichloroethane	1.0	U	10.0	9.93		ug/L		99	75 - 120	2	30
1,1-Dichloroethene	1.0	U	10.0	9.01		ug/L		90	74 - 135	6	30
Acetone	1.5	J	20.0	18.2		ug/L		84	33 - 145	2	30
Benzene	1.0	U	10.0	9.54		ug/L		95	72 - 121	2	30
Carbon tetrachloride	1.0	U	10.0	7.47		ug/L		75	59 - 129	1	30
Chloroform	1.0	U	10.0	9.90		ug/L		99	76 - 120	3	30
cis-1,2-Dichloroethene	1.0	U	10.0	9.32		ug/L		93	70 - 120	0	30
Ethylbenzene	1.0	U	10.0	8.38		ug/L		84	75 - 120	3	30
m-Xylene & p-Xylene	1.0		10.0	8.61		ug/L		86	75 - 120	0	30
Methylene Chloride	1.0	U	10.0	10.1		ug/L		101	63 - 128	2	30
o-Xylene	1.0		10.0	9.01		ug/L		90	76 - 120	2	30
Tetrachloroethene	1.0	U	10.0	8.19		ug/L		82	70 - 120	0	30
Toluene	1.0	U	10.0	9.15		ug/L		92	78 - 120	1	30
Trichloroethene	1.0	U	10.0	8.70		ug/L		87	66 - 120	2	30
Vinyl chloride	1.0	U	10.0	8.43		ug/L		84	49 - 130	4	30

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	91		63 - 129
4-Bromofluorobenzene (Surr)	97		66 - 120
Toluene-d8 (Surr)	92		74 - 120

TestAmerica Canton

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-35472-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-35472-7 MSD

Matrix: Water

Analysis Batch: 124862

Client Sample ID: W-140325-RA-07

Prep Type: Total/NA

<i>Surrogate</i>	<i>MSD</i>	<i>MSD</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
<i>Dibromofluoromethane (Surr)</i>	88		75 - 121

- 1
- 2
- 3
- 4
- 5
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- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-35472-1

GC/MS VOA

Analysis Batch: 124862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-35472-1	W-140324-RA-01	Total/NA	Water	8260B	
240-35472-2	W-140324-RA-02	Total/NA	Water	8260B	
240-35472-3	W-140324-RA-03	Total/NA	Water	8260B	
240-35472-4	W-140324-RA-04	Total/NA	Water	8260B	
240-35472-5	W-140324-RA-05	Total/NA	Water	8260B	
240-35472-6	W-140325-RA-06	Total/NA	Water	8260B	
240-35472-7	W-140325-RA-07	Total/NA	Water	8260B	
240-35472-7 MS	W-140325-RA-07	Total/NA	Water	8260B	
240-35472-7 MSD	W-140325-RA-07	Total/NA	Water	8260B	
240-35472-8	W-140325-RA-08	Total/NA	Water	8260B	
240-35472-9	W-140325-RA-09	Total/NA	Water	8260B	
240-35472-10	W-140325-RA-10	Total/NA	Water	8260B	
240-35472-11	TRIP BLANK	Total/NA	Water	8260B	
LCS 240-124862/4	Lab Control Sample	Total/NA	Water	8260B	
MB 240-124862/6	Method Blank	Total/NA	Water	8260B	

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-35472-1

Client Sample ID: W-140324-RA-01

Lab Sample ID: 240-35472-1

Date Collected: 03/24/14 13:15

Matrix: Water

Date Received: 03/27/14 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	124862	04/02/14 00:31	LEE	TAL CAN

Client Sample ID: W-140324-RA-02

Lab Sample ID: 240-35472-2

Date Collected: 03/24/14 13:50

Matrix: Water

Date Received: 03/27/14 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	124862	04/02/14 00:53	LEE	TAL CAN

Client Sample ID: W-140324-RA-03

Lab Sample ID: 240-35472-3

Date Collected: 03/24/14 15:35

Matrix: Water

Date Received: 03/27/14 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		3.33	124862	04/02/14 01:16	LEE	TAL CAN

Client Sample ID: W-140324-RA-04

Lab Sample ID: 240-35472-4

Date Collected: 03/24/14 16:30

Matrix: Water

Date Received: 03/27/14 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	124862	04/02/14 01:38	LEE	TAL CAN

Client Sample ID: W-140324-RA-05

Lab Sample ID: 240-35472-5

Date Collected: 03/24/14 16:30

Matrix: Water

Date Received: 03/27/14 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	124862	04/02/14 02:01	LEE	TAL CAN

Client Sample ID: W-140325-RA-06

Lab Sample ID: 240-35472-6

Date Collected: 03/25/14 08:00

Matrix: Water

Date Received: 03/27/14 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	124862	04/02/14 02:23	LEE	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-35472-1

Client Sample ID: W-140325-RA-07

Lab Sample ID: 240-35472-7

Date Collected: 03/25/14 08:15

Matrix: Water

Date Received: 03/27/14 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	124862	04/02/14 07:24	LEE	TAL CAN

Client Sample ID: W-140325-RA-08

Lab Sample ID: 240-35472-8

Date Collected: 03/25/14 08:30

Matrix: Water

Date Received: 03/27/14 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	124862	04/02/14 02:45	LEE	TAL CAN

Client Sample ID: W-140325-RA-09

Lab Sample ID: 240-35472-9

Date Collected: 03/25/14 08:45

Matrix: Water

Date Received: 03/27/14 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	124862	04/02/14 03:08	LEE	TAL CAN

Client Sample ID: W-140325-RA-10

Lab Sample ID: 240-35472-10

Date Collected: 03/25/14 08:45

Matrix: Water

Date Received: 03/27/14 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	124862	04/02/14 03:30	LEE	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-35472-11

Date Collected: 03/25/14 00:00

Matrix: Water

Date Received: 03/27/14 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	124862	04/02/14 03:53	LEE	TAL CAN

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Certification Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-35472-1

Laboratory: TestAmerica Canton

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	NELAP	9	01144CA	06-30-14
Connecticut	State Program	1	PH-0590	12-31-14
Florida	NELAP	4	E87225	06-30-14
Georgia	State Program	4	N/A	06-30-14
Illinois	NELAP	5	200004	07-31-14
Kansas	NELAP	7	E-10336	03-31-14 *
Kentucky (UST)	State Program	4	58	06-30-14
L-A-B	DoD ELAP		L2315	07-18-16
Minnesota	NELAP	5	039-999-348	12-31-14
Nevada	State Program	9	OH-000482008A	07-31-14
New Jersey	NELAP	2	OH001	06-30-14
New York	NELAP	2	10975	03-31-14 *
Ohio VAP	State Program	5	CL0024	10-31-15
Pennsylvania	NELAP	3	68-00340	08-31-14
Texas	NELAP	6		08-31-14
USDA	Federal		P330-13-00319	11-26-16
Virginia	NELAP	3	460175	09-14-14
Washington	State Program	10	C971	01-12-15
West Virginia DEP	State Program	3	210	12-31-14
Wisconsin	State Program	5	999518190	08-31-14

* Expired certification is currently pending renewal and is considered valid.



**CHAIN OF CUSTODY
AND
RECEIVING DOCUMENTS**



240-35472 Chain of Custody





CONESTOGA-ROVERS & ASSOCIATES

CHAIN OF CUSTODY RECORD

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

Phone: (651) 639-0913 Fax: (651) 639-0923

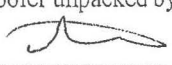
2.8

COC NO.: **SP-01179**

PAGE ___ OF ___

(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 3978				Laboratory Name: Test America				Lab Location:				SSOW ID:											
Project Name: Wausau Water Supply				Lab Contact:				Lab Quote No:				Cooler No:											
Project Location: Wausau, WI				SAMPLE TYPE:				CONTAINER QUANTITY & PRESERVATION:				ANALYSIS REQUESTED (See Back of COC for Definitions)											
Chemistry Contact: Grant Anderson				Matrix Code (see back of COC) Grab (G) or Comp (C)				Unpreserved Hydrochloric Acid (HCl) Nitric Acid (HNO ₃) Sulfuric Acid (H ₂ SO ₄) Sodium Hydroxide (NaOH) Methanol/Water (Soil VOC) EnCores 3x5-g, 1x25-g Other:				Total Containers/Sample WGS				Carrier:							
Sampler(s): Kramot																Airbill No:							
SAMPLE IDENTIFICATION (Containers for each sample may be combined on one line)				DATE (mm/dd/yy)				TIME (hh:mm)				MS/MSD Request				Date Shipped:							
1 W-140324-PA-01				3/24/14				1315				W6 G				3							
2 W-140324-PA-02				↓				1350				↓				3							
3 W-140324-PA-03				↓				1535				↓				3							
W-140324-PA-04				↓				1630				↓				3							
W-140324-PA-05				↓				1630				↓				3							
W-140325-PA-06				3/25/14				800				↓				3							
W-140325-PA-07				↓				815				↓				9				MS/MSD			
8 W-140325-PA-08				↓				830				↓				3							
9 W-140325-PA-09				↓				845				↓				3							
10 W-140325-PA-10				↓				845				↓				3							
1																							
2 Trip/Blank																1							
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Client CRA Site Name _____ Cooler unpacked by: 

Cooler Received on 3-27-14 Opened on 3-27-14

FedEx: 1st Grd UPS FAS Stetson Client Drop Off TestAmerica Courier Other _____

TestAmerica Cooler # _____ Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

IR GUN# A (CF +0 °C)	Observed Cooler Temp. <u>2.8</u> °C	Corrected Cooler Temp. <u>2.8</u> °C	<input type="checkbox"/> See Multiple Cooler Form
IR GUN# 4 (CF -1 °C)	Observed Cooler Temp. _____ °C	Corrected Cooler Temp. _____ °C	
IR GUN# 5 (CF +1 °C)	Observed Cooler Temp. _____ °C	Corrected Cooler Temp. _____ °C	
IR GUN# 8 (CF +1 °C)	Observed Cooler Temp. _____ °C	Corrected Cooler Temp. _____ °C	

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity _____ Yes No

-Were custody seals on the outside of the cooler(s) signed & dated? Yes No

-Were custody seals on the bottle(s)? Yes No

3. Shippers' packing slip attached to the cooler(s)? Yes No

4. Did custody papers accompany the sample(s)? Yes No

5. Were the custody papers relinquished & signed in the appropriate place? Yes No

6. Did all bottles arrive in good condition (Unbroken)? Yes No

7. Could all bottle labels be reconciled with the COC? Yes No

8. Were correct bottle(s) used for the test(s) indicated? Yes No

9. Sufficient quantity received to perform indicated analyses? Yes No

10. Were sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC391902

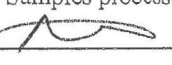
11. Were VOAs on the COC? Yes No

12. Were air bubbles >6 mm in any VOA vials? Yes No NA

13. Was a trip blank present in the cooler(s)? Yes No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
Concerning _____

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: 

15. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

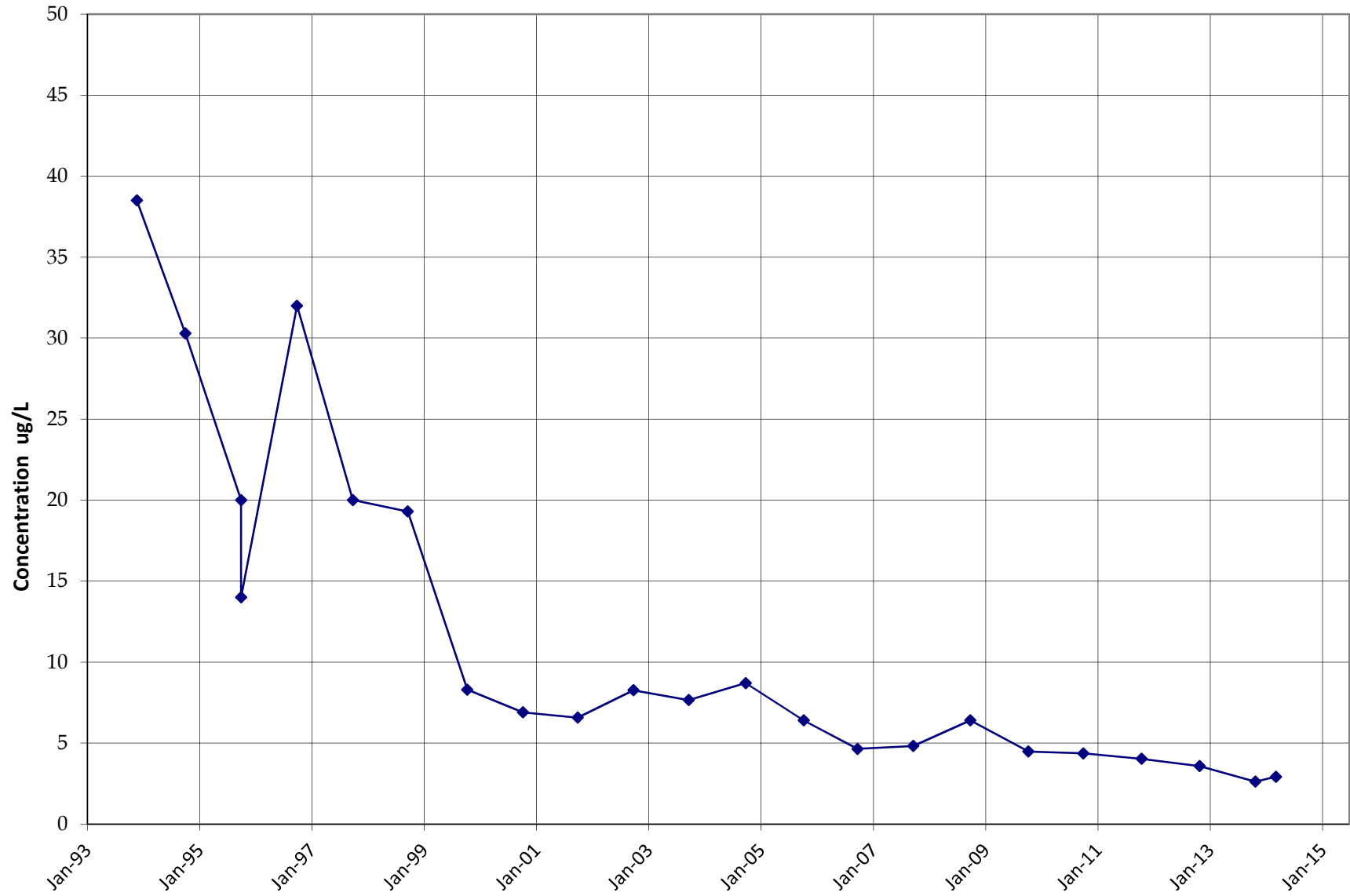
Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

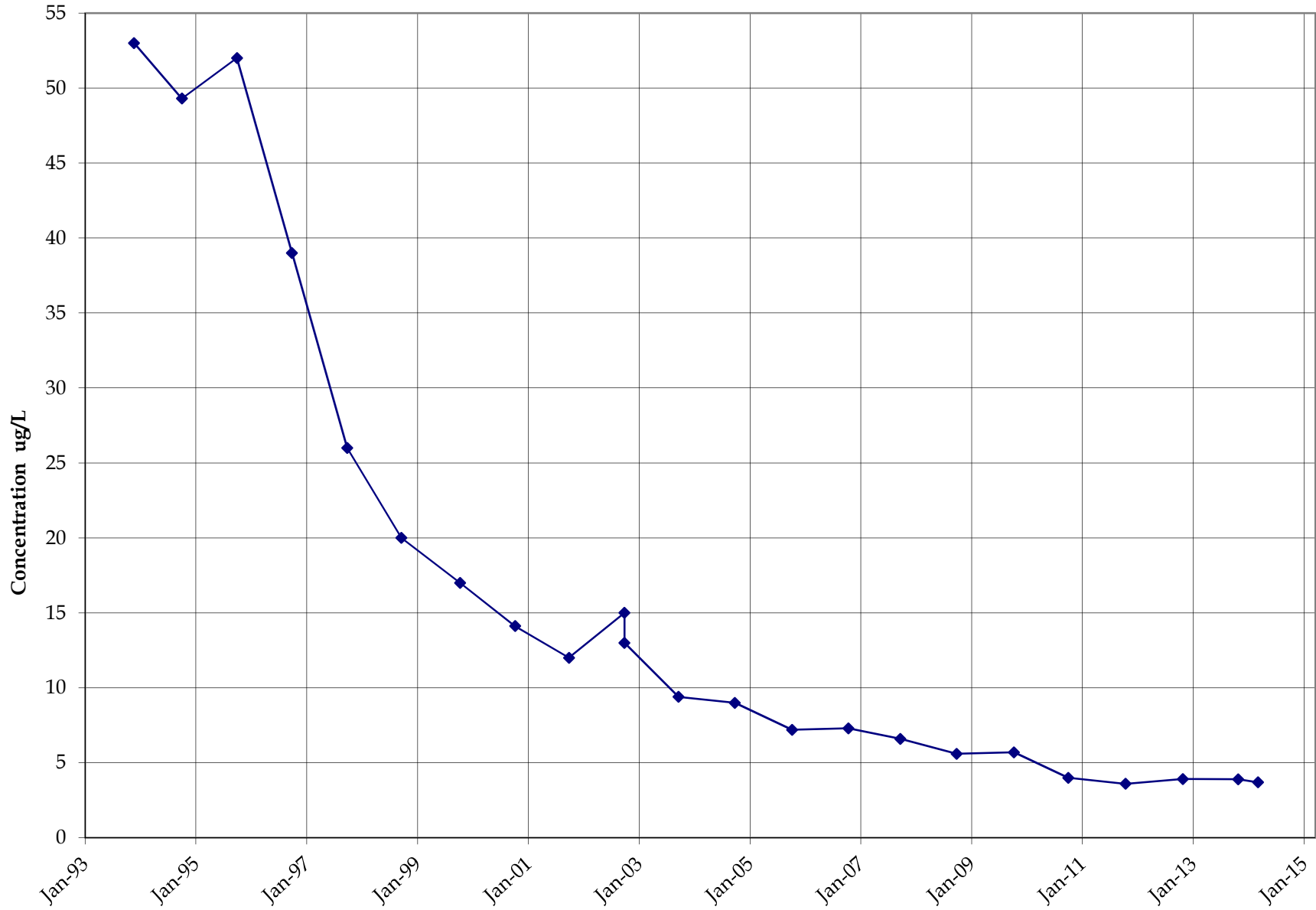
Attachment 2

Charts Showing CVOC Concentrations

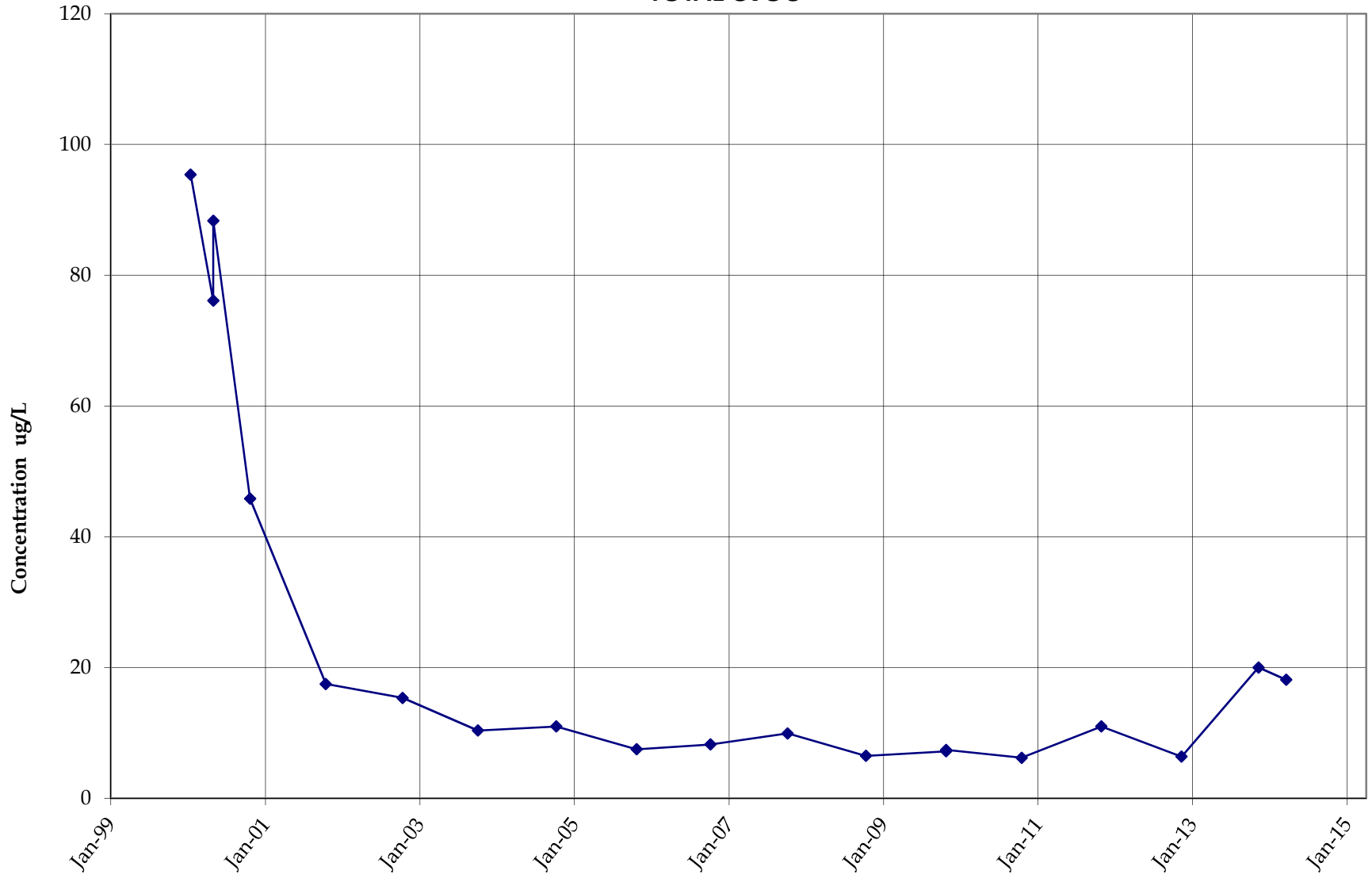
**CW3
TOTAL CVOC**



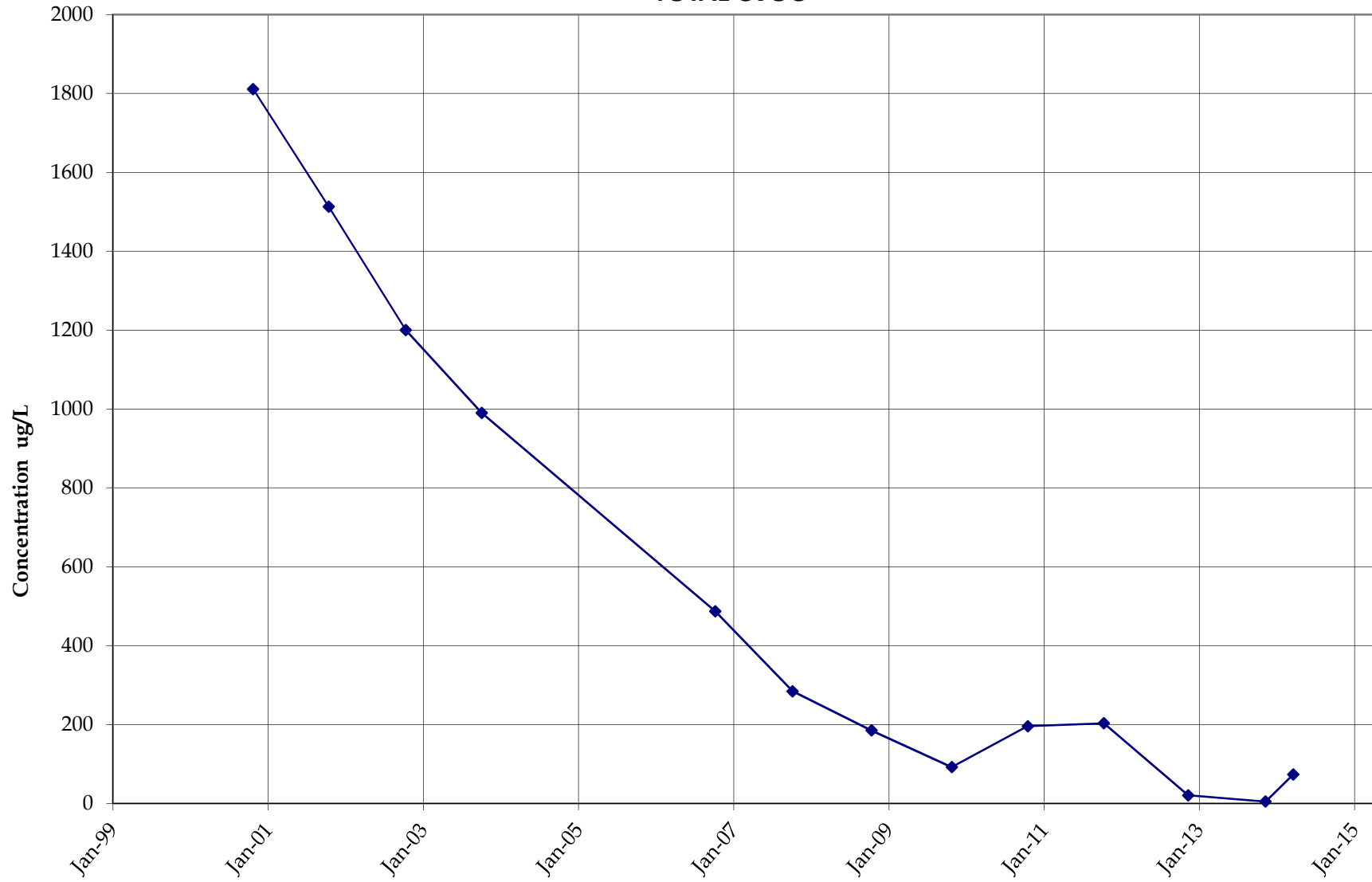
CW6 TOTAL CVOC



**R2D
TOTAL CVOC**



R3D TOTAL CVOC



Attachment 3

Sample Results
December 2013 and March 2014

NORTHERN LAKE SERVICE, INC.
 Analytical Laboratory and Environmental Services
 400 North Lake Avenue - Crandon, WI 54520
 Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
 WDATCP Laboratory Certification No. 105-330
 EPA Laboratory ID No. WI00034

Printed: 03/21/14 Code: NNNN-S Page 1 of 1

Client: **Wausau Waterworks**
 Attn: Dick Boers
 Drinking Water Division
 407 Grant Street
 Wausau, WI 54403 4783

NLS Project: **214554**

NLS Customer: **36394**

Fax: 715 261 6946 Phone: 715 261 7288

Project: 2014 Volatiles PWS#73701023

200 NLS ID: 774544

COC: 173932:1 Matrix: DW

Collected: 03/13/14 07:05 Received: 03/13/14

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					03/20/14	EPA 524.2, Rev 4.1	721026460

300 NLS ID: 774545

COC: 173932:2 Matrix: DW

Collected: 03/13/14 11:11 Received: 03/13/14

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					03/20/14	EPA 524.2, Rev 4.1	721026460

Trip Blank NLS ID: 774546

COC: 173932 Matrix: TB


Collected: 03/13/14 00:00 Received: 03/13/14

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					03/19/14	EPA 524.2, Rev 4.1	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and/or LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dilution.

LOD = Limit of Detection LOQ = Limit of Quantitation ND = Not Detected (< LOD) 1000 ug/L = 1 mg/L
 DWB = Dry Weight Basis NA = Not Applicable %DWB = (mg/kg DWB) / 10000
 MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:



Authorized by:
 R. T. Krueger
 President

ANALYTICAL RESULTS: GCMS 524.2, Rev 4.1 Safe Drinking Water Analysis - DNR Form

Page 1 of 3

Customer: Wausau Waterworks NLS Project: 214554

Project Description: 2014 Volatiles

Project Title: PWS#73701023

Template: AGIDNRL Printed: 03/21/2014 09:51

Sample: 774544 200 Collected: 03/13/14 Analyzed: 03/19/14 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.22	0.72	5	
Bromobenzene	ND	ug/L	1	0.17	0.57		
Bromodichloromethane	0.70	ug/L	1	0.15	0.49	80	
Bromoform	ND	ug/L	1	0.16	0.53	80	
Bromomethane	ND	ug/L	1	0.26	0.85		
Carbon Tetrachloride	ND	ug/L	1	0.20	0.66	5	
Chloroethane	ND	ug/L	1	0.94	3.1		
Chloroform	22	ug/L	2	0.39	1.4	80	
Chloromethane	ND	ug/L	1	0.16	0.53		
o-Chlorotoluene	ND	ug/L	1	0.18	0.59		
p-Chlorotoluene	ND	ug/L	1	0.19	0.63		
Dibromochloromethane	ND	ug/L	1	0.15	0.49	80	
Dibromomethane	ND	ug/L	1	0.22	0.74		
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.21	0.69		
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.57	600	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.17	0.56	75	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.65		
1,2-Dichloroethane	ND	ug/L	1	0.16	0.54	5	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.68	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.19	0.65	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.14	0.45	100	
Dichloromethane	ND	ug/L	1	0.19	0.63	5	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.78	5	
1,3-Dichloropropane	ND	ug/L	1	0.19	0.63		
2,2-Dichloropropane	ND	ug/L	1	0.14	0.46		
1,1-Dichloropropene	ND	ug/L	1	0.10	0.32		
1,3-Dichloropropene	ND	ug/L	1	0.36	1.2		
Ethylbenzene	ND	ug/L	1	0.19	0.64	700	
Chlorobenzene	ND	ug/L	1	0.19	0.63	100	
Styrene	ND	ug/L	1	0.17	0.56	100	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.18	0.59		
1,1,2,2-Tetrachloroethane	ND	ug/L	1	0.15	0.49		
Tetrachloroethene	ND	ug/L	1	0.18	0.61	5	
Toluene	ND	ug/L	1	0.18	0.59	1000	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.19	0.62	70	
1,1,1-Trichloroethane	ND	ug/L	1	0.15	0.51	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.20	0.65	5	
Trichloroethene	ND	ug/L	1	0.11	0.36	5	
1,2,3-Trichloropropane	ND	ug/L	1	0.19	0.62		
Vinyl chloride	ND	ug/L	1	0.18	0.61	2	
Xylene total	ND	ug/L	1	0.53	1.8	10000	
4-Bromofluorobenzene (SURR)	81%						S
1,2-Dichlorobenzene-d4 (SURR)	87%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

Customer: Wausau Waterworks NLS Project: 214554

Project Description: 2014 Volatiles

Project Title: PWS#73701023

Template: AGIDNRL Printed: 03/21/2014 09:51

Sample: 774545 300 Collected: 03/13/14 Analyzed: 03/19/14 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.22	0.72	5	
Bromobenzene	ND	ug/L	1	0.17	0.57		
Bromodichloromethane	0.67	ug/L	1	0.15	0.49	80	
Bromoform	ND	ug/L	1	0.16	0.53	80	
Bromomethane	ND	ug/L	1	0.26	0.85		
Carbon Tetrachloride	ND	ug/L	1	0.20	0.66	5	
Chloroethane	ND	ug/L	1	0.94	3.1		
Chloroform	20	ug/L	2	0.39	1.4	80	
Chloromethane	ND	ug/L	1	0.16	0.53		
o-Chlorotoluene	ND	ug/L	1	0.18	0.59		
p-Chlorotoluene	ND	ug/L	1	0.19	0.63		
Dibromochloromethane	ND	ug/L	1	0.15	0.49	80	
Dibromomethane	ND	ug/L	1	0.22	0.74		
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.21	0.69		
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.57	600	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.17	0.56	75	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.65		
1,2-Dichloroethane	ND	ug/L	1	0.16	0.54	5	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.68	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.19	0.65	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.14	0.45	100	
Dichloromethane	ND	ug/L	1	0.19	0.63	5	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.78	5	
1,3-Dichloropropane	ND	ug/L	1	0.19	0.63		
2,2-Dichloropropane	ND	ug/L	1	0.14	0.46		
1,1-Dichloropropene	ND	ug/L	1	0.10	0.32		
1,3-Dichloropropene	ND	ug/L	1	0.36	1.2		
Ethylbenzene	ND	ug/L	1	0.19	0.64	700	
Chlorobenzene	ND	ug/L	1	0.19	0.63	100	
Styrene	ND	ug/L	1	0.17	0.56	100	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.18	0.59		
1,1,2,2-Tetrachloroethane	ND	ug/L	1	0.15	0.49		
Tetrachloroethene	ND	ug/L	1	0.18	0.61	5	
Toluene	ND	ug/L	1	0.18	0.59	1000	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.19	0.62	70	
1,1,1-Trichloroethane	ND	ug/L	1	0.15	0.51	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.20	0.65	5	
Trichloroethene	ND	ug/L	1	0.11	0.36	5	
1,2,3-Trichloropropane	ND	ug/L	1	0.19	0.62		
Vinyl chloride	ND	ug/L	1	0.18	0.61	2	
Xylene total	ND	ug/L	1	0.53	1.8	10000	
4-Bromofluorobenzene (SURR)	81%						S
1,2-Dichlorobenzene-d4 (SURR)	89%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

Customer: Wausau Waterworks NLS Project: 214554

Project Description: 2014 Volatiles

Project Title: PWS#73701023

Template: AGIDNRL Printed: 03/21/2014 09:51

Sample: 774546 Trip Blank Collected: 03/13/14 Analyzed: 03/19/14 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	Note
Benzene	ND	ug/L	1	0.22	0.72	
Bromobenzene	ND	ug/L	1	0.17	0.57	
Bromodichloromethane	ND	ug/L	1	0.15	0.49	
Bromoform	ND	ug/L	1	0.16	0.53	
Bromomethane	ND	ug/L	1	0.26	0.85	
Carbon Tetrachloride	ND	ug/L	1	0.20	0.66	
Chloroethane	ND	ug/L	1	0.94	3.1	
Chloroform	ND	ug/L	1	0.19	0.62	
Chloromethane	ND	ug/L	1	0.16	0.53	
o-Chlorotoluene	ND	ug/L	1	0.18	0.59	
p-Chlorotoluene	ND	ug/L	1	0.19	0.63	
Dibromochloromethane	ND	ug/L	1	0.15	0.49	
Dibromomethane	ND	ug/L	1	0.22	0.74	
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.21	0.69	
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.57	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.17	0.56	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.65	
1,2-Dichloroethane	ND	ug/L	1	0.16	0.54	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.68	
cis-1,2-Dichloroethene	ND	ug/L	1	0.19	0.65	
trans-1,2-Dichloroethene	ND	ug/L	1	0.14	0.45	
Dichloromethane	ND	ug/L	1	0.19	0.63	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.78	
1,3-Dichloropropane	ND	ug/L	1	0.19	0.63	
2,2-Dichloropropane	ND	ug/L	1	0.14	0.46	
1,1-Dichloropropene	ND	ug/L	1	0.10	0.32	
1,3-Dichloropropene	ND	ug/L	1	0.36	1.2	
Ethylbenzene	ND	ug/L	1	0.19	0.64	
Chlorobenzene	ND	ug/L	1	0.19	0.63	
Styrene	ND	ug/L	1	0.17	0.56	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.18	0.59	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.15	0.49	
Tetrachloroethene	ND	ug/L	1	0.18	0.61	
Toluene	ND	ug/L	1	0.18	0.59	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.19	0.62	
1,1,1-Trichloroethane	ND	ug/L	1	0.15	0.51	
1,1,2-Trichloroethane	ND	ug/L	1	0.20	0.65	
Trichloroethene	ND	ug/L	1	0.11	0.36	
1,2,3-Trichloropropane	ND	ug/L	1	0.19	0.62	
Vinyl chloride	ND	ug/L	1	0.18	0.61	
Xylene total	ND	ug/L	1	0.53	1.8	
4-Bromofluorobenzene (SURR)	78%					S
1,2-Dichlorobenzene-d4 (SURR)	85%					S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

NORTHERN LAKE SERVICE, INC.
 Analytical Laboratory and Environmental Services
 400 North Lake Avenue - Crandon, WI 54520
 Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
 WDATCP Laboratory Certification No. 105-330
 EPA Laboratory ID No. WI00034

Printed: 04/29/14 Code: NNNN-S Page 1 of 1

Client: Wausau Waterworks
 Attn: Dick Boers
 Drinking Water Division
 407 Grant Street
 Wausau, WI 54403 4783

NLS Project: 209912

NLS Customer: 36394

Fax: 715 261 6946 **Phone:** 715 261 7288

Project: 2013 Drinking Water VOCs PWS#73701023

EP 300 - VOC NLS ID: 760889

COC: 166319:1 Matrix: DW

Collected: 12/03/13 07:02 Received: 12/03/13

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					12/09/13	EPA 524.2, Rev 4.1	721026460

EP 200 - VOC NLS ID: 760890

COC: 166319:2 Matrix: DW

Collected: 12/03/13 11:05 Received: 12/03/13

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					12/05/13	EPA 524.2, Rev 4.1	721026460

Trip Blank NLS ID: 760891

COC: 166319 Matrix: TB

Collected: 12/03/13 00:00 Received: 12/03/13

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					12/05/13	EPA 524.2, Rev 4.1	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and/or LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dilution.

LOD = Limit of Detection LOQ = Limit of Quantitation ND = Not Detected (< LOD) 1000 ug/L = 1 mg/L
 DWB = Dry Weight Basis NA = Not Applicable %DWB = (mg/kg DWB) / 10000
 MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:



Authorized by:
 R. T. Krueger
 President

Customer: Wausau Waterworks NLS Project: 209912

Project Description: 2013 Drinking Water VOCs

Project Title: PWS#73701023

Template: SAT3DNRL Printed: 04/29/2014 11:31

Sample: 760889 EP 300 - VOC Collected: 12/03/13 Analyzed: 12/05/13 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.17	0.60	5	
Bromobenzene	ND	ug/L	1	0.18	0.64		
Bromodichloromethane	3.5	ug/L	1	0.18	0.64	80	
Bromoform	ND	ug/L	1	0.17	0.60	80	
Bromomethane	ND	ug/L	1	0.36	1.3		
Carbon Tetrachloride	ND	ug/L	1	0.24	0.85	5	
Chloroethane	ND	ug/L	1	1.3	4.6		
Chloroform	23	ug/L	2.5	0.49	1.7	80	
Chloromethane	ND	ug/L	1	0.14	0.51		
o-Chlorotoluene	ND	ug/L	1	0.15	0.55		
p-Chlorotoluene	ND	ug/L	1	0.19	0.66		
Dibromochloromethane	[0.27]	ug/L	1	0.15	0.53	80	
Dibromomethane	ND	ug/L	1	0.21	0.75		
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.20	0.71		
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.61	600	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.14	0.47	75	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.68		
1,2-Dichloroethane	ND	ug/L	1	0.23	0.80	5	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.75	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.13	0.47	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.16	0.55	100	
Dichloromethane	ND	ug/L	1	0.17	0.61	5	
1,2-Dichloropropane	ND	ug/L	1	0.26	0.92	5	
1,3-Dichloropropane	ND	ug/L	1	0.26	0.91		
2,2-Dichloropropane	ND	ug/L	1	0.17	0.62		
1,1-Dichloropropene	ND	ug/L	1	0.16	0.55		
1,3-Dichloropropene	ND	ug/L	1	0.35	1.2		
Ethylbenzene	ND	ug/L	1	0.15	0.51	700	
Chlorobenzene	[0.26]	ug/L	1	0.19	0.69	100	
Styrene	ND	ug/L	1	0.20	0.68	100	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.17	0.59		
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.15	0.55		
Tetrachloroethene	ND	ug/L	1	0.18	0.62	5	
Toluene	ND	ug/L	1	0.14	0.48	1000	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.15	0.51	70	
1,1,1-Trichloroethane	ND	ug/L	1	0.11	0.37	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.22	0.78	5	
Trichloroethene	ND	ug/L	1	0.19	0.66	5	
1,2,3-Trichloropropane	ND	ug/L	1	0.25	0.87		
Vinyl chloride	ND	ug/L	1	0.19	0.67	.2	
Xylene total	ND	ug/L	1	0.53	1.9	10000	
4-Bromofluorobenzene (SURR)	86%						S
1,2-Dichlorobenzene-d4 (SURR)	96%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

Customer: Wausau Waterworks NLS Project: 209912

Project Description: 2013 Drinking Water VOCs

Project Title: PWS#73701023

Template: SAT3DNRL Printed: 04/29/2014 11:31

Sample: 760890 EP 200 - VOC Collected: 12/03/13 Analyzed: 12/05/13 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.17	0.60	5	
Bromobenzene	ND	ug/L	1	0.18	0.64		
Bromodichloromethane	1.5	ug/L	1	0.18	0.64	80	
Bromoform	ND	ug/L	1	0.17	0.60	80	
Bromomethane	ND	ug/L	1	0.36	1.3		
Carbon Tetrachloride	ND	ug/L	1	0.24	0.85	5	
Chloroethane	ND	ug/L	1	1.3	4.6		
Chloroform	15	ug/L	1	0.20	0.70	80	
Chloromethane	ND	ug/L	1	0.14	0.51		
o-Chlorotoluene	ND	ug/L	1	0.15	0.55		
p-Chlorotoluene	ND	ug/L	1	0.19	0.66		
Dibromochloromethane	ND	ug/L	1	0.15	0.53	80	
Dibromomethane	ND	ug/L	1	0.21	0.75		
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.20	0.71		
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.61	600	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.14	0.47	75	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.68		
1,2-Dichloroethane	ND	ug/L	1	0.23	0.80	5	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.75	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.13	0.47	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.16	0.55	100	
Dichloromethane	ND	ug/L	1	0.17	0.61	5	
1,2-Dichloropropane	ND	ug/L	1	0.26	0.92	5	
1,3-Dichloropropane	ND	ug/L	1	0.26	0.91		
2,2-Dichloropropane	ND	ug/L	1	0.17	0.62		
1,1-Dichloropropene	ND	ug/L	1	0.16	0.55		
1,3-Dichloropropene	ND	ug/L	1	0.35	1.2		
Ethylbenzene	ND	ug/L	1	0.15	0.51	700	
Chlorobenzene	[0.29]	ug/L	1	0.19	0.69	100	
Styrene	ND	ug/L	1	0.20	0.68	100	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.17	0.59		
1,1,1,2,2-Tetrachloroethane	ND	ug/L	1	0.15	0.55		
Tetrachloroethene	ND	ug/L	1	0.18	0.62	5	
Toluene	ND	ug/L	1	0.14	0.48	1000	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.15	0.51	70	
1,1,1-Trichloroethane	ND	ug/L	1	0.11	0.37	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.22	0.78	5	
Trichloroethene	ND	ug/L	1	0.19	0.66	5	
1,2,3-Trichloropropane	ND	ug/L	1	0.25	0.87		
Vinyl chloride	ND	ug/L	1	0.19	0.67	.2	
Xylene total	ND	ug/L	1	0.53	1.9	10000	
4-Bromofluorobenzene (SURR)	86%						S
1,2-Dichlorobenzene-d4 (SURR)	96%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

Customer: Wausau Waterworks NLS Project: 209912

Project Description: 2013 Drinking Water VOCs

Project Title: PWS#73701023

Template: SAT3DNRL Printed: 04/29/2014 11:31

Sample: 760891 Trip Blank Collected: 12/03/13 Analyzed: 12/05/13 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	Note
Benzene	ND	ug/L	1	0.17	0.60	
Bromobenzene	ND	ug/L	1	0.18	0.64	
Bromodichloromethane	ND	ug/L	1	0.18	0.64	
Bromoform	ND	ug/L	1	0.17	0.60	
Bromomethane	ND	ug/L	1	0.36	1.3	
Carbon Tetrachloride	ND	ug/L	1	0.24	0.85	
Chloroethane	ND	ug/L	1	1.3	4.6	
Chloroform	ND	ug/L	1	0.20	0.70	
Chloromethane	ND	ug/L	1	0.14	0.51	
o-Chlorotoluene	ND	ug/L	1	0.15	0.55	
p-Chlorotoluene	ND	ug/L	1	0.19	0.66	
Dibromochloromethane	ND	ug/L	1	0.15	0.53	
Dibromomethane	ND	ug/L	1	0.21	0.75	
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.20	0.71	
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.61	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.14	0.47	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.68	
1,2-Dichloroethane	ND	ug/L	1	0.23	0.80	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.75	
cis-1,2-Dichloroethene	ND	ug/L	1	0.13	0.47	
trans-1,2-Dichloroethene	ND	ug/L	1	0.16	0.55	
Dichloromethane	ND	ug/L	1	0.17	0.61	
1,2-Dichloropropane	ND	ug/L	1	0.26	0.92	
1,3-Dichloropropane	ND	ug/L	1	0.26	0.91	
2,2-Dichloropropane	ND	ug/L	1	0.17	0.62	
1,1-Dichloropropene	ND	ug/L	1	0.16	0.55	
1,3-Dichloropropene	ND	ug/L	1	0.35	1.2	
Ethylbenzene	ND	ug/L	1	0.15	0.51	
Chlorobenzene	ND	ug/L	1	0.19	0.69	
Styrene	ND	ug/L	1	0.20	0.68	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.17	0.59	
1,1,1,2,2-Tetrachloroethane	ND	ug/L	1	0.15	0.55	
Tetrachloroethene	ND	ug/L	1	0.18	0.62	
Toluene	ND	ug/L	1	0.14	0.48	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.15	0.51	
1,1,1-Trichloroethane	ND	ug/L	1	0.11	0.37	
1,1,2-Trichloroethane	ND	ug/L	1	0.22	0.78	
Trichloroethene	ND	ug/L	1	0.19	0.66	
1,2,3-Trichloropropane	ND	ug/L	1	0.25	0.87	
Vinyl chloride	ND	ug/L	1	0.19	0.67	
Xylene total	ND	ug/L	1	0.53	1.9	
4-Bromofluorobenzene (SURR)	81%					S
1,2-Dichlorobenzene-d4 (SURR)	83%					S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.



**CONESTOGA-ROVERS
& ASSOCIATES**

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July 28, 2014

Reference No. 003978-10

Ms. Sheri Bianchin
United States Environmental
Protection Agency
77 West Jackson Blvd. (SR-6J)
Chicago, Illinois 60604

Ms. Erin Endsley
Wisconsin Department of
Natural Resources
DNR Service Center
1701 North 4th St.
Superior, Wisconsin 54880

Dear Ms. Bianchin and Ms. Endsley:

Re: EW1 Shutdown Pilot Study
2nd Quarter 2014 Results
Wausau Water Supply NPL Site

In accordance with the EW1 Shutdown Pilot Study Work Plan¹, this letter presents the results of groundwater monitoring conducted in the second quarter of 2014. The second quarter 2014 monitoring event was conducted on May 19 and 20 and represents the third monitoring event of the five quarterly events proposed for the EW1 Shutdown Pilot Study. Implementation of the EW1 Shutdown Pilot Study Work Plan was approved by USEPA in an e-mail to CRA dated November 5, 2013.

EW1 Shutdown Pilot Study Monitoring

As proposed in the Pilot Study Work Plan, the second quarter 2014 monitoring event was intended to complete of the following tasks:

- Collect groundwater samples from East Bank wells CW3, E21 and IWD for analysis of volatile organic compounds (VOCs)
- Collect groundwater samples from West Bank wells CW6, EW1, C2S, C4S, MW1A, R2D, R3D, R4D, WSWD, W52, W53A, W54, W55, and W56 for VOC analysis

¹ EW1 Shutdown Pilot Study Work Plan, Wausau Water Supply NPL Site, Wausau, Wisconsin, CRA, September 2013.

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- Collect water samples from operating West Well Field water supply wells other than CW6. At the time of sampling, this included CW10 only
- Measure water levels at all East Bank and West Bank monitoring wells
- Obtain copies of City Treatment Plant analytical data for post-treatment VOC samples
- Obtain City well pumping rate summaries

Well locations are presented on the Site Plan, which is provided as Figure 1.

Water Level Monitoring

Table 1 presents the second quarter 2014 water level data. Water table contours based on these measurements are presented on Figure 2. Field staff measured water levels on the East Bank on May 19 while CW3, the East Bank remediation well, was pumping. West Bank water levels were measured on May 20 while CW6, the West Bank remediation well, was operating. West Bank well CW10 was also operating on May 20. Water levels in the City production wells were measured with the assistance of City staff.

The East Bank contours are consistent with flow patterns observed in previous years. The East Bank flow patterns are controlled by the operation of CW3. The West Bank contours depict a large cone of influence created by CW6 and CW10, the two wells that were pumping on May 20. Under natural, non-pumping, conditions groundwater would flow toward and discharge to the Wisconsin River. Under existing conditions however, groundwater flows toward the City production wells.

Groundwater Sampling

Groundwater sampling was conducted on March 19 and 20, 2014. Monitoring well samples were analyzed for the Site specific VOC list by EPA Method 8260. A summary of the groundwater sampling event, including field parameter measurements, is presented in Table 2.

Groundwater sampling was conducted in accordance with the Pilot Study Work Plan. Groundwater samples were analyzed by TestAmerica Laboratories Inc., of North Canton, Ohio.



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Laboratory results will be submitted electronically in the Region V Electronic Data Deliverable (EDD) format for inclusion in the Region V EPA database. A copy of the laboratory report is presented in Attachment 1.

Evaluation of Groundwater Data

The objectives of the second quarter monitoring at the Site are to detect potential changes in the contaminant plume configuration due to the shut-down of EW1, and confirm that the plume is contained by the other remediation system extraction wells, CW3 and CW6.

Table 3 presents the laboratory results for monitoring well samples collected in May 2014. November 2013 and March 2014 data are included in Table 3 for comparison purposes.

West Bank VOC Results

Twelve monitoring wells, EW1, and two City production wells were sampled in May. The primary chlorinated VOC found in the West Bank groundwater is trichloroethene (TCE), which was detected at eleven monitoring wells and CW6. The degradation product, cis-1,2-dichloroethene (C12DCE), was also detected at five of the eleven monitoring wells that had TCE detections. The TCE concentration at C2S, R2D, R4D, W53A, and W54 exceeded the MCL of 5.0 µg/L. The TCE concentration at CW6 (3.7 µg/L) was below the MCL. No VOCs were detected in the sample from City well CW10.

After a large increase at R3D from November 2013 to March 2014, the May 2014 result returned to a low concentration (4.7 µg/L). This variation is likely due to a higher concentration plume remnant, previously south of R3D, that is now migrating north to CW6 and the West Wellfield. The historical data for R2D and R3D are presented below.



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Total Chlorinated VOCs ($\mu\text{g/L}$)			
Year	R2D	R3D	R4D
1996	1600	2	540
1997	720	5	65
1998	320	580	55
1999	110	1200	33
2000	45	1800	58
2001	17	1500	13
2002	15	1200	36
2003	10	980	38
2004	11	899	51
2005	7.5	400	56.5
2006	8.2	490	42
2007	9.9	280	1.3
2008	6.5	180	13
2009	7.3	92	22.9
2010	6.2	195.7	25.7
2011	11	203.1	27.6
2012	6.4	20.7	4.9
Nov-2013	20	4.8	16.6
March-2014	18.2	73.7	NA
May 2014	18.1	4.7	7.89

Increasing concentrations were exhibited at W53A and W54. These wells are in the source area of the former landfill. The increase at W53A continues a trend that started in 2011. The more recent increase at W54 is likely related to the same source contaminants that are affecting W53A. W54 is approximately 100 feet from W53A and groundwater contours indicate that W54 is generally downgradient from the W53A area.

Charts showing total chlorinated VOC concentrations for select West Bank wells are presented in Attachment 2.



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East Bank VOC Results

East Bank wells that were sampled in May included monitoring wells IWD and E21, and City production well CW3. The primary chlorinated VOC found in the East Bank groundwater is tetrachloroethene (PCE), which was detected at CW3 with a concentration of 1.4 µg/L. The total chlorinated VOC trend at CW3 is depicted in the chart presented in Attachment 2. Low concentrations of TCE and C12DCE were detected at IWD and are remnants of the West Bank plume that had historically migrated beneath the river to CW3. No VOCs were detected in the E21 sample, which is consistent with the November 2013 and March 2014 results and indicates that the West Bank plume does not currently extend all the way across the river. There were no significant changes in VOC concentrations in the East Bank wells.

City Production Wells Pumping Volumes

CW3 and CW6 operated as required in the second quarter of 2014. Table 4 presents pumping data for the six City wells during April, May, and June 2014. While only CW3 and CW6 are part of the remediation system, data for all City wells are presented, consistent with previous reports. The table shows, by month, the number of hours each well was operated, the number of gallons pumped from each well, and the average pumping rate while the pump was operating.

CW3 and CW6 operated on alternate schedules at rates that exceeded the operating requirements established by the USEPA approval letter dated August 4, 1995. CW3 operated for an average of 74.5 hours per week with an average pumping rate of 1,399 gpm, exceeding the requirements of 65 hours per week at 1,200 gpm.

CW6 operated for an average of 92.9 hours per week with an average pumping rate of 1,345 gpm. While the average pumping rate was less than the requirement of 1,400 gpm, the total gallons pumped during the second quarter (97,535,000 gallons) exceeded the requirement of 92,820,000 gallons (85 hours per week at 1,400 gpm for 13 weeks). Thus, the hydraulic containment provided by CW6 during the second quarter met the substantive requirements of USEPA's August 4, 1995 letter.



July 28, 2014

Reference No. 003978-10

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Hydraulic Capture

Hydraulic capture of the contaminant plume is demonstrated by the water table contours illustrated on Figure 2. The water table contours indicate that groundwater flow at the Site was toward CW3 on the East Bank, and to CW6 and CW10 on the West Bank. At nested well locations the water table elevations for shallow and deep wells were similar, indicating horizontal flow and hydraulic containment of the shallow and deeper portions of the aquifer.

City Treatment Plant Analytical Data

The Wausau City Treatment Plant collects samples of the City water supply on a quarterly basis. The samples are collected at two exit points where the treated water leaves the plant. The results for samples collected in May 2014 are presented in Attachment 3. The only VOCs detected were chloroform and bromodichloromethane. Neither of these compounds are associated with the Site groundwater contamination and they are common drinking water disinfection byproducts.

Conclusions and Recommendations

Conclusions

- The City production wells, CW3 and CW6, operated within the requirements established by EPA and continue to capture the chlorinated VOC plume as demonstrated by the hydraulic data.
- Based on the non-detect result at E21, the West Bank plume does not extend all the way to CW3 on the East Bank.
- The trend of increasing TCE concentrations at source area well W53A continued in May and the recent detections of TCE at W54 indicate plume migration from the W53A area to the east.

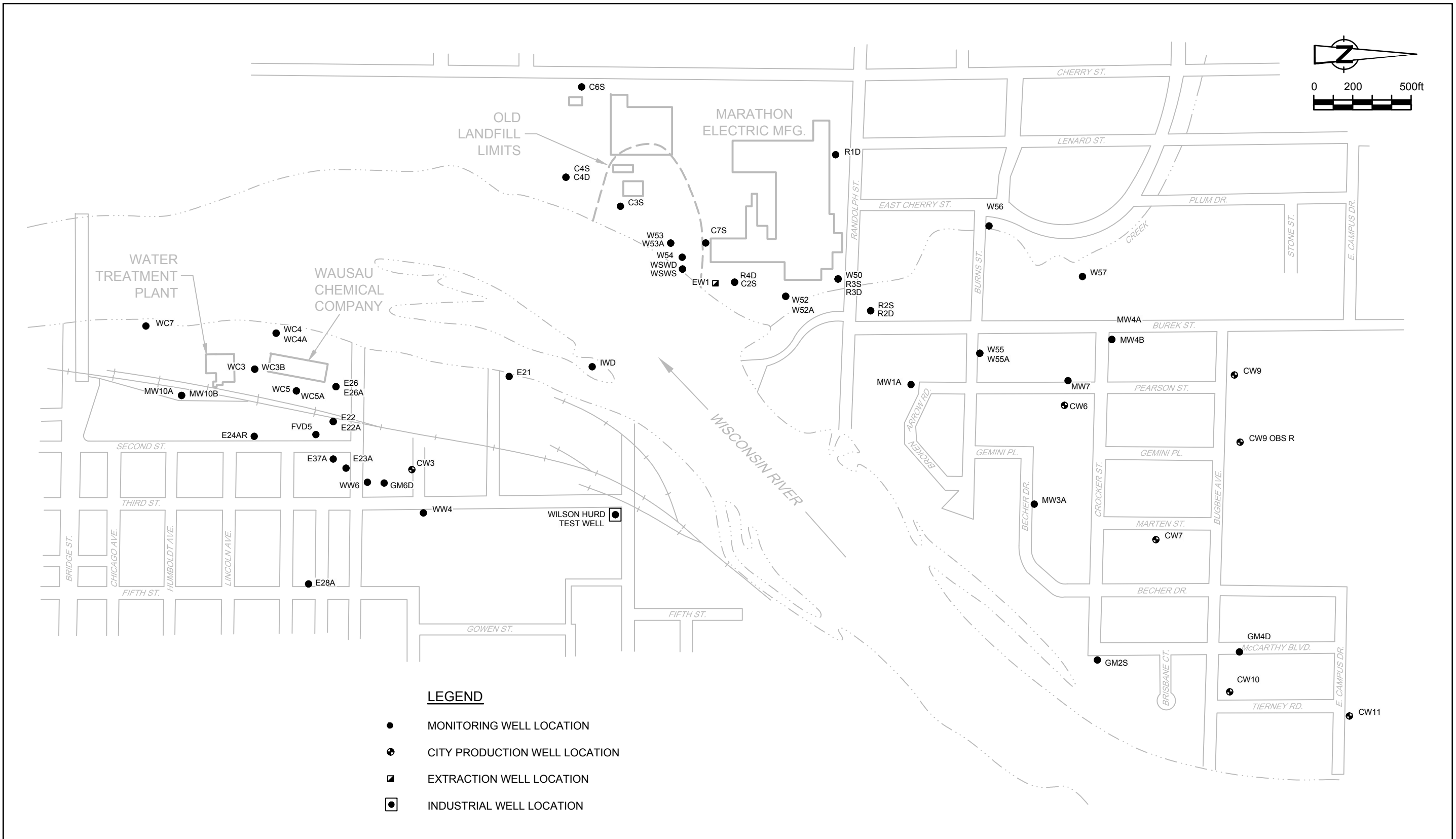


figure 1
 SITE PLAN
 WAUSAU WATER SUPPLY NPL SITE
 Wausau, Wisconsin



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

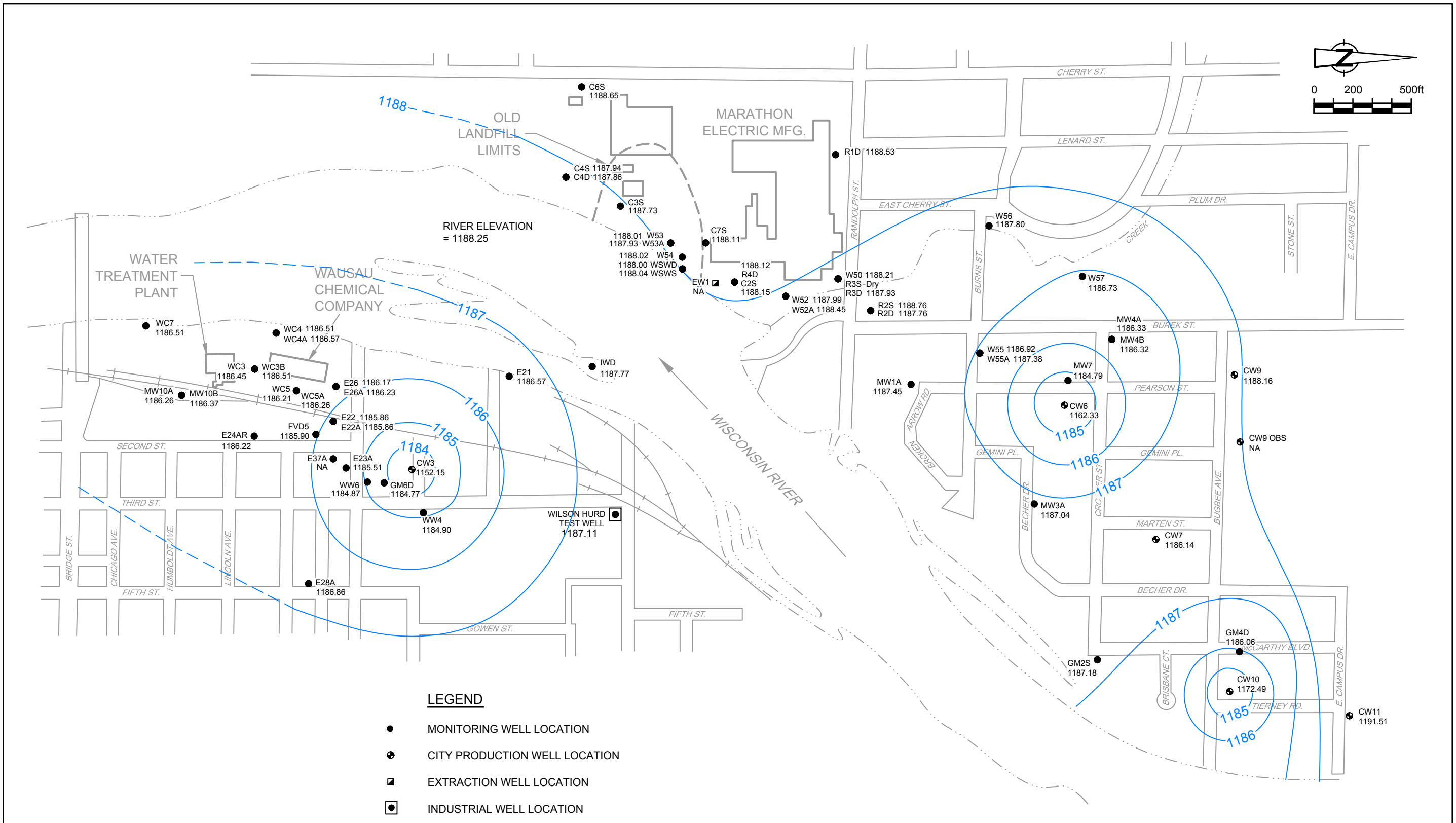


figure 2
 GROUNDWATER ELEVATIONS
 MAY 19, 2014
 WAUSAU WATER SUPPLY NPL SITE
 Wausau, Wisconsin

**GROUNDWATER ELEVATIONS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

	<i>Reference Elevation</i>		<i>Water Table Elevation (ft AMSL)</i>	<i>Water Table Elevation (ft AMSL)</i>	<i>Water Level (ft BTOC)</i>	<i>Water Table Elevation (ft AMSL)</i>
East Bank			11/11/2013	3/24/2014	5/19/2014	5/19/2014
CW3	1202.15	*	1148.15	1149.15	50.00	1152.15
E21	1197.51		1185.89	1185.38	10.94	1186.57
E22	1195.47		1185.07	NA	9.61	1185.86
E22A	1195.88		1185.08	NA	10.02	1185.86
E23A	1197.61		1184.68	NA	12.10	1185.51
E24AR	1209.33	(1),(2)	1185.51	NA	23.11	1186.22
E26	1199.02		1185.43	1184.92	12.85	1186.17
E26A	1199.13		1185.47	1184.95	12.90	1186.23
E28A	1211.60		1186.20	NA	24.74	1186.86
E37A	1197.84		1184.89	1184.42	NA	NA
FVD5	1198.89		1185.14	1184.64	12.99	1185.90
GM6D	1198.57		1183.89	NA	13.80	1184.77
W. HURD	1200.23		1185.82	1185.92	13.12	1187.11
IWD	1192.10		1187.20	NA	4.33	1187.77
MW10A	1210.67		1185.77	1185.27	24.41	1186.26
MW10B	1210.37		1185.72	1185.22	24.00	1186.37
WC3	1198.26		1185.78	1185.09	11.81	1186.45
WC3B	1196.11	(2)	1185.86	1185.36	9.60	1186.51
WC4	1196.74		1185.87	1185.36	10.23	1186.51
WC4A	1196.57		1185.91	1185.15	10.00	1186.57
WC5	1196.62		1185.51	1184.97	10.41	1186.21
WC5A	1196.66		1185.58	1184.78	10.40	1186.26
WC7	1196.77		1185.92	1185.26	10.26	1186.51
WW4	1200.34	(2)	1183.98	1183.52	15.44	1184.90
WW6	1200.53		1183.98	1183.51	15.66	1184.87
West Bank			11/12/2013	3/25/2014	5/20/2014	5/20/2014
EW1	NA		NA	NA	29.95	NA
CW6	1220.33	*	1160.33	1160.33	58.00	1162.33
CW7	1224.14		1186.14	1185.14	38.00	1186.14
CW9	1226.16		1188.16	1186.16	38.00	1188.16
CW9 OBS R	(3)		NA	NA	37.90	NA
CW10	1218.49		1187.49	1171.49	46.00	1172.49
CW11	1216.51		1190.51	1189.51	25.00	1191.51
C2S	1219.05		1187.34	1186.73	30.90	1188.15
C3S	1220.58		1186.96	1186.43	32.85	1187.73
C4S	1216.70		1187.10	1186.64	28.76	1187.94
C4D	1216.16		1187.04	NA	28.30	1187.86
C6S	1221.58		1187.47	1186.84	32.93	1188.65
C7S	1220.87		1188.27	1186.68	32.76	1188.11
GM2S	1211.78		1187.28	NA	24.60	1187.18
GM4D	1216.35		1187.05	NA	30.29	1186.06
MW1A	1215.69		1186.89	1185.98	28.24	1187.45

TABLE 1

**GROUNDWATER ELEVATIONS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

	<i>Reference Elevation</i>	<i>Water Table Elevation (ft AMSL)</i>	<i>Water Table Elevation (ft AMSL)</i>	<i>Water Level (ft BTOC)</i>	<i>Water Table Elevation (ft AMSL)</i>
West Bank Cont.					
MW3A	1220.87	1186.67	NA	33.83	1187.04
MW4A	1215.48	1186.00	NA	29.15	1186.33
MW4B	1215.10	1186.02	NA	28.78	1186.32
MW7	1218.53	1184.31	NA	33.74	1184.79
R1D	1222.24	1186.65	NA	33.71	1188.53
R2S	1209.70	1187.59	1186.42	20.94	1188.76
R2D	1209.42	1187.09	1186.30	21.66	1187.76
R3S	1215.17	Dry	1188.82	Dry	Dry
R3D	1215.42	1187.22	1186.44	27.49	1187.93
R4D	1218.90	1187.31	1186.72	30.78	1188.12
W50	1215.54	1187.42	1186.63	27.33	1188.21
W52	1219.16	1187.35	1186.61	31.17	1187.99
W52A	1218.95	1187.49	1186.78	30.50	1188.45
W53	1216.67	1187.21	NA	28.66	1188.01
W53A	1216.90	1187.14	NA	28.97	1187.93
W54	1216.19	1187.24	NA	28.17	1188.02
W55	1217.04	1187.02	NA	30.12	1186.92
W55A	1217.31	1186.76	NA	29.93	1187.38
W56	1200.01	1187.10	1185.99	12.21	1187.80
W57	1201.76	⁽²⁾ 1185.73	NA	15.03	1186.73
WSWS	1193.04	1187.46	NA	5.00	1188.04
WSWD	1193.02	1187.22	NA	5.02	1188.00

Notes:

Elevations relative to National Geodetic Vertical Datum

ft BTOC - Feet below top of casing

ft AMSL - Feet above mean sea level

* - Well was pumping

NA - Not Applicable

⁽¹⁾ Wells E24 and E24A were abandoned in 2012, replaced by E24AR in 2012.⁽²⁾ Reference elevation resurveyed in 2012.⁽³⁾ Replacement observation well. Reference elevation to be surveyed.

TABLE 2

**GROUNDWATER SAMPLING SUMMARY - MAY 2014
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

<i>Well</i>	<i>Date</i>	<i>pH</i>	<i>Conductivity (uS/cm)</i>	<i>Temperature (°C)</i>	<i>Sample ID Number</i>	<i>QA/QC</i>
E21	5/19/2014	7.76	181	11.6	W-140519-RA-01	
CW-3	5/19/2014	6.02	143	12.1	W-140519-RA-02	
CW-3	5/19/2014	--	--	--	W-140519-RA-03	Duplicate
R2D	5/19/2014	6.18	152.2	10.5	W-140519-RA-04	
W56	5/19/2014	6.6	672	10.7	W-140519-RA-05	
W56	5/19/2014	--	--	--	W-140519-RA-06	Duplicate
C4S	5/20/2014	6.47	1430	11.8	W-140520-RA-07	
W53A	5/20/2014	6.64	3070	12.8	W-140520-RA-08	
W54	5/20/2014	--	--	--	W-140520-RA-09	Field Blank
W54	5/20/2014	6.76	560	12.7	W-140520-RA-10	
CW6	5/20/2014	6.86	260	12.6	W-140520-RA-11	
CW10	5/20/2014	6.92	155.1	12.9	W-140520-RA-12	
W55	5/20/2014	7.12	657	12.9	W-140520-RA-13	
MW1A	5/20/2014	8.61	130.9	13.7	W-140520-RA-14	
W52	5/20/2014	8.01	109.1	13.3	W-140520-RA-15	
EW1	5/20/2014	8.57	277	16	W-140520-RA-16	
C2S	5/20/2014	5.76	3940	13.5	W-140520-RA-17	
R4D	5/20/2014	6.59	861	13.6	W-140520-RA-18	
IWD	5/20/2014	6.63	142.1	10.2	W-140520-RA-19	
WSWD	5/20/2014	6.58	140.9	10.7	W-140520-RA-20	
R3D	5/20/2014	6.04	367	10.7	W-140520-RA-21	
R3D	5/20/2014	--	--	--	W-140520-RA-22	Equipment Blank

TABLE 3

**GROUNDWATER MONITORING LABORATORY RESULTS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

<i>Sample Location:</i>			<i>CW3</i>	<i>CW3</i>	<i>CW3</i>	<i>CW3</i>	<i>E21</i>	<i>E21</i>	<i>E21</i>
<i>Sample Date:</i>			<i>11/11/2013</i>	<i>3/24/2014</i>	<i>5/19/2014</i>	<i>5/19/2014</i>	<i>11/11/2013</i>	<i>3/24/2014</i>	<i>5/19/2014</i>
					<i>Duplicate</i>				
<i>VOCs</i>		<i>MCL</i>							
1,1,2-Trichloroethane	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	ug/L	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	ug/L	80*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	70	0.50 J	0.74 J	0.90 J	0.82 J	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	700	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	5	1.40	1.40	1.4	1.4	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	5	0.72 J	0.78 J	0.78 J	0.79 J	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	10000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Chlorinated VOC			2.62	2.92	3.08	3.01	0.0	0.0	0.0

**GROUNDWATER MONITORING LABORATORY RESULTS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

<i>Sample Location:</i>			<i>IWD</i>	<i>IWD</i>	<i>C2S</i>	<i>C2S</i>	<i>C4S</i>	<i>C4S</i>	<i>MW1A</i>	<i>MW1A</i>
<i>Sample Date:</i>			<i>11/13/2013</i>	<i>5/20/2014</i>	<i>11/13/2013</i>	<i>5/20/2014</i>	<i>11/13/2013</i>	<i>5/20/2014</i>	<i>11/13/2013</i>	<i>5/20/2014</i>
VOCs		MCL								
1,1,2-Trichloroethane	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	ug/L	--	10 U	10 U	10 U	10 U	10 U	1.3 J	10 U	1.6 J
Benzene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	ug/L	80*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	70	1.1	1.8	1.0	0.67 J	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	700	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	5	2.2	3.3	7.9	5.5	1.1	1.4	1.0 U	0.42
Vinyl chloride	ug/L	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	10000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.25 J
Total Chlorinated VOC			3.3	5.1	8.9	6.17	1.1	1.4	0.0	0.42

TABLE 3

**GROUNDWATER MONITORING LABORATORY RESULTS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

<i>Sample Location:</i>			<i>R2D</i>	<i>R2D</i>	<i>R2D</i>	<i>R2D</i>	<i>R3D</i>	<i>R3D</i>	<i>R3D</i>
<i>Sample Date:</i>			<i>11/12/2013</i>	<i>3/24/2014</i>	<i>3/24/2014</i>	<i>5/19/2014</i>	<i>11/13/2013</i>	<i>3/24/2014</i>	<i>5/20/2014</i>
					<i>Duplicate</i>				
<i>VOCs</i>		<i>MCL</i>							
1,1,2-Trichloroethane	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U
1,1-Dichloroethene	ug/L	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U
Acetone	ug/L	--	10 U	10 U	10 U	1.4 J	10 U	33 U	10 U
Benzene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U
Carbon tetrachloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U
Chloroform	ug/L	80*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U
cis-1,2-Dichloroethene	ug/L	70	1.0	0.61 J	0.62 J	1.1	1.0 U	5.7	1.0 U
Ethylbenzene	ug/L	700	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U
Methylene chloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U
Tetrachloroethene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U
Toluene	ug/L	1000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U
Trichloroethene	ug/L	5	19	18	17	18	4.8	68	4.7
Vinyl chloride	ug/L	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U
Xylenes (total)	ug/L	10000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U
Total Chlorinated VOC			20.0	18.61	17.62	19.1	4.8	73.7	4.7

**GROUNDWATER MONITORING LABORATORY RESULTS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

<i>Sample Location:</i>			<i>R4D</i>	<i>R4D</i>	<i>W52</i>	<i>W52</i>	<i>W53A</i>	<i>W53A</i>	<i>W54</i>	<i>W54</i>
<i>Sample Date:</i>			<i>11/12/2013</i>	<i>5/20/2014</i>	<i>11/13/2013</i>	<i>5/20/2014</i>	<i>11/13/2013</i>	<i>5/20/2014</i>	<i>11/13/2013</i>	<i>5/20/2014</i>
<i>VOCs</i>		<i>MCL</i>								
1,1,2-Trichloroethane	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	0.22 J	1.0 U
Acetone	ug/L	--	10 U	10 U	10 U	10 U	11 U	33 U	10 U	10 U
Benzene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U	1.0 U
Chloroform	ug/L	80*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	70	0.58 J	0.49 J	0.32 J	1.0 U	1.0 U	3.3 U	0.74 J	1.5
Ethylbenzene	ug/L	700	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U	1.0 U
Methylene chloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U	1.0 U
Toluene	ug/L	1000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U	1.0 U
Trichloroethene	ug/L	5	16	7.4	2.6	3.4	54	88	23	39.0
Vinyl chloride	ug/L	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U	1.0 U
Xylenes (total)	ug/L	10000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U	1.0 U
Total Chlorinated VOC			16.58	7.89	2.92	3.4	54	88.0	23.96	40.5

**GROUNDWATER MONITORING LABORATORY RESULTS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

<i>Sample Location:</i>			W55	W55	W56	W56	W56	WSWD	WSWD
<i>Sample Date:</i>			11/12/2013	5/20/2014	11/12/2013	5/19/2014	5/19/2014	11/13/2013	5/20/2014
							Duplicate		
VOCs			MCL						
1,1,2-Trichloroethane	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	ug/L	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	ug/L	80*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	70	0.47 J	0.39 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	700	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	5	4.7	4.6	1.0 U	1.0 U	1.0 U	0.45 J	0.48 J
Vinyl chloride	ug/L	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	10000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Chlorinated VOC			5.17	4.99	0.0	0.0	0.0	0.45	0.48

**GROUNDWATER MONITORING LABORATORY RESULTS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

<i>Sample Location:</i>			<i>EW1</i>	<i>EW1</i>	<i>CW6</i>	<i>CW6</i>	<i>CW6</i>	<i>CW10</i>	<i>CW10</i>	<i>CW10</i>
<i>Sample Date:</i>			<i>11/12/2013</i>	<i>5/20/2014</i>	<i>11/12/2013</i>	<i>3/25/2014</i>	<i>5/20/2014</i>	<i>11/12/2013</i>	<i>3/25/2014</i>	<i>5/20/2014</i>
VOCs		MCL								
1,1,2-Trichloroethane	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	ug/L	--	10 U	2.4 J	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	ug/L	80*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	70	0.20 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	700	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	5	0.59 J	1.0 U	3.9	3.7	3.4	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	10000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Chlorinated VOC			0.79	0.0	3.9	3.7	3.4	0.0	0.0	0.0

Notes:

U - Not detected

J - Reported value is estimated

MCL - EPA maximum contaminant level for drinking water

* - The MCL for chloroform is for total trihalomethanes

indicates May 2014 results

TABLE 4

**CITY WATER SUPPLY WELL PUMPING AVERAGES - SECOND QUARTER 2014
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

		Well #3	Well #6	Well #7	Well #9	Well #10	Well #11
April	Hours	240.3	476.3	190.3	76.2	221.3	281.9
	Gallons	20.477	38.436	18.002	3.851	46.201	49.107
	gpm	1420	1345	1577	842	3480	2903
May	Hours	394.5	350.8	304.7	112.8	133.2	141.8
	Gallons	29.449	28.034	31.826	6.061	26.162	24.63
	gpm	1244	1332	1741	896	3274	2895
June	Hours	333.1	380.8	267.4	111.9	157.1	149.12
	Gallons	30.637	31.065	27.356	6.256	30.027	26.889
	gpm	1533	1360	1705	932	3186	3005
Average hours/week:		74.5	92.9	58.6	23.1	39.4	44.1
Average gpm:		1399	1345	1674	890	3313	2935

Note:

"Hours" indicates total hours pumped per month

"Gallons" indicates millions of gallons pumped per month

Attachment 1

Laboratory Report

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

TestAmerica Job ID: 240-37660-1

Client Project/Site: 3978, Wausau

For:

Conestoga-Rovers & Associates, Inc.
1801 Old Highway 8 NW
Suite 114
St. Paul, Minnesota 55112

Attn: Mr. Grant Anderson



Authorized for release by:
5/31/2014 3:29:04 AM

Denise Heckler, Project Manager II
(330)966-9477

denise.heckler@testamericainc.com

LINKS

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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Job ID: 240-37660-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: Conestoga-Rovers & Associates, Inc.

Project: 3978, Wausau

Report Number: 240-37660-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 05/22/2014; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.8 C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples W-140519-RA-01 (240-37660-1), W-140519-RA-02 (240-37660-2), W-140519-RA-03 (240-37660-3), W-140519-RA-04 (240-37660-4), W-140519-RA-05 (240-37660-5), W-140519-RA-06 (240-37660-6), W-140520-RA-07 (240-37660-7), W-140520-RA-08 (240-37660-8), W-140520-RA-09 (240-37660-9), W-140520-RA-10 (240-37660-10), W-140520-RA-11 (240-37660-11), W-140520-RA-12 (240-37660-12), W-140520-RA-13 (240-37660-13), W-140520-RA-14 (240-37660-14), W-140520-RA-15 (240-37660-15), W-140520-RA-16 (240-37660-16), W-140520-RA-17 (240-37660-17), W-140520-RA-18 (240-37660-18), W-140520-RA-19 (240-37660-19), W-140520-RA-20 (240-37660-20), W-140520-RA-21 (240-37660-21) and W-140520-RA-22 (240-37660-22) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 05/29/2014.

Methylene Chloride was detected in method blank MB 240-132524/6 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Job ID: 240-37660-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

Samples W-140520-RA-08 (240-37660-8)[3.33X] and W-140520-RA-10 (240-37660-10)[1.43X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the VOCs analysis.

All other quality control parameters were within the acceptance limits.

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Method Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-37660-1	W-140519-RA-01	Water	05/19/14 13:20	05/22/14 09:20
240-37660-2	W-140519-RA-02	Water	05/19/14 13:30	05/22/14 09:20
240-37660-3	W-140519-RA-03	Water	05/19/14 13:30	05/22/14 09:20
240-37660-4	W-140519-RA-04	Water	05/19/14 15:05	05/22/14 09:20
240-37660-5	W-140519-RA-05	Water	05/19/14 15:45	05/22/14 09:20
240-37660-6	W-140519-RA-06	Water	05/19/14 15:45	05/22/14 09:20
240-37660-7	W-140520-RA-07	Water	05/20/14 08:15	05/22/14 09:20
240-37660-8	W-140520-RA-08	Water	05/20/14 08:45	05/22/14 09:20
240-37660-9	W-140520-RA-09	Water	05/20/14 09:10	05/22/14 09:20
240-37660-10	W-140520-RA-10	Water	05/20/14 08:45	05/22/14 09:20
240-37660-11	W-140520-RA-11	Water	05/20/14 09:30	05/22/14 09:20
240-37660-12	W-140520-RA-12	Water	05/20/14 09:45	05/22/14 09:20
240-37660-13	W-140520-RA-13	Water	05/20/14 11:35	05/22/14 09:20
240-37660-14	W-140520-RA-14	Water	05/20/14 12:05	05/22/14 09:20
240-37660-15	W-140520-RA-15	Water	05/20/14 12:35	05/22/14 09:20
240-37660-16	W-140520-RA-16	Water	05/20/14 13:50	05/22/14 09:20
240-37660-17	W-140520-RA-17	Water	05/20/14 14:00	05/22/14 09:20
240-37660-18	W-140520-RA-18	Water	05/20/14 14:30	05/22/14 09:20
240-37660-19	W-140520-RA-19	Water	05/20/14 15:15	05/22/14 09:20
240-37660-20	W-140520-RA-20	Water	05/20/14 15:45	05/22/14 09:20
240-37660-21	W-140520-RA-21	Water	05/20/14 16:10	05/22/14 09:20
240-37660-22	W-140520-RA-22	Water	05/20/14 15:45	05/22/14 09:20

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140519-RA-01

Lab Sample ID: 240-37660-1

No Detections.

Client Sample ID: W-140519-RA-02

Lab Sample ID: 240-37660-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.90	J	1.0	0.17	ug/L	1		8260B	Total/NA
Tetrachloroethene	1.4		1.0	0.29	ug/L	1		8260B	Total/NA
Trichloroethene	0.78	J	1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-140519-RA-03

Lab Sample ID: 240-37660-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.82	J	1.0	0.17	ug/L	1		8260B	Total/NA
Tetrachloroethene	1.4		1.0	0.29	ug/L	1		8260B	Total/NA
Trichloroethene	0.79	J	1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-140519-RA-04

Lab Sample ID: 240-37660-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	1.4	J	10	1.1	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	1.1		1.0	0.17	ug/L	1		8260B	Total/NA
Trichloroethene	18		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-140519-RA-05

Lab Sample ID: 240-37660-5

No Detections.

Client Sample ID: W-140519-RA-06

Lab Sample ID: 240-37660-6

No Detections.

Client Sample ID: W-140520-RA-07

Lab Sample ID: 240-37660-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	1.3	J	10	1.1	ug/L	1		8260B	Total/NA
Trichloroethene	1.4		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-140520-RA-08

Lab Sample ID: 240-37660-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	2.6	J B	3.3	1.1	ug/L	3.33		8260B	Total/NA
Trichloroethene	88		3.3	0.57	ug/L	3.33		8260B	Total/NA

Client Sample ID: W-140520-RA-09

Lab Sample ID: 240-37660-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	2.0	J	10	1.1	ug/L	1		8260B	Total/NA

Client Sample ID: W-140520-RA-10

Lab Sample ID: 240-37660-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.5		1.4	0.24	ug/L	1.43		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140520-RA-10 (Continued)

Lab Sample ID: 240-37660-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	0.57	J B	1.4	0.47	ug/L	1.43		8260B	Total/NA
Trichloroethene	39		1.4	0.24	ug/L	1.43		8260B	Total/NA

Client Sample ID: W-140520-RA-11

Lab Sample ID: 240-37660-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	3.4		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-140520-RA-12

Lab Sample ID: 240-37660-12

No Detections.

Client Sample ID: W-140520-RA-13

Lab Sample ID: 240-37660-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.39	J	1.0	0.17	ug/L	1		8260B	Total/NA
Trichloroethene	4.6		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-140520-RA-14

Lab Sample ID: 240-37660-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	1.6	J	10	1.1	ug/L	1		8260B	Total/NA
Trichloroethene	0.42	J	1.0	0.17	ug/L	1		8260B	Total/NA
Xylenes, Total	0.25	J	1.0	0.14	ug/L	1		8260B	Total/NA

Client Sample ID: W-140520-RA-15

Lab Sample ID: 240-37660-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	3.4		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-140520-RA-16

Lab Sample ID: 240-37660-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	2.4	J	10	1.1	ug/L	1		8260B	Total/NA

Client Sample ID: W-140520-RA-17

Lab Sample ID: 240-37660-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.67	J	1.0	0.17	ug/L	1		8260B	Total/NA
Trichloroethene	5.5		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-140520-RA-18

Lab Sample ID: 240-37660-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.49	J	1.0	0.17	ug/L	1		8260B	Total/NA
Trichloroethene	7.4		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-140520-RA-19

Lab Sample ID: 240-37660-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.8		1.0	0.17	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140520-RA-19 (Continued)

Lab Sample ID: 240-37660-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	3.3		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-140520-RA-20

Lab Sample ID: 240-37660-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.48	J	1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-140520-RA-21

Lab Sample ID: 240-37660-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	4.7		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-140520-RA-22

Lab Sample ID: 240-37660-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	1.9	J	10	1.1	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140519-RA-01

Lab Sample ID: 240-37660-1

Date Collected: 05/19/14 13:20

Matrix: Water

Date Received: 05/22/14 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			05/29/14 01:24	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/29/14 01:24	1
Acetone	10	U	10	1.1	ug/L			05/29/14 01:24	1
Benzene	1.0	U	1.0	0.13	ug/L			05/29/14 01:24	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			05/29/14 01:24	1
Chloroform	1.0	U	1.0	0.16	ug/L			05/29/14 01:24	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			05/29/14 01:24	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			05/29/14 01:24	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			05/29/14 01:24	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			05/29/14 01:24	1
Toluene	1.0	U	1.0	0.13	ug/L			05/29/14 01:24	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			05/29/14 01:24	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			05/29/14 01:24	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			05/29/14 01:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		63 - 129					05/29/14 01:24	1
4-Bromofluorobenzene (Surr)	84		66 - 120					05/29/14 01:24	1
Toluene-d8 (Surr)	87		74 - 120					05/29/14 01:24	1
Dibromofluoromethane (Surr)	96		75 - 121					05/29/14 01:24	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140519-RA-02

Lab Sample ID: 240-37660-2

Date Collected: 05/19/14 13:30

Matrix: Water

Date Received: 05/22/14 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			05/29/14 01:47	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/29/14 01:47	1
Acetone	10	U	10	1.1	ug/L			05/29/14 01:47	1
Benzene	1.0	U	1.0	0.13	ug/L			05/29/14 01:47	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			05/29/14 01:47	1
Chloroform	1.0	U	1.0	0.16	ug/L			05/29/14 01:47	1
cis-1,2-Dichloroethene	0.90	J	1.0	0.17	ug/L			05/29/14 01:47	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			05/29/14 01:47	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			05/29/14 01:47	1
Tetrachloroethene	1.4		1.0	0.29	ug/L			05/29/14 01:47	1
Toluene	1.0	U	1.0	0.13	ug/L			05/29/14 01:47	1
Trichloroethene	0.78	J	1.0	0.17	ug/L			05/29/14 01:47	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			05/29/14 01:47	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			05/29/14 01:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		63 - 129					05/29/14 01:47	1
4-Bromofluorobenzene (Surr)	85		66 - 120					05/29/14 01:47	1
Toluene-d8 (Surr)	89		74 - 120					05/29/14 01:47	1
Dibromofluoromethane (Surr)	98		75 - 121					05/29/14 01:47	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140519-RA-03

Lab Sample ID: 240-37660-3

Date Collected: 05/19/14 13:30

Matrix: Water

Date Received: 05/22/14 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			05/29/14 02:09	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/29/14 02:09	1
Acetone	10	U	10	1.1	ug/L			05/29/14 02:09	1
Benzene	1.0	U	1.0	0.13	ug/L			05/29/14 02:09	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			05/29/14 02:09	1
Chloroform	1.0	U	1.0	0.16	ug/L			05/29/14 02:09	1
cis-1,2-Dichloroethene	0.82	J	1.0	0.17	ug/L			05/29/14 02:09	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			05/29/14 02:09	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			05/29/14 02:09	1
Tetrachloroethene	1.4		1.0	0.29	ug/L			05/29/14 02:09	1
Toluene	1.0	U	1.0	0.13	ug/L			05/29/14 02:09	1
Trichloroethene	0.79	J	1.0	0.17	ug/L			05/29/14 02:09	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			05/29/14 02:09	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			05/29/14 02:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		63 - 129					05/29/14 02:09	1
4-Bromofluorobenzene (Surr)	83		66 - 120					05/29/14 02:09	1
Toluene-d8 (Surr)	89		74 - 120					05/29/14 02:09	1
Dibromofluoromethane (Surr)	95		75 - 121					05/29/14 02:09	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140519-RA-04

Lab Sample ID: 240-37660-4

Date Collected: 05/19/14 15:05

Matrix: Water

Date Received: 05/22/14 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			05/29/14 02:32	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/29/14 02:32	1
Acetone	1.4	J	10	1.1	ug/L			05/29/14 02:32	1
Benzene	1.0	U	1.0	0.13	ug/L			05/29/14 02:32	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			05/29/14 02:32	1
Chloroform	1.0	U	1.0	0.16	ug/L			05/29/14 02:32	1
cis-1,2-Dichloroethene	1.1		1.0	0.17	ug/L			05/29/14 02:32	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			05/29/14 02:32	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			05/29/14 02:32	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			05/29/14 02:32	1
Toluene	1.0	U	1.0	0.13	ug/L			05/29/14 02:32	1
Trichloroethene	18		1.0	0.17	ug/L			05/29/14 02:32	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			05/29/14 02:32	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			05/29/14 02:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		63 - 129					05/29/14 02:32	1
4-Bromofluorobenzene (Surr)	83		66 - 120					05/29/14 02:32	1
Toluene-d8 (Surr)	87		74 - 120					05/29/14 02:32	1
Dibromofluoromethane (Surr)	97		75 - 121					05/29/14 02:32	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140519-RA-05

Lab Sample ID: 240-37660-5

Date Collected: 05/19/14 15:45

Matrix: Water

Date Received: 05/22/14 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			05/29/14 02:54	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/29/14 02:54	1
Acetone	10	U	10	1.1	ug/L			05/29/14 02:54	1
Benzene	1.0	U	1.0	0.13	ug/L			05/29/14 02:54	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			05/29/14 02:54	1
Chloroform	1.0	U	1.0	0.16	ug/L			05/29/14 02:54	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			05/29/14 02:54	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			05/29/14 02:54	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			05/29/14 02:54	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			05/29/14 02:54	1
Toluene	1.0	U	1.0	0.13	ug/L			05/29/14 02:54	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			05/29/14 02:54	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			05/29/14 02:54	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			05/29/14 02:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		63 - 129					05/29/14 02:54	1
4-Bromofluorobenzene (Surr)	82		66 - 120					05/29/14 02:54	1
Toluene-d8 (Surr)	90		74 - 120					05/29/14 02:54	1
Dibromofluoromethane (Surr)	97		75 - 121					05/29/14 02:54	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140519-RA-06

Lab Sample ID: 240-37660-6

Date Collected: 05/19/14 15:45

Matrix: Water

Date Received: 05/22/14 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			05/29/14 03:16	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/29/14 03:16	1
Acetone	10	U	10	1.1	ug/L			05/29/14 03:16	1
Benzene	1.0	U	1.0	0.13	ug/L			05/29/14 03:16	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			05/29/14 03:16	1
Chloroform	1.0	U	1.0	0.16	ug/L			05/29/14 03:16	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			05/29/14 03:16	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			05/29/14 03:16	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			05/29/14 03:16	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			05/29/14 03:16	1
Toluene	1.0	U	1.0	0.13	ug/L			05/29/14 03:16	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			05/29/14 03:16	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			05/29/14 03:16	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			05/29/14 03:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		63 - 129					05/29/14 03:16	1
4-Bromofluorobenzene (Surr)	81		66 - 120					05/29/14 03:16	1
Toluene-d8 (Surr)	89		74 - 120					05/29/14 03:16	1
Dibromofluoromethane (Surr)	99		75 - 121					05/29/14 03:16	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140520-RA-07

Lab Sample ID: 240-37660-7

Date Collected: 05/20/14 08:15

Matrix: Water

Date Received: 05/22/14 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			05/29/14 03:39	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/29/14 03:39	1
Acetone	1.3	J	10	1.1	ug/L			05/29/14 03:39	1
Benzene	1.0	U	1.0	0.13	ug/L			05/29/14 03:39	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			05/29/14 03:39	1
Chloroform	1.0	U	1.0	0.16	ug/L			05/29/14 03:39	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			05/29/14 03:39	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			05/29/14 03:39	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			05/29/14 03:39	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			05/29/14 03:39	1
Toluene	1.0	U	1.0	0.13	ug/L			05/29/14 03:39	1
Trichloroethene	1.4		1.0	0.17	ug/L			05/29/14 03:39	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			05/29/14 03:39	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			05/29/14 03:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		63 - 129					05/29/14 03:39	1
4-Bromofluorobenzene (Surr)	82		66 - 120					05/29/14 03:39	1
Toluene-d8 (Surr)	90		74 - 120					05/29/14 03:39	1
Dibromofluoromethane (Surr)	102		75 - 121					05/29/14 03:39	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140520-RA-08

Lab Sample ID: 240-37660-8

Date Collected: 05/20/14 08:45

Matrix: Water

Date Received: 05/22/14 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	3.3	U	3.3	0.90	ug/L			05/29/14 15:43	3.33
1,1-Dichloroethene	3.3	U	3.3	0.63	ug/L			05/29/14 15:43	3.33
Acetone	33	U	33	3.7	ug/L			05/29/14 15:43	3.33
Benzene	3.3	U	3.3	0.43	ug/L			05/29/14 15:43	3.33
Carbon tetrachloride	3.3	U	3.3	0.43	ug/L			05/29/14 15:43	3.33
Chloroform	3.3	U	3.3	0.53	ug/L			05/29/14 15:43	3.33
cis-1,2-Dichloroethene	3.3	U	3.3	0.57	ug/L			05/29/14 15:43	3.33
Ethylbenzene	3.3	U	3.3	0.57	ug/L			05/29/14 15:43	3.33
Methylene Chloride	2.6	J B	3.3	1.1	ug/L			05/29/14 15:43	3.33
Tetrachloroethene	3.3	U	3.3	0.97	ug/L			05/29/14 15:43	3.33
Toluene	3.3	U	3.3	0.43	ug/L			05/29/14 15:43	3.33
Trichloroethene	88		3.3	0.57	ug/L			05/29/14 15:43	3.33
Vinyl chloride	3.3	U	3.3	0.73	ug/L			05/29/14 15:43	3.33
Xylenes, Total	3.3	U	3.3	0.47	ug/L			05/29/14 15:43	3.33
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		63 - 129					05/29/14 15:43	3.33
4-Bromofluorobenzene (Surr)	86		66 - 120					05/29/14 15:43	3.33
Toluene-d8 (Surr)	84		74 - 120					05/29/14 15:43	3.33
Dibromofluoromethane (Surr)	103		75 - 121					05/29/14 15:43	3.33

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140520-RA-09

Lab Sample ID: 240-37660-9

Date Collected: 05/20/14 09:10

Matrix: Water

Date Received: 05/22/14 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			05/29/14 04:23	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/29/14 04:23	1
Acetone	2.0	J	10	1.1	ug/L			05/29/14 04:23	1
Benzene	1.0	U	1.0	0.13	ug/L			05/29/14 04:23	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			05/29/14 04:23	1
Chloroform	1.0	U	1.0	0.16	ug/L			05/29/14 04:23	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			05/29/14 04:23	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			05/29/14 04:23	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			05/29/14 04:23	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			05/29/14 04:23	1
Toluene	1.0	U	1.0	0.13	ug/L			05/29/14 04:23	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			05/29/14 04:23	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			05/29/14 04:23	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			05/29/14 04:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		63 - 129					05/29/14 04:23	1
4-Bromofluorobenzene (Surr)	81		66 - 120					05/29/14 04:23	1
Toluene-d8 (Surr)	89		74 - 120					05/29/14 04:23	1
Dibromofluoromethane (Surr)	95		75 - 121					05/29/14 04:23	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140520-RA-10

Lab Sample ID: 240-37660-10

Date Collected: 05/20/14 08:45

Matrix: Water

Date Received: 05/22/14 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.4	U	1.4	0.39	ug/L			05/29/14 16:05	1.43
1,1-Dichloroethene	1.4	U	1.4	0.27	ug/L			05/29/14 16:05	1.43
Acetone	14	U	14	1.6	ug/L			05/29/14 16:05	1.43
Benzene	1.4	U	1.4	0.19	ug/L			05/29/14 16:05	1.43
Carbon tetrachloride	1.4	U	1.4	0.19	ug/L			05/29/14 16:05	1.43
Chloroform	1.4	U	1.4	0.23	ug/L			05/29/14 16:05	1.43
cis-1,2-Dichloroethene	1.5		1.4	0.24	ug/L			05/29/14 16:05	1.43
Ethylbenzene	1.4	U	1.4	0.24	ug/L			05/29/14 16:05	1.43
Methylene Chloride	0.57	J B	1.4	0.47	ug/L			05/29/14 16:05	1.43
Tetrachloroethene	1.4	U	1.4	0.41	ug/L			05/29/14 16:05	1.43
Toluene	1.4	U	1.4	0.19	ug/L			05/29/14 16:05	1.43
Trichloroethene	39		1.4	0.24	ug/L			05/29/14 16:05	1.43
Vinyl chloride	1.4	U	1.4	0.31	ug/L			05/29/14 16:05	1.43
Xylenes, Total	1.4	U	1.4	0.20	ug/L			05/29/14 16:05	1.43
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		63 - 129					05/29/14 16:05	1.43
4-Bromofluorobenzene (Surr)	85		66 - 120					05/29/14 16:05	1.43
Toluene-d8 (Surr)	81		74 - 120					05/29/14 16:05	1.43
Dibromofluoromethane (Surr)	109		75 - 121					05/29/14 16:05	1.43

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140520-RA-11

Lab Sample ID: 240-37660-11

Date Collected: 05/20/14 09:30

Matrix: Water

Date Received: 05/22/14 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			05/29/14 05:08	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/29/14 05:08	1
Acetone	10	U	10	1.1	ug/L			05/29/14 05:08	1
Benzene	1.0	U	1.0	0.13	ug/L			05/29/14 05:08	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			05/29/14 05:08	1
Chloroform	1.0	U	1.0	0.16	ug/L			05/29/14 05:08	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			05/29/14 05:08	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			05/29/14 05:08	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			05/29/14 05:08	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			05/29/14 05:08	1
Toluene	1.0	U	1.0	0.13	ug/L			05/29/14 05:08	1
Trichloroethene	3.4		1.0	0.17	ug/L			05/29/14 05:08	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			05/29/14 05:08	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			05/29/14 05:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		63 - 129					05/29/14 05:08	1
4-Bromofluorobenzene (Surr)	82		66 - 120					05/29/14 05:08	1
Toluene-d8 (Surr)	95		74 - 120					05/29/14 05:08	1
Dibromofluoromethane (Surr)	99		75 - 121					05/29/14 05:08	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140520-RA-12

Lab Sample ID: 240-37660-12

Date Collected: 05/20/14 09:45

Matrix: Water

Date Received: 05/22/14 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			05/29/14 05:30	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/29/14 05:30	1
Acetone	10	U	10	1.1	ug/L			05/29/14 05:30	1
Benzene	1.0	U	1.0	0.13	ug/L			05/29/14 05:30	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			05/29/14 05:30	1
Chloroform	1.0	U	1.0	0.16	ug/L			05/29/14 05:30	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			05/29/14 05:30	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			05/29/14 05:30	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			05/29/14 05:30	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			05/29/14 05:30	1
Toluene	1.0	U	1.0	0.13	ug/L			05/29/14 05:30	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			05/29/14 05:30	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			05/29/14 05:30	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			05/29/14 05:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		63 - 129					05/29/14 05:30	1
4-Bromofluorobenzene (Surr)	82		66 - 120					05/29/14 05:30	1
Toluene-d8 (Surr)	88		74 - 120					05/29/14 05:30	1
Dibromofluoromethane (Surr)	98		75 - 121					05/29/14 05:30	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140520-RA-13

Lab Sample ID: 240-37660-13

Date Collected: 05/20/14 11:35

Matrix: Water

Date Received: 05/22/14 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			05/29/14 05:52	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/29/14 05:52	1
Acetone	10	U	10	1.1	ug/L			05/29/14 05:52	1
Benzene	1.0	U	1.0	0.13	ug/L			05/29/14 05:52	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			05/29/14 05:52	1
Chloroform	1.0	U	1.0	0.16	ug/L			05/29/14 05:52	1
cis-1,2-Dichloroethene	0.39	J	1.0	0.17	ug/L			05/29/14 05:52	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			05/29/14 05:52	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			05/29/14 05:52	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			05/29/14 05:52	1
Toluene	1.0	U	1.0	0.13	ug/L			05/29/14 05:52	1
Trichloroethene	4.6		1.0	0.17	ug/L			05/29/14 05:52	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			05/29/14 05:52	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			05/29/14 05:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		63 - 129					05/29/14 05:52	1
4-Bromofluorobenzene (Surr)	85		66 - 120					05/29/14 05:52	1
Toluene-d8 (Surr)	88		74 - 120					05/29/14 05:52	1
Dibromofluoromethane (Surr)	98		75 - 121					05/29/14 05:52	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140520-RA-14

Lab Sample ID: 240-37660-14

Date Collected: 05/20/14 12:05

Matrix: Water

Date Received: 05/22/14 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			05/29/14 08:29	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/29/14 08:29	1
Acetone	1.6	J	10	1.1	ug/L			05/29/14 08:29	1
Benzene	1.0	U	1.0	0.13	ug/L			05/29/14 08:29	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			05/29/14 08:29	1
Chloroform	1.0	U	1.0	0.16	ug/L			05/29/14 08:29	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			05/29/14 08:29	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			05/29/14 08:29	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			05/29/14 08:29	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			05/29/14 08:29	1
Toluene	1.0	U	1.0	0.13	ug/L			05/29/14 08:29	1
Trichloroethene	0.42	J	1.0	0.17	ug/L			05/29/14 08:29	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			05/29/14 08:29	1
Xylenes, Total	0.25	J	1.0	0.14	ug/L			05/29/14 08:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		63 - 129					05/29/14 08:29	1
4-Bromofluorobenzene (Surr)	82		66 - 120					05/29/14 08:29	1
Toluene-d8 (Surr)	90		74 - 120					05/29/14 08:29	1
Dibromofluoromethane (Surr)	100		75 - 121					05/29/14 08:29	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140520-RA-15

Lab Sample ID: 240-37660-15

Date Collected: 05/20/14 12:35

Matrix: Water

Date Received: 05/22/14 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			05/29/14 06:15	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/29/14 06:15	1
Acetone	10	U	10	1.1	ug/L			05/29/14 06:15	1
Benzene	1.0	U	1.0	0.13	ug/L			05/29/14 06:15	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			05/29/14 06:15	1
Chloroform	1.0	U	1.0	0.16	ug/L			05/29/14 06:15	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			05/29/14 06:15	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			05/29/14 06:15	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			05/29/14 06:15	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			05/29/14 06:15	1
Toluene	1.0	U	1.0	0.13	ug/L			05/29/14 06:15	1
Trichloroethene	3.4		1.0	0.17	ug/L			05/29/14 06:15	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			05/29/14 06:15	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			05/29/14 06:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		63 - 129					05/29/14 06:15	1
4-Bromofluorobenzene (Surr)	81		66 - 120					05/29/14 06:15	1
Toluene-d8 (Surr)	90		74 - 120					05/29/14 06:15	1
Dibromofluoromethane (Surr)	97		75 - 121					05/29/14 06:15	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140520-RA-16

Lab Sample ID: 240-37660-16

Date Collected: 05/20/14 13:50

Matrix: Water

Date Received: 05/22/14 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			05/29/14 06:37	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/29/14 06:37	1
Acetone	2.4	J	10	1.1	ug/L			05/29/14 06:37	1
Benzene	1.0	U	1.0	0.13	ug/L			05/29/14 06:37	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			05/29/14 06:37	1
Chloroform	1.0	U	1.0	0.16	ug/L			05/29/14 06:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			05/29/14 06:37	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			05/29/14 06:37	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			05/29/14 06:37	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			05/29/14 06:37	1
Toluene	1.0	U	1.0	0.13	ug/L			05/29/14 06:37	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			05/29/14 06:37	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			05/29/14 06:37	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			05/29/14 06:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		63 - 129					05/29/14 06:37	1
4-Bromofluorobenzene (Surr)	79		66 - 120					05/29/14 06:37	1
Toluene-d8 (Surr)	89		74 - 120					05/29/14 06:37	1
Dibromofluoromethane (Surr)	96		75 - 121					05/29/14 06:37	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140520-RA-17

Lab Sample ID: 240-37660-17

Date Collected: 05/20/14 14:00

Matrix: Water

Date Received: 05/22/14 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			05/29/14 06:59	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/29/14 06:59	1
Acetone	10	U	10	1.1	ug/L			05/29/14 06:59	1
Benzene	1.0	U	1.0	0.13	ug/L			05/29/14 06:59	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			05/29/14 06:59	1
Chloroform	1.0	U	1.0	0.16	ug/L			05/29/14 06:59	1
cis-1,2-Dichloroethene	0.67	J	1.0	0.17	ug/L			05/29/14 06:59	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			05/29/14 06:59	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			05/29/14 06:59	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			05/29/14 06:59	1
Toluene	1.0	U	1.0	0.13	ug/L			05/29/14 06:59	1
Trichloroethene	5.5		1.0	0.17	ug/L			05/29/14 06:59	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			05/29/14 06:59	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			05/29/14 06:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		63 - 129					05/29/14 06:59	1
4-Bromofluorobenzene (Surr)	81		66 - 120					05/29/14 06:59	1
Toluene-d8 (Surr)	92		74 - 120					05/29/14 06:59	1
Dibromofluoromethane (Surr)	100		75 - 121					05/29/14 06:59	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140520-RA-18

Lab Sample ID: 240-37660-18

Date Collected: 05/20/14 14:30

Matrix: Water

Date Received: 05/22/14 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			05/29/14 07:22	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/29/14 07:22	1
Acetone	10	U	10	1.1	ug/L			05/29/14 07:22	1
Benzene	1.0	U	1.0	0.13	ug/L			05/29/14 07:22	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			05/29/14 07:22	1
Chloroform	1.0	U	1.0	0.16	ug/L			05/29/14 07:22	1
cis-1,2-Dichloroethene	0.49	J	1.0	0.17	ug/L			05/29/14 07:22	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			05/29/14 07:22	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			05/29/14 07:22	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			05/29/14 07:22	1
Toluene	1.0	U	1.0	0.13	ug/L			05/29/14 07:22	1
Trichloroethene	7.4		1.0	0.17	ug/L			05/29/14 07:22	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			05/29/14 07:22	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			05/29/14 07:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		63 - 129					05/29/14 07:22	1
4-Bromofluorobenzene (Surr)	83		66 - 120					05/29/14 07:22	1
Toluene-d8 (Surr)	86		74 - 120					05/29/14 07:22	1
Dibromofluoromethane (Surr)	96		75 - 121					05/29/14 07:22	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140520-RA-19

Lab Sample ID: 240-37660-19

Date Collected: 05/20/14 15:15

Matrix: Water

Date Received: 05/22/14 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			05/29/14 07:44	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/29/14 07:44	1
Acetone	10	U	10	1.1	ug/L			05/29/14 07:44	1
Benzene	1.0	U	1.0	0.13	ug/L			05/29/14 07:44	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			05/29/14 07:44	1
Chloroform	1.0	U	1.0	0.16	ug/L			05/29/14 07:44	1
cis-1,2-Dichloroethene	1.8		1.0	0.17	ug/L			05/29/14 07:44	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			05/29/14 07:44	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			05/29/14 07:44	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			05/29/14 07:44	1
Toluene	1.0	U	1.0	0.13	ug/L			05/29/14 07:44	1
Trichloroethene	3.3		1.0	0.17	ug/L			05/29/14 07:44	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			05/29/14 07:44	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			05/29/14 07:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		63 - 129					05/29/14 07:44	1
4-Bromofluorobenzene (Surr)	79		66 - 120					05/29/14 07:44	1
Toluene-d8 (Surr)	91		74 - 120					05/29/14 07:44	1
Dibromofluoromethane (Surr)	98		75 - 121					05/29/14 07:44	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140520-RA-20

Lab Sample ID: 240-37660-20

Date Collected: 05/20/14 15:45

Matrix: Water

Date Received: 05/22/14 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			05/29/14 08:06	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/29/14 08:06	1
Acetone	10	U	10	1.1	ug/L			05/29/14 08:06	1
Benzene	1.0	U	1.0	0.13	ug/L			05/29/14 08:06	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			05/29/14 08:06	1
Chloroform	1.0	U	1.0	0.16	ug/L			05/29/14 08:06	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			05/29/14 08:06	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			05/29/14 08:06	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			05/29/14 08:06	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			05/29/14 08:06	1
Toluene	1.0	U	1.0	0.13	ug/L			05/29/14 08:06	1
Trichloroethene	0.48	J	1.0	0.17	ug/L			05/29/14 08:06	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			05/29/14 08:06	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			05/29/14 08:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		63 - 129					05/29/14 08:06	1
4-Bromofluorobenzene (Surr)	87		66 - 120					05/29/14 08:06	1
Toluene-d8 (Surr)	80		74 - 120					05/29/14 08:06	1
Dibromofluoromethane (Surr)	101		75 - 121					05/29/14 08:06	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140520-RA-21

Lab Sample ID: 240-37660-21

Date Collected: 05/20/14 16:10

Matrix: Water

Date Received: 05/22/14 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			05/29/14 16:27	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/29/14 16:27	1
Acetone	10	U	10	1.1	ug/L			05/29/14 16:27	1
Benzene	1.0	U	1.0	0.13	ug/L			05/29/14 16:27	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			05/29/14 16:27	1
Chloroform	1.0	U	1.0	0.16	ug/L			05/29/14 16:27	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			05/29/14 16:27	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			05/29/14 16:27	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			05/29/14 16:27	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			05/29/14 16:27	1
Toluene	1.0	U	1.0	0.13	ug/L			05/29/14 16:27	1
Trichloroethene	4.7		1.0	0.17	ug/L			05/29/14 16:27	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			05/29/14 16:27	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			05/29/14 16:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		63 - 129					05/29/14 16:27	1
4-Bromofluorobenzene (Surr)	88		66 - 120					05/29/14 16:27	1
Toluene-d8 (Surr)	81		74 - 120					05/29/14 16:27	1
Dibromofluoromethane (Surr)	106		75 - 121					05/29/14 16:27	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140520-RA-22

Lab Sample ID: 240-37660-22

Date Collected: 05/20/14 15:45

Matrix: Water

Date Received: 05/22/14 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			05/29/14 16:50	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/29/14 16:50	1
Acetone	1.9	J	10	1.1	ug/L			05/29/14 16:50	1
Benzene	1.0	U	1.0	0.13	ug/L			05/29/14 16:50	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			05/29/14 16:50	1
Chloroform	1.0	U	1.0	0.16	ug/L			05/29/14 16:50	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			05/29/14 16:50	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			05/29/14 16:50	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			05/29/14 16:50	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			05/29/14 16:50	1
Toluene	1.0	U	1.0	0.13	ug/L			05/29/14 16:50	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			05/29/14 16:50	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			05/29/14 16:50	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			05/29/14 16:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		63 - 129					05/29/14 16:50	1
4-Bromofluorobenzene (Surr)	82		66 - 120					05/29/14 16:50	1
Toluene-d8 (Surr)	89		74 - 120					05/29/14 16:50	1
Dibromofluoromethane (Surr)	95		75 - 121					05/29/14 16:50	1

Surrogate Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (63-129)	BFB (66-120)	TOL (74-120)	DBFM (75-121)
240-37660-1	W-140519-RA-01	94	84	87	96
240-37660-2	W-140519-RA-02	94	85	89	98
240-37660-3	W-140519-RA-03	93	83	89	95
240-37660-4	W-140519-RA-04	92	83	87	97
240-37660-5	W-140519-RA-05	93	82	90	97
240-37660-6	W-140519-RA-06	95	81	89	99
240-37660-7	W-140520-RA-07	95	82	90	102
240-37660-8	W-140520-RA-08	94	86	84	103
240-37660-9	W-140520-RA-09	96	81	89	95
240-37660-10	W-140520-RA-10	96	85	81	109
240-37660-11	W-140520-RA-11	95	82	95	99
240-37660-12	W-140520-RA-12	94	82	88	98
240-37660-13	W-140520-RA-13	94	85	88	98
240-37660-14	W-140520-RA-14	99	82	90	100
240-37660-14 MS	W-140520-RA-14	89	98	90	92
240-37660-14 MSD	W-140520-RA-14	90	95	92	95
240-37660-15	W-140520-RA-15	93	81	90	97
240-37660-16	W-140520-RA-16	95	79	89	96
240-37660-17	W-140520-RA-17	97	81	92	100
240-37660-18	W-140520-RA-18	93	83	86	96
240-37660-19	W-140520-RA-19	94	79	91	98
240-37660-20	W-140520-RA-20	94	87	80	101
240-37660-21	W-140520-RA-21	95	88	81	106
240-37660-22	W-140520-RA-22	93	82	89	95
LCS 240-132405/4	Lab Control Sample	86	91	89	93
LCS 240-132524/4	Lab Control Sample	89	99	90	97
MB 240-132405/6	Method Blank	92	83	90	95
MB 240-132524/6	Method Blank	97	88	80	105

Surrogate Legend

- 12DCE = 1,2-Dichloroethane-d4 (Surr)
- BFB = 4-Bromofluorobenzene (Surr)
- TOL = Toluene-d8 (Surr)
- DBFM = Dibromofluoromethane (Surr)

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-132405/6

Matrix: Water

Analysis Batch: 132405

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			05/29/14 01:02	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/29/14 01:02	1
Acetone	10	U	10	1.1	ug/L			05/29/14 01:02	1
Benzene	1.0	U	1.0	0.13	ug/L			05/29/14 01:02	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			05/29/14 01:02	1
Chloroform	1.0	U	1.0	0.16	ug/L			05/29/14 01:02	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			05/29/14 01:02	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			05/29/14 01:02	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			05/29/14 01:02	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			05/29/14 01:02	1
Toluene	1.0	U	1.0	0.13	ug/L			05/29/14 01:02	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			05/29/14 01:02	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			05/29/14 01:02	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			05/29/14 01:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		63 - 129		05/29/14 01:02	1
4-Bromofluorobenzene (Surr)	83		66 - 120		05/29/14 01:02	1
Toluene-d8 (Surr)	90		74 - 120		05/29/14 01:02	1
Dibromofluoromethane (Surr)	95		75 - 121		05/29/14 01:02	1

Lab Sample ID: LCS 240-132405/4

Matrix: Water

Analysis Batch: 132405

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2-Trichloroethane	10.0	9.43		ug/L		94	80 - 120
1,1-Dichloroethene	10.0	10.1		ug/L		101	78 - 131
Acetone	20.0	16.8		ug/L		84	43 - 136
Benzene	10.0	9.99		ug/L		100	80 - 120
Carbon tetrachloride	10.0	10.9		ug/L		109	66 - 128
Chloroform	10.0	11.0		ug/L		110	79 - 120
cis-1,2-Dichloroethene	10.0	9.96		ug/L		100	80 - 120
Ethylbenzene	10.0	8.80		ug/L		88	80 - 120
m-Xylene & p-Xylene	10.0	9.04		ug/L		90	80 - 120
Methylene Chloride	10.0	11.8		ug/L		118	66 - 131
o-Xylene	10.0	9.24		ug/L		92	80 - 120
Tetrachloroethene	10.0	8.48		ug/L		85	79 - 120
Toluene	10.0	9.50		ug/L		95	80 - 120
Trichloroethene	10.0	9.66		ug/L		97	76 - 120
Vinyl chloride	10.0	5.98		ug/L		60	53 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	86		63 - 129
4-Bromofluorobenzene (Surr)	91		66 - 120
Toluene-d8 (Surr)	89		74 - 120
Dibromofluoromethane (Surr)	93		75 - 121

TestAmerica Canton

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-37660-14 MS

Matrix: Water

Analysis Batch: 132405

Client Sample ID: W-140520-RA-14

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2-Trichloroethane	1.0	U	10.0	9.38		ug/L		94	75 - 120
1,1-Dichloroethene	1.0	U	10.0	9.31		ug/L		93	74 - 135
Acetone	1.6	J	20.0	16.5		ug/L		75	33 - 145
Benzene	1.0	U	10.0	9.58		ug/L		96	72 - 121
Carbon tetrachloride	1.0	U	10.0	9.53		ug/L		95	59 - 129
Chloroform	1.0	U	10.0	10.4		ug/L		104	76 - 120
cis-1,2-Dichloroethene	1.0	U	10.0	9.63		ug/L		96	70 - 120
Ethylbenzene	1.0	U	10.0	7.97		ug/L		80	75 - 120
m-Xylene & p-Xylene	0.25		10.0	8.39		ug/L		81	75 - 120
Methylene Chloride	1.0	U	10.0	11.4		ug/L		114	63 - 128
o-Xylene	1.0		10.0	8.49		ug/L		85	76 - 120
Tetrachloroethene	1.0	U	10.0	7.36		ug/L		74	70 - 120
Toluene	1.0	U	10.0	8.90		ug/L		89	78 - 120
Trichloroethene	0.42	J	10.0	8.74		ug/L		83	66 - 120
Vinyl chloride	1.0	U	10.0	5.78		ug/L		58	49 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	89		63 - 129
4-Bromofluorobenzene (Surr)	98		66 - 120
Toluene-d8 (Surr)	90		74 - 120
Dibromofluoromethane (Surr)	92		75 - 121

Lab Sample ID: 240-37660-14 MSD

Matrix: Water

Analysis Batch: 132405

Client Sample ID: W-140520-RA-14

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,2-Trichloroethane	1.0	U	10.0	9.40		ug/L		94	75 - 120	0	30
1,1-Dichloroethene	1.0	U	10.0	9.82		ug/L		98	74 - 135	5	30
Acetone	1.6	J	20.0	17.5		ug/L		79	33 - 145	6	30
Benzene	1.0	U	10.0	9.75		ug/L		97	72 - 121	2	30
Carbon tetrachloride	1.0	U	10.0	9.58		ug/L		96	59 - 129	1	30
Chloroform	1.0	U	10.0	10.8		ug/L		108	76 - 120	4	30
cis-1,2-Dichloroethene	1.0	U	10.0	9.78		ug/L		98	70 - 120	2	30
Ethylbenzene	1.0	U	10.0	8.05		ug/L		80	75 - 120	1	30
m-Xylene & p-Xylene	0.25		10.0	8.60		ug/L		84	75 - 120	3	30
Methylene Chloride	1.0	U	10.0	12.1		ug/L		121	63 - 128	6	30
o-Xylene	1.0		10.0	8.64		ug/L		86	76 - 120	2	30
Tetrachloroethene	1.0	U	10.0	7.55		ug/L		75	70 - 120	3	30
Toluene	1.0	U	10.0	9.09		ug/L		91	78 - 120	2	30
Trichloroethene	0.42	J	10.0	8.73		ug/L		83	66 - 120	0	30
Vinyl chloride	1.0	U	10.0	6.14		ug/L		61	49 - 130	6	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	90		63 - 129
4-Bromofluorobenzene (Surr)	95		66 - 120
Toluene-d8 (Surr)	92		74 - 120

TestAmerica Canton

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-37660-14 MSD

Matrix: Water

Analysis Batch: 132405

Client Sample ID: W-140520-RA-14

Prep Type: Total/NA

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	95		75 - 121

Lab Sample ID: MB 240-132524/6

Matrix: Water

Analysis Batch: 132524

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			05/29/14 13:47	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/29/14 13:47	1
Acetone	10	U	10	1.1	ug/L			05/29/14 13:47	1
Benzene	1.0	U	1.0	0.13	ug/L			05/29/14 13:47	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			05/29/14 13:47	1
Chloroform	1.0	U	1.0	0.16	ug/L			05/29/14 13:47	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			05/29/14 13:47	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			05/29/14 13:47	1
Methylene Chloride	0.469	J	1.0	0.33	ug/L			05/29/14 13:47	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			05/29/14 13:47	1
Toluene	1.0	U	1.0	0.13	ug/L			05/29/14 13:47	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			05/29/14 13:47	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			05/29/14 13:47	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			05/29/14 13:47	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	97		63 - 129		05/29/14 13:47	1
4-Bromofluorobenzene (Surr)	88		66 - 120		05/29/14 13:47	1
Toluene-d8 (Surr)	80		74 - 120		05/29/14 13:47	1
Dibromofluoromethane (Surr)	105		75 - 121		05/29/14 13:47	1

Lab Sample ID: LCS 240-132524/4

Matrix: Water

Analysis Batch: 132524

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	9.82		ug/L		98	78 - 131
Acetone	20.0	16.7		ug/L		83	43 - 136
Benzene	10.0	9.60		ug/L		96	80 - 120
Carbon tetrachloride	10.0	10.8		ug/L		108	66 - 128
Chloroform	10.0	10.6		ug/L		106	79 - 120
cis-1,2-Dichloroethene	10.0	9.93		ug/L		99	80 - 120
Ethylbenzene	10.0	8.97		ug/L		90	80 - 120
m-Xylene & p-Xylene	10.0	9.22		ug/L		92	80 - 120
Methylene Chloride	10.0	11.8		ug/L		118	66 - 131
o-Xylene	10.0	9.19		ug/L		92	80 - 120
Tetrachloroethene	10.0	8.25		ug/L		82	79 - 120
Toluene	10.0	9.16		ug/L		92	80 - 120
Trichloroethene	10.0	8.88		ug/L		89	76 - 120
Vinyl chloride	10.0	6.41		ug/L		64	53 - 127

TestAmerica Canton

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-132524/4

Matrix: Water

Analysis Batch: 132524

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Surrogate	LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	89		63 - 129
4-Bromofluorobenzene (Surr)	99		66 - 120
Toluene-d8 (Surr)	90		74 - 120
Dibromofluoromethane (Surr)	97		75 - 121

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

GC/MS VOA

Analysis Batch: 132405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-37660-1	W-140519-RA-01	Total/NA	Water	8260B	
240-37660-2	W-140519-RA-02	Total/NA	Water	8260B	
240-37660-3	W-140519-RA-03	Total/NA	Water	8260B	
240-37660-4	W-140519-RA-04	Total/NA	Water	8260B	
240-37660-5	W-140519-RA-05	Total/NA	Water	8260B	
240-37660-6	W-140519-RA-06	Total/NA	Water	8260B	
240-37660-7	W-140520-RA-07	Total/NA	Water	8260B	
240-37660-9	W-140520-RA-09	Total/NA	Water	8260B	
240-37660-11	W-140520-RA-11	Total/NA	Water	8260B	
240-37660-12	W-140520-RA-12	Total/NA	Water	8260B	
240-37660-13	W-140520-RA-13	Total/NA	Water	8260B	
240-37660-14	W-140520-RA-14	Total/NA	Water	8260B	
240-37660-14 MS	W-140520-RA-14	Total/NA	Water	8260B	
240-37660-14 MSD	W-140520-RA-14	Total/NA	Water	8260B	
240-37660-15	W-140520-RA-15	Total/NA	Water	8260B	
240-37660-16	W-140520-RA-16	Total/NA	Water	8260B	
240-37660-17	W-140520-RA-17	Total/NA	Water	8260B	
240-37660-18	W-140520-RA-18	Total/NA	Water	8260B	
240-37660-19	W-140520-RA-19	Total/NA	Water	8260B	
240-37660-20	W-140520-RA-20	Total/NA	Water	8260B	
LCS 240-132405/4	Lab Control Sample	Total/NA	Water	8260B	
MB 240-132405/6	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 132524

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-37660-8	W-140520-RA-08	Total/NA	Water	8260B	
240-37660-10	W-140520-RA-10	Total/NA	Water	8260B	
240-37660-21	W-140520-RA-21	Total/NA	Water	8260B	
240-37660-22	W-140520-RA-22	Total/NA	Water	8260B	
LCS 240-132524/4	Lab Control Sample	Total/NA	Water	8260B	
MB 240-132524/6	Method Blank	Total/NA	Water	8260B	

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140519-RA-01

Lab Sample ID: 240-37660-1

Date Collected: 05/19/14 13:20

Matrix: Water

Date Received: 05/22/14 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132405	05/29/14 01:24	LRW	TAL CAN

Client Sample ID: W-140519-RA-02

Lab Sample ID: 240-37660-2

Date Collected: 05/19/14 13:30

Matrix: Water

Date Received: 05/22/14 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132405	05/29/14 01:47	LRW	TAL CAN

Client Sample ID: W-140519-RA-03

Lab Sample ID: 240-37660-3

Date Collected: 05/19/14 13:30

Matrix: Water

Date Received: 05/22/14 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132405	05/29/14 02:09	LRW	TAL CAN

Client Sample ID: W-140519-RA-04

Lab Sample ID: 240-37660-4

Date Collected: 05/19/14 15:05

Matrix: Water

Date Received: 05/22/14 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132405	05/29/14 02:32	LRW	TAL CAN

Client Sample ID: W-140519-RA-05

Lab Sample ID: 240-37660-5

Date Collected: 05/19/14 15:45

Matrix: Water

Date Received: 05/22/14 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132405	05/29/14 02:54	LRW	TAL CAN

Client Sample ID: W-140519-RA-06

Lab Sample ID: 240-37660-6

Date Collected: 05/19/14 15:45

Matrix: Water

Date Received: 05/22/14 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132405	05/29/14 03:16	LRW	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140520-RA-07

Lab Sample ID: 240-37660-7

Date Collected: 05/20/14 08:15

Matrix: Water

Date Received: 05/22/14 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132405	05/29/14 03:39	LRW	TAL CAN

Client Sample ID: W-140520-RA-08

Lab Sample ID: 240-37660-8

Date Collected: 05/20/14 08:45

Matrix: Water

Date Received: 05/22/14 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		3.33	132524	05/29/14 15:43	LRW	TAL CAN

Client Sample ID: W-140520-RA-09

Lab Sample ID: 240-37660-9

Date Collected: 05/20/14 09:10

Matrix: Water

Date Received: 05/22/14 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132405	05/29/14 04:23	LRW	TAL CAN

Client Sample ID: W-140520-RA-10

Lab Sample ID: 240-37660-10

Date Collected: 05/20/14 08:45

Matrix: Water

Date Received: 05/22/14 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1.43	132524	05/29/14 16:05	LRW	TAL CAN

Client Sample ID: W-140520-RA-11

Lab Sample ID: 240-37660-11

Date Collected: 05/20/14 09:30

Matrix: Water

Date Received: 05/22/14 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132405	05/29/14 05:08	LRW	TAL CAN

Client Sample ID: W-140520-RA-12

Lab Sample ID: 240-37660-12

Date Collected: 05/20/14 09:45

Matrix: Water

Date Received: 05/22/14 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132405	05/29/14 05:30	LRW	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140520-RA-13

Lab Sample ID: 240-37660-13

Date Collected: 05/20/14 11:35

Matrix: Water

Date Received: 05/22/14 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132405	05/29/14 05:52	LRW	TAL CAN

Client Sample ID: W-140520-RA-14

Lab Sample ID: 240-37660-14

Date Collected: 05/20/14 12:05

Matrix: Water

Date Received: 05/22/14 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132405	05/29/14 08:29	LRW	TAL CAN

Client Sample ID: W-140520-RA-15

Lab Sample ID: 240-37660-15

Date Collected: 05/20/14 12:35

Matrix: Water

Date Received: 05/22/14 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132405	05/29/14 06:15	LRW	TAL CAN

Client Sample ID: W-140520-RA-16

Lab Sample ID: 240-37660-16

Date Collected: 05/20/14 13:50

Matrix: Water

Date Received: 05/22/14 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132405	05/29/14 06:37	LRW	TAL CAN

Client Sample ID: W-140520-RA-17

Lab Sample ID: 240-37660-17

Date Collected: 05/20/14 14:00

Matrix: Water

Date Received: 05/22/14 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132405	05/29/14 06:59	LRW	TAL CAN

Client Sample ID: W-140520-RA-18

Lab Sample ID: 240-37660-18

Date Collected: 05/20/14 14:30

Matrix: Water

Date Received: 05/22/14 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132405	05/29/14 07:22	LRW	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Client Sample ID: W-140520-RA-19

Lab Sample ID: 240-37660-19

Date Collected: 05/20/14 15:15

Matrix: Water

Date Received: 05/22/14 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132405	05/29/14 07:44	LRW	TAL CAN

Client Sample ID: W-140520-RA-20

Lab Sample ID: 240-37660-20

Date Collected: 05/20/14 15:45

Matrix: Water

Date Received: 05/22/14 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132405	05/29/14 08:06	LRW	TAL CAN

Client Sample ID: W-140520-RA-21

Lab Sample ID: 240-37660-21

Date Collected: 05/20/14 16:10

Matrix: Water

Date Received: 05/22/14 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132524	05/29/14 16:27	LRW	TAL CAN

Client Sample ID: W-140520-RA-22

Lab Sample ID: 240-37660-22

Date Collected: 05/20/14 15:45

Matrix: Water

Date Received: 05/22/14 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132524	05/29/14 16:50	LRW	TAL CAN

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Certification Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-37660-1

Laboratory: TestAmerica Canton

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	NELAP	9	01144CA	06-30-14 *
Connecticut	State Program	1	PH-0590	12-31-14
Florida	NELAP	4	E87225	06-30-14 *
Georgia	State Program	4	N/A	06-30-14 *
Illinois	NELAP	5	200004	07-31-14 *
Kansas	NELAP	7	E-10336	01-31-15
Kentucky (UST)	State Program	4	58	06-30-14 *
L-A-B	DoD ELAP		L2315	07-18-16
Minnesota	NELAP	5	039-999-348	12-31-14
Nevada	State Program	9	OH-000482008A	07-31-14 *
New Jersey	NELAP	2	OH001	06-30-14 *
New York	NELAP	2	10975	03-31-15
Ohio VAP	State Program	5	CL0024	10-31-15
Pennsylvania	NELAP	3	68-00340	08-31-14
Texas	NELAP	6		08-31-14
USDA	Federal		P330-13-00319	11-26-16
Virginia	NELAP	3	460175	09-14-14
Washington	State Program	10	C971	01-12-15
West Virginia DEP	State Program	3	210	12-31-14
Wisconsin	State Program	5	999518190	08-31-14

* Expired certification is currently pending renewal and is considered valid.



**CHAIN OF CUSTODY
AND
RECEIVING DOCUMENTS**



240-37660 Chain of Custody





CONESTOGA-ROVERS & ASSOCIATES

CHAIN OF CUSTODY RECORD

1801 Old Highway 8 Northwest, Suite 114

St. Paul, Minnesota 55112 United States

Phone: (651) 639-0913

Fax: (651) 639-0923

2.8

COC NO. **SP-01251**

PAGE OF

(See Reverse Side for Instructions)

Project No/Phase/Task Code: 3978				Laboratory Name: Test America M. Cantu				Lab Location:				SSOW ID:																			
Project Name: Wausau				Lab Contact:				Lab Quote No:				Cooler No:																			
Project Location: Wausau WI				SAMPLE TYPE				CONTAINER QUANTITY & PRESERVATION				ANALYSIS REQUESTED (See Back of COC for Definitions)																			
Chemistry Contact: G. Anderson				Matrix Code (see back of COC)				Grab (G) or Comp (C)				Carrier:																			
Sampler(s): Etanot / M. Borne																															
SAMPLER IDENTIFICATION <small>(Containers for each sample may be combined on one line)</small>				DATE <small>(mm/dd/yy)</small>		TIME <small>(hh:mm)</small>		Unpreserved		Hydrochloric Acid (HCl)		Nitric Acid (HNO ₃)		Sulfuric Acid (H ₂ SO ₄)		Sodium Hydroxide (NaOH)		Methanol/Water (Soil VOC)		EnCores 3x5-g, 1x25-g		Other:		Total Containers/Sample		MS/MSD Request		Airbill No:			
1 W-140519-PA-01				5/19/14		13:20		W6 C		3														3		/		Date Shipped:			
2 W-140519-PA-02				↓		13:30		↓		3														3		/		COMMENTS/ SPECIAL INSTRUCTIONS:			
3 W-140519-PA-03				↓		13:30		↓		3														3		/					
4 W-140519-PA-04				↓		15:05		↓		3														3		/					
5 W-140519-PA-05				↓		15:15		↓		3														3		/					
6 W-140519-PA-06				↓		15:45		↓		3														3		/					
7 W-140520-PA-07				5/22/14		8:15		↓		3														3		/					
8 W-140520-PA-08				↓		8:45		↓		3														3		/					
9 W-140520-PA-09				↓		9:30		↓		3														3		/					
10 W-140520-PA-10				↓		9:45		↓		3														3		/					
11 W-140520-PA-11				↓		9:55		↓		3														3		/					
12 W-140520-PA-12				↓		9:45		↓		3														3		/					
13 W-140520-PA-13				↓		11:35		↓		3														3		/					
14 W-140520-PA-14				↓		12:05		↓		9														9		/		MS/MSD			
15 W-140520-PA-15				↓		12:35		↓		3														3		/					
TAT Required in business days (use separate COCs for different TATs):								Total Number of Containers: 51				Notes/ Special Requirements:																			
<input type="checkbox"/> 1 Day <input type="checkbox"/> 2 Days <input type="checkbox"/> 3 Days <input type="checkbox"/> 1 Week <input checked="" type="checkbox"/> 2 Week <input type="checkbox"/> Other:								All Samples in Cooler must be on COC																							
RELINQUISHED BY:				COMPANY:				DATE:				TIME:				RECEIVED BY:				COMPANY:				DATE:				TIME:			
				CRA				5/21/14				1600								TA				5-22-14				920			
1.																															
2.																															
3.																															

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT - ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE - Fully Executed Copy (CRA) YELLOW - Receiving Laboratory Copy PINK - Shipper GOLDENROD - Sampling Crew CRA Form: COC-10A (20110804)





CONESTOGA-ROVERS & ASSOCIATES

CHAIN OF CUSTODY RECORD

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

Phone: (651) 639-0913 Fax: (651) 639-0923

COC NO.: **SP-01252**

PAGE 2 OF 2

(See Reverse Side for Instructions)

Project No/Phase/Task Code: 3978 Laboratory Name: West American N. Center Lab Location: _____ SSOW ID: _____

Project Name: Wausau Lab Contact: _____ Lab Quote No: _____ Cooler No: _____

Project Location: Wausau WVE **SAMPLE TYPE** **CONTAINER QUANTITY & PRESERVATION** **ANALYSIS REQUESTED** (See Back of COC for Definitions) Carrier: _____

Chemistry Contact: G. Anderson Airbill No: _____

Sampler(s): Stam & J. Barnes Date Shipped: _____

Item	SAMPLE IDENTIFICATION (Containers for each sample may be combined on one line)	DATE (mm/dd/yy)	TIME (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO ₃)	Sulfuric Acid (H ₂ SO ₄)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	MS/MSD Request	COMMENTS/ SPECIAL INSTRUCTIONS:
1	W-140520-Rt-16	5/20/14	1350		G		3							3	Y	
2	W-140520-Rt-17		1400				3							3	Y	
3	W-140520-Rt-18		1430				3							3	Y	
4	W-140520-Rt-19		1515				3							3	Y	
4	W-140520-Rt-20		1545				3							3	Y	
4	W-140520-Rt-21		1610				3							3	Y	
4	W-140520-Rt-22		1545				3							3	Y	
8																
9	Trip Blank						1							1	Y	

TAT Required in business days (use separate COCs for different TATs):
 1 Day 2 Days 3 Days 1 Week 2 Week Other: _____

Total Number of Containers: 22 Notes/ Special Requirements: _____

All Samples in Cooler must be on COC.

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
<u>[Signature]</u>	<u>CRA</u>	<u>5/20/14</u>	<u>1600</u>	<u>[Signature]</u>	<u>TA</u>	<u>5-22-14</u>	<u>920</u>

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT - ALL FIELDS MUST BE COMPLETED ACCURATELY



TestAmerica Canton Sample Receipt Form/Narrative

Login #: 37660

Canton Facility

Client CRA Site Name

Cooler unpacked by:

Cooler Received on 5-22-14 Opened on 5-22-14

[Signature]

FedEx: 1st Grd Exp UPS FAS Stetson Client Drop Off TestAmerica Courier Other

TestAmerica Cooler # Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

IR GUN# A (CF +0 °C) Observed Cooler Temp. 2.8 °C Corrected Cooler Temp. 2.8 °C
IR GUN# 4 (CF -1 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C
IR GUN# 5 (CF +1 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C
IR GUN# 8 (CF +1 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

See Multiple Cooler Form

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 2 Yes No

-Were custody seals on the outside of the cooler(s) signed & dated? Yes No NA

-Were custody seals on the bottle(s)? Yes No

3. Shippers' packing slip attached to the cooler(s)? Yes No

4. Did custody papers accompany the sample(s)? Yes No

5. Were the custody papers relinquished & signed in the appropriate place? Yes No

6. Did all bottles arrive in good condition (Unbroken)? Yes No

7. Could all bottle labels be reconciled with the COC? Yes No

8. Were correct bottle(s) used for the test(s) indicated? Yes No

9. Sufficient quantity received to perform indicated analyses? Yes No

10. Were sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC302587

11. Were VOAs on the COC? Yes No

12. Were air bubbles >6 mm in any VOA vials? Yes No NA

13. Was a trip blank present in the cooler(s)? Yes No

Contacted PM ALM Date 5/22/14 by ALM via Verbal Voice Mail Other
Concerning #14

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

[Signature]

Did not recvr. TRB on COC will not log.

15. SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.

Sample(s) were received in a broken container.

Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

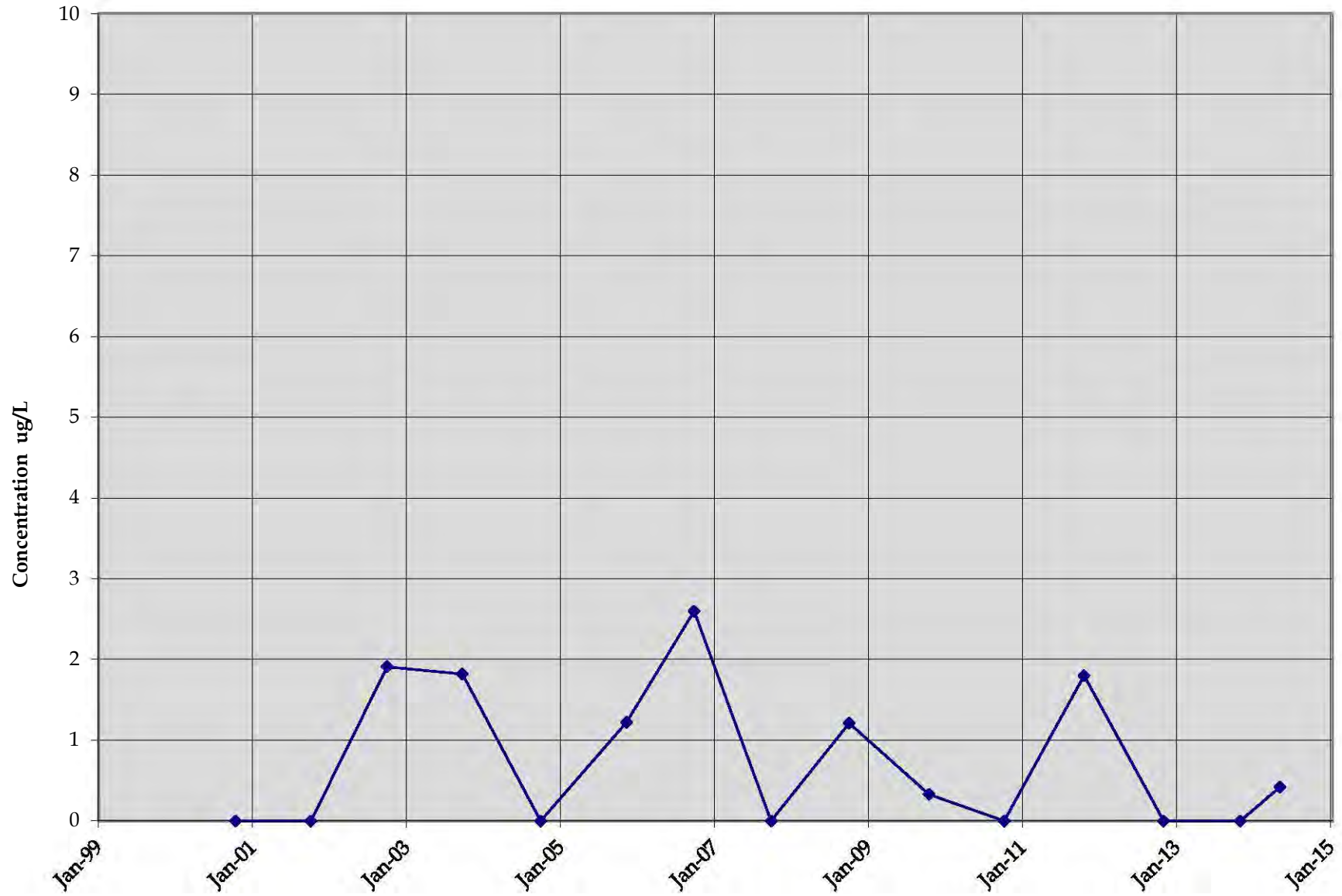
Sample(s) were further preserved in the laboratory.

Time preserved: Preservative(s) added/Lot number(s):

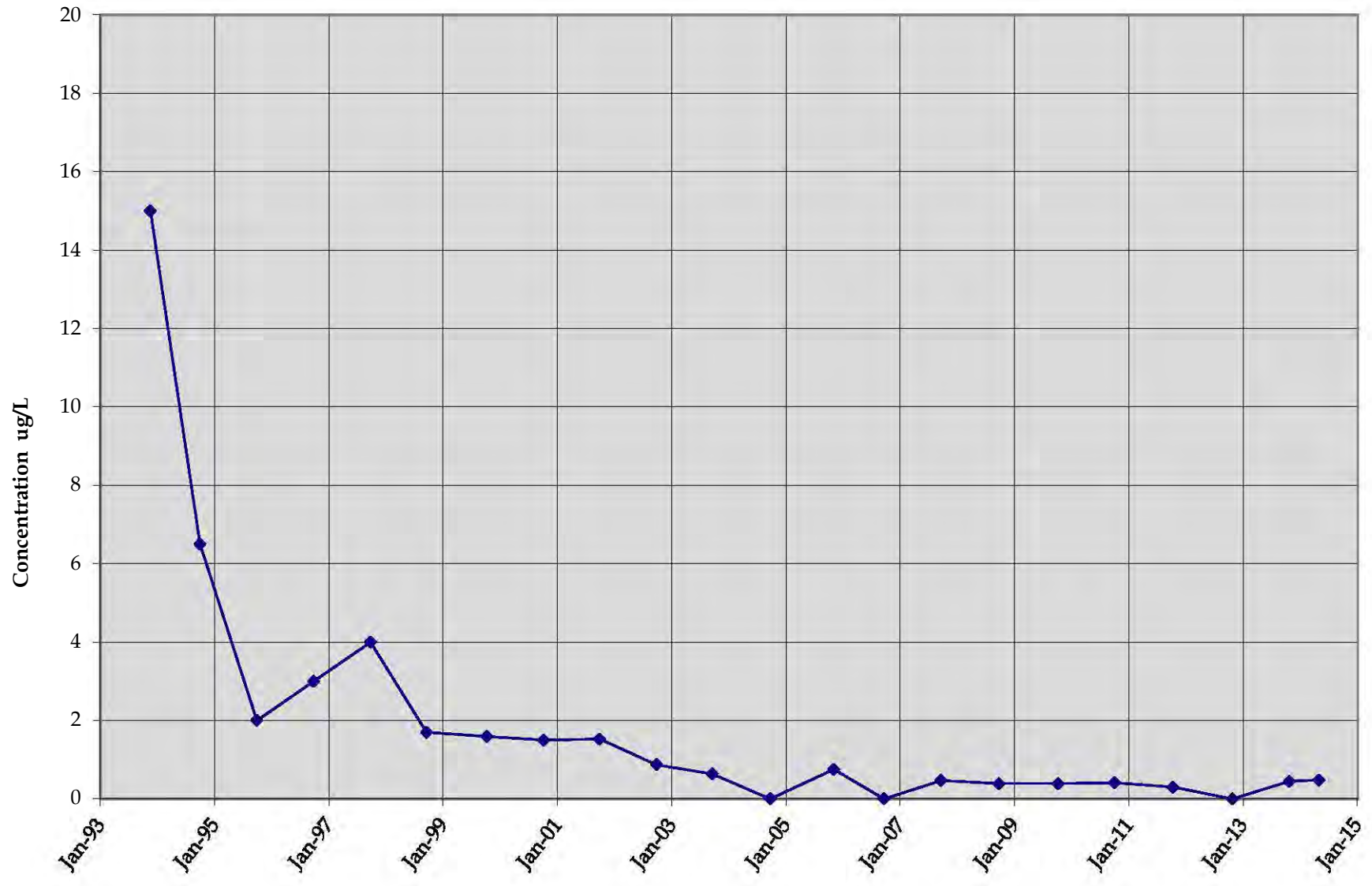
Attachment 2

Charts

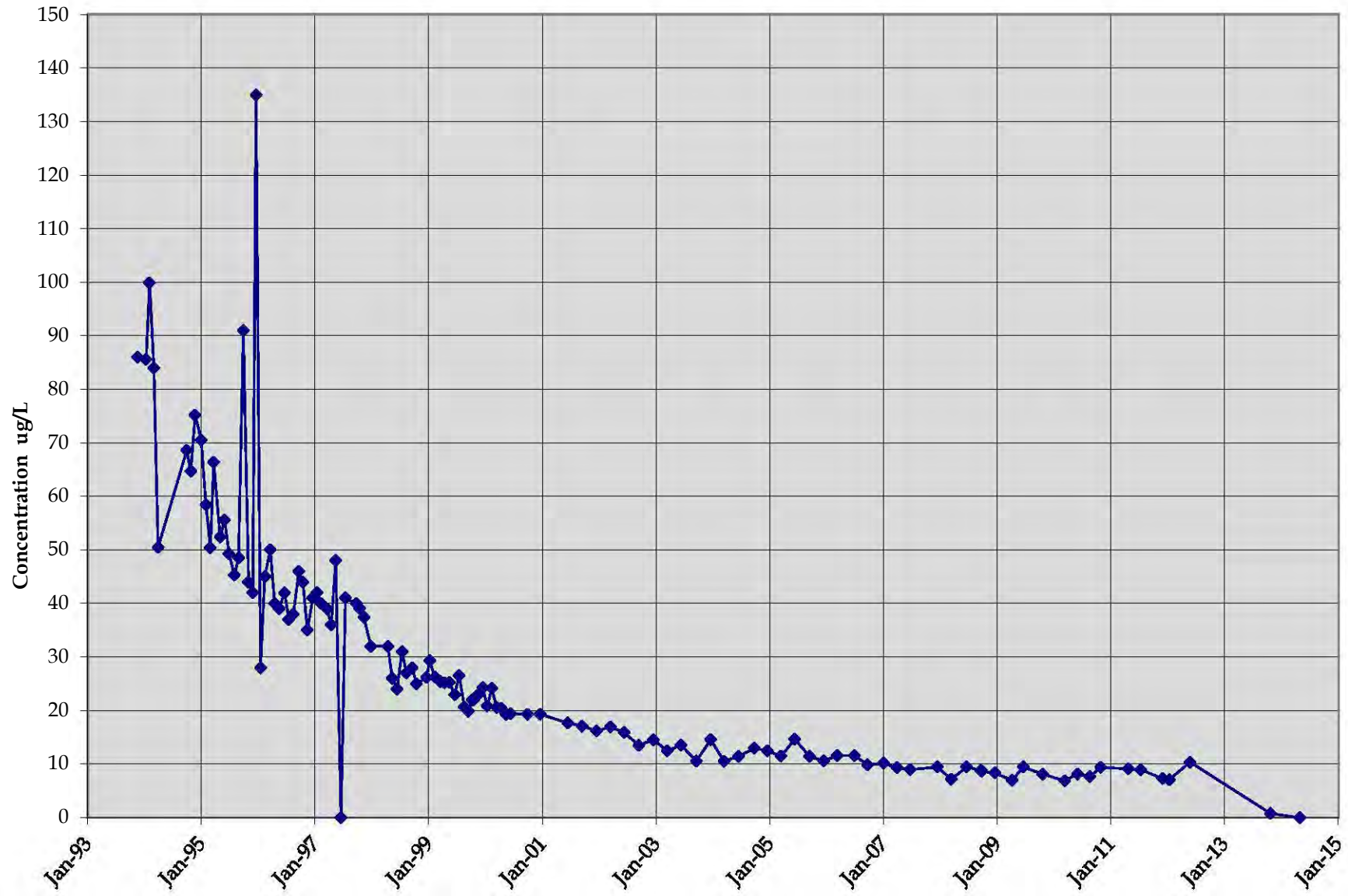
MW1A
Total Chlorinated VOC



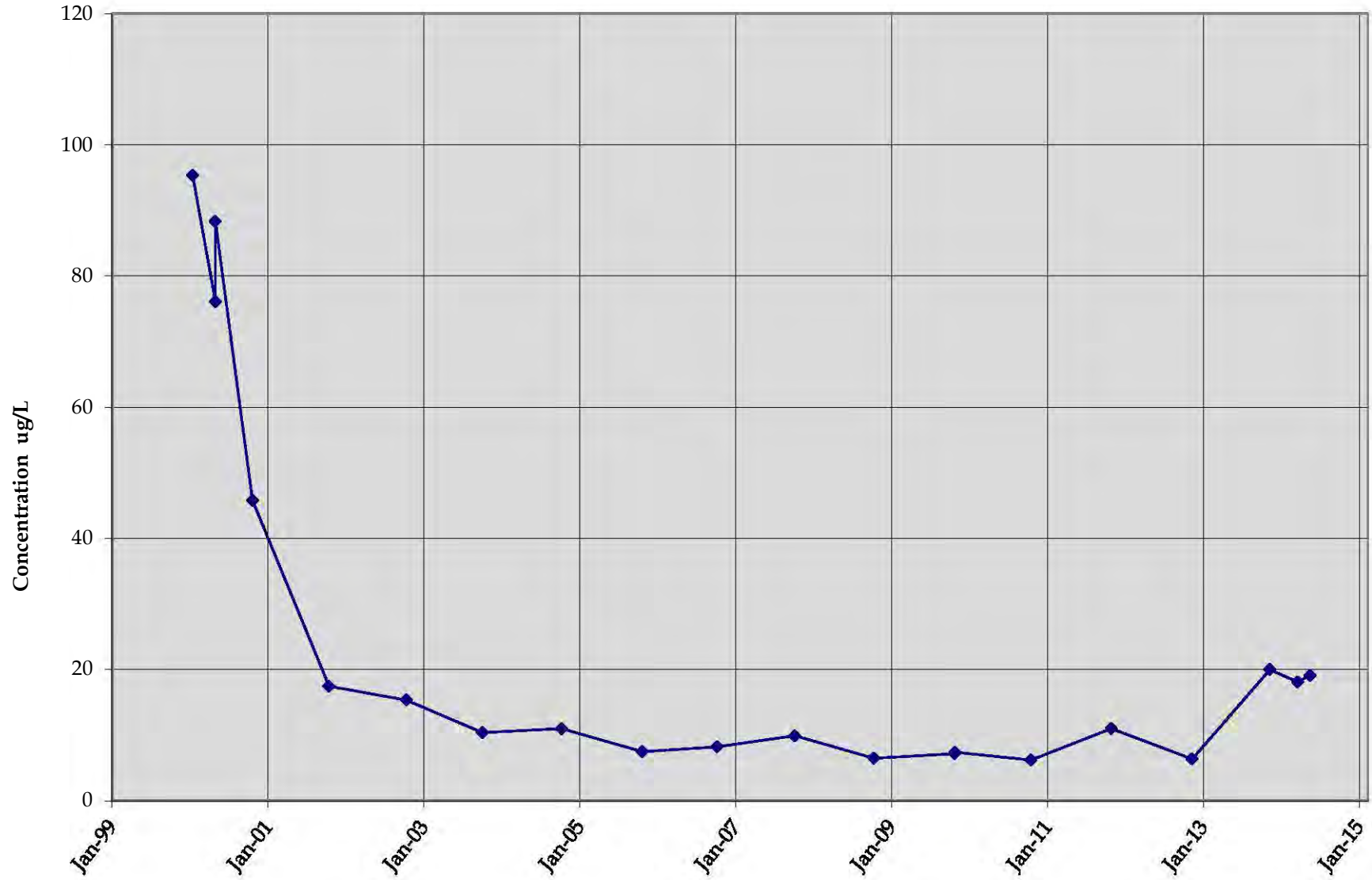
WSWD
Total Chlorinated VOC



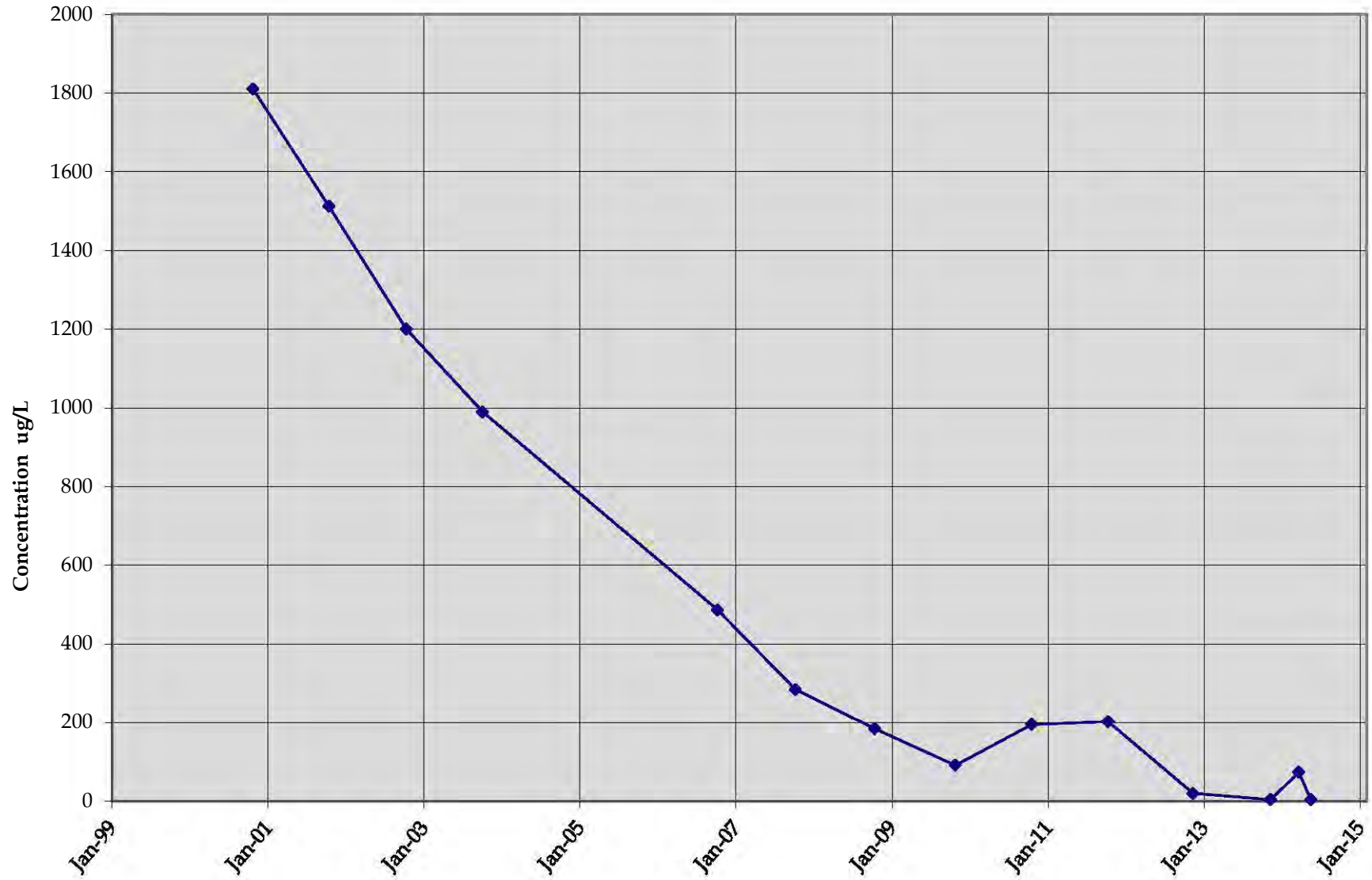
EW1 Total Chlorinated VOC



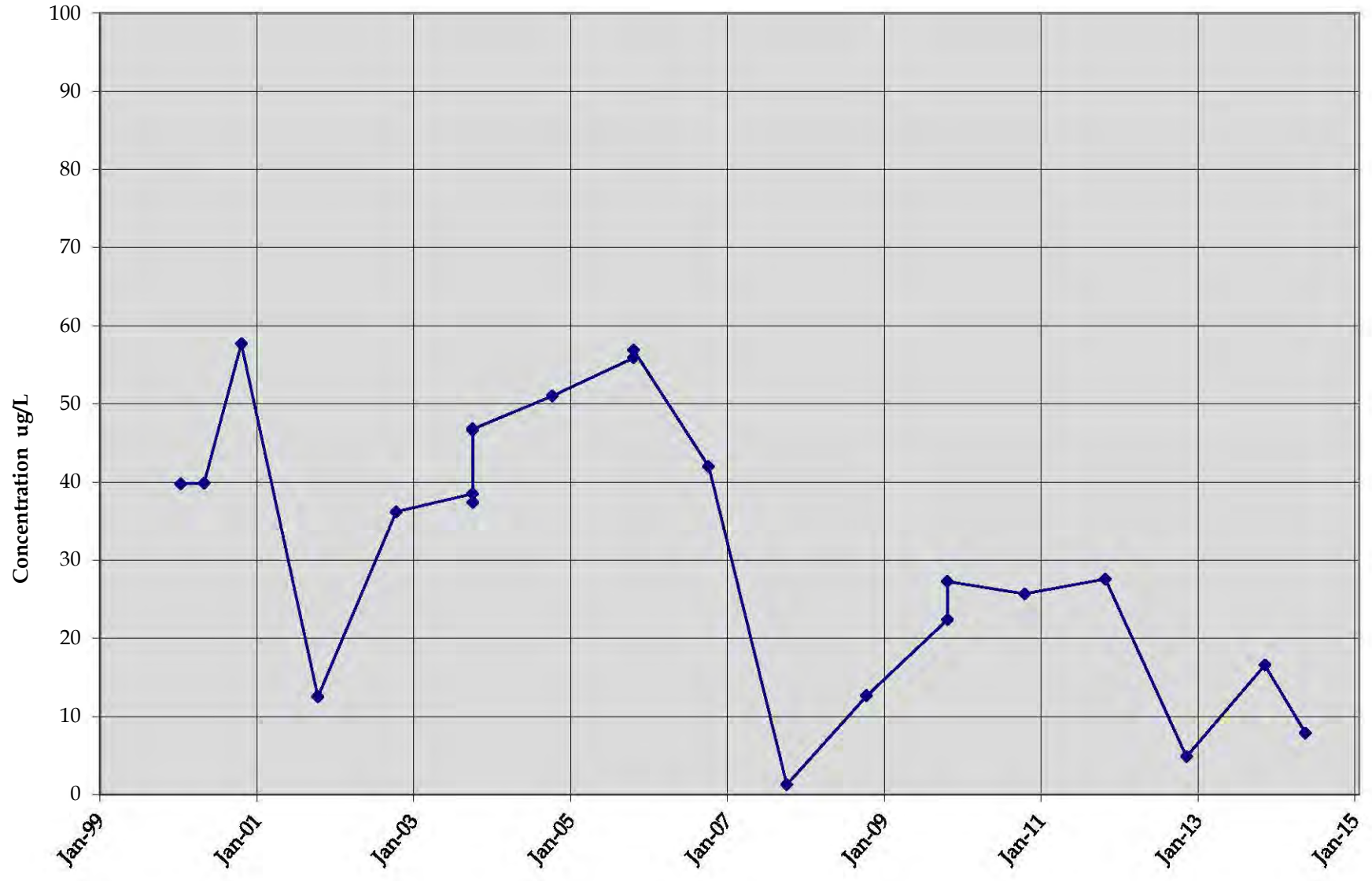
R2D
Total Chlorinated VOC



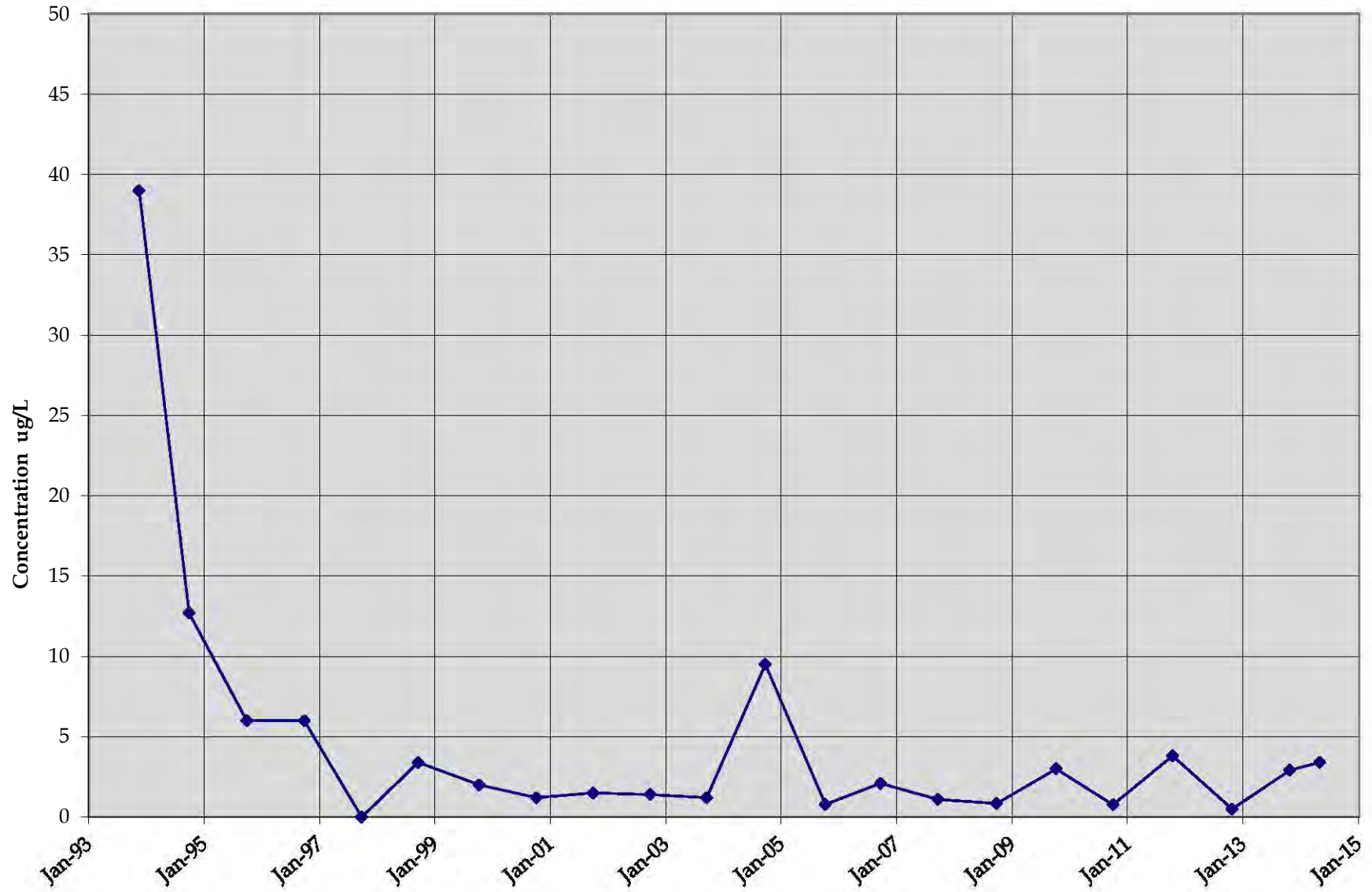
R3D
Total Chlorinated VOC



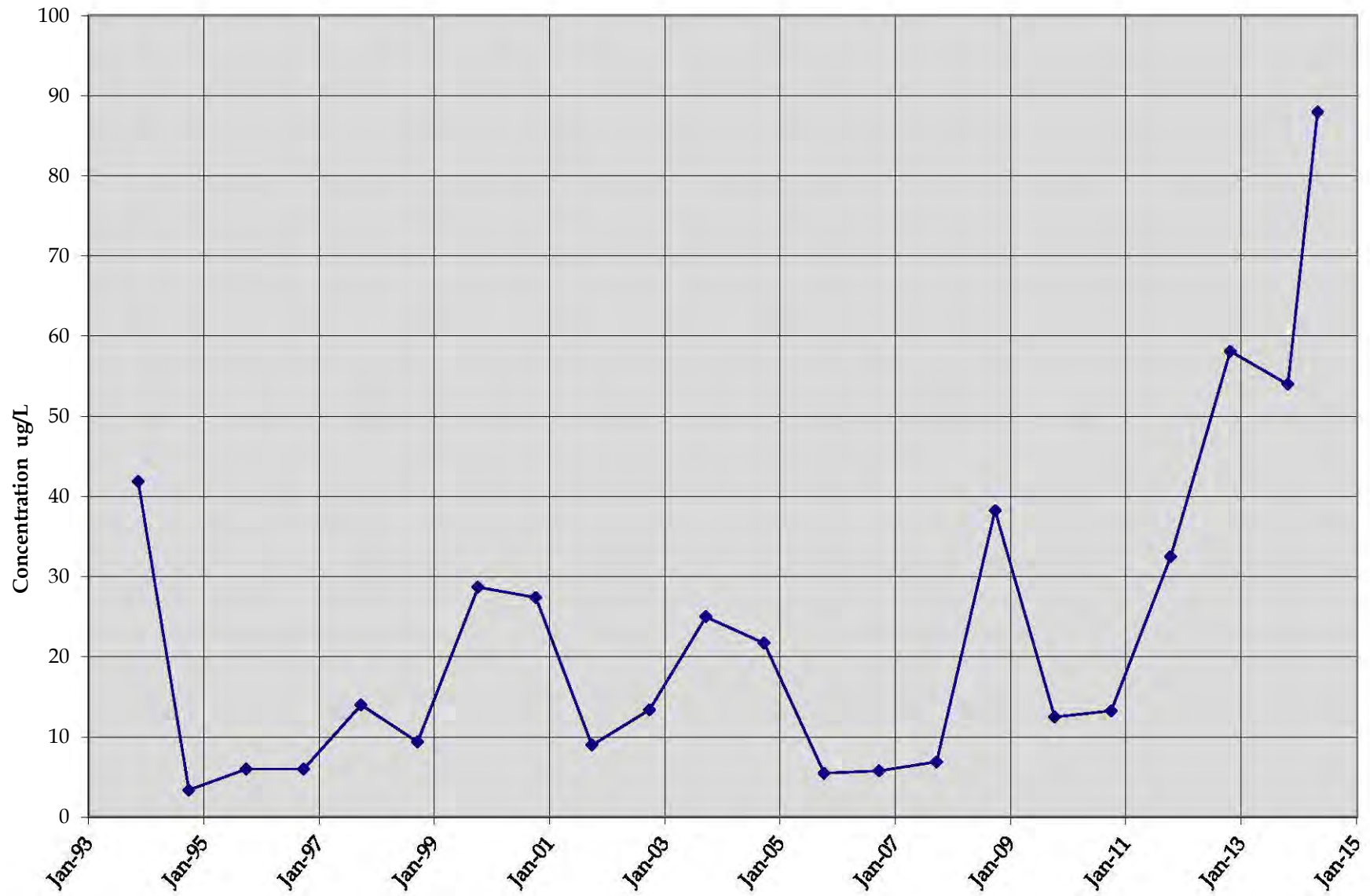
R4D
Total Chlorinated VOC



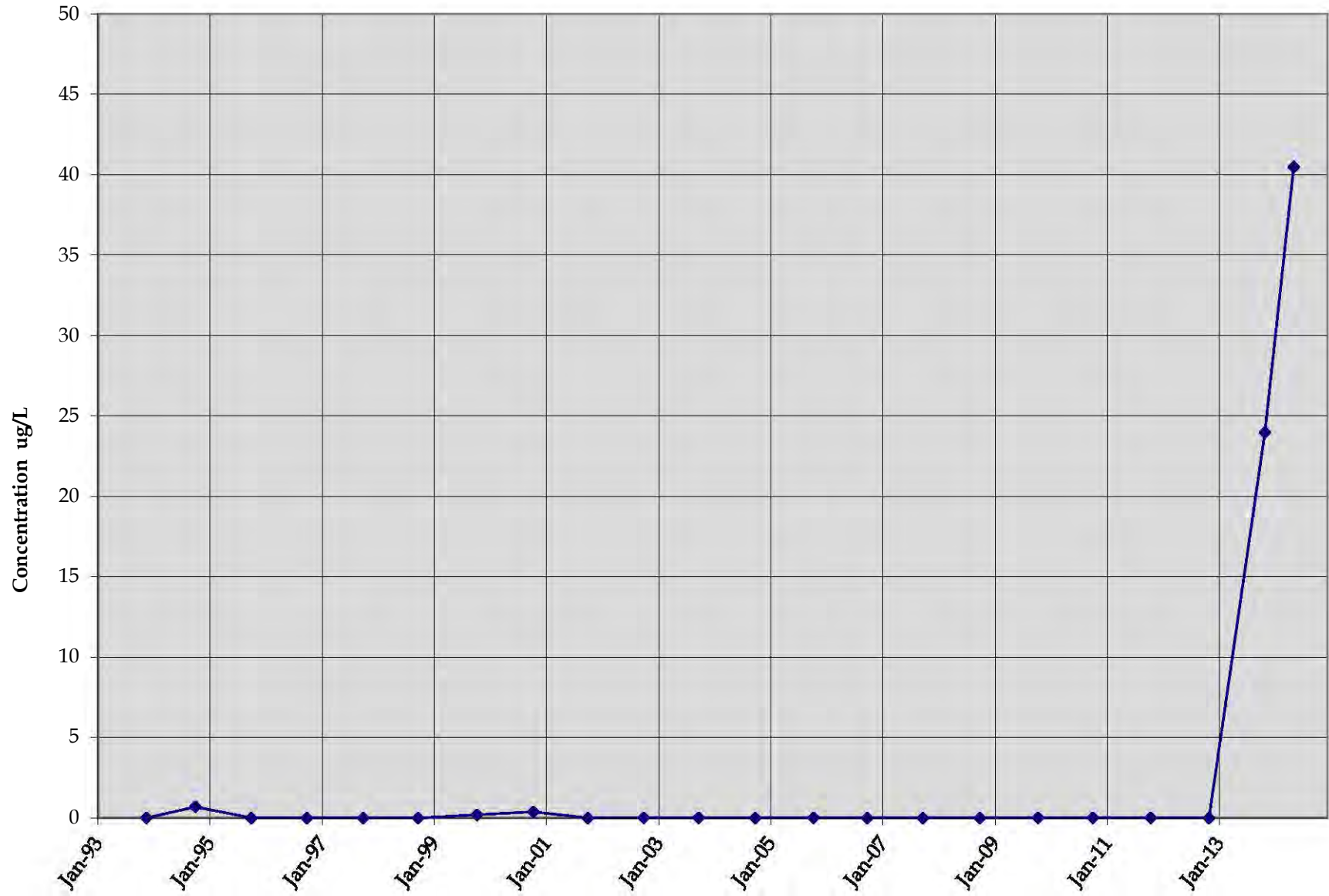
W52
Total Chlorinated VOC



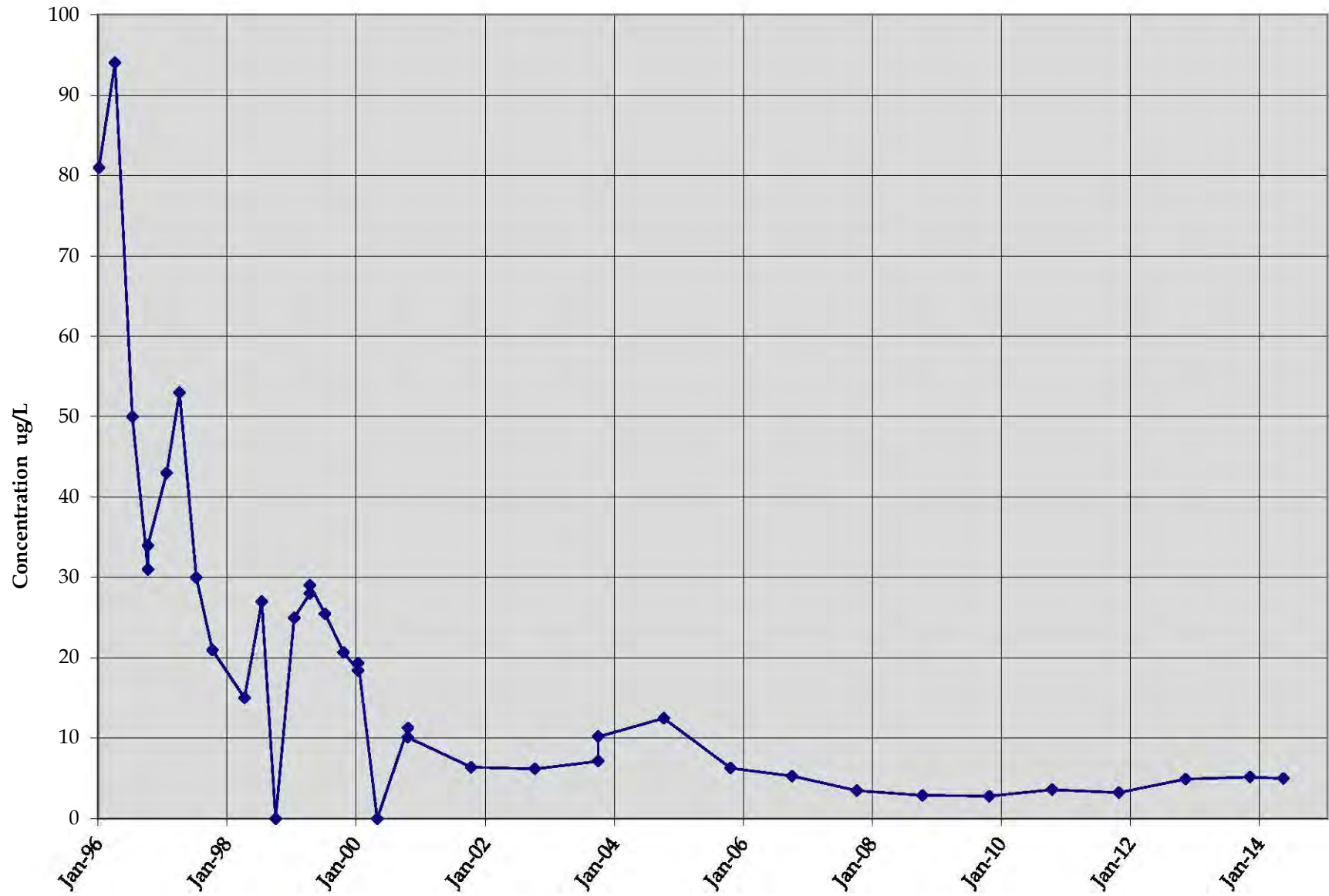
W53A
Total Chlorinated VOC



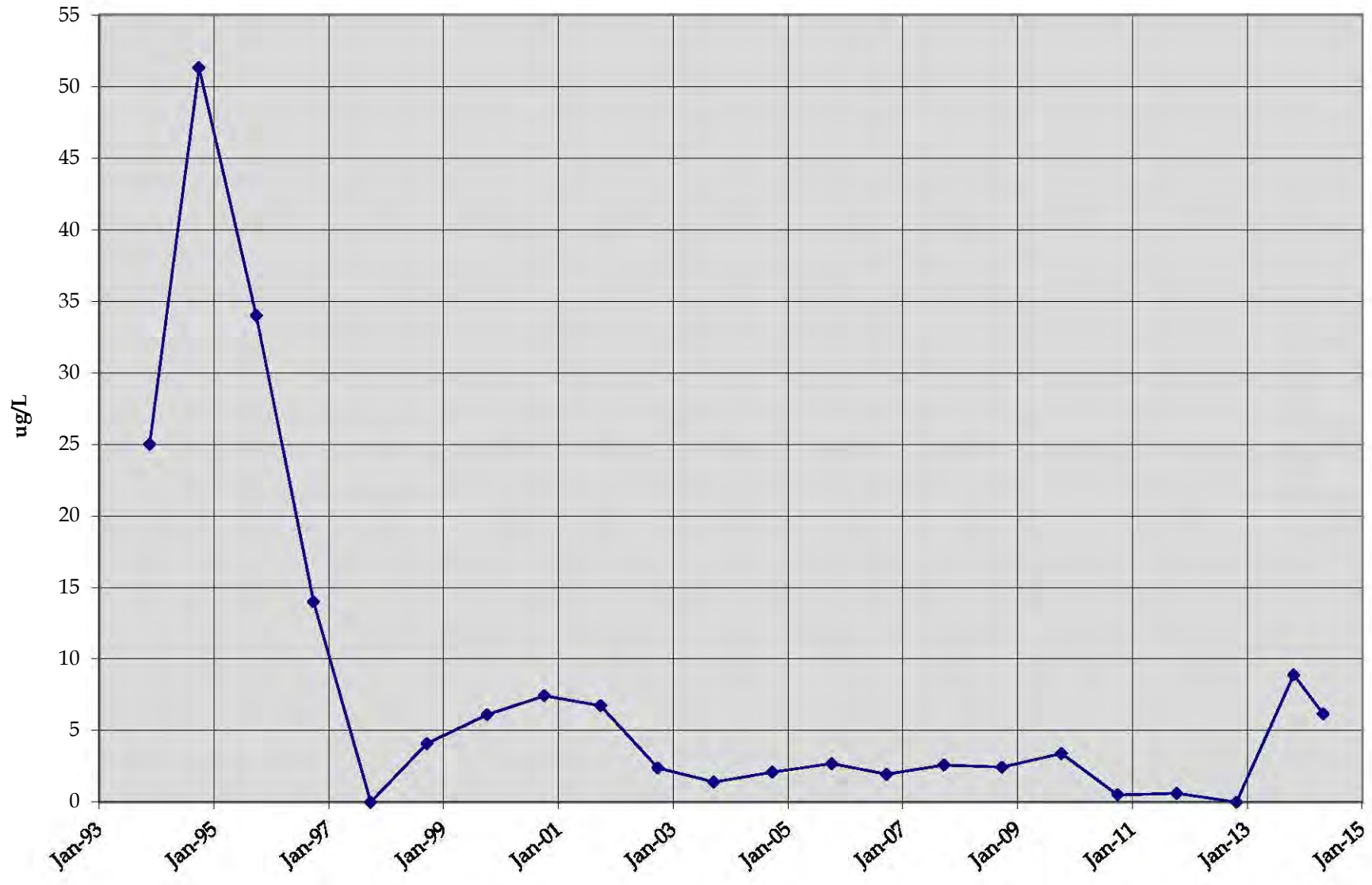
W54
Total Chlorinated VOC



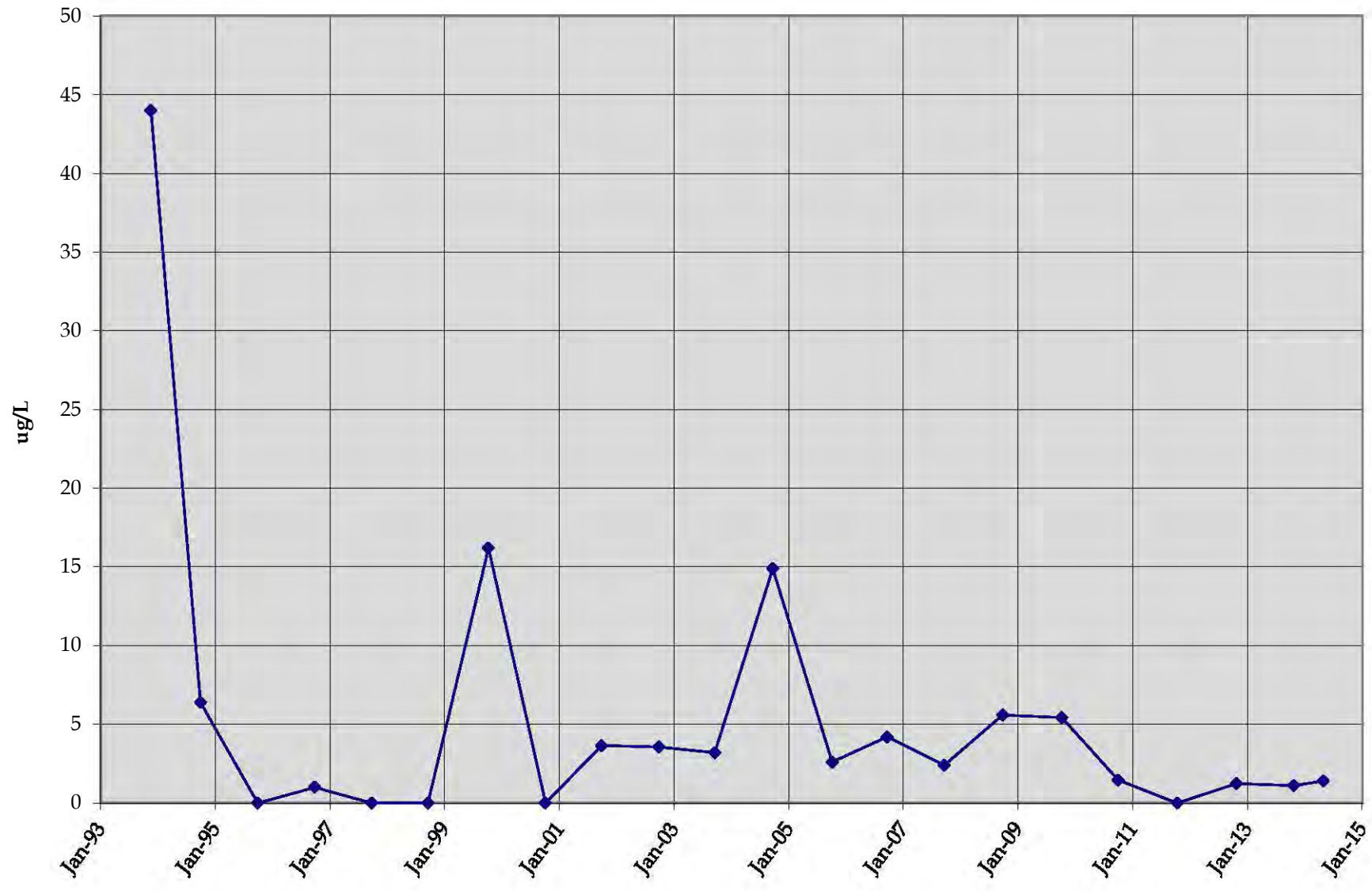
W55
Total Chlorinated VOC



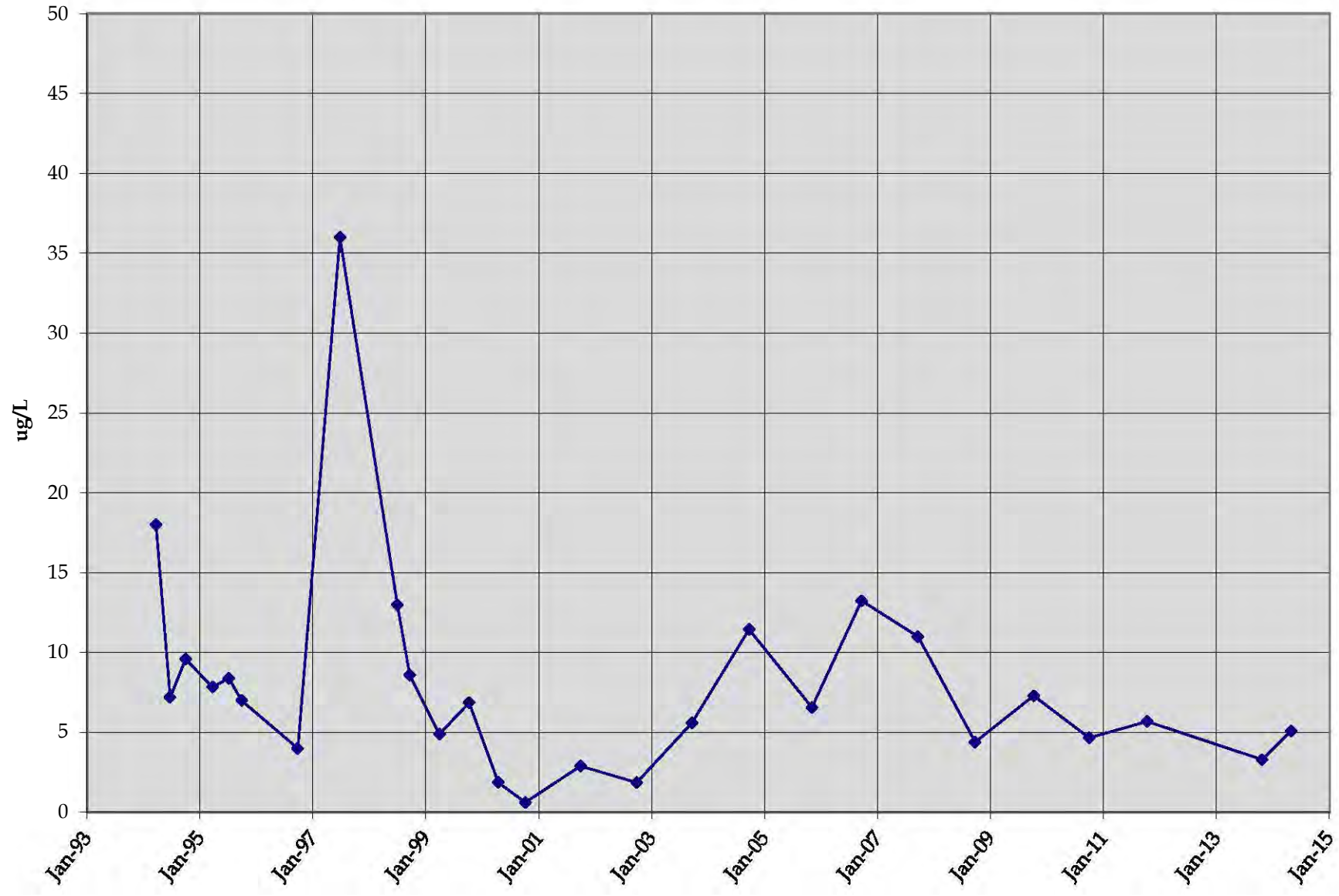
C2S
Total Chlorinated VOC



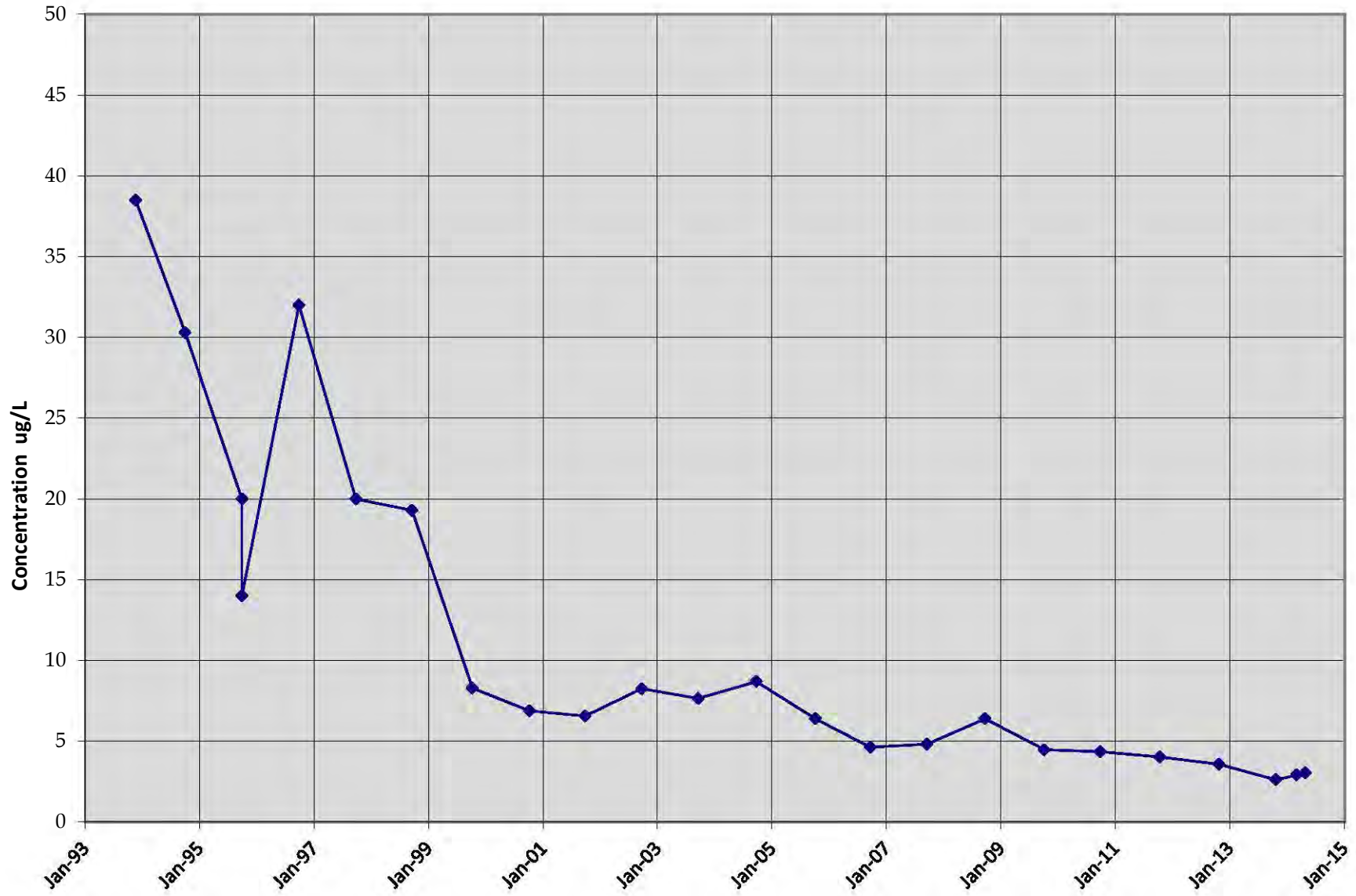
C4S
Total Chlorinated VOC



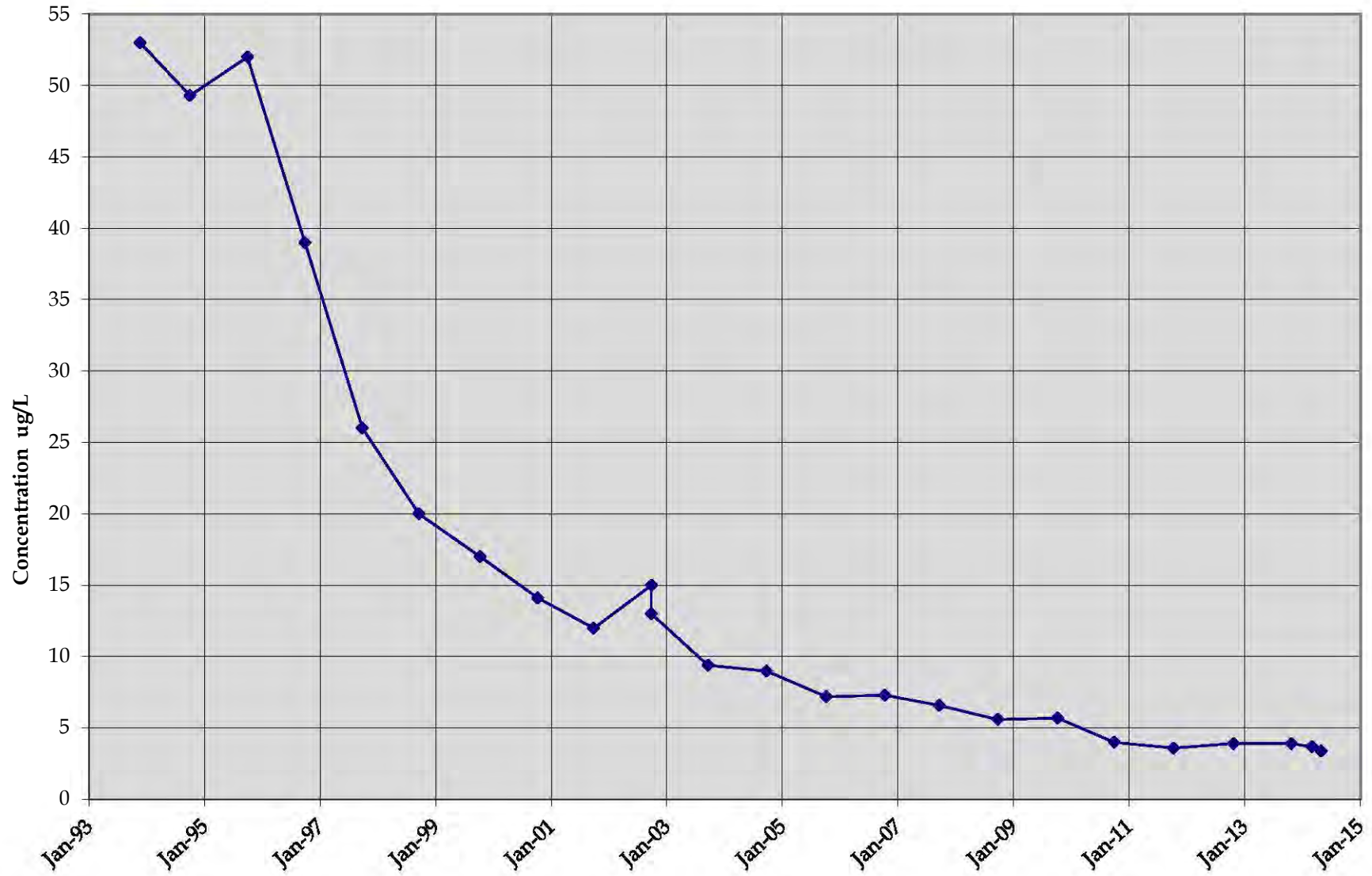
IWD Total Chlorinated VOC



CW3
Total Chlorinated VOC



CW6
Total Chlorinated VOC



Attachment 3

Results for Samples Collected in May 2014

NORTHERN LAKE SERVICE, INC.
 Analytical Laboratory and Environmental Services
 400 North Lake Avenue - Crandon, WI 54520
 Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
 WDATCP Laboratory Certification No. 105-330
 EPA Laboratory ID No. WI00034

Printed: 05/27/14 Code: NNNN-S Page 1 of 1

Client: **Wausau Waterworks**
 Attn: Dick Boers
 Drinking Water Division
 407 Grant Street
 Wausau, WI 54403 4783

NLS Project: **219016**

NLS Customer: **36394**

Fax: 715 261 6946 Phone: 715 261 7288

Project: 2014 Drinking Water VOCs PWS#73701023

200 NLS ID: 789472

COC: 143816:1 Matrix: DW

Collected: 05/16/14 07:03 Received: 05/16/14

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					05/23/14	EPA 524.2, Rev 4.1	721026460

300 NLS ID: 789473

COC: 143816:2 Matrix: DW

Collected: 05/16/14 11:10 Received: 05/16/14

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					05/23/14	EPA 524.2, Rev 4.1	721026460

Trip Blank NLS ID: 789474

COC: 143816 Matrix: TB


Collected: 05/16/14 00:00 Received: 05/16/14

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					05/24/14	EPA 524.2, Rev 4.1	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and/or LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dilution.

LOD = Limit of Detection LOQ = Limit of Quantitation ND = Not Detected (< LOD) 1000 ug/L = 1 mg/L
 DWB = Dry Weight Basis NA = Not Applicable %DWB = (mg/kg DWB) / 10000
 MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:



Authorized by:
 R. T. Krueger
 President

ANALYTICAL RESULTS: GCMS 524.2, Rev 4.1 Safe Drinking Water Analysis - DNR Form

Page 1 of 1

Customer: Wausau Waterworks NLS Project: 219016

Project Description: 2014 Drinking Water VOCs

Project Title: PWS#73701023

Template: AGIDNRL Printed: 05/27/2014 11:24

Sample: 789474 Trip Blank Collected: 05/16/14 Analyzed: 05/24/14 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	Note
Benzene	ND	ug/L	1	0.22	0.72	
Bromobenzene	ND	ug/L	1	0.17	0.57	
Bromodichloromethane	ND	ug/L	1	0.15	0.49	
Bromoform	ND	ug/L	1	0.16	0.53	
Bromomethane	ND	ug/L	1	0.26	0.85	
Carbon Tetrachloride	ND	ug/L	1	0.20	0.66	
Chloroethane	ND	ug/L	1	0.94	3.1	
Chloroform	ND	ug/L	1	0.19	0.62	
Chloromethane	ND	ug/L	1	0.16	0.53	
o-Chlorotoluene	ND	ug/L	1	0.18	0.59	
p-Chlorotoluene	ND	ug/L	1	0.19	0.63	
Dibromochloromethane	ND	ug/L	1	0.15	0.49	
Dibromomethane	ND	ug/L	1	0.22	0.74	
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.21	0.69	
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.57	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.17	0.56	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.65	
1,2-Dichloroethane	ND	ug/L	1	0.16	0.54	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.68	
cis-1,2-Dichloroethene	ND	ug/L	1	0.19	0.65	
trans-1,2-Dichloroethene	ND	ug/L	1	0.14	0.45	
Dichloromethane	ND	ug/L	1	0.19	0.63	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.78	
1,3-Dichloropropane	ND	ug/L	1	0.19	0.63	
2,2-Dichloropropane	ND	ug/L	1	0.14	0.46	
1,1-Dichloropropene	ND	ug/L	1	0.10	0.32	
1,3-Dichloropropene	ND	ug/L	1	0.36	1.2	
Ethylbenzene	ND	ug/L	1	0.19	0.64	
Chlorobenzene	ND	ug/L	1	0.19	0.63	
Styrene	ND	ug/L	1	0.17	0.56	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.18	0.59	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.15	0.49	
Tetrachloroethene	ND	ug/L	1	0.18	0.61	
Toluene	ND	ug/L	1	0.18	0.59	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.19	0.62	
1,1,1-Trichloroethane	ND	ug/L	1	0.15	0.51	
1,1,2-Trichloroethane	ND	ug/L	1	0.20	0.65	
Trichloroethene	ND	ug/L	1	0.11	0.36	
1,2,3-Trichloropropane	ND	ug/L	1	0.19	0.62	
Vinyl chloride	ND	ug/L	1	0.18	0.61	
Xylene total	ND	ug/L	1	0.53	1.8	
4-Bromofluorobenzene (SURR)	75%					S
1,2-Dichlorobenzene-d4 (SURR)	75%					S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

Customer: Wausau Waterworks NLS Project: 219016

Project Description: 2014 Drinking Water VOCs

Project Title: PWS#73701023

Template: SAT3DNRL Printed: 05/27/2014 11:24

Sample: 789472 200 Collected: 05/16/14 Analyzed: 05/23/14 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.17	0.60	5	
Bromobenzene	ND	ug/L	1	0.18	0.64		
Bromodichloromethane	0.67	ug/L	1	0.18	0.64	80	
Bromoform	ND	ug/L	1	0.17	0.60	80	
Bromomethane	ND	ug/L	1	0.36	1.3		
Carbon Tetrachloride	ND	ug/L	1	0.24	0.85	5	
Chloroethane	ND	ug/L	1	1.3	4.6		
Chloroform	13	ug/L	1	0.20	0.70	80	
Chloromethane	ND	ug/L	1	0.14	0.51		
o-Chlorotoluene	ND	ug/L	1	0.15	0.55		
p-Chlorotoluene	ND	ug/L	1	0.19	0.66		
Dibromochloromethane	ND	ug/L	1	0.15	0.53	80	
Dibromomethane	ND	ug/L	1	0.21	0.75		
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.20	0.71		
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.61	600	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.14	0.47	75	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.68		
1,2-Dichloroethane	ND	ug/L	1	0.23	0.80	5	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.75	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.13	0.47	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.16	0.55	100	
Dichloromethane	ND	ug/L	1	0.17	0.61	5	
1,2-Dichloropropane	ND	ug/L	1	0.26	0.92	5	
1,3-Dichloropropane	ND	ug/L	1	0.26	0.91		
2,2-Dichloropropane	ND	ug/L	1	0.17	0.62		
1,1-Dichloropropene	ND	ug/L	1	0.16	0.55		
1,3-Dichloropropene	ND	ug/L	1	0.35	1.2		
Ethylbenzene	ND	ug/L	1	0.15	0.51	700	
Chlorobenzene	ND	ug/L	1	0.19	0.69	100	
Styrene	ND	ug/L	1	0.20	0.68	100	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.17	0.59		
1,1,1,2,2-Tetrachloroethane	ND	ug/L	1	0.15	0.55		
Tetrachloroethene	ND	ug/L	1	0.18	0.62	5	
Toluene	ND	ug/L	1	0.14	0.48	1000	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.15	0.51	70	
1,1,1-Trichloroethane	ND	ug/L	1	0.11	0.37	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.22	0.78	5	
Trichloroethene	ND	ug/L	1	0.19	0.66	5	
1,2,3-Trichloropropane	ND	ug/L	1	0.25	0.87		
Vinyl chloride	ND	ug/L	1	0.19	0.67	.2	
Xylene total	ND	ug/L	1	0.53	1.9	10000	
4-Bromofluorobenzene (SURR)	67%						S
1,2-Dichlorobenzene-d4 (SURR)	87%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

Customer: Wausau Waterworks NLS Project: 219016

Project Description: 2014 Drinking Water VOCs

Project Title: PWS#73701023

Template: SAT3DNRL Printed: 05/27/2014 11:24

Sample: 789473 300 Collected: 05/16/14 Analyzed: 05/23/14 - Analytes: 41

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Bromomethane	ND	ug/L	1	0.36	1.3		
Carbon Tetrachloride	ND	ug/L	1	0.24	0.85	5	
Chloroethane	ND	ug/L	1	1.3	4.6		
Chloroform	13	ug/L	1	0.20	0.70	80	
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o-Chlorotoluene	ND	ug/L	1	0.15	0.55		
p-Chlorotoluene	ND	ug/L	1	0.19	0.66		
Dibromochloromethane	ND	ug/L	1	0.15	0.53	80	
Dibromomethane	ND	ug/L	1	0.21	0.75		
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.20	0.71		
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.61	600	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.14	0.47	75	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.68		
1,2-Dichloroethane	ND	ug/L	1	0.23	0.80	5	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.75	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.13	0.47	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.16	0.55	100	
Dichloromethane	ND	ug/L	1	0.17	0.61	5	
1,2-Dichloropropane	ND	ug/L	1	0.26	0.92	5	
1,3-Dichloropropane	ND	ug/L	1	0.26	0.91		
2,2-Dichloropropane	ND	ug/L	1	0.17	0.62		
1,1-Dichloropropene	ND	ug/L	1	0.16	0.55		
1,3-Dichloropropene	ND	ug/L	1	0.35	1.2		
Ethylbenzene	ND	ug/L	1	0.15	0.51	700	
Chlorobenzene	ND	ug/L	1	0.19	0.69	100	
Styrene	ND	ug/L	1	0.20	0.68	100	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.17	0.59		
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.15	0.55		
Tetrachloroethene	ND	ug/L	1	0.18	0.62	5	
Toluene	ND	ug/L	1	0.14	0.48	1000	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.15	0.51	70	
1,1,1-Trichloroethane	ND	ug/L	1	0.11	0.37	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.22	0.78	5	
Trichloroethene	ND	ug/L	1	0.19	0.66	5	
1,2,3-Trichloropropane	ND	ug/L	1	0.25	0.87		
Vinyl chloride	ND	ug/L	1	0.19	0.67	.2	
Xylene total	ND	ug/L	1	0.53	1.9	10000	
4-Bromofluorobenzene (SURR)	66%						S
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NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.



**CONESTOGA-ROVERS
& ASSOCIATES**

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October 24, 2014

Reference No. 003978-10

Ms. Sheri Bianchin
United States Environmental
Protection Agency
77 West Jackson Blvd. (SR-6J)
Chicago, Illinois 60604

Ms. Mae Willkom
Wisconsin Department of
Natural Resources
1300 W. Clairemont Avenue
Eau Claire, Wisconsin 54701

Dear Ms. Bianchin and Ms. Willkom:

Re: EW1 Shutdown Pilot Study
3rd Quarter 2014 Monitoring Results
Wausau Water Supply NPL Site

In accordance with the EW1 Shutdown Pilot Study Work Plan¹, this letter presents the results of groundwater monitoring conducted in the third quarter of 2014. The third quarter 2014 monitoring event was conducted on August 11 and 12 and represents the fourth monitoring event of the five quarterly events proposed for the EW1 Shutdown Pilot Study. Implementation of the EW1 Shutdown Pilot Study Work Plan was approved by USEPA in an e-mail to CRA dated November 5, 2013.

EW1 Shutdown Pilot Study Monitoring

As proposed in the Pilot Study Work Plan, the third quarter 2014 monitoring event was intended to complete the following tasks:

- Collect groundwater samples from East Bank wells CW3, E21 and IWD for analysis of volatile organic compounds (VOCs)
- Collect groundwater samples from West Bank wells CW6, EW1, R2D, R3D, W53A, and W55 for VOC analysis
- Collect water samples from operating West Well Field water supply wells other than CW6. At the time of sampling, this included CW10 and CW11
- Measure water levels at all East Bank and West Bank monitoring wells

¹ EW1 Shutdown Pilot Study Work Plan, Wausau Water Supply NPL Site, Wausau, Wisconsin, CRA, September 2013.

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- Obtain copies of City Treatment Plant analytical data for post-treatment VOC samples
- Obtain City well pumping rate summaries

Well locations are presented on the Site Plan, which is provided as Figure 1.

Water Level Monitoring

Table 1 presents the third quarter 2014 water level data. Water table contours based on these measurements are presented on Figure 2. Field staff measured water levels on the East Bank on August 11 while CW3, the East Bank remediation well, was pumping. West Bank water levels were measured on August 12 while CW6, the West Bank remediation well, was operating. West Bank wells CW10 and CW11 were also operating on August 12. Water levels in the City production wells were measured with the assistance of City staff.

The East Bank contours are consistent with flow patterns observed in previous years. The East Bank flow patterns are controlled by the operation of CW3. The West Bank contours depict a large cone of influence created by CW6, CW10, and CW11. Under natural, non-pumping, conditions groundwater would flow toward and discharge to the Wisconsin River. Under existing conditions however, groundwater flows toward the City production wells.

Groundwater Sampling

Groundwater sampling was conducted on August 11 and 12, 2014. Monitoring well samples were analyzed for the Site specific VOC list by EPA Method 8260. A summary of the groundwater sampling event, including field parameter measurements, is presented in Table 2.

Groundwater sampling was conducted in accordance with the Pilot Study Work Plan. Groundwater samples were analyzed by TestAmerica Laboratories Inc., of North Canton, Ohio. Laboratory results will be submitted electronically in the Region V Electronic Data Deliverable (EDD) format for inclusion in the Region V EPA database. A copy of the laboratory report is presented in Attachment 1.



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Evaluation of Groundwater Data

The objectives of the third quarter monitoring at the Site are to detect potential changes in the contaminant plume configuration due to the shut-down of EW1, and confirm that the plume is contained by the other remediation system extraction wells, CW3 and CW6.

Table 3 presents the laboratory results for monitoring well samples collected in August 2014. Lab data for samples collected in November 2013, March 2014, and May 2014 are included in Table 3 for comparison purposes.

West Bank VOC Results

Four monitoring wells, EW1, and three West Wellfield City supply wells were sampled in August. The primary chlorinated VOC found in the West Bank groundwater is trichloroethene (TCE), which was detected at all four monitoring wells and CW6. The degradation product, cis-1,2-dichloroethene (C12DCE), was also detected at the four monitoring wells that had TCE detections. The TCE concentration at R2D, W53A, and W55 exceeded the MCL of 5.0 µg/L. The TCE concentration at CW6 (4.0 µg/L) and R3D (2.9 µg/L) were below the MCL. No VOCs were detected in the samples from EW1 and City wells CW10 and CW11.

After a large increase at R3D from November 2013 to March 2014, the May and August 2014 results returned to low concentrations (4.7 µg/L and 2.9 µg/L respectively). This variation is likely due to a higher concentration plume remnant, previously south of R3D, that is now migrating north to CW6 and the West Wellfield. This plume migration pattern is supported by the increasing concentration at R2D, which is between R3D and CW6. Historical VOC data for R2D and R3D are presented below.

<i>Total Chlorinated VOCs (µg/L)</i>			
<i>Year</i>	<i>R2D</i>	<i>R3D</i>	<i>R4D</i>
1996	1600	2	540
1997	720	5	65
1998	320	580	55
1999	110	1200	33
2000	45	1800	58



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<i>Total Chlorinated VOCs ($\mu\text{g/L}$)</i>			
<i>Year</i>	<i>R2D</i>	<i>R3D</i>	<i>R4D</i>
2001	17	1500	13
2002	15	1200	36
2003	10	980	38
2004	11	899	51
2005	7.5	400	56.5
2006	8.2	490	42
2007	9.9	280	1.3
2008	6.5	180	13
2009	7.3	92	22.9
2010	6.2	195.7	25.7
2011	11	203.1	27.6
2012	6.4	20.7	4.9
Nov 2013	20	4.8	16.6
March 2014	18.2	73.7	NA
May 2014	19.1	4.7	7.89
August 2014	33.2	2.9	NA

The TCE concentration at W53A showed a slight decline after trending upward over the last few sampling events. W53A is in the former landfill source area where groundwater concentrations may fluctuate seasonally depending on changes in precipitation and infiltration.

Charts showing total chlorinated VOC concentrations for select West Bank wells are presented in Attachment 2.

East Bank VOC Results

East Bank wells that were sampled in August included monitoring wells IWD and E21, and City production well CW3. The primary chlorinated VOC found in the East Bank groundwater is tetrachloroethene (PCE), which was detected at CW3 with a concentration of 1.6 $\mu\text{g/L}$. The total chlorinated VOC trend at CW3 is depicted in the chart presented in Attachment 2. Low concentrations of TCE and C12DCE were detected at IWD and are remnants of the West Bank plume that had historically migrated beneath the river to CW3. No VOCs were detected in the E21 sample, which is consistent with previous results and indicates that the West Bank plume



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does not currently extend all the way across the river. There were no significant changes in VOC concentrations in the East Bank wells.

City Production Wells Pumping Volumes

CW3 and CW6 operated as required in the third quarter of 2014. Table 4 presents pumping data for the six City wells during July, August, and September 2014. While only CW3 and CW6 are part of the remediation system, data for all City wells are presented, consistent with previous reports. The table shows, by month, the number of hours each well was operated, the number of gallons pumped from each well, and the average pumping rate while the pump was operating.

CW3 and CW6 operated on alternate schedules at rates that exceeded the operating requirements established by the USEPA approval letter dated August 4, 1995. CW3 operated for an average of 77.5 hours per week with an average pumping rate of 1,616 gpm, exceeding the requirements of 65 hours per week at 1,200 gpm.

CW6 operated for an average of 86.8 hours per week with an average pumping rate of 1,313 gpm. The average pumping rate was less than the requirement of 1,400 gpm, however the total gallons pumped during the second quarter (89,000,000 gallons) was only slightly below the requirement of 92,820,000 gallons (85 hours per week at 1,400 gpm for 13 weeks). Thus, the hydraulic containment provided by CW6 during the third quarter was very close to the requirements of USEPA's August 4, 1995 letter. CW6 is scheduled for routine maintenance in 2015, which should increase the pumping rate and the total weekly discharge.

Hydraulic Capture

Hydraulic capture of the contaminant plume is demonstrated by the water table contours illustrated on Figure 2. The water table contours indicate that groundwater flow at the Site was toward CW3 on the East Bank, and to CW6, CW10 and CW11 on the West Bank. At nested well locations the water table elevations for shallow and deep wells were similar, indicating horizontal flow and hydraulic containment of the shallow and deeper portions of the aquifer.



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City Treatment Plant Analytical Data

The Wausau City Treatment Plant collects samples of the City water supply on a quarterly basis. The samples are collected at two exit points where the treated water leaves the plant. The results for samples collected in September 2014 are presented in Attachment 3. The only VOCs detected were chloroform and bromodichloromethane. Neither of these compounds are associated with the Site groundwater contamination and they are common drinking water disinfection byproducts.

Conclusions and Recommendations

Conclusions

- City production well CW3 operated within the requirements established by EPA.
- Total gallons pumped by City production well CW6 was slightly below the EPA requirement. CW6 is scheduled for maintenance during 2015 and pumping volumes are anticipated to increase.
- CW3 and CW6 continue to contain and remove the chlorinated VOC plume as demonstrated by the hydraulic data and groundwater contours.
- Based on the non-detect result at E21, the West Bank plume does not extend all the way to CW3 on the East Bank.
- Elevated TCE concentrations at source area well W53A continued in the third quarter, although the concentration was slightly lower than the second quarter result.

Recommendations

Groundwater monitoring should continue as proposed in the Pilot Study Work Plan. The next monitoring event is the annual round, which includes the full monitoring well sampling network and is scheduled for early November 2014.



**CONESTOGA-ROVERS
& ASSOCIATES**

October 24, 2014

Reference No. 003978-10

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Please contact me if you have any questions.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

Charles Ahrens

CA/sb/34

Encl.

cc: Kevin Fabel, City of Wausau
Lee Bergmann, Regal Beloit

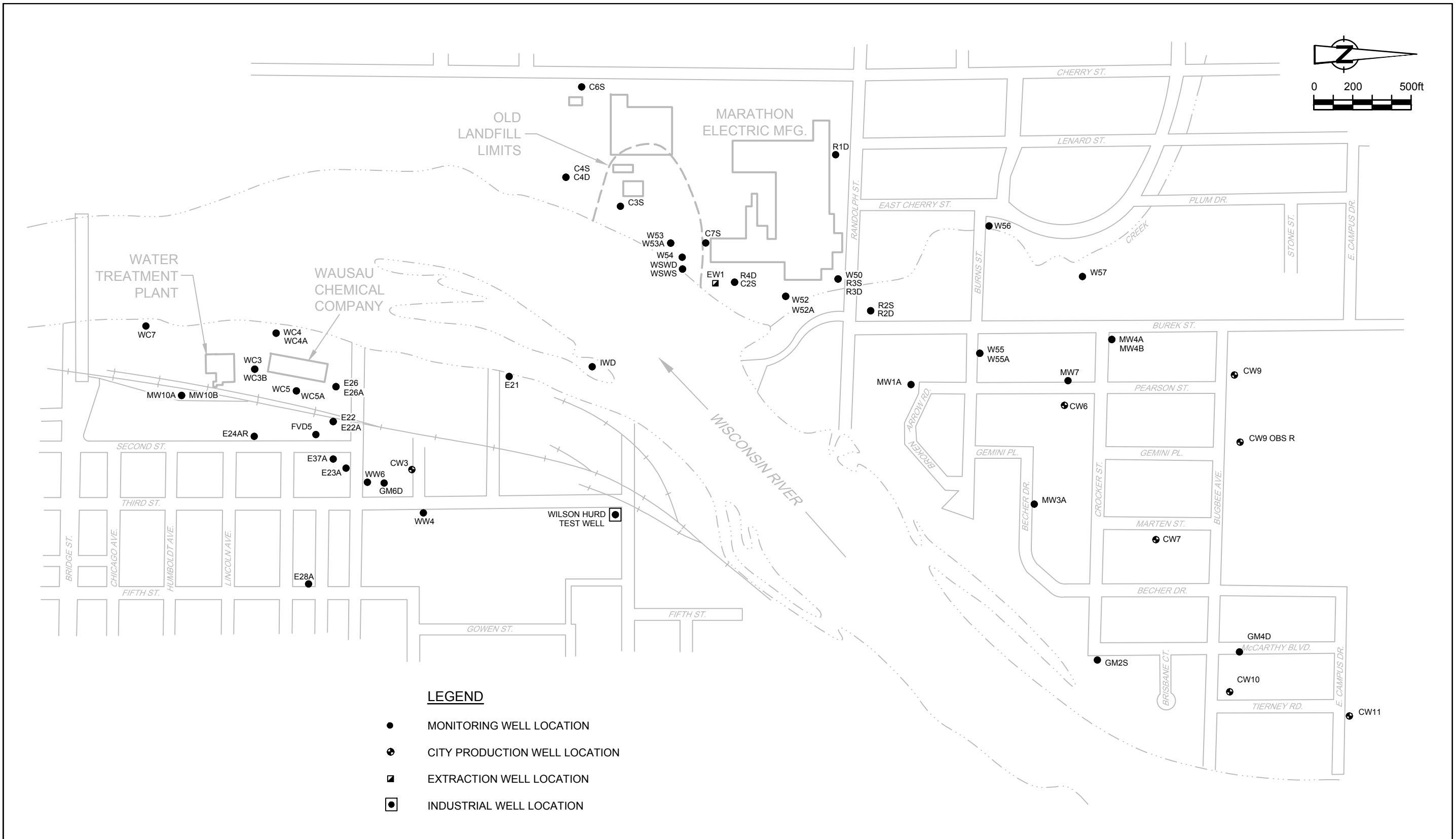


figure 1
 SITE PLAN
 WAUSAU WATER SUPPLY NPL SITE
 Wausau, Wisconsin



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

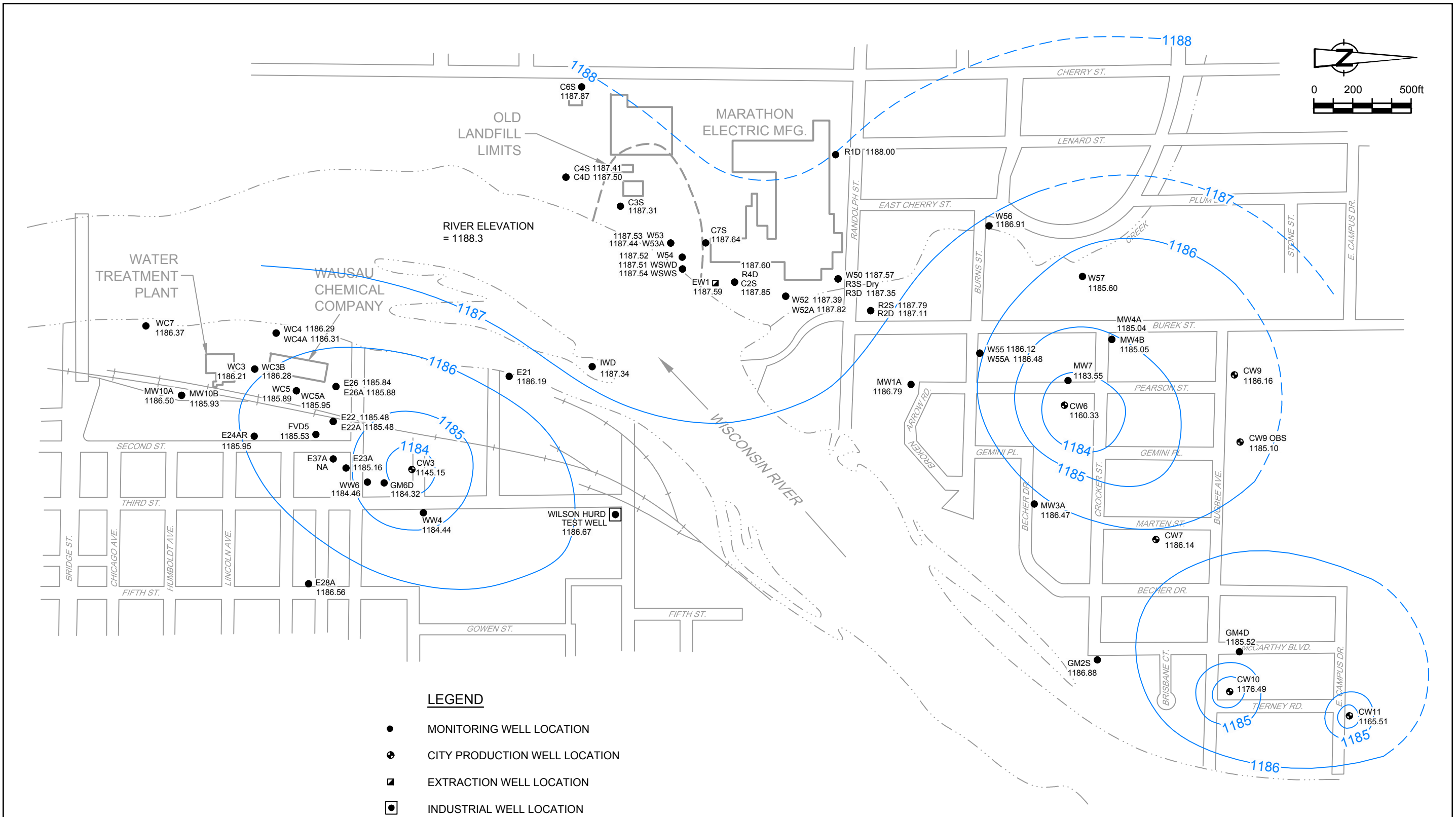


figure 2
 GROUNDWATER ELEVATIONS
 AUGUST 12, 2014
 WAUSAU WATER SUPPLY NPL SITE
 Wausau, Wisconsin

**GROUNDWATER ELEVATIONS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

	<i>Reference Elevation</i>		<i>Water Table Elevation (ft AMSL)</i>	<i>Water Table Elevation (ft AMSL)</i>	<i>Water Table Elevation (ft AMSL)</i>	<i>Water Table Elevation (ft AMSL)</i>
East Bank			11/11/2013	3/24/2014	5/19/2014	8/11/2014
CW3	1202.15	*	1148.15	1149.15	1152.15	1145
E21	1197.51		1185.89	1185.38	1186.57	1186.19
E22	1195.47		1185.07	NA	1185.86	1185.48
E22A	1195.88		1185.08	NA	1185.86	1185.48
E23A	1197.61		1184.68	NA	1185.51	1185.16
E24AR	1209.33	(1),(2)	1185.51	NA	1186.22	1185.95
E26	1199.02		1185.43	1184.92	1186.17	1185.84
E26A	1199.13		1185.47	1184.95	1186.23	1185.88
E28A	1211.60		1186.20	NA	1186.86	1186.56
E37A	1197.84		1184.89	1184.42	NA	NA
FVD5	1198.89		1185.14	1184.64	1185.90	1185.53
GM6D	1198.57		1183.89	NA	1184.77	1184.32
W. HURD	1200.23		1185.82	1185.92	1187.11	1186.67
IWD	1192.10		1187.20	NA	1187.77	1187.34
MW10A	1210.67		1185.77	1185.27	1186.26	1186.50
MW10B	1210.37		1185.72	1185.22	1186.37	1185.93
WC3	1198.26		1185.78	1185.09	1186.45	1186.21
WC3B	1196.11	(2)	1185.86	1185.36	1186.51	1186.28
WC4	1196.74		1185.87	1185.36	1186.51	1186.29
WC4A	1196.57		1185.91	1185.15	1186.57	1186.31
WC5	1196.62		1185.51	1184.97	1186.21	1185.89
WC5A	1196.66		1185.58	1184.78	1186.26	1185.95
WC7	1196.77		1185.92	1185.26	1186.51	1186.37
WW4	1200.34	(2)	1183.98	1183.52	1184.90	1184.44
WW6	1200.53		1183.98	1183.51	1184.87	1184.46
West Bank			11/12/2013	3/25/2014	5/20/2014	8/12/2014
EW1	1218.04		1187.24	1184.72	1188.09	1187.59
CW6	1220.33	*	1160	1160	1162	1160
CW7	1224.14		1186	1185	1186	1186
CW9	1226.16		1188	1186	1188	1186
CW9 OBS R	1224.51		1186.40	1183.51	1186.61	1185.10
CW10	1218.49	*	1187	1171	1172	1176
CW11	1216.51	*	1191	1190	1192	1166
C2S	1219.05		1187.34	1186.73	1188.15	1187.85
C3S	1220.58		1186.96	1186.43	1187.73	1187.31
C4S	1216.70		1187.10	1186.64	1187.94	1187.50
C4D	1216.16		1187.04	NA	1187.86	1187.41
C6S	1221.58		1187.47	1186.84	1188.65	1187.87
C7S	1220.87		1188.27	1186.68	1188.11	1187.64
GM2S	1211.78		1187.28	NA	1187.18	1186.88
GM4D	1216.35		1187.05	NA	1186.06	1185.52
MW1A	1215.69		1186.89	1185.98	1187.45	1186.79

**GROUNDWATER ELEVATIONS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

	<i>Reference Elevation</i>	<i>Water Table Elevation (ft AMSL)</i>	<i>Water Table Elevation (ft AMSL)</i>	<i>Water Table Elevation (ft AMSL)</i>	<i>Water Table Elevation (ft AMSL)</i>
West Bank Cont.					
MW3A	1220.87	1186.67	NA	1187.04	1186.47
MW4A	1215.48	1186.00	NA	1186.33	1185.04
MW4B	1215.10	1186.02	NA	1186.32	1185.05
MW7	1218.53	1184.31	NA	1184.79	1183.55
R1D	1222.24	1186.65	NA	1188.53	1188.00
R2S	1209.70	1187.59	1186.42	1188.76	1187.79
R2D	1209.42	1187.09	1186.30	1187.76	1187.11
R3S	1215.17	Dry	1188.82	Dry	Dry
R3D	1215.42	1187.22	1186.44	1187.93	1187.35
R4D	1218.90	1187.31	1186.72	1188.12	1187.60
W50	1215.54	1187.42	1186.63	1188.21	1187.57
W52	1219.16	1187.35	1186.61	1187.99	1187.39
W52A	1218.95	1187.49	1186.78	1188.45	1187.82
W53	1216.67	1187.21	NA	1188.01	1187.53
W53A	1216.90	1187.14	NA	1187.93	1187.44
W54	1216.19	1187.24	NA	1188.02	1187.52
W55	1217.04	1187.02	NA	1186.92	1186.12
W55A	1217.31	1186.76	NA	1187.38	1186.48
W56	1200.01	1187.10	1185.99	1187.80	1186.91
W57	1201.76 ⁽²⁾	1185.73	NA	1186.73	1185.60
WSWS	1193.04	1187.46	NA	1188.04	1187.54
WSWD	1193.02	1187.22	NA	1188.00	1187.51

Notes:

Elevations relative to National Geodetic Vertical Datum

ft BTOC - Feet below top of casing

ft AMSL - Feet above mean sea level

* - Well was pumping

NA - Not Applicable

⁽¹⁾ Wells E24 and E24A were abandoned in 2012, replaced by E24AR in 2012.⁽²⁾ Reference elevation resurveyed in 2012.

TABLE 2

**GROUNDWATER SAMPLING SUMMARY - AUGUST 2014
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

<i>Well</i>	<i>Date</i>	<i>pH</i>	<i>Conductivity (uS/cm)</i>	<i>Temperature (°C)</i>	<i>Sample ID Number</i>	<i>QA/QC</i>
CW3	8/12/2018	6.43	366	11.4	W-140811-RA-01	
E21	8/12/2018	6.81	176	12.4	W-140811-RA-02	
R2D	8/12/2018	6.95	130	12.6	W-140811-RA-03	
W55	8/13/2018	7.52	192	11.1	W-140812-RA-04	
W55	8/13/2018	7.52	192	11.1	W-140812-RA-05	Duplicate
CW6	8/13/2018	7.39	277	11.5	W-140812-RA-06	
CW11	8/13/2018	7.48	158	11.1	W-140812-RA-07	
CW10	8/13/2018	7.27	168	12.4	W-140812-RA-08	
W53A	8/13/2018	7.00	5100	12.3	W-140812-RA-09	MS/MSD
IWD	8/13/2018	7.90	199	11.4	W-140812-RA-10	
R3D	8/13/2018	--	--	--	W-140812-RA-11	Equipment Blank
R3D	8/13/2018	6.86	390	10.2	W-140812-RA-12	
EW1	8/13/2018	9.72	284	13.6	W-140812-RA-13	

TABLE 3

**GROUNDWATER LABORATORY RESULTS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

<i>Sample Location:</i>			<i>CW3</i>	<i>CW3</i>	<i>CW3</i>	<i>CW3</i>	<i>CW3</i>	<i>E21</i>	<i>E21</i>
<i>Sample Date:</i>			<i>11/11/2013</i>	<i>3/24/2014</i>	<i>5/19/2014</i>	<i>5/19/2014</i>	<i>8/11/2014</i>	<i>11/11/2013</i>	<i>3/24/2014</i>
			<i>Duplicate</i>						
<i>VOCs</i>		<i>MCL</i>							
1,1,2-Trichloroethane	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	ug/L	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	ug/L	80*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	70	0.50 J	0.74 J	0.90 J	0.82 J	0.59 J	1.0 U	1.0 U
Ethylbenzene	ug/L	700	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	5	1.40	1.40	1.4	1.4	1.6	1.0 U	1.0 U
Toluene	ug/L	1000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	5	0.72 J	0.78 J	0.78 J	0.79 J	0.75 J	1.0 U	1.0 U
Vinyl chloride	ug/L	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	10000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Chlorinated VOC			2.62	2.92	3.08	3.01	2.94	0.0	0.0

TABLE 3

**GROUNDWATER LABORATORY RESULTS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

<i>Sample Location:</i>			<i>E21</i>	<i>E21</i>	<i>IWD</i>	<i>IWD</i>	<i>IWD</i>	<i>R2D</i>	<i>R2D</i>
<i>Sample Date:</i>			<i>5/19/2014</i>	<i>8/11/2014</i>	<i>11/13/2013</i>	<i>5/20/2014</i>	<i>8/12/2014</i>	<i>11/12/2013</i>	<i>3/24/2014</i>
VOCs		MCL							
1,1,2-Trichloroethane	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	ug/L	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	ug/L	80*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	70	1.0 U	1.0 U	1.1	1.8	0.87 J	1.0	0.61 J
Ethylbenzene	ug/L	700	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	5	1.0 U	1.0 U	2.2	3.3	2.70	19	18
Vinyl chloride	ug/L	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	10000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Chlorinated VOC			0.0	0.0	3.3	5.1	3.57	20.0	18.61

TABLE 3

**GROUNDWATER LABORATORY RESULTS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

<i>Sample Location:</i>			<i>R2D</i>	<i>R2D</i>	<i>R2D</i>	<i>R3D</i>	<i>R3D</i>	<i>R3D</i>	<i>R3D</i>
<i>Sample Date:</i>			<i>3/24/2014</i>	<i>5/19/2014</i>	<i>8/11/2014</i>	<i>11/13/2013</i>	<i>3/24/2014</i>	<i>5/20/2014</i>	<i>8/12/2014</i>
			<i>Duplicate</i>						
<i>VOCs</i>		<i>MCL</i>							
1,1,2-Trichloroethane	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	7	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U	1.0 U
Acetone	ug/L	--	10 U	1.4 J	10 U	10 U	33 U	10 U	10 U
Benzene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U	1.0 U
Chloroform	ug/L	80*	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	70	0.62 J	1.1	1.2	1.0 U	5.7	1.0 U	1.0 U
Ethylbenzene	ug/L	700	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U	1.0 U
Methylene chloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U	1.0 U
Toluene	ug/L	1000	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U	0.14 J
Trichloroethene	ug/L	5	17	18	32	4.8	68	4.7	2.9
Vinyl chloride	ug/L	2	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U	1.0 U
Xylenes (total)	ug/L	10000	1.0 U	1.0 U	1.0 U	1.0 U	3.3 U	1.0 U	1.0 U
Total Chlorinated VOC			17.62	19.1	33.2	4.8	73.7	4.7	2.9

TABLE 3

**GROUNDWATER LABORATORY RESULTS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

<i>Sample Location:</i>			<i>W53A</i>	<i>W53A</i>	<i>W53A</i>	<i>W55</i>	<i>W55</i>	<i>W55</i>	<i>W55</i>
<i>Sample Date:</i>			<i>11/13/2013</i>	<i>5/20/2014</i>	<i>8/12/2014</i>	<i>11/12/2013</i>	<i>5/20/2014</i>	<i>8/12/2014</i>	<i>8/12/2014 Duplicate</i>
VOCs		MCL							
1,1,2-Trichloroethane	ug/L	5	1.0 U	3.3 U	1.3 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	7	1.0 U	3.3 U	1.3 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	ug/L	--	11 U	33 U	1.3 U	10 U	10 U	10 U	10 U
Benzene	ug/L	5	1.0 U	3.3 U	1.3 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	5	1.0 U	3.3 U	1.3 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	ug/L	80*	1.0 U	3.3 U	1.3 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	70	1.0 U	3.3 U	0.31 J	0.47 J	0.39 J	0.38 J	0.38 J
Ethylbenzene	ug/L	700	1.0 U	3.3 U	1.3 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	5	1.0 U	3.3 U	1.3 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	5	1.0 U	3.3 U	1.3 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1000	1.0 U	3.3 U	1.3 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	5	54	88	77	4.7	4.6	5.0	5.0
Vinyl chloride	ug/L	2	1.0 U	3.3 U	1.3 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	10000	1.0 U	3.3 U	1.3 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Chlorinated VOC			54	88.0	77.31	5.17	4.99	5.38	5.38

TABLE 3

**GROUNDWATER LABORATORY RESULTS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

<i>Sample Location:</i>			<i>EW1</i>	<i>EW1</i>	<i>EW1</i>	<i>CW6</i>	<i>CW6</i>	<i>CW6</i>	<i>CW6</i>
<i>Sample Date:</i>			<i>11/12/2013</i>	<i>5/20/2014</i>	<i>8/12/2014</i>	<i>11/12/2013</i>	<i>3/25/2014</i>	<i>5/20/2014</i>	<i>8/12/2014</i>
VOCs		MCL							
1,1,2-Trichloroethane	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	ug/L	--	10 U	2.4 J	2.4 J	10 U	10 U	10 U	10 U
Benzene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	ug/L	80*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	70	0.20 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.19 J
Ethylbenzene	ug/L	700	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	5	0.59 J	1.0 U	1.0 U	3.9	3.7	3.4	4.0
Vinyl chloride	ug/L	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	10000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Chlorinated VOC			0.79	0.0	0.0	3.9	3.7	3.4	4.19

TABLE 3

GROUNDWATER LABORATORY RESULTS
 WAUSAU WATER SUPPLY NPL SITE
 WAUSAU, WISCONSIN

<i>Sample Location:</i>			<i>CW10</i>	<i>CW10</i>	<i>CW10</i>	<i>CW10</i>	<i>CW11</i>	<i>CW11</i>	<i>CW11</i>
<i>Sample Date:</i>			<i>11/12/2013</i>	<i>3/25/2014</i>	<i>5/20/2014</i>	<i>8/12/2014</i>	<i>11/12/2013</i>	<i>3/25/2014</i>	<i>8/12/2014</i>
VOCs									
	MCL								
1,1,2-Trichloroethane	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	ug/L	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	ug/L	80*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.63 J
cis-1,2-Dichloroethene	ug/L	70	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	700	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	10000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Chlorinated VOC			0.0	0.0	0.0	0.0	0.0	0.0	0.63

Notes:

U - Not detected

J - Reported value is estimated

MCL - EPA maximum contaminant level for drinking water

* - The MCL for chloroform is for total trihalomethanes

 indicates August 2014 results

TABLE 4

**CITY WATER SUPPLY WELL PUMPING AVERAGES - THIRD QUARTER 2014
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

		Well #3	Well #6	Well #7	Well #9	Well #10	Well #11
July	Hours	313.9	423.8	240	120.5	333.7	6.3
	Gallons	29.927	34.03	26.158	6.541	77.64	1.058
	gpm	1589	1338	1817	905	3878	2799
August	Hours	406.3	310	279.3	183.6	191.8	97.4
	Gallons	36.399	24.2	30.38	9.929	36.525	16.979
	gpm	1493	1301	1813	901	3174	2905
September	Hours	287.3	394.3	204.7	39.9	84.4	152.7
	Gallons	30.434	30.78	22.18	2.152	15.999	26.622
	gpm	1766	1301	1806	899	3159	2906
Average hours/week:		77.5	86.8	55.7	26.5	46.9	19.7
Average gpm:		1616	1313	1812	902	3404	2870

Note:

- Hours - Indicates total hours pumped per month
- Gallons - Indicates millions of gallons pumped per month
- gpm - Gallons per minute

Attachment 1

Laboratory Report

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

TestAmerica Job ID: 240-40749-1
Client Project/Site: 3978, Wausau

For:
Conestoga-Rovers & Associates, Inc.
1801 Old Highway 8 NW
Suite 114
St. Paul, Minnesota 55112

Attn: Mr. Grant Anderson



Authorized for release by:
8/20/2014 1:44:01 PM

Denise Heckler, Project Manager II
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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Job ID: 240-40749-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: Conestoga-Rovers & Associates, Inc.

Project: 3978, Wausau

Report Number: 240-40749-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 08/14/2014; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.6 C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples W-140811-RA-01 (240-40749-1), W-140811-RA-02 (240-40749-2), W-140811-RA-03 (240-40749-3), W-140812-RA-04 (240-40749-4), W-140812-RA-05 (240-40749-5), W-140812-RA-06 (240-40749-6), W-140812-RA-07 (240-40749-7), W-140812-RA-08 (240-40749-8), W-140812-RA-09 (240-40749-9), W-140812-RA-10 (240-40749-10), W-140812-RA-11 (240-40749-11), W-140812-RA-12 (240-40749-12), W-140812-RA-13 (240-40749-13) and TRIP BLANK (240-40749-14) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 08/18/2014.

Acetone was detected in method blank MB 240-143238/6 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Sample W-140812-RA-09 (240-40749-9)[1.25X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-40749-1	W-140811-RA-01	Water	08/11/14 12:05	08/14/14 09:30
240-40749-2	W-140811-RA-02	Water	08/11/14 14:25	08/14/14 09:30
240-40749-3	W-140811-RA-03	Water	08/11/14 16:00	08/14/14 09:30
240-40749-4	W-140812-RA-04	Water	08/12/14 08:10	08/14/14 09:30
240-40749-5	W-140812-RA-05	Water	08/12/14 08:10	08/14/14 09:30
240-40749-6	W-140812-RA-06	Water	08/12/14 08:20	08/14/14 09:30
240-40749-7	W-140812-RA-07	Water	08/12/14 08:25	08/14/14 09:30
240-40749-8	W-140812-RA-08	Water	08/12/14 08:30	08/14/14 09:30
240-40749-9	W-140812-RA-09	Water	08/12/14 09:10	08/14/14 09:30
240-40749-10	W-140812-RA-10	Water	08/12/14 10:15	08/14/14 09:30
240-40749-11	W-140812-RA-11	Water	08/12/14 11:50	08/14/14 09:30
240-40749-12	W-140812-RA-12	Water	08/12/14 12:30	08/14/14 09:30
240-40749-13	W-140812-RA-13	Water	08/12/14 12:45	08/14/14 09:30
240-40749-14	TRIP BLANK	Water	08/12/14 00:00	08/14/14 09:30

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Client Sample ID: W-140811-RA-01

Lab Sample ID: 240-40749-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.59	J	1.0	0.17	ug/L	1		8260B	Total/NA
Tetrachloroethene	1.6		1.0	0.29	ug/L	1		8260B	Total/NA
Trichloroethene	0.75	J	1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-140811-RA-02

Lab Sample ID: 240-40749-2

No Detections.

Client Sample ID: W-140811-RA-03

Lab Sample ID: 240-40749-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.2		1.0	0.17	ug/L	1		8260B	Total/NA
Trichloroethene	32		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-140812-RA-04

Lab Sample ID: 240-40749-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.38	J	1.0	0.17	ug/L	1		8260B	Total/NA
Trichloroethene	5.0		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-140812-RA-05

Lab Sample ID: 240-40749-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.38	J	1.0	0.17	ug/L	1		8260B	Total/NA
Trichloroethene	5.0		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-140812-RA-06

Lab Sample ID: 240-40749-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.19	J	1.0	0.17	ug/L	1		8260B	Total/NA
Trichloroethene	4.0		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-140812-RA-07

Lab Sample ID: 240-40749-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	0.63	J	1.0	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: W-140812-RA-08

Lab Sample ID: 240-40749-8

No Detections.

Client Sample ID: W-140812-RA-09

Lab Sample ID: 240-40749-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.31	J	1.3	0.21	ug/L	1.25		8260B	Total/NA
Trichloroethene	77		1.3	0.21	ug/L	1.25		8260B	Total/NA

Client Sample ID: W-140812-RA-10

Lab Sample ID: 240-40749-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.87	J	1.0	0.17	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Client Sample ID: W-140812-RA-10 (Continued)

Lab Sample ID: 240-40749-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	2.7		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-140812-RA-11

Lab Sample ID: 240-40749-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	3.3	J B	10	1.1	ug/L	1		8260B	Total/NA

Client Sample ID: W-140812-RA-12

Lab Sample ID: 240-40749-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	0.14	J	1.0	0.13	ug/L	1		8260B	Total/NA
Trichloroethene	2.9		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-140812-RA-13

Lab Sample ID: 240-40749-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	1.4	J B	10	1.1	ug/L	1		8260B	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-40749-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	9.2	J B	10	1.1	ug/L	1		8260B	Total/NA
Methylene Chloride	1.5		1.0	0.33	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Client Sample ID: W-140811-RA-01

Lab Sample ID: 240-40749-1

Date Collected: 08/11/14 12:05

Matrix: Water

Date Received: 08/14/14 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			08/18/14 17:47	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/18/14 17:47	1
Acetone	10	U	10	1.1	ug/L			08/18/14 17:47	1
Benzene	1.0	U	1.0	0.13	ug/L			08/18/14 17:47	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			08/18/14 17:47	1
Chloroform	1.0	U	1.0	0.16	ug/L			08/18/14 17:47	1
cis-1,2-Dichloroethene	0.59	J	1.0	0.17	ug/L			08/18/14 17:47	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			08/18/14 17:47	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			08/18/14 17:47	1
Tetrachloroethene	1.6		1.0	0.29	ug/L			08/18/14 17:47	1
Toluene	1.0	U	1.0	0.13	ug/L			08/18/14 17:47	1
Trichloroethene	0.75	J	1.0	0.17	ug/L			08/18/14 17:47	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			08/18/14 17:47	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			08/18/14 17:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		63 - 129					08/18/14 17:47	1
4-Bromofluorobenzene (Surr)	84		66 - 120					08/18/14 17:47	1
Toluene-d8 (Surr)	99		74 - 120					08/18/14 17:47	1
Dibromofluoromethane (Surr)	97		75 - 121					08/18/14 17:47	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Client Sample ID: W-140811-RA-02

Lab Sample ID: 240-40749-2

Date Collected: 08/11/14 14:25

Matrix: Water

Date Received: 08/14/14 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			08/18/14 18:11	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/18/14 18:11	1
Acetone	10	U	10	1.1	ug/L			08/18/14 18:11	1
Benzene	1.0	U	1.0	0.13	ug/L			08/18/14 18:11	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			08/18/14 18:11	1
Chloroform	1.0	U	1.0	0.16	ug/L			08/18/14 18:11	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			08/18/14 18:11	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			08/18/14 18:11	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			08/18/14 18:11	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			08/18/14 18:11	1
Toluene	1.0	U	1.0	0.13	ug/L			08/18/14 18:11	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			08/18/14 18:11	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			08/18/14 18:11	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			08/18/14 18:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		63 - 129					08/18/14 18:11	1
4-Bromofluorobenzene (Surr)	86		66 - 120					08/18/14 18:11	1
Toluene-d8 (Surr)	98		74 - 120					08/18/14 18:11	1
Dibromofluoromethane (Surr)	96		75 - 121					08/18/14 18:11	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Client Sample ID: W-140811-RA-03

Lab Sample ID: 240-40749-3

Date Collected: 08/11/14 16:00

Matrix: Water

Date Received: 08/14/14 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			08/18/14 18:36	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/18/14 18:36	1
Acetone	10	U	10	1.1	ug/L			08/18/14 18:36	1
Benzene	1.0	U	1.0	0.13	ug/L			08/18/14 18:36	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			08/18/14 18:36	1
Chloroform	1.0	U	1.0	0.16	ug/L			08/18/14 18:36	1
cis-1,2-Dichloroethene	1.2		1.0	0.17	ug/L			08/18/14 18:36	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			08/18/14 18:36	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			08/18/14 18:36	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			08/18/14 18:36	1
Toluene	1.0	U	1.0	0.13	ug/L			08/18/14 18:36	1
Trichloroethene	32		1.0	0.17	ug/L			08/18/14 18:36	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			08/18/14 18:36	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			08/18/14 18:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		63 - 129					08/18/14 18:36	1
4-Bromofluorobenzene (Surr)	85		66 - 120					08/18/14 18:36	1
Toluene-d8 (Surr)	99		74 - 120					08/18/14 18:36	1
Dibromofluoromethane (Surr)	97		75 - 121					08/18/14 18:36	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Client Sample ID: W-140812-RA-04

Lab Sample ID: 240-40749-4

Date Collected: 08/12/14 08:10

Matrix: Water

Date Received: 08/14/14 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			08/18/14 19:00	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/18/14 19:00	1
Acetone	10	U	10	1.1	ug/L			08/18/14 19:00	1
Benzene	1.0	U	1.0	0.13	ug/L			08/18/14 19:00	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			08/18/14 19:00	1
Chloroform	1.0	U	1.0	0.16	ug/L			08/18/14 19:00	1
cis-1,2-Dichloroethene	0.38	J	1.0	0.17	ug/L			08/18/14 19:00	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			08/18/14 19:00	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			08/18/14 19:00	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			08/18/14 19:00	1
Toluene	1.0	U	1.0	0.13	ug/L			08/18/14 19:00	1
Trichloroethene	5.0		1.0	0.17	ug/L			08/18/14 19:00	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			08/18/14 19:00	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			08/18/14 19:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		63 - 129					08/18/14 19:00	1
4-Bromofluorobenzene (Surr)	86		66 - 120					08/18/14 19:00	1
Toluene-d8 (Surr)	99		74 - 120					08/18/14 19:00	1
Dibromofluoromethane (Surr)	97		75 - 121					08/18/14 19:00	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Client Sample ID: W-140812-RA-05

Lab Sample ID: 240-40749-5

Date Collected: 08/12/14 08:10

Matrix: Water

Date Received: 08/14/14 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			08/18/14 19:24	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/18/14 19:24	1
Acetone	10	U	10	1.1	ug/L			08/18/14 19:24	1
Benzene	1.0	U	1.0	0.13	ug/L			08/18/14 19:24	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			08/18/14 19:24	1
Chloroform	1.0	U	1.0	0.16	ug/L			08/18/14 19:24	1
cis-1,2-Dichloroethene	0.38	J	1.0	0.17	ug/L			08/18/14 19:24	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			08/18/14 19:24	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			08/18/14 19:24	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			08/18/14 19:24	1
Toluene	1.0	U	1.0	0.13	ug/L			08/18/14 19:24	1
Trichloroethene	5.0		1.0	0.17	ug/L			08/18/14 19:24	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			08/18/14 19:24	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			08/18/14 19:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 129					08/18/14 19:24	1
4-Bromofluorobenzene (Surr)	84		66 - 120					08/18/14 19:24	1
Toluene-d8 (Surr)	100		74 - 120					08/18/14 19:24	1
Dibromofluoromethane (Surr)	98		75 - 121					08/18/14 19:24	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Client Sample ID: W-140812-RA-06

Lab Sample ID: 240-40749-6

Date Collected: 08/12/14 08:20

Matrix: Water

Date Received: 08/14/14 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			08/18/14 19:48	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/18/14 19:48	1
Acetone	10	U	10	1.1	ug/L			08/18/14 19:48	1
Benzene	1.0	U	1.0	0.13	ug/L			08/18/14 19:48	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			08/18/14 19:48	1
Chloroform	1.0	U	1.0	0.16	ug/L			08/18/14 19:48	1
cis-1,2-Dichloroethene	0.19	J	1.0	0.17	ug/L			08/18/14 19:48	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			08/18/14 19:48	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			08/18/14 19:48	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			08/18/14 19:48	1
Toluene	1.0	U	1.0	0.13	ug/L			08/18/14 19:48	1
Trichloroethene	4.0		1.0	0.17	ug/L			08/18/14 19:48	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			08/18/14 19:48	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			08/18/14 19:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		63 - 129					08/18/14 19:48	1
4-Bromofluorobenzene (Surr)	85		66 - 120					08/18/14 19:48	1
Toluene-d8 (Surr)	99		74 - 120					08/18/14 19:48	1
Dibromofluoromethane (Surr)	98		75 - 121					08/18/14 19:48	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Client Sample ID: W-140812-RA-07

Lab Sample ID: 240-40749-7

Date Collected: 08/12/14 08:25

Matrix: Water

Date Received: 08/14/14 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			08/18/14 20:13	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/18/14 20:13	1
Acetone	10	U	10	1.1	ug/L			08/18/14 20:13	1
Benzene	1.0	U	1.0	0.13	ug/L			08/18/14 20:13	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			08/18/14 20:13	1
Chloroform	0.63	J	1.0	0.16	ug/L			08/18/14 20:13	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			08/18/14 20:13	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			08/18/14 20:13	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			08/18/14 20:13	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			08/18/14 20:13	1
Toluene	1.0	U	1.0	0.13	ug/L			08/18/14 20:13	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			08/18/14 20:13	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			08/18/14 20:13	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			08/18/14 20:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		63 - 129					08/18/14 20:13	1
4-Bromofluorobenzene (Surr)	86		66 - 120					08/18/14 20:13	1
Toluene-d8 (Surr)	98		74 - 120					08/18/14 20:13	1
Dibromofluoromethane (Surr)	97		75 - 121					08/18/14 20:13	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Client Sample ID: W-140812-RA-08

Lab Sample ID: 240-40749-8

Date Collected: 08/12/14 08:30

Matrix: Water

Date Received: 08/14/14 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			08/18/14 20:37	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/18/14 20:37	1
Acetone	10	U	10	1.1	ug/L			08/18/14 20:37	1
Benzene	1.0	U	1.0	0.13	ug/L			08/18/14 20:37	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			08/18/14 20:37	1
Chloroform	1.0	U	1.0	0.16	ug/L			08/18/14 20:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			08/18/14 20:37	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			08/18/14 20:37	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			08/18/14 20:37	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			08/18/14 20:37	1
Toluene	1.0	U	1.0	0.13	ug/L			08/18/14 20:37	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			08/18/14 20:37	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			08/18/14 20:37	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			08/18/14 20:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		63 - 129					08/18/14 20:37	1
4-Bromofluorobenzene (Surr)	85		66 - 120					08/18/14 20:37	1
Toluene-d8 (Surr)	97		74 - 120					08/18/14 20:37	1
Dibromofluoromethane (Surr)	98		75 - 121					08/18/14 20:37	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Client Sample ID: W-140812-RA-09

Lab Sample ID: 240-40749-9

Date Collected: 08/12/14 09:10

Matrix: Water

Date Received: 08/14/14 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.3	U	1.3	0.34	ug/L			08/18/14 14:55	1.25
1,1-Dichloroethene	1.3	U	1.3	0.24	ug/L			08/18/14 14:55	1.25
Acetone	13	U	13	1.4	ug/L			08/18/14 14:55	1.25
Benzene	1.3	U	1.3	0.16	ug/L			08/18/14 14:55	1.25
Carbon tetrachloride	1.3	U	1.3	0.16	ug/L			08/18/14 14:55	1.25
Chloroform	1.3	U	1.3	0.20	ug/L			08/18/14 14:55	1.25
cis-1,2-Dichloroethene	0.31	J	1.3	0.21	ug/L			08/18/14 14:55	1.25
Ethylbenzene	1.3	U	1.3	0.21	ug/L			08/18/14 14:55	1.25
Methylene Chloride	1.3	U	1.3	0.41	ug/L			08/18/14 14:55	1.25
Tetrachloroethene	1.3	U	1.3	0.36	ug/L			08/18/14 14:55	1.25
Toluene	1.3	U	1.3	0.16	ug/L			08/18/14 14:55	1.25
Trichloroethene	77		1.3	0.21	ug/L			08/18/14 14:55	1.25
Vinyl chloride	1.3	U	1.3	0.28	ug/L			08/18/14 14:55	1.25
Xylenes, Total	1.3	U	1.3	0.18	ug/L			08/18/14 14:55	1.25
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 129					08/18/14 14:55	1.25
4-Bromofluorobenzene (Surr)	84		66 - 120					08/18/14 14:55	1.25
Toluene-d8 (Surr)	100		74 - 120					08/18/14 14:55	1.25
Dibromofluoromethane (Surr)	97		75 - 121					08/18/14 14:55	1.25

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Client Sample ID: W-140812-RA-10

Lab Sample ID: 240-40749-10

Date Collected: 08/12/14 10:15

Matrix: Water

Date Received: 08/14/14 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			08/18/14 21:01	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/18/14 21:01	1
Acetone	10	U	10	1.1	ug/L			08/18/14 21:01	1
Benzene	1.0	U	1.0	0.13	ug/L			08/18/14 21:01	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			08/18/14 21:01	1
Chloroform	1.0	U	1.0	0.16	ug/L			08/18/14 21:01	1
cis-1,2-Dichloroethene	0.87	J	1.0	0.17	ug/L			08/18/14 21:01	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			08/18/14 21:01	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			08/18/14 21:01	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			08/18/14 21:01	1
Toluene	1.0	U	1.0	0.13	ug/L			08/18/14 21:01	1
Trichloroethene	2.7		1.0	0.17	ug/L			08/18/14 21:01	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			08/18/14 21:01	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			08/18/14 21:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		63 - 129					08/18/14 21:01	1
4-Bromofluorobenzene (Surr)	85		66 - 120					08/18/14 21:01	1
Toluene-d8 (Surr)	99		74 - 120					08/18/14 21:01	1
Dibromofluoromethane (Surr)	98		75 - 121					08/18/14 21:01	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Client Sample ID: W-140812-RA-11

Lab Sample ID: 240-40749-11

Date Collected: 08/12/14 11:50

Matrix: Water

Date Received: 08/14/14 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			08/18/14 21:25	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/18/14 21:25	1
Acetone	3.3	J B	10	1.1	ug/L			08/18/14 21:25	1
Benzene	1.0	U	1.0	0.13	ug/L			08/18/14 21:25	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			08/18/14 21:25	1
Chloroform	1.0	U	1.0	0.16	ug/L			08/18/14 21:25	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			08/18/14 21:25	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			08/18/14 21:25	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			08/18/14 21:25	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			08/18/14 21:25	1
Toluene	1.0	U	1.0	0.13	ug/L			08/18/14 21:25	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			08/18/14 21:25	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			08/18/14 21:25	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			08/18/14 21:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		63 - 129					08/18/14 21:25	1
4-Bromofluorobenzene (Surr)	86		66 - 120					08/18/14 21:25	1
Toluene-d8 (Surr)	98		74 - 120					08/18/14 21:25	1
Dibromofluoromethane (Surr)	96		75 - 121					08/18/14 21:25	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Client Sample ID: W-140812-RA-12

Lab Sample ID: 240-40749-12

Date Collected: 08/12/14 12:30

Matrix: Water

Date Received: 08/14/14 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			08/18/14 21:49	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/18/14 21:49	1
Acetone	10	U	10	1.1	ug/L			08/18/14 21:49	1
Benzene	1.0	U	1.0	0.13	ug/L			08/18/14 21:49	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			08/18/14 21:49	1
Chloroform	1.0	U	1.0	0.16	ug/L			08/18/14 21:49	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			08/18/14 21:49	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			08/18/14 21:49	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			08/18/14 21:49	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			08/18/14 21:49	1
Toluene	0.14	J	1.0	0.13	ug/L			08/18/14 21:49	1
Trichloroethene	2.9		1.0	0.17	ug/L			08/18/14 21:49	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			08/18/14 21:49	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			08/18/14 21:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		63 - 129		08/18/14 21:49	1
4-Bromofluorobenzene (Surr)	85		66 - 120		08/18/14 21:49	1
Toluene-d8 (Surr)	100		74 - 120		08/18/14 21:49	1
Dibromofluoromethane (Surr)	98		75 - 121		08/18/14 21:49	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Client Sample ID: W-140812-RA-13

Lab Sample ID: 240-40749-13

Date Collected: 08/12/14 12:45

Matrix: Water

Date Received: 08/14/14 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			08/18/14 22:13	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/18/14 22:13	1
Acetone	1.4	J B	10	1.1	ug/L			08/18/14 22:13	1
Benzene	1.0	U	1.0	0.13	ug/L			08/18/14 22:13	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			08/18/14 22:13	1
Chloroform	1.0	U	1.0	0.16	ug/L			08/18/14 22:13	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			08/18/14 22:13	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			08/18/14 22:13	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			08/18/14 22:13	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			08/18/14 22:13	1
Toluene	1.0	U	1.0	0.13	ug/L			08/18/14 22:13	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			08/18/14 22:13	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			08/18/14 22:13	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			08/18/14 22:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 129					08/18/14 22:13	1
4-Bromofluorobenzene (Surr)	85		66 - 120					08/18/14 22:13	1
Toluene-d8 (Surr)	99		74 - 120					08/18/14 22:13	1
Dibromofluoromethane (Surr)	93		75 - 121					08/18/14 22:13	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-40749-14

Date Collected: 08/12/14 00:00

Matrix: Water

Date Received: 08/14/14 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			08/18/14 22:37	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/18/14 22:37	1
Acetone	9.2	J B	10	1.1	ug/L			08/18/14 22:37	1
Benzene	1.0	U	1.0	0.13	ug/L			08/18/14 22:37	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			08/18/14 22:37	1
Chloroform	1.0	U	1.0	0.16	ug/L			08/18/14 22:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			08/18/14 22:37	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			08/18/14 22:37	1
Methylene Chloride	1.5		1.0	0.33	ug/L			08/18/14 22:37	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			08/18/14 22:37	1
Toluene	1.0	U	1.0	0.13	ug/L			08/18/14 22:37	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			08/18/14 22:37	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			08/18/14 22:37	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			08/18/14 22:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		63 - 129					08/18/14 22:37	1
4-Bromofluorobenzene (Surr)	87		66 - 120					08/18/14 22:37	1
Toluene-d8 (Surr)	99		74 - 120					08/18/14 22:37	1
Dibromofluoromethane (Surr)	98		75 - 121					08/18/14 22:37	1

Surrogate Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (63-129)	BFB (66-120)	TOL (74-120)	DBFM (75-121)
240-40749-1	W-140811-RA-01	107	84	99	97
240-40749-2	W-140811-RA-02	106	86	98	96
240-40749-3	W-140811-RA-03	109	85	99	97
240-40749-4	W-140812-RA-04	105	86	99	97
240-40749-5	W-140812-RA-05	102	84	100	98
240-40749-6	W-140812-RA-06	103	85	99	98
240-40749-7	W-140812-RA-07	107	86	98	97
240-40749-8	W-140812-RA-08	106	85	97	98
240-40749-9	W-140812-RA-09	101	84	100	97
240-40749-9 MS	W-140812-RA-09	105	89	98	102
240-40749-9 MSD	W-140812-RA-09	112	91	99	103
240-40749-10	W-140812-RA-10	109	85	99	98
240-40749-11	W-140812-RA-11	108	86	98	96
240-40749-12	W-140812-RA-12	106	85	100	98
240-40749-13	W-140812-RA-13	101	85	99	93
240-40749-14	TRIP BLANK	110	87	99	98
LCS 240-143238/4	Lab Control Sample	104	88	96	100
MB 240-143238/6	Method Blank	101	83	97	94

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-143238/6

Matrix: Water

Analysis Batch: 143238

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			08/18/14 14:31	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/18/14 14:31	1
Acetone	1.20	J	10	1.1	ug/L			08/18/14 14:31	1
Benzene	1.0	U	1.0	0.13	ug/L			08/18/14 14:31	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			08/18/14 14:31	1
Chloroform	1.0	U	1.0	0.16	ug/L			08/18/14 14:31	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			08/18/14 14:31	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			08/18/14 14:31	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			08/18/14 14:31	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			08/18/14 14:31	1
Toluene	1.0	U	1.0	0.13	ug/L			08/18/14 14:31	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			08/18/14 14:31	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			08/18/14 14:31	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			08/18/14 14:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 129		08/18/14 14:31	1
4-Bromofluorobenzene (Surr)	83		66 - 120		08/18/14 14:31	1
Toluene-d8 (Surr)	97		74 - 120		08/18/14 14:31	1
Dibromofluoromethane (Surr)	94		75 - 121		08/18/14 14:31	1

Lab Sample ID: LCS 240-143238/4

Matrix: Water

Analysis Batch: 143238

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2-Trichloroethane	25.0	25.4		ug/L		102	80 - 120
1,1-Dichloroethene	25.0	24.5		ug/L		98	78 - 131
Acetone	50.0	44.1		ug/L		88	43 - 136
Benzene	25.0	25.3		ug/L		101	80 - 120
Carbon tetrachloride	25.0	27.0		ug/L		108	66 - 128
Chloroform	25.0	27.9		ug/L		111	79 - 120
cis-1,2-Dichloroethene	25.0	26.0		ug/L		104	80 - 120
Ethylbenzene	25.0	25.6		ug/L		102	80 - 120
m-Xylene & p-Xylene	25.0	25.6		ug/L		102	80 - 120
Methylene Chloride	25.0	23.4		ug/L		94	66 - 131
o-Xylene	25.0	25.2		ug/L		101	80 - 120
Tetrachloroethene	25.0	27.3		ug/L		109	79 - 120
Toluene	25.0	25.2		ug/L		101	80 - 120
Trichloroethene	25.0	26.1		ug/L		104	76 - 120
Vinyl chloride	25.0	21.4		ug/L		85	53 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		63 - 129
4-Bromofluorobenzene (Surr)	88		66 - 120
Toluene-d8 (Surr)	96		74 - 120
Dibromofluoromethane (Surr)	100		75 - 121

TestAmerica Canton

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-40749-9 MS

Matrix: Water

Analysis Batch: 143238

Client Sample ID: W-140812-RA-09

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	%Rec.
	Result	Qualifier		Result	Qualifier				
1,1,2-Trichloroethane	1.3	U	31.3	30.2		ug/L		97	75 - 120
1,1-Dichloroethene	1.3	U	31.3	28.9		ug/L		93	74 - 135
Acetone	13	U	62.5	49.9		ug/L		80	33 - 145
Benzene	1.3	U	31.3	30.5		ug/L		98	72 - 121
Carbon tetrachloride	1.3	U	31.3	31.0		ug/L		99	59 - 129
Chloroform	1.3	U	31.3	35.4		ug/L		113	76 - 120
cis-1,2-Dichloroethene	0.31	J	31.3	32.4		ug/L		103	70 - 120
Ethylbenzene	1.3	U	31.3	30.0		ug/L		96	75 - 120
m-Xylene & p-Xylene	1.3		31.3	29.6		ug/L		95	75 - 120
Methylene Chloride	1.3	U	31.3	28.0		ug/L		90	63 - 128
o-Xylene	1.3		31.3	30.5		ug/L		98	76 - 120
Tetrachloroethene	1.3	U	31.3	30.6		ug/L		98	70 - 120
Toluene	1.3	U	31.3	30.7		ug/L		98	78 - 120
Trichloroethene	77		31.3	106		ug/L		95	66 - 120
Vinyl chloride	1.3	U	31.3	24.7		ug/L		79	49 - 130

Surrogate	MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	105		63 - 129
4-Bromofluorobenzene (Surr)	89		66 - 120
Toluene-d8 (Surr)	98		74 - 120
Dibromofluoromethane (Surr)	102		75 - 121

Lab Sample ID: 240-40749-9 MSD

Matrix: Water

Analysis Batch: 143238

Client Sample ID: W-140812-RA-09

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	%Rec.	RPD	
	Result	Qualifier		Result	Qualifier						Limits
1,1,2-Trichloroethane	1.3	U	31.3	31.7		ug/L		101	75 - 120	5	30
1,1-Dichloroethene	1.3	U	31.3	29.3		ug/L		94	74 - 135	1	30
Acetone	13	U	62.5	54.8		ug/L		88	33 - 145	9	30
Benzene	1.3	U	31.3	31.2		ug/L		100	72 - 121	2	30
Carbon tetrachloride	1.3	U	31.3	33.4		ug/L		107	59 - 129	8	30
Chloroform	1.3	U	31.3	35.5		ug/L		114	76 - 120	0	30
cis-1,2-Dichloroethene	0.31	J	31.3	32.8		ug/L		104	70 - 120	1	30
Ethylbenzene	1.3	U	31.3	31.5		ug/L		101	75 - 120	5	30
m-Xylene & p-Xylene	1.3		31.3	30.7		ug/L		98	75 - 120	4	30
Methylene Chloride	1.3	U	31.3	29.1		ug/L		93	63 - 128	4	30
o-Xylene	1.3		31.3	31.2		ug/L		100	76 - 120	2	30
Tetrachloroethene	1.3	U	31.3	32.4		ug/L		104	70 - 120	6	30
Toluene	1.3	U	31.3	31.4		ug/L		100	78 - 120	2	30
Trichloroethene	77		31.3	105		ug/L		91	66 - 120	1	30
Vinyl chloride	1.3	U	31.3	25.7		ug/L		82	49 - 130	4	30

Surrogate	MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	112		63 - 129
4-Bromofluorobenzene (Surr)	91		66 - 120
Toluene-d8 (Surr)	99		74 - 120

TestAmerica Canton

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-40749-9 MSD

Matrix: Water

Analysis Batch: 143238

Client Sample ID: W-140812-RA-09

Prep Type: Total/NA

<i>Surrogate</i>	<i>MSD</i>	<i>MSD</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
<i>Dibromofluoromethane (Surr)</i>	103		75 - 121

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- 14

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

GC/MS VOA

Analysis Batch: 143238

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-40749-1	W-140811-RA-01	Total/NA	Water	8260B	
240-40749-2	W-140811-RA-02	Total/NA	Water	8260B	
240-40749-3	W-140811-RA-03	Total/NA	Water	8260B	
240-40749-4	W-140812-RA-04	Total/NA	Water	8260B	
240-40749-5	W-140812-RA-05	Total/NA	Water	8260B	
240-40749-6	W-140812-RA-06	Total/NA	Water	8260B	
240-40749-7	W-140812-RA-07	Total/NA	Water	8260B	
240-40749-8	W-140812-RA-08	Total/NA	Water	8260B	
240-40749-9	W-140812-RA-09	Total/NA	Water	8260B	
240-40749-9 MS	W-140812-RA-09	Total/NA	Water	8260B	
240-40749-9 MSD	W-140812-RA-09	Total/NA	Water	8260B	
240-40749-10	W-140812-RA-10	Total/NA	Water	8260B	
240-40749-11	W-140812-RA-11	Total/NA	Water	8260B	
240-40749-12	W-140812-RA-12	Total/NA	Water	8260B	
240-40749-13	W-140812-RA-13	Total/NA	Water	8260B	
240-40749-14	TRIP BLANK	Total/NA	Water	8260B	
LCS 240-143238/4	Lab Control Sample	Total/NA	Water	8260B	
MB 240-143238/6	Method Blank	Total/NA	Water	8260B	

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Client Sample ID: W-140811-RA-01

Lab Sample ID: 240-40749-1

Date Collected: 08/11/14 12:05

Matrix: Water

Date Received: 08/14/14 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	143238	08/18/14 17:47	RJQ	TAL CAN

Client Sample ID: W-140811-RA-02

Lab Sample ID: 240-40749-2

Date Collected: 08/11/14 14:25

Matrix: Water

Date Received: 08/14/14 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	143238	08/18/14 18:11	RJQ	TAL CAN

Client Sample ID: W-140811-RA-03

Lab Sample ID: 240-40749-3

Date Collected: 08/11/14 16:00

Matrix: Water

Date Received: 08/14/14 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	143238	08/18/14 18:36	RJQ	TAL CAN

Client Sample ID: W-140812-RA-04

Lab Sample ID: 240-40749-4

Date Collected: 08/12/14 08:10

Matrix: Water

Date Received: 08/14/14 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	143238	08/18/14 19:00	RJQ	TAL CAN

Client Sample ID: W-140812-RA-05

Lab Sample ID: 240-40749-5

Date Collected: 08/12/14 08:10

Matrix: Water

Date Received: 08/14/14 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	143238	08/18/14 19:24	RJQ	TAL CAN

Client Sample ID: W-140812-RA-06

Lab Sample ID: 240-40749-6

Date Collected: 08/12/14 08:20

Matrix: Water

Date Received: 08/14/14 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	143238	08/18/14 19:48	RJQ	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Client Sample ID: W-140812-RA-07

Lab Sample ID: 240-40749-7

Date Collected: 08/12/14 08:25

Matrix: Water

Date Received: 08/14/14 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	143238	08/18/14 20:13	RJQ	TAL CAN

Client Sample ID: W-140812-RA-08

Lab Sample ID: 240-40749-8

Date Collected: 08/12/14 08:30

Matrix: Water

Date Received: 08/14/14 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	143238	08/18/14 20:37	RJQ	TAL CAN

Client Sample ID: W-140812-RA-09

Lab Sample ID: 240-40749-9

Date Collected: 08/12/14 09:10

Matrix: Water

Date Received: 08/14/14 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1.25	143238	08/18/14 14:55	RJQ	TAL CAN

Client Sample ID: W-140812-RA-10

Lab Sample ID: 240-40749-10

Date Collected: 08/12/14 10:15

Matrix: Water

Date Received: 08/14/14 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	143238	08/18/14 21:01	RJQ	TAL CAN

Client Sample ID: W-140812-RA-11

Lab Sample ID: 240-40749-11

Date Collected: 08/12/14 11:50

Matrix: Water

Date Received: 08/14/14 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	143238	08/18/14 21:25	RJQ	TAL CAN

Client Sample ID: W-140812-RA-12

Lab Sample ID: 240-40749-12

Date Collected: 08/12/14 12:30

Matrix: Water

Date Received: 08/14/14 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	143238	08/18/14 21:49	RJQ	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

Client Sample ID: W-140812-RA-13

Lab Sample ID: 240-40749-13

Date Collected: 08/12/14 12:45

Matrix: Water

Date Received: 08/14/14 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	143238	08/18/14 22:13	RJQ	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-40749-14

Date Collected: 08/12/14 00:00

Matrix: Water

Date Received: 08/14/14 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	143238	08/18/14 22:37	RJQ	TAL CAN

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Certification Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-40749-1

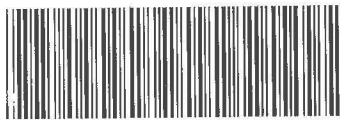
Laboratory: TestAmerica Canton

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	NELAP	9	01144CA	06-30-14 *
California	State Program	9	2927	04-30-15
Connecticut	State Program	1	PH-0590	12-31-14
Florida	NELAP	4	E87225	06-30-15
Georgia	State Program	4	N/A	06-30-15
Illinois	NELAP	5	200004	07-31-15
Kansas	NELAP	7	E-10336	01-31-15
Kentucky (UST)	State Program	4	58	06-30-15
L-A-B	DoD ELAP		L2315	07-18-16
Minnesota	NELAP	5	039-999-348	12-31-14
Nevada	State Program	9	OH-000482008A	07-31-15
New Jersey	NELAP	2	OH001	06-30-15
New York	NELAP	2	10975	03-31-15
Ohio VAP	State Program	5	CL0024	10-31-15
Pennsylvania	NELAP	3	68-00340	08-31-14 *
Texas	NELAP	6		08-31-14 *
USDA	Federal		P330-13-00319	11-26-16
Virginia	NELAP	3	460175	09-14-14 *
Washington	State Program	10	C971	01-12-15
West Virginia DEP	State Program	3	210	12-31-14
Wisconsin	State Program	5	999518190	08-31-14 *

* Certification renewal pending - certification considered valid.

**CHAIN OF CUSTODY
AND
RECEIVING DOCUMENTS**



240-40749 Chain of Custody





CONESTOGA-ROVERS & ASSOCIATES

CHAIN OF CUSTODY RECORD

1801 Old Highway 8 Northwest, Suite 114
St. Paul, Minnesota 55112 United States
Phone: (651) 639-0913 Fax: (651) 639-0923

3.6

COC NO.: **SP-01320**

PAGE OF

(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 003978			Laboratory Name: Test America				Lab Location:				SSOW ID:										
Project Name: Wausau			Lab Contact:				Lab Quote No:				Cooler No:										
Project Location: Wausau LI			CONTAINER QUANTITY & PRESERVATION				ANALYSIS REQUESTED (See Back of COC for Definitions)				Carrier:										
Chemistry Contact: G. Anderson			SAMPLE TYPE				Matrix Code (see back of COC)				Grab (G) or Comp (C)				Airbill No:						
Sampler(s): R. Amst / M. Barnes															Date Shipped:						
Item	SAMPLE IDENTIFICATION (Containers for each sample may be combined on one line)		DATE (mm/dd/yy)	TIME (hh:mm)	Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO ₃)	Sulfuric Acid (H ₂ SO ₄)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	MS/MSD Request				COMMENTS/ SPECIAL INSTRUCTIONS:			
1	W-140801-PA-01		8/11/14	1205	3								3								
2	W-140811-PA-02		8/11/14	1425	3								3								
3	W-140811-PA-03		8/11/14	1600	3								3								
4	W-140812-PA-04		8/12/14	810	3								3								
5	W-140812-PA-05			810	3								3								
6	W-140812-PA-06			820	3								3								
7	W-140812-PA-07			825	3								3								
8	W-140812-PA-08			830	3								3								
9	W-140812-PA-09			910	9								9								
10	W-140812-PA-10			1015	3								3								
11	W-140812-PA-11			11150	3								3								
12	W-140812-PA-12			1230	3								3								
13	W-140812-PA-13			1245	3								3								
14	trip blank				1								1								
15																					
TAT Required in business days (use separate COCs for different TATs): <input type="checkbox"/> 1 Day <input type="checkbox"/> 2 Days <input type="checkbox"/> 3 Days <input type="checkbox"/> 1 Week <input checked="" type="checkbox"/> 2 Week <input type="checkbox"/> Other:					Total Number of Containers:				Notes/ Special Requirements:												
All Samples in Cooler must be on COC																					
RELINQUISHED BY		COMPANY	DATE	TIME	RECEIVED BY		COMPANY	DATE	TIME												
[Signature]		CRA	8/13/14	1600	[Signature]		TA-Canton	8/14/14	9:30												

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT - ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE - Fully Executed Copy (CRA)

YELLOW - Receiving Laboratory Copy

PINK - Shipper

GOLDENROD - Sampling Crew

CRA Form: COC-10A (20110804)



TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 46749

Client Conestoga - Rovers Site Name _____
Cooler Received on 8/14/14 Opened on 8/14/14
FedEx: 1st Grd Exp UPS FAS Stetson Client Drop Off TestAmerica Courier Other _____
TestAmerica Cooler # _____ Foam Box Client Cooler Box Other _____
Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
COOLANT: Wet Ice Blue Ice Dry Ice Water None

Cooler unpacked by:
Jakota Turner

1. Cooler temperature upon receipt

IR GUN# A (CF +2 °C)	Observed Cooler Temp. _____ °C	Corrected Cooler Temp. _____ °C	
IR GUN# 4 (CF -2 °C)	Observed Cooler Temp. _____ °C	Corrected Cooler Temp. _____ °C	<input type="checkbox"/> See Multiple Cooler Form
IR GUN# 5 (CF 0 °C)	Observed Cooler Temp. _____ °C	Corrected Cooler Temp. _____ °C	
IR GUN# 8 (CF 0 °C)	Observed Cooler Temp. <u>3.6</u> °C	Corrected Cooler Temp. <u>3.6</u> °C	
2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 1

	<input checked="" type="radio"/> Yes	<input type="radio"/> No
-Were custody seals on the outside of the cooler(s) signed & dated?	<input checked="" type="radio"/> Yes	<input type="radio"/> No NA
-Were custody seals on the bottle(s)?	<input checked="" type="radio"/> Yes	<input checked="" type="radio"/> No
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Did all bottles arrive in good condition (Unbroken)? Yes No
7. Could all bottle labels be reconciled with the COC? Yes No
8. Were correct bottle(s) used for the test(s) indicated? Yes No
9. Sufficient quantity received to perform indicated analyses? Yes No
10. Were sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC412469
11. Were VOAs on the COC? Yes No
12. Were air bubbles >6 mm in any VOA vials? Yes No NA
13. Was a trip blank present in the cooler(s)? Yes No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
Concerning _____

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:
[Signature]

15. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

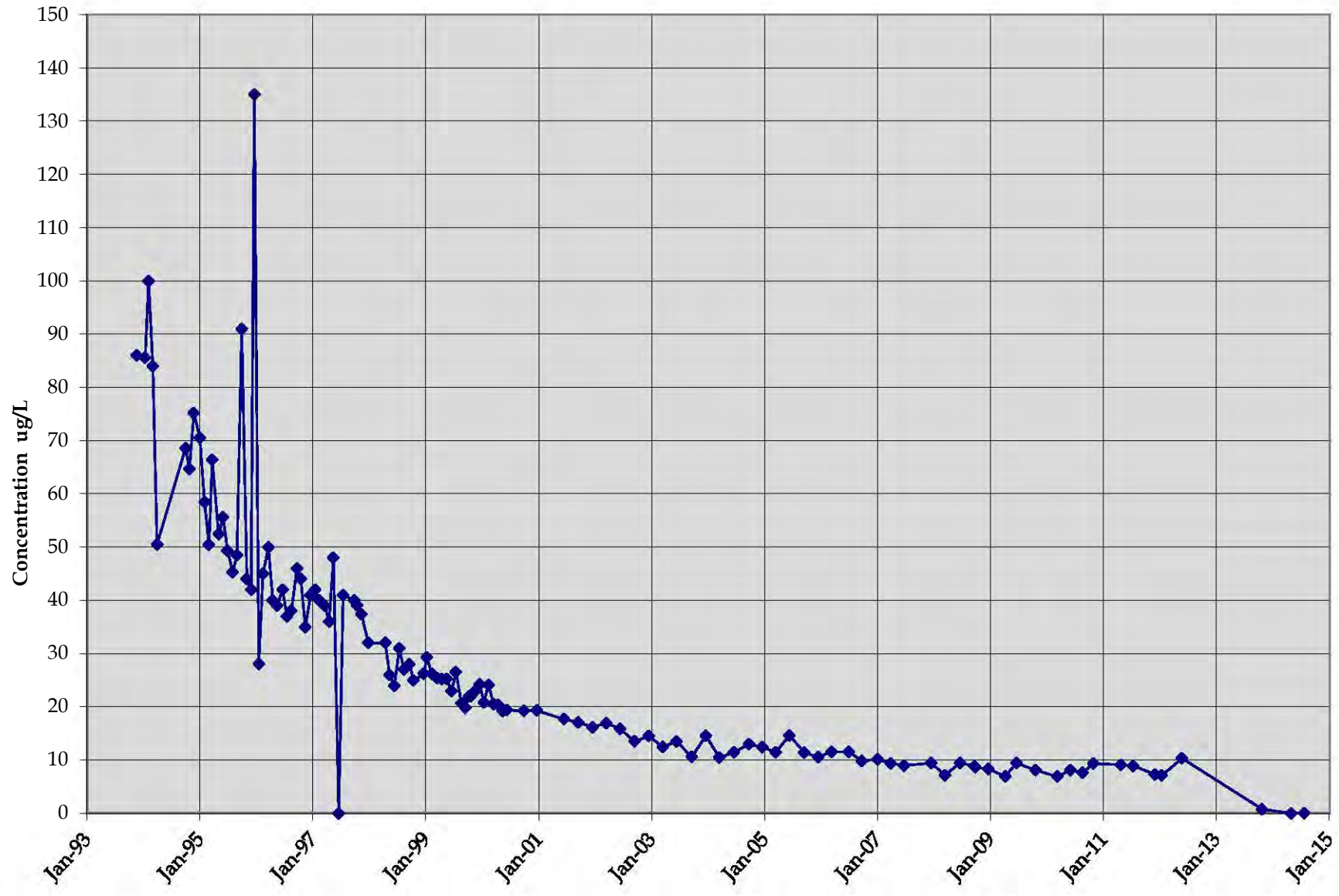
16. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

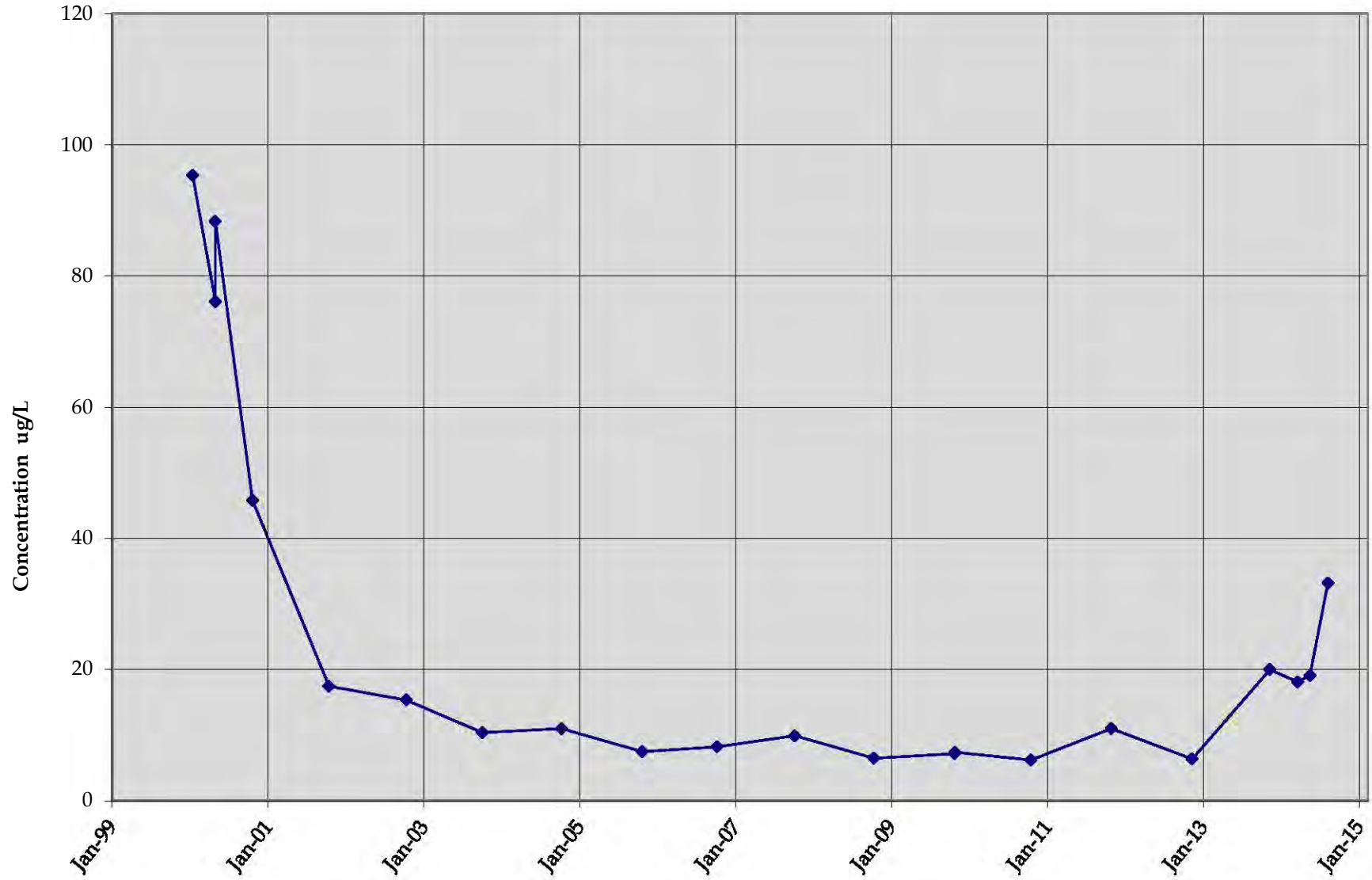
Attachment 2

Charts

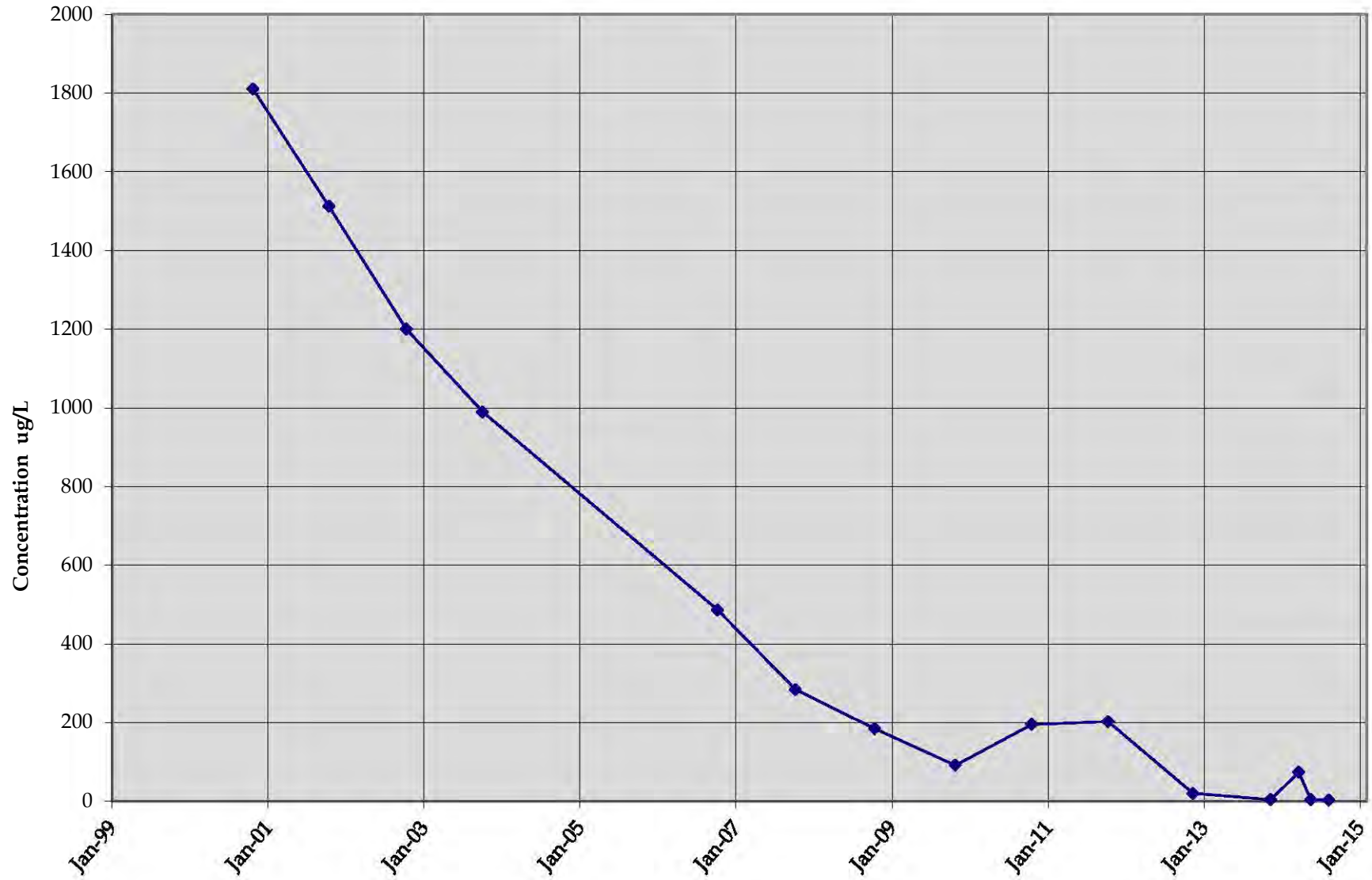
EW1 Total Chlorinated VOC



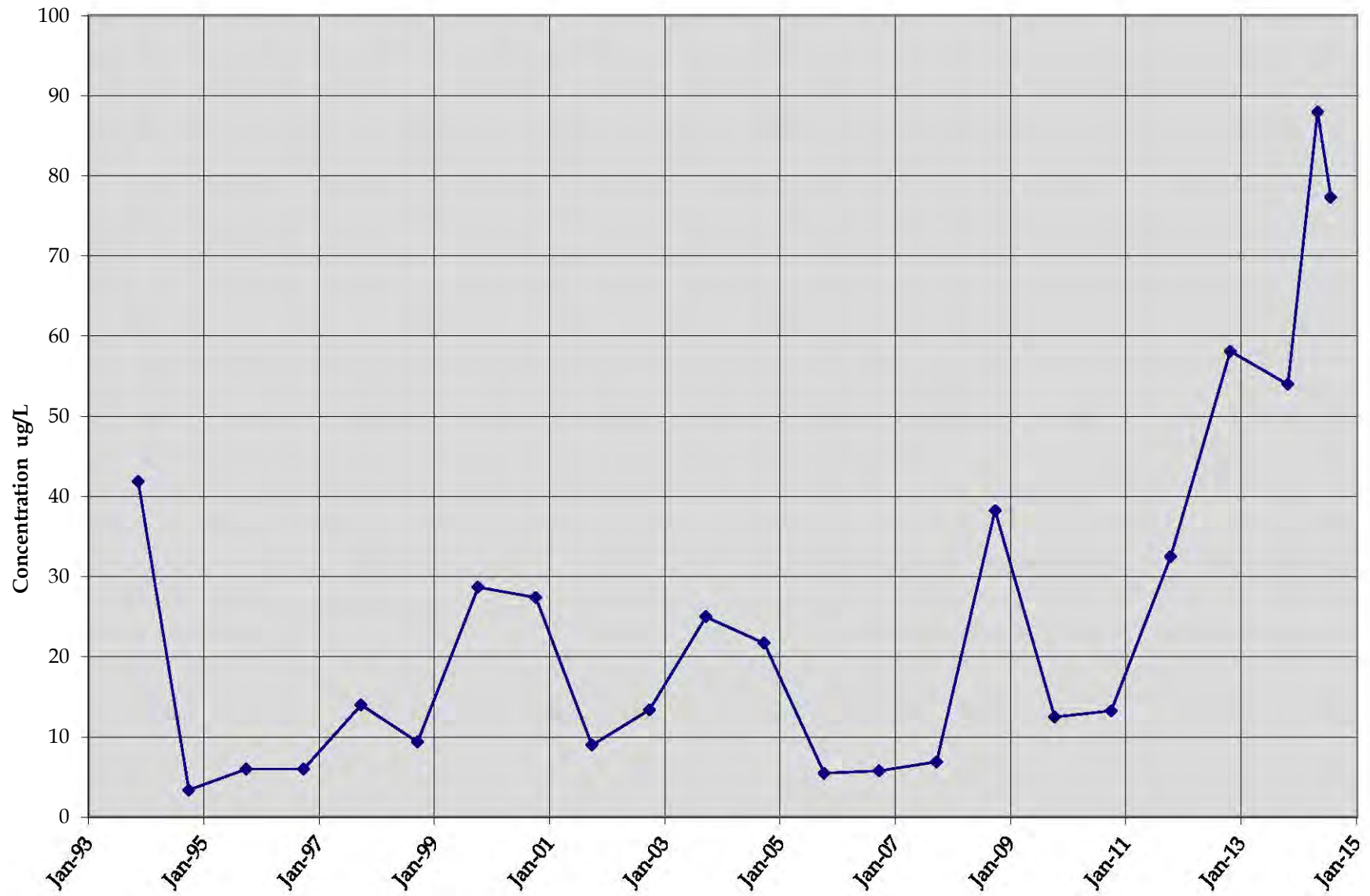
R2D
Total Chlorinated VOC



R3D Total Chlorinated VOC



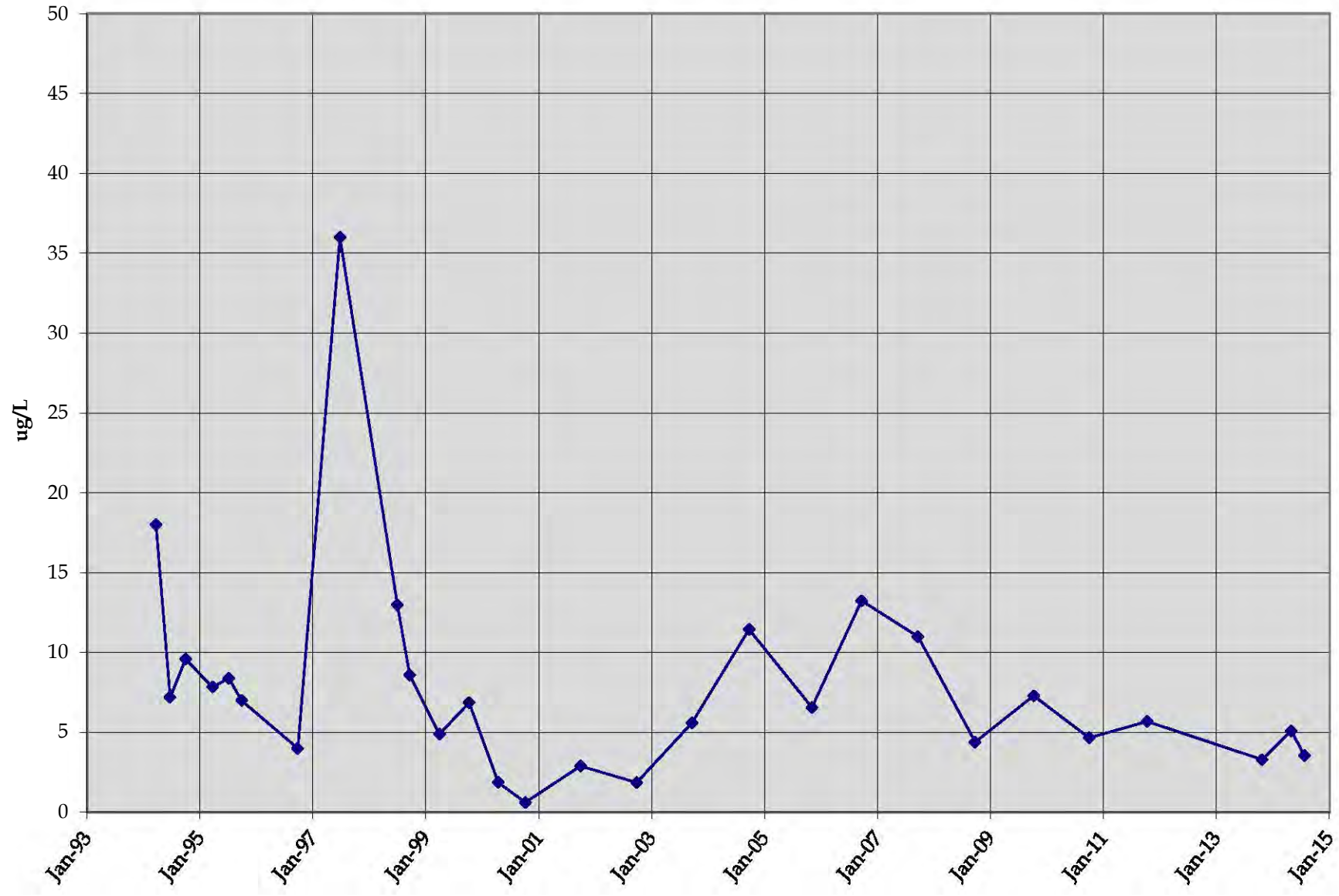
W53A
Total Chlorinated VOC



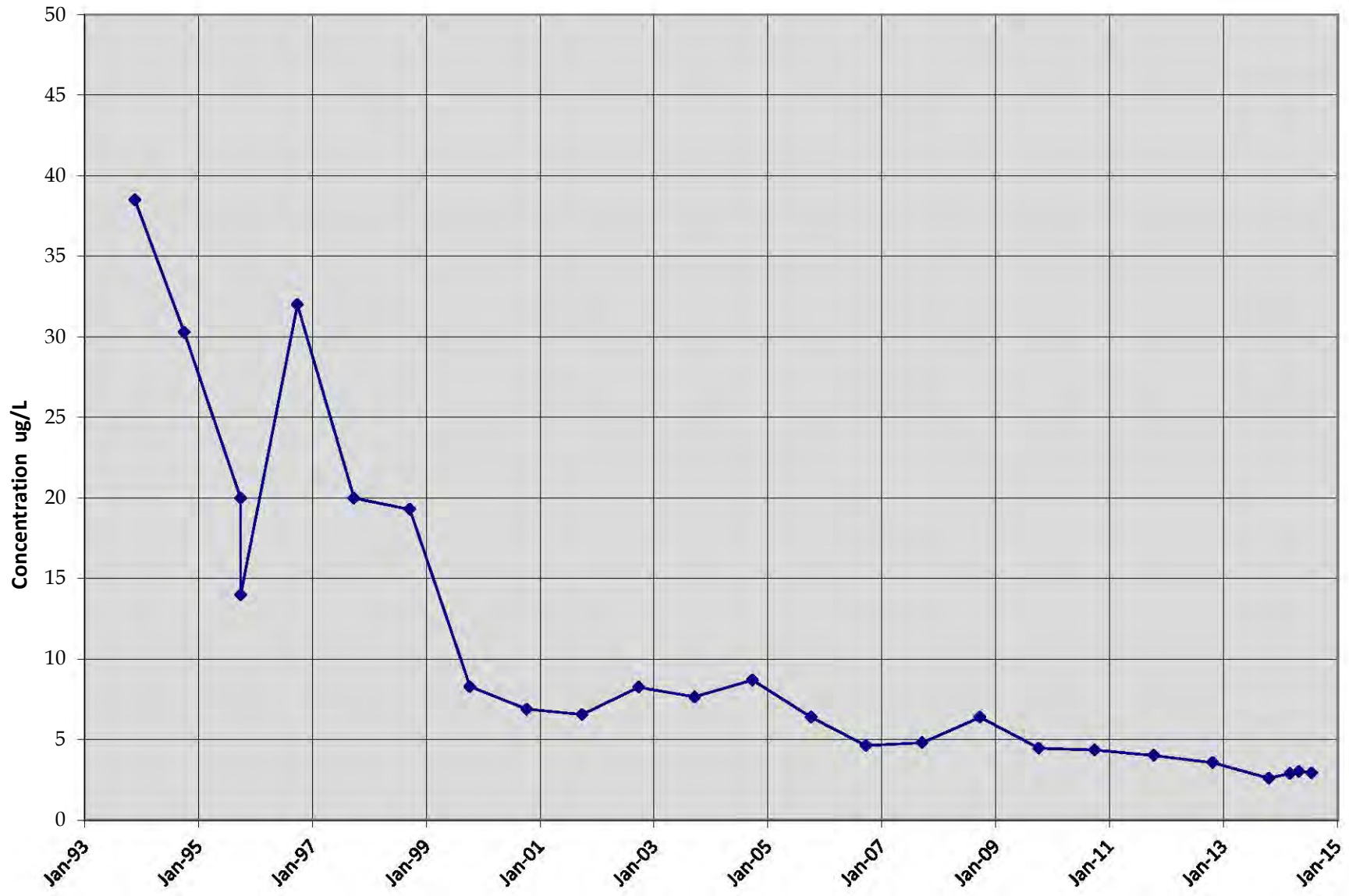
W55 Total Chlorinated VOC



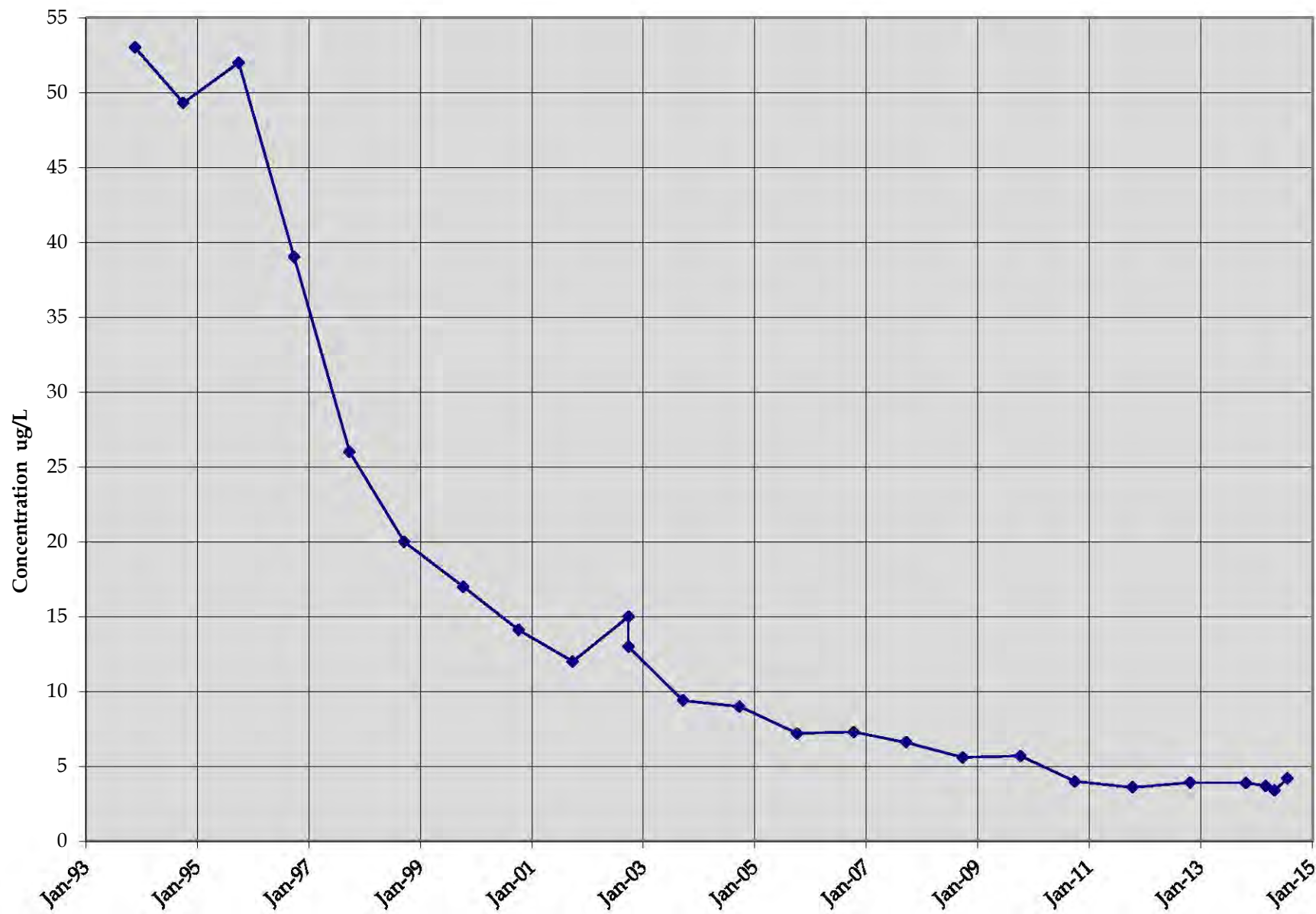
IWD Total Chlorinated VOC



CW3 Total Chlorinated VOC



CW6
Total Chlorinated VOC



Attachment 3

Sample Results

ANALYTICAL RESULTS: GCMS 524.2, Rev 4.1 Safe Drinking Water Analysis - DNR Form

Page 1 of 3

Customer: Wausau Waterworks NLS Project: 227065

Project Description: 2014 Drinking Water

Project Title: PWS#73701023

Template: AGIDNRL Printed: 10/08/2014 09:41

Sample: 817478 200 - VOC Collected: 09/11/14 Analyzed: 09/22/14 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.22	0.72	5	
Bromobenzene	ND	ug/L	1	0.17	0.57		
Bromodichloromethane	[0.21]	ug/L	1	0.15	0.49	80	
Bromoform	ND	ug/L	1	0.16	0.53	80	
Bromomethane	ND	ug/L	1	0.26	0.85		
Carbon Tetrachloride	ND	ug/L	1	0.20	0.66	5	
Chloroethane	ND	ug/L	1	0.94	3.1		
Chloroform	6.9	ug/L	1	0.19	0.62	80	
Chloromethane	ND	ug/L	1	0.16	0.53		
o-Chlorotoluene	ND	ug/L	1	0.18	0.59		
p-Chlorotoluene	ND	ug/L	1	0.19	0.63		
Dibromochloromethane	ND	ug/L	1	0.15	0.49	80	
Dibromomethane	ND	ug/L	1	0.22	0.74		
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.21	0.69		
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.57	600	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.17	0.56	75	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.65		
1,2-Dichloroethane	ND	ug/L	1	0.16	0.54	5	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.68	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.19	0.65	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.14	0.45	100	
Dichloromethane	ND	ug/L	1	0.19	0.63	5	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.78	5	
1,3-Dichloropropane	ND	ug/L	1	0.19	0.63		
2,2-Dichloropropane	ND	ug/L	1	0.14	0.46		
1,1-Dichloropropene	ND	ug/L	1	0.10	0.32		
1,3-Dichloropropene	ND	ug/L	1	0.36	1.2		
Ethylbenzene	ND	ug/L	1	0.19	0.64	700	
Chlorobenzene	ND	ug/L	1	0.19	0.63	100	
Styrene	ND	ug/L	1	0.17	0.56	100	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.18	0.59		
1,1,2,2-Tetrachloroethane	ND	ug/L	1	0.15	0.49		
Tetrachloroethene	ND	ug/L	1	0.18	0.61	5	
Toluene	ND	ug/L	1	0.18	0.59	1000	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.19	0.62	70	
1,1,1-Trichloroethane	ND	ug/L	1	0.15	0.51	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.20	0.65	5	
Trichloroethene	ND	ug/L	1	0.11	0.36	5	
1,2,3-Trichloropropane	ND	ug/L	1	0.19	0.62		
Vinyl chloride	ND	ug/L	1	0.18	0.61	2	
Xylene total	ND	ug/L	1	0.53	1.8	10000	
4-Bromofluorobenzene (SURR)	96%						S
1,2-Dichlorobenzene-d4 (SURR)	103%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: GCMS 524.2, Rev 4.1 Safe Drinking Water Analysis - DNR Form

Customer: Wausau Waterworks NLS Project: 227065

Project Description: 2014 Drinking Water

Project Title: PWS#73701023

Template: AGIDNRL Printed: 10/08/2014 09:41

Sample: 817483 300 - VOC Collected: 09/11/14 Analyzed: 09/22/14 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.22	0.72	5	
Bromobenzene	ND	ug/L	1	0.17	0.57		
Bromodichloromethane	[0.19]	ug/L	1	0.15	0.49	80	
Bromoform	ND	ug/L	1	0.16	0.53	80	
Bromomethane	ND	ug/L	1	0.26	0.85		
Carbon Tetrachloride	ND	ug/L	1	0.20	0.66	5	
Chloroethane	ND	ug/L	1	0.94	3.1		
Chloroform	6.2	ug/L	1	0.19	0.62	80	
Chloromethane	ND	ug/L	1	0.16	0.53		
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Dibromochloromethane	ND	ug/L	1	0.15	0.49	80	
Dibromomethane	ND	ug/L	1	0.22	0.74		
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.21	0.69		
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.57	600	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.17	0.56	75	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.65		
1,2-Dichloroethane	ND	ug/L	1	0.16	0.54	5	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.68	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.19	0.65	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.14	0.45	100	
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1,1,1-Trichloroethane	ND	ug/L	1	0.15	0.51	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.20	0.65	5	
Trichloroethene	ND	ug/L	1	0.11	0.36	5	
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Vinyl chloride	ND	ug/L	1	0.18	0.61	.2	
Xylene total	ND	ug/L	1	0.53	1.8	10000	
4-Bromofluorobenzene (SURR)	91%						S
1,2-Dichlorobenzene-d4 (SURR)	108%						S

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ANALYTICAL RESULTS: GCMS 524.2, Rev 4.1 Safe Drinking Water Analysis - DNR Form

Page 3 of 3

Customer: Wausau Waterworks NLS Project: 227065

Project Description: 2014 Drinking Water

Project Title: PWS#73701023

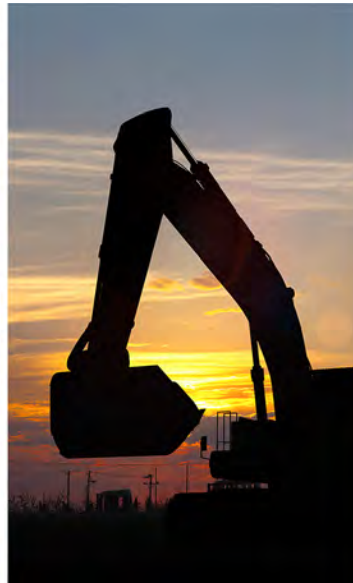
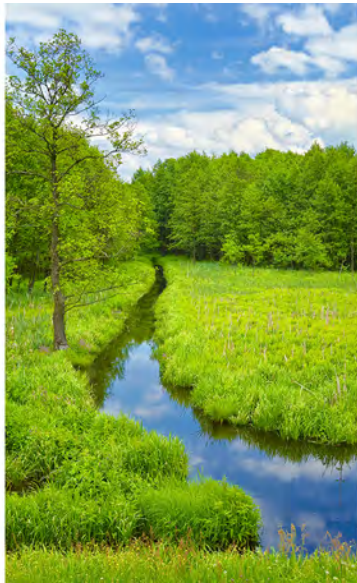
Template: AGIDNRL Printed: 10/08/2014 09:41

Sample: 817484 Trip Blank Collected: 09/11/14 Analyzed: 09/22/14 - Analytes: 41

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4-Bromofluorobenzene (SURR)	89%					S
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NOTES APPLICABLE TO THIS ANALYSIS:

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Final Report

2013 Annual Monitoring Report

Wausau Water Supply NPL Site
Wausau, Wisconsin

Conestoga-Rovers & Associates

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

February 2014 • 003978 (33)

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Section 1.0 Introduction

Conestoga-Rovers and Associates (CRA) has prepared this 2013 Annual Monitoring 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 2013. This report also presents the first quarter of supplemental data collected as part of the EW1 Shutdown Pilot Study¹.

1.1 History

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

Source area remediation was accomplished by the installation of SVE systems at Marathon Electric (West Bank) and Wausau Chemical (East Bank) in January 1994. 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 SVE system was shut down while evaluation for final closure occurred. The East Bank source remediation was approved as complete in 2007.

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

EW1 stopped operating in July 2012 due to pump failure. Since EW1 has essentially completed its performance goal, the Group proposed a pilot study to confirm that the groundwater containment network of pumping wells will continue to be effective without the need for pumping at EW1. The EW1 Shutdown Pilot Study Work Plan proposal was submitted to the United States Environmental Protection Agency (EPA) on September 3, 2013. Via email, dated November 5, 2013, EPA requested that the supplemental data collection for the Pilot Study start during the 4th quarter of 2013, concurrent with the annual monitoring event.

¹ EW1 Shutdown Pilot Study Work Plan, Wausau Water Supply NPL Site, Wausau, Wisconsin, CRA, September 2013.

The pumping rates for the three extraction wells were originally defined in the CD. In the Groundwater Flow Model report (CRA, May 1993), CRA established a range of pumping rates that would maintain capture of the groundwater plume. Subsequently, in an August 4, 1995 letter, the EPA approved a pumping configuration range for the three extraction wells. Those pumping rates were:

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

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

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

The Groundwater Monitoring Plan requires an annual report on the activities occurring the previous calendar year. This Report fulfills the requirement for 2013.

1.2 Monitoring Background

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

Groundwater remediation at the Wausau Site is a long-term process that cannot be readily measured on a short-term basis using water quality data alone. Accordingly, water quality data is measured annually on a long-term basis to show the downward trend of VOC concentrations in groundwater. Because of the time necessary to achieve groundwater remediation, containment of contaminated groundwater is the primary measurable and achievable short-term objective.

For the purpose of evaluation, groundwater monitoring at Wausau has been divided into two areas, the East Bank and the West Bank of the Wisconsin River, corresponding to the two original source areas. The river forms a natural hydraulic division of the Site. During 2013, two groundwater extraction wells

were operated to contain and remove VOC contaminated groundwater. One extraction well is on the West Bank, (CW6) and one is on the East Bank (CW3) (see Figure 1.2).

1.3 Site Geology

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

1.4 Groundwater Cleanup Standards

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

- Trichloroethylene (TCE) 5 µg/L
- Tetrachloroethylene (PCE) 5 µg/L
- cis-1,2-Dichloroethylene (C12DCE) 70 µg/L
- Vinyl chloride 2 µg/L

Section 2.0 2013 Monitoring

The 2013 annual groundwater monitoring event was conducted during the week of November 11. Monitoring was conducted in accordance with the Groundwater Monitoring Plan, with the following exceptions:

- As reported in the 2000 Annual Monitoring Report, two monitoring wells (WC2 and W51A) are no longer monitored and they were abandoned in 2000.
- Also, as approved by the USEPA and Wisconsin Department of Natural Resources (WDNR) through the 2002 Annual Monitoring Report, the analysis of bis(2-ethylhexyl)phthalate at C4S and W53A was discontinued in 2003.

- Monitoring wells E24 and E24A were abandoned in 2012. Monitoring well E24AR was installed as a replacement. The well log for E24AR was provided in Appendix A of the 2012 Annual Monitoring Report.
- Extraction well EW1 was not operating during 2013, thus, quarterly influent and effluent sampling was not conducted. However, a sample was collected from EW1 during the November 2013 monitoring event.

2.1 EW1 Shutdown Pilot Study Monitoring

In addition to the annual monitoring scope of work, supplemental data were collected as proposed in the Pilot Study Work Plan. These data included:

- Collection of groundwater samples from monitoring wells E21 and IWD for VOC analysis
- Collection of samples from West Well Field water supply wells in addition to CW6
- Obtain copies of City Treatment Plant analytical data for post-treatment VOC samples
- Obtain City well pumping rate summaries

2.2 Water Level Monitoring

Table 2.1 presents the groundwater elevation data measured on November 11 and 12, 2013. Water table contours based on these measurements are presented on Figure 2.1. Field staff measured water levels on the East Bank on November 11 while CW-3, the East Bank remediation well, was pumping. West Bank water levels were measured on November 12 while CW-6, the West Bank remediation well was operating. As explained above, EW1 was not operating during the November monitoring event. Water levels in the City production wells were measured with the assistance of City staff.

The East Bank contours are consistent with flow patterns observed in previous years. The East Bank flow patterns are controlled by the operation of CW3. The West Bank contours depict a large cone of influence created by CW6. Under normal pumping conditions, CW10 and CW11 would also show significant drawdown and would augment the cone of influence created by the West Wellfield. However, due to low water demand, the City was only pumping CW6 on November 12. Under natural conditions, groundwater would flow toward and discharge to the Wisconsin River. Under existing conditions however, groundwater flows toward the City supply wells.

2.3 Groundwater Sampling

Annual groundwater sampling was conducted on November 11, 12 and 13, 2013. Monitoring well samples were analyzed for the Site specific VOC list (see Table 2.2) by EPA Method 8260. A summary of the groundwater sampling event, including field parameter measurements, is presented in Table 2.3.

Groundwater sampling was conducted according to the Quality Assurance Project Plan, (CRA, February 1994) as amended by a June 11, 1999, letter to the USEPA. TestAmerica Laboratories, Inc. in North Canton, Ohio, analyzed all samples. Laboratory results are being submitted electronically in the Region V Electronic Data Deliverable (EDD) format for inclusion in the Region V EPA database. Copies of the laboratory report and data quality validation memoranda for the 2013 data are presented in Appendix A.

2.4 Extraction Well EW1 Sampling

EW1 did not operate during 2013. Thus, influent and post-treatment effluent samples were not collected.

Section 3.0 Operation and Maintenance

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

3.1 Monitoring Well Inspection

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

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

Table 3.1 presents the results of the inspection. The inspection indicated that all wells were in satisfactory condition. New locks were installed on four wells and additional minor maintenance issues will be addressed during 2014 monitoring events. Also, now that construction has been completed at the Bridge Community Clinic, a new concrete pad will be constructed for E24AR.

3.2 City Production Wells

CW3 and CW6 operated as required in 2013 with minimal shutdowns or repairs. Table 3.2 presents 2013 pumping data for the six City wells. While only CW3 and CW6 are part of the remediation system, data for all City wells are presented, consistent with previous reports. The table shows, by month, the number of hours each well was operated, the number of gallons pumped from each well, and the average pumping rate while the pump was operating.

CW3 and CW6 operated on alternate schedules at rates that exceeded the operating requirements established by the USEPA approval letter dated August 4, 1995. CW3 operated for an average of 77.6 hours per week with an average pumping rate of 1,516 gpm, exceeding the requirements of 65 hours per week at 1,200 gpm.

CW6 operated for an average of 89.1 hours per week with an average pumping rate of 1,518 gpm, exceeding the requirement of 85 hours per week at 1,400 gpm.

3.3 East Bank Source Area Pavement Inspection

The USEPA and WDNR approved final closure of the East Bank source remediation SVE system in September 2007. A requirement of the closure was an annual inspection of the paved areas surrounding the Wausau Chemical property, as described in the Pavement Cover and Building Maintenance Plan. The purpose of the inspection is to monitor the integrity of the paved areas of the property and make recommendations to minimize rainwater infiltration and prevent direct human contact with soils. In August 2009 the entire pavement area was repaved with new asphalt and the street adjacent to the west side of the property, North River Drive, was repaved by the City of Wausau. Also, an approximately 2,800 square foot addition, with concrete floor and roof, was added to the south end of the building in 2009-2010. Inspections conducted during 2013 found the pavement to be in good condition. Utility work by the natural gas company was thoroughly patched and all minor cracks were filled. A copy of the pavement inspection report and photographs of the paved area are presented in Appendix B.

Section 4.0 Evaluation of Groundwater Data

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

Table 4.1 presents the laboratory results for monitoring well samples collected in November 2013. The data indicate that, in general, the VOC concentrations are stable or decreasing. Figure 4.1 presents the total chlorinated VOC (TCVOC) data and total CVOC concentration contours that illustrate the plume configuration based on the November 2013 data.

4.1 West Bank

The primary chlorinated VOC found in the West Bank groundwater is trichloroethene (TCE), which was detected at 10 of the 12 West Bank monitoring wells, EW1, and City well CW6. The degradation product, cis-1,2-dichloroethene (C12DCE), was detected at seven locations, but all concentrations were less than 1.0 µg/L. Vinyl chloride was not detected on the West Bank. Monitoring wells with TCE concentrations greater than the MCL of 5 µg/L included R2D, R4D, C2S, W53A, and W54. The TCE concentration at CW6 (3.9 µg/L) was below the MCL (see Table 4.1). No VOCs were detected in the samples from City wells CW10 and CW11.

In the portion of the plume north of EW1, CVOCs are located in the deeper portion of the aquifer. Wells north of EW1 that exceeded the MCL for TCE included R2D, C2S, and R4D. C2S is a shallow aquifer well nested with R4D. Total CVOC concentrations at C2S have been below 5 µg/L since 2001 and was ND in 2012, however the 2013 total CVOC concentration was 8.9 µg/L. This increase indicates that the impacted groundwater from the old landfill source area is migrating north to CW6 and the West Well Field. Prior to the shutdown of EW1, this portion of the groundwater plume would have been captured by EW1.

In the southern portion of the plume, in the vicinity of the old landfill, CVOCs are more prevalent in the shallower portion of the aquifer. Monitoring wells south of EW1 that exceeded the MCL for TCE included MW53A and MW54. TCE concentrations have fluctuated at MW53A historically. The 2013 concentration was slightly lower than the 2012 concentration; however, it is still higher than historical values. At MW54, CVOCs had not been detected since 2000. With the change in groundwater flow patterns since EW1 stopped pumping, the higher concentration at MW54 indicates that the impacted groundwater in the area of the old landfill is migrating north toward CW6 and the West Well Field.

As described in previous Annual Monitoring Reports, historically there has been a remnant of higher TCE concentrations in the area of monitoring wells R2D and R3D. Prior to the installation of EW1, this remnant of higher concentrations was in the area of R2D, migrating north toward CW6. When EW1 began pumping, the flow gradient was reversed and over the past 20 years the remnant has been slowly drawn to the south toward EW1. The capture zone flow divide between CW6 and EW1 was near the R2D/R3D area. As such, groundwater in this area was in a stagnation zone. Also, as pumping rates and pumping schedules varied at EW1 and CW6, the capture divide moved back and forth, causing the plume remnant to occasionally switch flow direction, having the effect of minimal movement in one direction or the other. From 1997 through 2000, the TCE concentrations at monitoring well R3D increased as the remnant moved south from R2D. R3D concentrations then began decreasing as the remnant continued south to EW1. As the pumping rate at EW1 declined during 2010 and 2011, the TCE concentrations at R3D increased as a portion of the higher concentration remnant may have been recaptured by the pumping influence of the West Well Field and migrated north toward CW6. The 2013

data indicate continued decline of VOC concentrations at R3D and increased concentrations at R2D. This suggests that the remnant of higher concentrations is moving north to CW6. The historical data for R2D, R3D, and R4D are presented below.

Total CVOCs ($\mu\text{g/L}$)			
Year	R2D	R3D	R4D
1996	1600	2	540
1997	720	5	65/65
1998	320	580	52/58
1999	110	1200	33
2000	45	1800	58
2001	17	1500	13/13
2002	15	1200	36
2003	10	980	39/37
2004	11	899	51
2005	7.5	400	56/57
2006	8.2	480/500	42
2007	9.9	280	1.3
2008	6.5	180	13
2009	7.2/7.4	92	22.4/23.4
2010	6.2	195.7	25.7
2011	11	203.1	27.6
2012	6.38	20.7	4.89
2013	20	4.3/4.8	16.58

In the far north portion of the West Bank plume, within the capture area of City well CW6 (see Figure 4.1), the only detected VOCs are TCE and C12DCE and the concentrations are similar to the 2012 concentrations. This area of the plume appears to be stable with gradually decreasing to stable TCE concentrations.

The overall areal extent of the contaminant plume did not change significantly relative to 2011. Charts showing total CVOC concentrations for select West Bank wells are presented in Appendix C.

4.2 East Bank

East Bank VOC data are presented in Table 4.1. While tetrachloroethene (PCE) was the original contaminant on the East Bank, the presence of TCE, C12DCE, and vinyl chloride at concentrations that exceed the PCE concentration in many wells indicates an active natural biodegradation process. For example, at E22A, the C12DCE concentration was higher than the PCE and TCE concentrations combined.

PCE, or one of the daughter products, was detected at 9 of the 13 East Bank monitoring wells and at City well CW3 in 2013. Five of the monitoring wells had concentrations that exceeded the MCL of at least one VOC. The areal extent of the East Bank contaminant plume remained steady compared to 2012 (see Figure 4.1). Total CVOC concentrations from 2007 through 2013 for key East Bank wells are shown below:

<i>Total CVOCs (µg/L)</i>							
<i>Well</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>
WC3B	4.2	1.5	1,460/565.2 ²	1.24	2.26	3.47	0.26
WC5A	1.8	2.8	12.1	9.86	4.6	1.3	7.3
E24A(R)	1.1	1	13	20	1.4	3.86 ³	22 ³
E22A	10	ND	231.9	5.03	3.2	25.41	104.9
E37A	34	460	77.35	7.0	140.19	68.06	4.67
E23A	130	260	154	30.94	115.7	86.52	53.25
WW6	35	12	29.97	46.34	17.6	45.48	45.8
CW3	4.8	6.4	4.48	4.36	4.03	3.58	2.62
IWD	11	4.4	7.3	4.67	5.7	NA	3.3

Significant decreases in CVOC concentrations occurred at E37A and E23A, while increases were reported for E22A and E24AR. These fluctuations are consistent with historical trends on the East Bank as higher concentration parts of the plume move toward CW3 and extraction. Charts showing total CVOC concentrations for select East Bank wells are presented in Appendix C.

Monitoring well IWD is on an island in the Wisconsin River approximately midway between EW1 and CW3. IWD monitors the deep portion of the aquifer beneath the river. Prior to the installation of EW1, the capture zone of the East Bank municipal wells extended beneath the river to the west and captured

² WC3B was resampled on January 12, 2010, to confirm the October, 2009 result.

³ 2012 and 2013 sample collected from E24AR

a portion of the West Bank contaminant plume. The TCE detected at IWD is a remnant of the West Bank contamination. After EW1 was installed, a groundwater divide was created in the area of IWD, causing a stagnation zone and resulting in a TCE plume remnant that had generally remained in place since EW1 began pumping. Prior to the November 2013 sample, IWD was last sampled in November 2011 and exhibited a total CVOC concentration of 5.7 µg/L. The November 2013 total CVOC concentration was 3.3 µg/L, which is the lowest concentration since 2002. A graph showing IWD total CVOC concentrations from 1994 through 2013 is presented in Appendix C. If EW1 remains shut down, the stagnation zone beneath the river will cease to exist and the plume remnant in the IWD area may be captured and removed by CW3. No VOCs were detected in the sample from monitoring well E21, which is between IWD and CW3. This indicates that the West Bank plume does not currently extend all the way across the river (see Figure 4.1).

The 2013 concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX) at monitoring well FVD5 were consistent with historical data. The aromatic compounds found in this well are related to the Wausau Energy property and are independent of the Wausau NPL site remediation process.

4.3 EW1

EW1 did not operate during 2013, hence, influent and post-treatment effluent samples were not collected. A sample was collected from EW1 during the November 2013 sampling event and the total CVOC concentration was less than 1 µg/L.

4.4 Hydraulic Capture

Hydraulic capture of the contaminant plume is demonstrated by the water table contours illustrated on Figure 2.1. The water table contours indicate that groundwater flow at the Site was toward the two operating extraction wells (CW3 and CW6). At nested well locations, the water table elevations for shallow and deep wells were similar, indicating horizontal flow and hydraulic containment of the shallow and deeper portions of the aquifer. Figure 4.1 also demonstrates that hydraulic containment of the contaminant plume was maintained through 2013.

4.5 EW1 Shutdown Pilot Study Data Collection

In addition to the annual monitoring scope of work, supplemental data were collected as proposed in the Pilot Study Work Plan. These data included:

1. Collection of groundwater samples from monitoring wells E21 and IWD for VOC analysis. These data were reported in Section 4.2 above. The November 2013 total CVOC concentration was 3.3 µg/L, which is the lowest concentration since 2002. No VOCs were detected in the sample from monitoring well E21, which is between IWD and CW3.

2. Collection of samples from West Well Field water supply wells in addition to CW6. The priority supply well on the West Bank is CW6. When additional water is required, CW10 and CW11 are also used. As proposed in the Pilot Study Work Plan, the intention was to collect a sample of the combined CW10 and CW11 influent at the City's treatment plant, prior to treatment. However, there is no sample port at the treatment plant. Therefore, CW10 and CW11 were sampled individually at their wellheads. No VOCs were detected at either of these wells.
3. Obtain copies of City Treatment Plant analytical data for post-treatment VOC samples. The City Treatment Plant collects samples of the City water supply on a quarterly basis. The samples are collected at two exit points where the treated water leaves the plant. The results for sample collected in March, June, and September 2013 are presented in Appendix D. The only VOCs detected during the first three quarters of 2013 were chloroform and bromodichloromethane. Neither of these compounds are associated with the Site groundwater contamination and both are common drinking water disinfection byproducts.
4. Obtain City well pumping rate summaries. These data were reported in Section 3.2 above and in Table 3.2. Both CW3 and CW6 exceeded their pumping requirements during 2013.

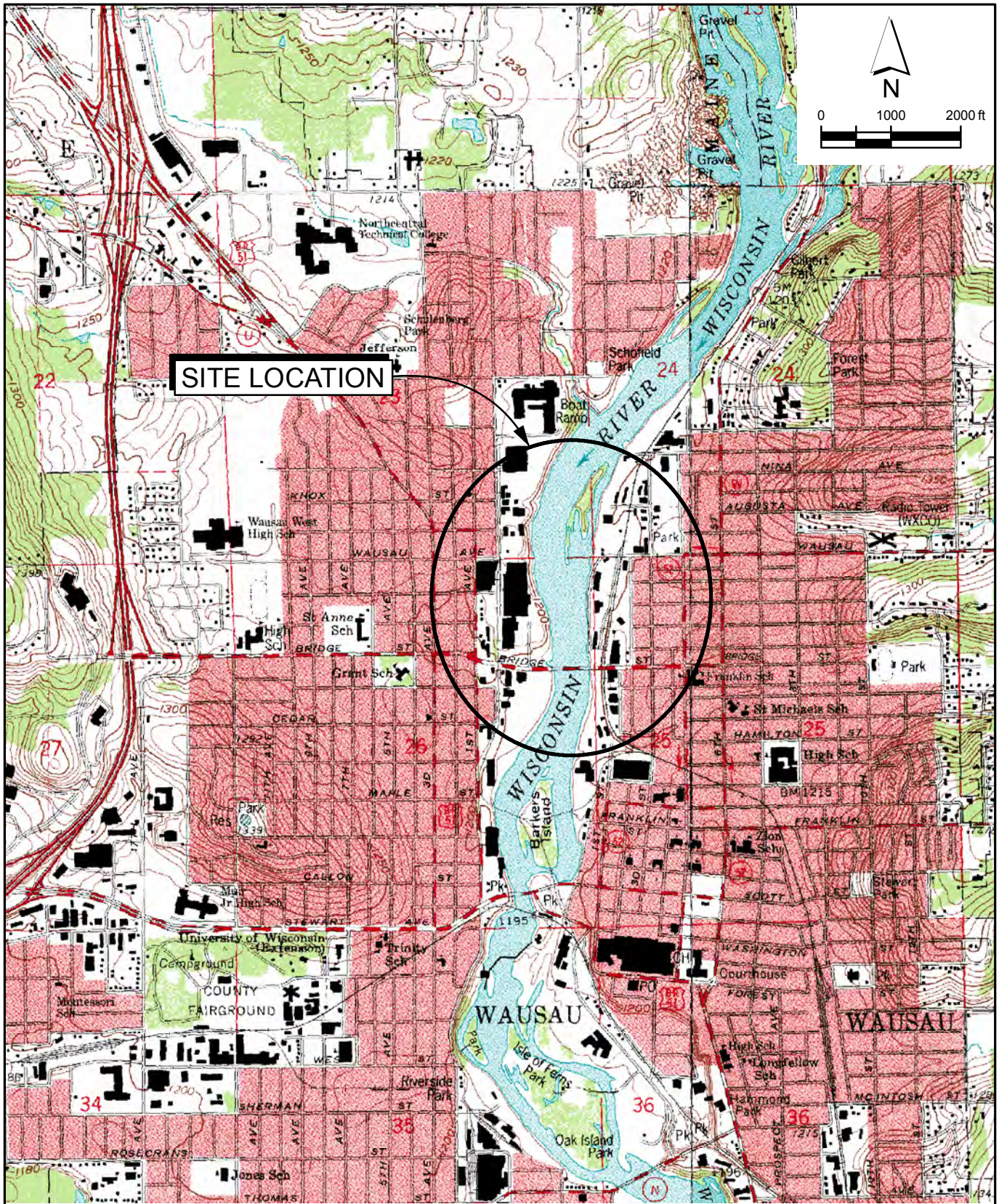
Section 5.0 Conclusions and Recommendations

5.1 Conclusions

- City production wells, CW3 and CW6, continue to capture the CVOC plume as demonstrated by the hydraulic and chemical data.
- The East Bank CVOC plume exhibited concentration patterns consistent with continued migration of higher concentration parts of the plume as it moves toward CW3 and extraction. The areal extent of the East Bank plume was stable compared to recent years. The presence of PCE daughter products provides evidence of natural attenuation of the East Bank plume.
- Five East Bank wells had concentrations that exceeded the MCL of at least one of these VOCs: PCE, TCE C12DCE, or vinyl chloride.
- Based on the non-detect result at E21 and the low TCE concentration at IWD, the West Bank plume does not extend all the way to CW3 on the East Bank.
- The CVOC plume on the West Bank remained stable in its areal extent. Three well locations, R2D, W54, and C2S exhibited increased concentrations, indicating plume migration to the north toward CW6.
- Five West Bank monitoring wells (R2D, R4D, C2S, W53A, and W54) and EW1 had TCE concentrations greater than the MCL of 5 µg/L.
- The City production wells operated within the requirements established by EPA.
- The annual inspection of the pavement and building barrier at Wausau Chemical found the pavement to be in good condition and all minor cracks have been repaired.

5.2 Recommendations

Groundwater monitoring in 2014 should continue as proposed in the Pilot Study Work Plan. The next monitoring event is scheduled for the first quarter of 2014 and will be conducted in late February or early March, weather and snow depth permitting. Given the high snowfall amounts and continuous cold weather, many of the flush-mount wells will be inaccessible beneath high snow banks on the boulevards. In addition, the Wisconsin River is frozen and the island well, IWD, will not be accessible during the first quarter monitoring event.



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

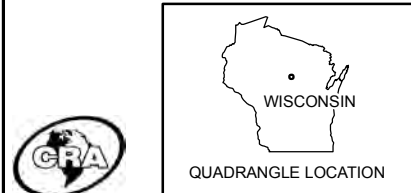


figure 1.1
 SITE LOCATION
 WAUSAU WATER SUPPLY NPL SITE
 Wausau, Wisconsin

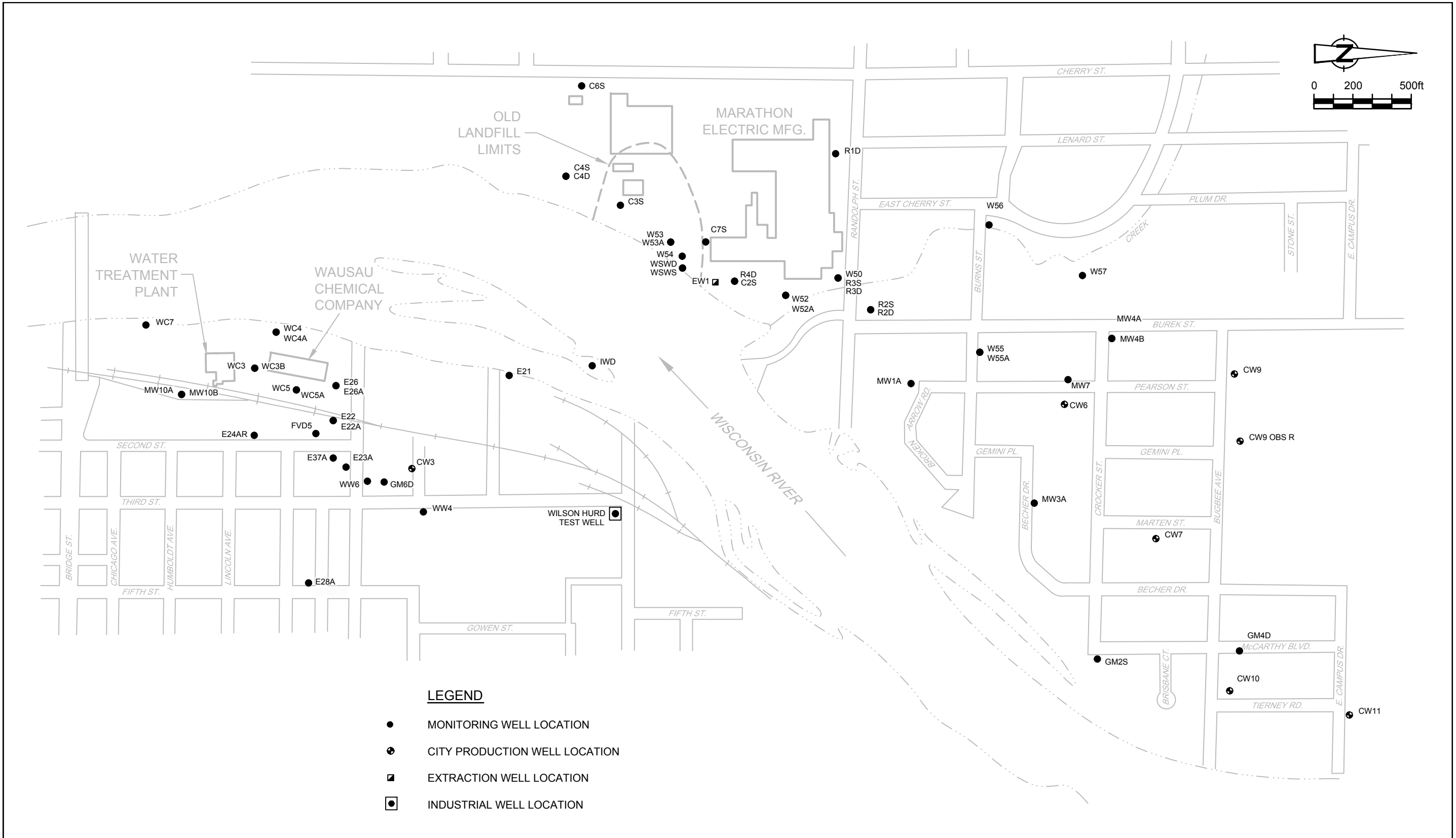


figure 1.2
 SITE PLAN
 WAUSAU WATER SUPPLY NPL SITE
 Wausau, Wisconsin



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

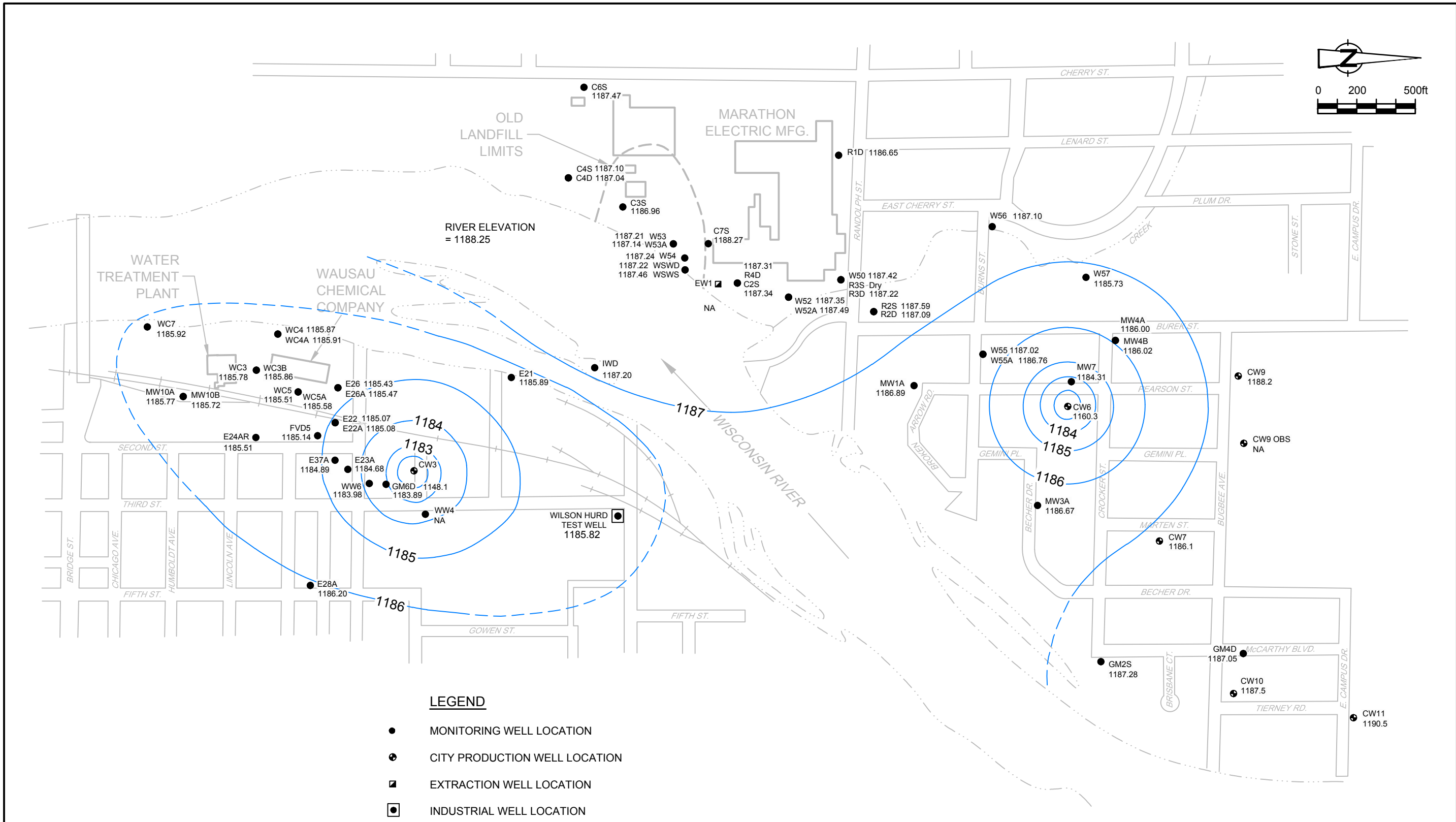
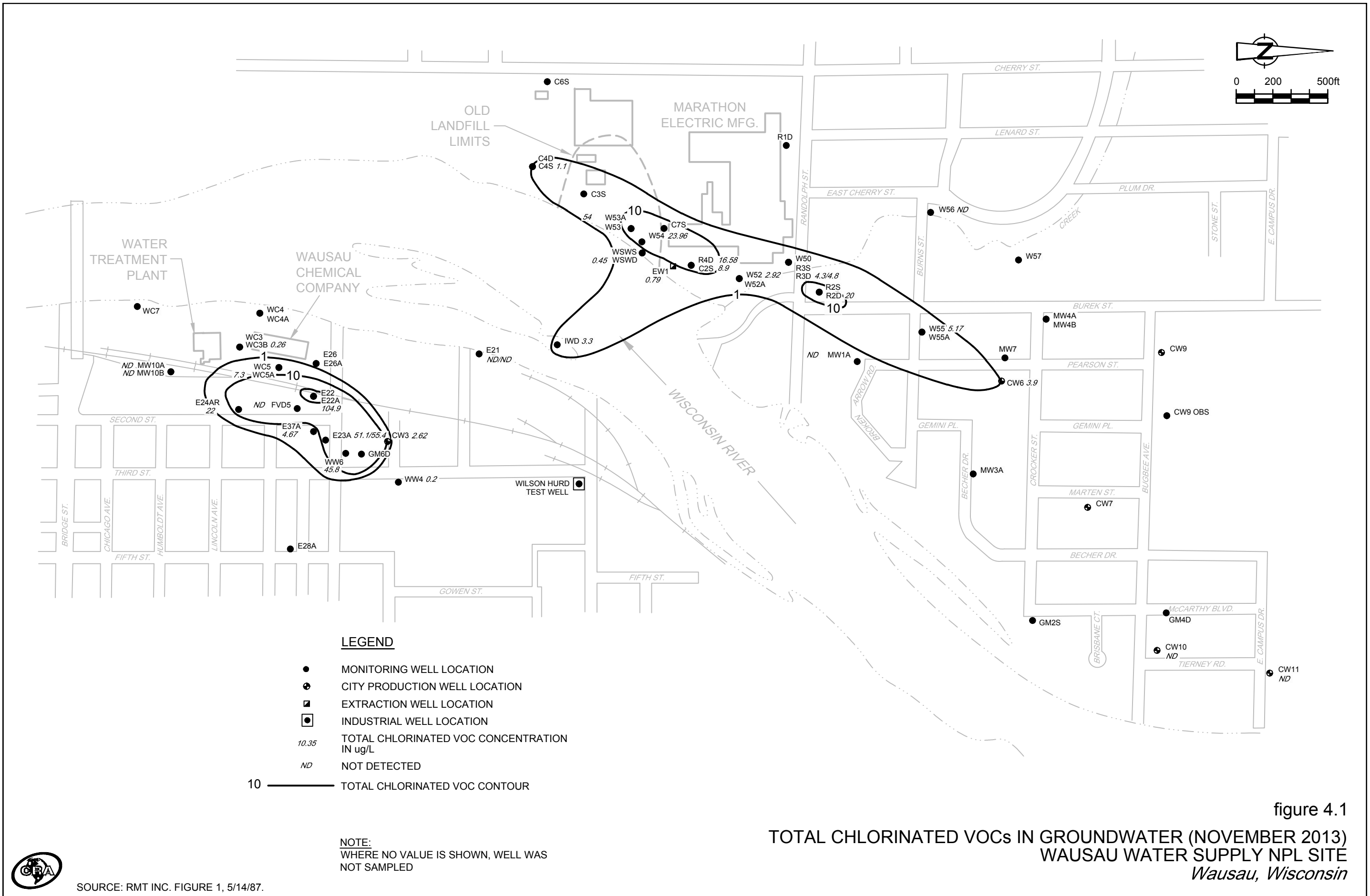


figure 2.1
 GROUNDWATER ELEVATIONS
 NOVEMBER 11, 12, 2013
 WAUSAU WATER SUPPLY NPL SITE
 Wausau, Wisconsin



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

03978-00(033)GN-WA002 JAN 8/2014



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

GROUNDWATER ELEVATIONS - NOVEMBER 2013
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

	<i>Reference Elevation</i>		<i>Water Level (ft BTOC)</i>	<i>Water Table Elevation (ft AMSL)</i>
East Bank			11/11/2013	11/11/2013
CW3	1202.15	*	54.00	1148.15
E21	1197.51		11.62	1185.89
E22	1195.47		10.40	1185.07
E22A	1195.88		10.80	1185.08
E23A	1197.61		12.93	1184.68
E24AR	1209.33	(1),(2)	23.82	1185.51
E26	1199.02		13.59	1185.43
E26A	1199.13		13.66	1185.47
E28A	1211.60		25.40	1186.20
E37A	1197.84		12.95	1184.89
FVD5	1198.89		13.75	1185.14
GM6D	1198.57		14.68	1183.89
W. HURD	1200.23		14.41	1185.82
IWD	1192.10		4.90	1187.20
MW10A	1210.67		24.90	1185.77
MW10B	1210.37		24.65	1185.72
WC3	1198.26		12.48	1185.78
WC3B	1196.11	(2)	10.25	1185.86
WC4	1196.74		10.87	1185.87
WC4A	1196.57		10.66	1185.91
WC5	1196.62		11.11	1185.51
WC5A	1196.66		11.08	1185.58
WC7	1196.77		10.85	1185.92
WW4	1200.34	(2)	16.36	1183.98
WW6	1200.53		16.55	1183.98
West Bank			11/12/2013	11/12/2013
EW1	NA		30.80	NA
CW6	1220.33	*	60.00	1160.33
CW7	1224.14		38.00	1186.14
CW9	1226.16		38.00	1188.16
CW9 OBS R	(3)		38.11	NA
CW10	1218.49		31.00	1187.49
CW11	1216.51		26.00	1190.51
C2S	1219.05		31.71	1187.34
C3S	1220.58		33.62	1186.96
C4S	1216.70		29.60	1187.10
C4D	1216.16		29.12	1187.04
C6S	1221.58		34.11	1187.47
C7S	1220.87		32.60	1188.27
GM2S	1211.78		24.50	1187.28
GM4D	1216.35		29.30	1187.05
MW1A	1215.69		28.80	1186.89

GROUNDWATER ELEVATIONS - NOVEMBER 2013
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

	<i>Reference Elevation</i>	<i>Water Level (ft BTOC)</i>	<i>Water Table Elevation (ft AMSL)</i>
West Bank Cont.			
MW3A	1220.87	34.20	1186.67
MW4A	1215.48	29.48	1186.00
MW4B	1215.10	29.08	1186.02
MW7	1218.53	34.22	1184.31
R1D	1222.24	35.59	1186.65
R2S	1209.70	22.11	1187.59
R2D	1209.42	22.33	1187.09
R3S	1215.17	Dry	Dry
R3D	1215.42	28.20	1187.22
R4D	1218.90	31.59	1187.31
W50	1215.54	28.12	1187.42
W52	1219.16	31.81	1187.35
W52A	1218.95	31.46	1187.49
W53	1216.67	29.46	1187.21
W53A	1216.90	29.76	1187.14
W54	1216.19	28.95	1187.24
W55	1217.04	30.02	1187.02
W55A	1217.31	30.55	1186.76
W56	1200.01	12.91	1187.10
W57	1201.76 ⁽²⁾	16.03	1185.73
WSWS	1193.04	5.58	1187.46
WSWD	1193.02	5.80	1187.22

Notes:

Elevations relative to National Geodetic Vertical Datum

ft BTOC - Feet below top of casing.

ft AMSL - Feet above mean sea level.

* - Well was pumping.

NA - Not Applicable.

⁽¹⁾ Wells E24 and E24A were abandoned in 2012, replaced by the installation of E24AR in 2012.

⁽²⁾ Reference elevation resurveyed in 2012.

⁽³⁾ Replacement observation well. Reference elevation to be surveyed.

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 - NOVEMBER 2013
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

<i>Well</i>	<i>Date</i>	<i>pH</i>	<i>Conductivity (uS/cm)</i>	<i>Temperature (°C)</i>	<i>Water Clarity</i>	<i>Gallons Removed</i>	<i>Sample ID</i>	<i>QA/QC</i>
East Bank								
CW3	11/11/2013	6.48	288	11.2	Cloudy, brown	Grab	W-131111-MLR-01	
E21	11/11/2013	7.16	170	11.0	Clear	60.0	W-131111-MLR-02 W-131111-MLR-03	Duplicate
E22A	11/12/2013	6.47	456	12.2	Sl. cloudy, rusty	6.0	W-131112-MLR-15	
E23A	11/12/2013	6.71	453	12.1	Black tint, suspended particles	4.5	W-131112-MLR-17 W-131112-MLR-18	Duplicate
E24AR	11/12/2013	6.83	179	11.2	Clear	6.0	W-131112-MLR-19	
E37A	11/12/2013	6.49	296	13.6	Cloudy, brown	6.0	W-131112-MLR-14	
FVD 5	11/12/2013	6.12	282	12.1	Clear	4.3	W-131112-MLR-13	
IWD	11/13/2013	7.04	142	11.3	Clear	2.5	W-131113-MLR-35	
MW-10B	11/11/2013	6.53	282	11.2	Clear	10.0	W-131111-MLR-06	
MW-10A	11/11/2013	7.10	179	11.4	Clear	27.0	W-131111-MLR-04 W-131111-MLR-05	Equipment Blank
WC3B	11/11/2013	7.07	153	13.5	Clear	6.0	W-131111-MLR-08	
WC5A	11/11/2013	6.53	195	11.8	Clear	4.8	W-131111-MLR-07	
WW4	11/12/2013	6.44	576	11.1	Clear	9.0	W-131112-MLR-16	
WW6	11/12/2013	6.66	307	11.2	Clear	12.0	W-131112-MLR-12	MS/MSD

TABLE 2.3

GROUNDWATER SAMPLING SUMMARY - NOVEMBER 2013
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

<i>Well</i>	<i>Date</i>	<i>pH</i>	<i>Conductivity (uS/cm)</i>	<i>Temperature (°C)</i>	<i>Water Clarity</i>	<i>Gallons Removed</i>	<i>Sample ID</i>	<i>QA/QC</i>
West Bank								
C2S	11/13/2013	6.19	1023	12.6	Clear	6.5	W-131113-MLR-31	
C4S	11/13/2013	6.47	1001	10.7	Clear	3.0	W-131113-MLR-27	MS/MSD
CW6	11/12/2013	6.00	191	10.6	Clear	Grab	W-131112-MLR-11	
CW10	11/12/2013	6.47	136	13.5	Clear	Grab	W-131112-MLR-10	
CW11	11/12/2013	6.54	152	13.5	Clear	Grab	W-131112-MLR-09	
EW1	11/12/2013	9.29	288	12.3	Clear	105.0	W-131112-MLR-26	
MW-1A	11/12/2013	9.18	138	9.8	Sl. Cloudy, milky white	8.0	W-131112-MLR-23	
R2D	11/12/2013	7.45	130	10.2	Clear	5.0	W-131112-MLR-24	
R3D	11/13/2013	6.54	345	9.9	Clear	54.0	W-131113-MLR-33 W-131113-MLR-34	Duplicate
R4D	11/12/2013	6.44	670	11.3	Clear	4.0	W-131112-MLR-25	
W52	11/13/2013	7.10	127	9.5	Clear	1.5	W-131113-MLR-32	
W53A	11/13/2013	6.88	545	11.5	Clear	4.4	W-131113-MLR-28 W-131113-MLR-29	Field Blank
W54	11/13/2013	6.53	389	11.0	Cloudy, brown	4.5	W-131113-MLR-30	
W55	11/12/2013	7.51	146	9.9	Clear	2.5	W-131112-MLR-22	
W56	11/12/2013	6.84	726	10.2	Clear	20.3	W-131112-MLR-20 W-131112-MLR-21	Equipment Blank
WSWD	11/13/2013	7.25	150	11.2	Clear	1.5	W-131113-MLR-36	

TABLE 3.1

MONITORING WELL INSPECTION - 2013
 WAUSAU WATER SUPPLY NPL SITE
 WAUSAU, WISCONSIN

<i>Well Name</i>	<i>Total Depth from TOC/Stickup (ft.)</i>	<i>Well ID/Tag Visible?</i>	<i>Casing & Grout Condition</i>	<i>Well Cap Condition (inner/outer)</i>	<i>Lock Condition</i>	<i>Concrete Seal Condition</i>	<i>Ground Condition (subsidence?)</i>	<i>Flush Mount</i>	<i>Notes</i>	<i>Maintenance Completed</i>
East Bank										
CW3	NA	NA	NA	NA/Good	NA	NA	NA			
E21	132.9/1.2	Yes	Good	None/OK	OK	Good	Okay		No room for J-Plug	
E22	90.40/-0.5	Yes - Paint label	Good	OK/OK	OK	Good	Okay	FM		
E22A	22.10/-0.4	Yes - Paint label	Good	OK/OK	OK	Good	Okay	FM		
E23A	21.60/-0.4	Yes - Paint label	Good	Good/Good	Good	Good	Okay	FM		New lock installed.
E24AR	34.30/-0.3	Yes - Paint label	Cracked Pad	Good/ Good	Good	Cracked	Okay	FM	Concrete pad is cracked.	
E26	94.80/2.60	Yes	Good	see note/OK	OK	OK	Okay		No room for j-plug	
E26A	25.95/2.40	Yes	Good	see note/OK	OK	OK	Okay		No room for j-plug	
E28A	33.7/-0.3	Yes - Paint label	Good/OK	Good/Good	Good	Good	Okay	FM		
E37A	25.35/-0.5	Yes	OK	OK/OK	Good	OK	Okay	FM		New lock installed.
FVD5	22.55/1.4	Yes	OK	None/OK	OK	OK	Okay		No room for J-Plug	
GM6D	109.4/-0.3	Yes - Paint label	Good	OK/OK	Good	Good	Okay	FM		
W. HURD	103.9/1.3	Yes	Good	NA/Good	Good	Good	Okay			
IWD	129/2.2	Yes	OK	BP/Good	OK	Good	Okay		No inner cap - Bladder Pump.	
MW10A	81.0/3.3	Yes	Good	None/ Good	Good	Good	Okay		No room for J-Plug	
MW10B	40.7/2.5	Yes	Good	None/Good	Good	Good	Okay		No room for J-Plug	
WC3	164.0/2.0	Yes	Good	Good/Good	Good	Good	Okay			
WC3B	22.25/-0.35	Yes	Good	Good/Good	Good	Good	Okay			
WC4	54.8/1.4	Yes	Good	None/OK	Good	Good	Okay		No room for J-Plug	
WC4A	20.7/1.4	Yes	Good	Good/OK	Good	Good	Okay			
WC5	55.7/1.5	Yes	Good	None/OK	Good	Good	Okay		No inner cap.	New lock installed.
WC5A	20.8/1.3	Yes	Good	None/OK	OK	Good	Okay		No inner cap.	
WC7	54.45/1.3	Yes	Good	None/Good	Good	Good	Okay		No room for J-Plug	
WW4	34.85/-0.3	Yes - Paint label	OK	OK/OK	Good	OK	Okay	FM	Needs new bolt.	
WW6	40.1/1.8	Yes	OK	None/OK	OK	Good	Okay		No inner cap.	

TABLE 3.1

**MONITORING WELL INSPECTION - 2013
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

<i>Well Name</i>	<i>Total Depth from TOC/Stickup (ft.)</i>	<i>Well ID/Tag Visible?</i>	<i>Casing & Grout Condition</i>	<i>Well Cap Condition (inner/outer)</i>	<i>Lock Condition</i>	<i>Concrete Seal Condition</i>	<i>Ground Condition (subsidence?)</i>	<i>Flush Mount</i>	<i>Notes</i>	<i>Maintenance Completed</i>
West Bank										
EW1	143/NM	NA	OK	None	None	Good	Concrete		Well is inside locked pump house.	
CW6	NA	NA	NA	NA/Good	NA	NA	NA			
CW7	NA	NA	NA	NA/Good	NA	NA	NA			
CW9	NA	NA	NA	NA/Good	NA	NA	NA			
CW9 OBS R	102.75/2.3								Replacement observation well is ~10 ft south of original location.	
CW10	NA	NA	NA	NA/Good	NA	NA	NA			
CW11	NA	NA	NA	NA/Good	NA	NA	NA			
C2S	35.95/3.0	Yes	OK	BP/OK	Good	Good	Okay			
C3S	40.7/2.7	Yes	OK	OK/OK	Good	Good	Okay			New lock installed.
C4S	34.9/3.0	Yes	OK	OK/OK	Good	Good	Okay			
C4D	103/2.9	Yes	OK	OK/OK	Good	Good	Okay			
C6S	41.3/2.4	Yes	OK	None/OK	Good	Good	Okay		No room for J-plug	
C7S	40.2/2.4	Yes	OK	OK/OK	OK	Good	Okay			
GM2S	34.4/-0.5	Yes - Paint label	OK	Good/OK	Good	Good	Okay	FM		
GM4D	53.8/1.5	Yes	OK	None/OK	Good	Good	Okay		No room for J-plug	
MW1A	125.8/1.3	Yes	OK	BP - OK/OK	Good	Good	Okay			
MW3A	74.5/-0.2	Yes - Paint label	OK	Good/OK	Good	Good	Okay	FM		
MW4A	100.3/-0.3	Yes - Paint label	OK	OK/OK	Good	Good	Okay	FM	No room for lock on J-Plug	
MW4B	58.8/-0.3	Yes - Paint label	OK	OK/OK	OK	Good	Okay	FM		
MW7	44.2/-0.3	Yes - Paint label	OK	Good/OK	Good	Good	Okay	FM		
R1D	125.0/1.9	Yes	OK	None/OK	OK	Good	Okay			
R2S	30.75/1.4	Yes	OK	OK/OK	Good	Good	Okay		Rusty hinge.	
R2D	124.8/1.9	Yes	OK	BP - OK/OK	Good	Good	Okay			
R3S	26.7/2.5	Yes	OK	OK/OK	Good	Good	Okay			
R3D	139.3/2.9	Yes	OK	OK/OK	Good	Good	Okay			
R4D	124.9/2.9	Yes	OK	BP - OK/OK	Good	Good	Okay			
W50	84.9/3.1	Yes	OK	None/OK	Good	Good	Okay			
W52	116.3/2.9	Yes	OK	BP - OK/OK	OK	Good	Okay			
W52A	38.2/2.9	Yes	OK	OK/OK	OK	Good	Okay			
W53	124.6/-0.75	Yes - Paint label	OK	BP - OK/OK	None	Good	Okay	FM		
W53A	36.2/-0.4	Yes - Paint label	OK	BP-Good/OK	Good	Good	Okay	FM		

TABLE 3.1

MONITORING WELL INSPECTION - 2013
 WAUSAU WATER SUPPLY NPL SITE
 WAUSAU, WISCONSIN

<i>Well Name</i>	<i>Total Depth from TOC/Stickup (ft.)</i>	<i>Well ID/Tag Visible?</i>	<i>Casing & Grout Condition</i>	<i>Well Cap Condition (inner/outer)</i>	<i>Lock Condition</i>	<i>Concrete Seal Condition</i>	<i>Ground Condition (subsidence?)</i>	<i>Flush Mount</i>	<i>Notes</i>	<i>Maintenance Completed</i>
<i>West Bank (Continued)</i>										
W54	59.65/-0.25	Yes - Paint label	OK	BP - Good/OK	Good	Good	Okay	FM		
W55	105.7/-0.9	Yes - Paint label	OK	OK/OK	Good	Good	Okay	FM		
W55A	42.55/-0.75	Yes - Paint label	OK	OK/OK	Good	Good	Okay	FM		
W56	67.0/1.4	Yes - Paint label	OK	Good/Good	Good	Good	Okay	FM		
W57	74.8/-0.2	Yes - Paint label	OK	Good/Good	Good	Good	Okay	FM		
WSWS	15.7/4.2	Yes	OK	Good/Good	Good	Good	Okay			
WSWD	141/3.2	Yes	OK	BP-Good/OK	Good	Good	Okay			

**CITY WATER SUPPLY WELL PUMPING AVERAGES
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

		Well #3	Well #6	Well #7	Well #9	Well #10	Well #11
January	Hours	312.9	427	206.4	31.1	89	126.1
	Gallons	30.867	41.2	27.045	1.677	17.677	21.962
	gpm	1644	1608	2184	899	3310	2903
February	Hours	288.5	379.9	212.4	50.2	105.6	111.8
	Gallons	27.885	35.064	25.657	2.724	21.012	19.437
	gpm	1611	1538	2013	904	3316	2898
March	Hours	401.9	333.5	273.1	48.8	83.2	81.1
	Gallons	37.6	30.217	33.732	2.637	17.933	14.007
	gpm	1559	1510	2059	901	3592	2879
April	Hours	267.6	446.5	148.1	42.5	83.2	116.2
	Gallons	24.036	40.487	15.429	2.289	16.689	18.332
	gpm	1497	1511	1736	898	3343	2629
May	Hours	356.1	380.4	218.6	23	129.8	111
	Gallons	29.353	34.409	22.509	1.247	24.805	19.254
	gpm	1374	1508	1716	904	3185	2891
June	Hours	353.6	357.1	238.8	47.1	158.4	67.1
	Gallons	30.374	32.799	23.951	2.55	31.64	11.671
	gpm	1432	1531	1672	902	3329	2899
July	Hours	288.2	442.9	215.2	109.1	215.9	172
	Gallons	26.352	40.727	22.009	6.088	40.756	30.032
	gpm	1524	1533	1705	930	3146	2910
August	Hours	378.4	371	294.9	204.1	201.5	157.6
	Gallons	32.698	33.638	30.359	10.548	34.618	27.946
	gpm	1440	1511	1716	861	2863	2955
September	Hours	334.4	354.7	247.7	95.5	116	147.6
	Gallons	32.006	32.091	25.877	5.182	22.141	25.64
	gpm	1595	1508	1741	904	3181	2895
October	Hours	309.9	430.8	136.6	74.1	131.3	80.9
	Gallons	28	38.945	14.548	4.024	26.067	14.03
	gpm	1506	1507	1775	905	3309	2890
November	Hours	410.7	303.6	183.1	61	38.2	86.5
	Gallons	37.212	27.412	19.423	2.972	7.314	14.971
	gpm	1510	1505	1768	812	3191	2885
December	Hours	331.4	403.9	182.1	35.7	82.9	74.8
	Gallons	29.725	35.157	19.376	1.924	16.409	13.042
	gpm	1495	1451	1773	898	3299	2906
Average hours/week		77.6	89.1	49.2	15.8	27.6	25.6
Average gpm:		1516	1518	1825	889	3218	2880

Note:

Hours indicates total hours pumped per month - Gallons indicates millions of gallons pumped per month

TABLE 4.1

**ANNUAL GROUNDWATER MONITORING LABORATORY RESULTS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

<i>Sample Location:</i>			<i>CW3</i>	<i>E21</i>	<i>E21</i>	<i>E22A</i>	<i>E23A</i>	<i>E23A</i>	<i>E24AR</i>
<i>Sample ID:</i>			<i>W-131111-MLR-01</i>	<i>W-131111-MLR-02</i>	<i>W-131111-MLR-03</i>	<i>W-131112-MLR-15</i>	<i>W-131112-MLR-17</i>	<i>W-131112-MLR-18</i>	<i>W-131112-MLR-19</i>
<i>Sample Date:</i>			<i>11/11/2013</i>	<i>11/11/2013</i>	<i>11/11/2013</i>	<i>11/12/2013</i>	<i>11/12/2013</i>	<i>11/12/2013</i>	<i>11/12/2013</i>
					<i>FIELD DUP</i>			<i>FIELD DUP</i>	
VOAs		MCL							
1,1,2-Trichloroethane	ug/L	5	1.0 U	1.0 U	1.0 U	2.9 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	7	1.0 U	1.0 U	1.0 U	2.9 U	1.0 U	0.31 J	1.0 U
Acetone	ug/L	--	10 U	10 U	10 U	29 U	10 U	10 U	10 U
Benzene	ug/L	5	1.0 U	1.0 U	1.0 U	2.9 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	5	1.0 U	1.0 U	1.0 U	2.9 U	1.0 U	1.0 U	1.0 U
Chloroform	ug/L	80*	1.0 U	1.0 U	1.0 U	2.9 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	70	0.50 J	1.0 U	1.0 U	97	24	27	3.5
Ethylbenzene	ug/L	700	1.0 U	1.0 U	1.0 U	2.9 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	5	1.0 U	1.0 U	1.0 U	2.9 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	5	1.40	1.0 U	1.0 U	17	20	20	15
Toluene	ug/L	1000	1.0 U	1.0 U	1.0 U	2.9 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	5	0.72 J	1.0 U	1.0 U	6.9	6.0	6.5	2.3
Vinyl chloride	ug/L	2	1.0 U	1.0 U	1.0 U	1.0 J	1.1	1.6	1.2
Xylenes (total)	ug/L	10000	1.0 U	1.0 U	1.0 U	2.9 U	1.0 U	1.0 U	1.0 U
Total Chlorinated VOC			2.62	0.0	0.0	104.9	51.1	55.4	22.0

TABLE 4.1

**ANNUAL GROUNDWATER MONITORING LABORATORY RESULTS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

<i>Sample Location:</i>		<i>E37A</i>	<i>FVD5</i>	<i>IWD</i>	<i>MW10A</i>	<i>MW10B</i>	<i>WC3B</i>	<i>WC5A</i>	
<i>Sample ID:</i>		<i>W-131112-MLR-14</i>	<i>W-131112-MLR-13</i>	<i>W-131113-MLR-35</i>	<i>W-131111-MLR-05</i>	<i>W-131111-MLR-06</i>	<i>W-131111-MLR-08</i>	<i>W-131111-MLR-07</i>	
<i>Sample Date:</i>		<i>11/12/2013</i>	<i>11/12/2013</i>	<i>11/13/2013</i>	<i>11/11/2013</i>	<i>11/11/2013</i>	<i>11/11/2013</i>	<i>11/11/2013</i>	
VOAs	MCL								
1,1,2-Trichloroethane	ug/L	5	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1,1-Dichloroethene	ug/L	7	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Acetone	ug/L	--	10 U	50 U	10 U	10 U	10 U	10 U	
Benzene	ug/L	5	1.0 U	19	1.0 U	1.0 U	1.0 U	1.0 U	
Carbon tetrachloride	ug/L	5	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Chloroform	ug/L	80*	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
cis-1,2-Dichloroethene	ug/L	70	1.9	5.0 U	1.1	1.0 U	1.0 U	1.0 U	
Ethylbenzene	ug/L	700	1.0 U	210	1.0 U	1.0 U	1.0 U	1.0 U	
Methylene chloride	ug/L	5	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Tetrachloroethene	ug/L	5	1.4	5.0 U	1.0 U	1.0 U	1.0 U	7.3	
Toluene	ug/L	1000	1.0 U	9.5	1.0 U	1.0 U	1.0 U	1.0 U	
Trichloroethene	ug/L	5	0.78 J	5.0 U	2.2	1.0 U	1.0 U	1.0 U	
Vinyl chloride	ug/L	2	0.59 J	5.0 U	1.0 U	1.0 U	1.0 U	0.26 J	
Xylenes (total)	ug/L	10000	1.0 U	440	1.0 U	1.0 U	1.0 U	1.0 U	
Total Chlorinated VOC			4.67	0.0	3.3	0.0	0.0	0.26	7.3

TABLE 4.1

**ANNUAL GROUNDWATER MONITORING LABORATORY RESULTS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

<i>Sample Location:</i>			<i>WW4</i>	<i>WW6</i>	<i>R2D</i>	<i>R3D</i>	<i>R3D</i>	<i>R4D</i>	<i>C2S</i>
<i>Sample ID:</i>			<i>W-131112-MLR-16</i>	<i>W-131112-MLR-12</i>	<i>W-131112-MLR-24</i>	<i>W-131113-MLR-33</i>	<i>W-131113-MLR-34</i>	<i>W-131112-MLR-25</i>	<i>W-131113-MLR-31</i>
<i>Sample Date:</i>			<i>11/12/2013</i>	<i>11/12/2013</i>	<i>11/12/2013</i>	<i>11/13/2013</i>	<i>11/13/2013</i>	<i>11/12/2013</i>	<i>11/13/2013</i>
							<i>FIELD DUP</i>		
VOAs		MCL							
1,1,2-Trichloroethane	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	ug/L	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	ug/L	80*	0.20 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	70	1.0 U	21	1.0	1.0 U	1.0 U	0.58 J	1.0
Ethylbenzene	ug/L	700	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	5	1.0 U	3.8	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	5	1.0 U	2.0	19	4.3	4.8	16	7.9
Vinyl chloride	ug/L	2	1.0 U	19	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	10000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Chlorinated VOC			0.20	45.8	20.0	4.3	4.8	16.58	8.9

TABLE 4.1

**ANNUAL GROUNDWATER MONITORING LABORATORY RESULTS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN**

<i>Sample Location:</i>			C4S	W52	W53A	W54	W55	W56	WSWD
<i>Sample ID:</i>			W-131113-MLR-27	W-131113-MLR-32	W-131113-MLR-28	W-131113-MLR-30	W-131112-MLR-22	W-131112-MLR-21	W-131113-MLR-36
<i>Sample Date:</i>			11/13/2013	11/13/2013	11/13/2013	11/13/2013	11/12/2013	11/12/2013	11/13/2013
VOAs		MCL							
1,1,2-Trichloroethane	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	7	1.0 U	1.0 U	1.0 U	0.22 J	1.0 U	1.0 U	1.0 U
Acetone	ug/L	--	10 U	10 U	11 U	10 U	10 U	10 U	10 U
Benzene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	ug/L	80*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	70	1.0 U	0.32 J	1.0 U	0.74 J	0.47 J	1.0 U	1.0 U
Ethylbenzene	ug/L	700	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	5	1.1	2.6	54	23	4.7	1.0 U	0.45 J
Vinyl chloride	ug/L	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	10000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Chlorinated VOC			1.1	2.92	54	23.96	5.17	0.0	0.45

TABLE 4.1

ANNUAL GROUNDWATER MONITORING LABORATORY RESULTS
 WAUSAU WATER SUPPLY NPL SITE
 WAUSAU, WISCONSIN

<i>Sample Location:</i>			<i>MW1A</i>	<i>EW1</i>	<i>CW6</i>	<i>CW10</i>	<i>CW11</i>
<i>Sample ID:</i>			<i>W-131112-MLR-23</i>	<i>W-131112-MLR-26</i>	<i>W-131112-MLR-11</i>	<i>W-131112-MLR-10</i>	<i>W-131112-MLR-09</i>
<i>Sample Date:</i>			<i>11/12/2013</i>	<i>11/12/2013</i>	<i>11/12/2013</i>	<i>11/12/2013</i>	<i>11/12/2013</i>
VOAs		MCL					
1,1,2-Trichloroethane	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	ug/L	--	12 U	10 U	10 U	10 U	10 U
Benzene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	ug/L	80*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	70	1.0 U	0.20 J	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	700	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	5	1.0 U	0.59 J	3.9	1.0 U	1.0 U
Vinyl chloride	ug/L	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	10000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Chlorinated VOC			0.0	0.79	3.9	0.0	0.0

Notes:

- FD - Field Duplicate
- U - Not detected at the associated reporting limit
- J - Estimated concentration
- * - Total trihalomethanes
- MCL - EPA Maximum Contaminant Level for Drinking Water

Appendix A

Monitoring Well Laboratory Reports and Data Quality Validation Memoranda

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

TestAmerica Job ID: 240-31539-1
Client Project/Site: 3978, Wausau

For:
Conestoga-Rovers & Associates, Inc.
1801 Old Highway 8 NW
Suite 114
St. Paul, Minnesota 55112

Attn: Mr. Grant Anderson



Authorized for release by:
11/27/2013 3:44:52 PM

Denise Heckler, Project Manager II
(330)966-9477
denise.heckler@testamericainc.com

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results through
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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Job ID: 240-31539-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: Conestoga-Rovers & Associates, Inc.

Project: 3978, Wausau

Report Number: 240-31539-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 11/15/2013; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt 3.2° C and 4.6° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples W-131111-MLR-01 (240-31539-1), W-131111-MLR-02 (240-31539-2), W-131111-MLR-03 (240-31539-3), W-131111-MLR-04 (240-31539-4), W-131111-MLR-05 (240-31539-5), W-131111-MLR-06 (240-31539-6), W-131111-MLR-07 (240-31539-7), W-131111-MLR-08 (240-31539-8), W-131112-MLR-09 (240-31539-9), W-131112-MLR-10 (240-31539-10), W-131112-MLR-11 (240-31539-11), W-131112-MLR-12 (240-31539-12), W-131112-MLR-13 (240-31539-13), W-131112-MLR-14 (240-31539-14), W-131112-MLR-15 (240-31539-15), W-131112-MLR-16 (240-31539-16), W-131112-MLR-17 (240-31539-17), W-131112-MLR-18 (240-31539-18), W-131112-MLR-19 (240-31539-19), W-131112-MLR-20 (240-31539-20), W-131112-MLR-21 (240-31539-21), W-131112-MLR-22 (240-31539-22), W-131112-MLR-23 (240-31539-23), W-131112-MLR-24 (240-31539-24), W-131112-MLR-25 (240-31539-25), W-131112-MLR-26 (240-31539-26), W-131113-MLR-27 (240-31539-27), W-131113-MLR-28 (240-31539-28), W-131113-MLR-29 (240-31539-29), W-131113-MLR-30 (240-31539-30), W-131113-MLR-31 (240-31539-31), W-131113-MLR-32 (240-31539-32), W-131113-MLR-33 (240-31539-33), W-131113-MLR-34 (240-31539-34), W-131113-MLR-35 (240-31539-35), W-131113-MLR-36 (240-31539-36) and TRIP BLANK (240-31539-37) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 11/21/2013, 11/22/2013, 11/23/2013, 11/24/2013 and 11/25/2013.

Acetone and Toluene were detected in method blank MB 240-110936/5 at levels that were above the method detection limit but below the

Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Job ID: 240-31539-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Methylene Chloride was detected in method blank MB 240-111146/6 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Samples W-131112-MLR-13 (240-31539-13)[5X] and W-131112-MLR-15 (240-31539-15)[2.86X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

There was no MS/MSD run in batch 111206 due to instrument failure.

No other difficulties were encountered during the VOCs analysis.

All other quality control parameters were within the acceptance limits.

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Method Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-31539-1	W-131111-MLR-01	Water	11/11/13 13:19	11/15/13 09:30
240-31539-2	W-131111-MLR-02	Water	11/11/13 15:20	11/15/13 09:30
240-31539-3	W-131111-MLR-03	Water	11/11/13 15:22	11/15/13 09:30
240-31539-4	W-131111-MLR-04	Water	11/11/13 15:35	11/15/13 09:30
240-31539-5	W-131111-MLR-05	Water	11/11/13 15:55	11/15/13 09:30
240-31539-6	W-131111-MLR-06	Water	11/11/13 15:50	11/15/13 09:30
240-31539-7	W-131111-MLR-07	Water	11/11/13 16:40	11/15/13 09:30
240-31539-8	W-131111-MLR-08	Water	11/11/13 16:40	11/15/13 09:30
240-31539-9	W-131112-MLR-09	Water	11/12/13 08:30	11/15/13 09:30
240-31539-10	W-131112-MLR-10	Water	11/12/13 08:34	11/15/13 09:30
240-31539-11	W-131112-MLR-11	Water	11/12/13 09:42	11/15/13 09:30
240-31539-12	W-131112-MLR-12	Water	11/12/13 13:09	11/15/13 09:30
240-31539-13	W-131112-MLR-13	Water	11/12/13 13:07	11/15/13 09:30
240-31539-14	W-131112-MLR-14	Water	11/12/13 13:22	11/15/13 09:30
240-31539-15	W-131112-MLR-15	Water	11/12/13 13:41	11/15/13 09:30
240-31539-16	W-131112-MLR-16	Water	11/12/13 13:07	11/15/13 09:30
240-31539-17	W-131112-MLR-17	Water	11/12/13 13:55	11/15/13 09:30
240-31539-18	W-131112-MLR-18	Water	11/12/13 13:55	11/15/13 09:30
240-31539-19	W-131112-MLR-19	Water	11/12/13 14:16	11/15/13 09:30
240-31539-20	W-131112-MLR-20	Water	11/12/13 14:30	11/15/13 09:30
240-31539-21	W-131112-MLR-21	Water	11/12/13 14:49	11/15/13 09:30
240-31539-22	W-131112-MLR-22	Water	11/12/13 15:22	11/15/13 09:30
240-31539-23	W-131112-MLR-23	Water	11/12/13 16:15	11/15/13 09:30
240-31539-24	W-131112-MLR-24	Water	11/12/13 16:48	11/15/13 09:30
240-31539-25	W-131112-MLR-25	Water	11/12/13 17:25	11/15/13 09:30
240-31539-26	W-131112-MLR-26	Water	11/12/13 17:50	11/15/13 09:30
240-31539-27	W-131113-MLR-27	Water	11/13/13 07:38	11/15/13 09:30
240-31539-28	W-131113-MLR-28	Water	11/13/13 08:16	11/15/13 09:30
240-31539-29	W-131113-MLR-29	Water	11/13/13 08:05	11/15/13 09:30
240-31539-30	W-131113-MLR-30	Water	11/13/13 08:43	11/15/13 09:30
240-31539-31	W-131113-MLR-31	Water	11/13/13 09:26	11/15/13 09:30
240-31539-32	W-131113-MLR-32	Water	11/13/13 09:55	11/15/13 09:30
240-31539-33	W-131113-MLR-33	Water	11/13/13 10:30	11/15/13 09:30
240-31539-34	W-131113-MLR-34	Water	11/13/13 10:30	11/15/13 09:30
240-31539-35	W-131113-MLR-35	Water	11/13/13 12:50	11/15/13 09:30
240-31539-36	W-131113-MLR-36	Water	11/13/13 13:20	11/15/13 09:30
240-31539-37	TRIP BLANK	Water	11/13/13 12:00	11/15/13 09:30

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131111-MLR-01

Lab Sample ID: 240-31539-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.50	J	1.0	0.17	ug/L	1		8260B	Total/NA
Tetrachloroethene	1.4		1.0	0.29	ug/L	1		8260B	Total/NA
Trichloroethene	0.72	J	1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-131111-MLR-02

Lab Sample ID: 240-31539-2

No Detections.

Client Sample ID: W-131111-MLR-03

Lab Sample ID: 240-31539-3

No Detections.

Client Sample ID: W-131111-MLR-04

Lab Sample ID: 240-31539-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	3.0	J	10	1.1	ug/L	1		8260B	Total/NA

Client Sample ID: W-131111-MLR-05

Lab Sample ID: 240-31539-5

No Detections.

Client Sample ID: W-131111-MLR-06

Lab Sample ID: 240-31539-6

No Detections.

Client Sample ID: W-131111-MLR-07

Lab Sample ID: 240-31539-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	1.2	J	10	1.1	ug/L	1		8260B	Total/NA
Tetrachloroethene	7.3		1.0	0.29	ug/L	1		8260B	Total/NA

Client Sample ID: W-131111-MLR-08

Lab Sample ID: 240-31539-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.26	J	1.0	0.22	ug/L	1		8260B	Total/NA

Client Sample ID: W-131112-MLR-09

Lab Sample ID: 240-31539-9

No Detections.

Client Sample ID: W-131112-MLR-10

Lab Sample ID: 240-31539-10

No Detections.

Client Sample ID: W-131112-MLR-11

Lab Sample ID: 240-31539-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	1.5	J	10	1.1	ug/L	1		8260B	Total/NA
Trichloroethene	3.9		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-131112-MLR-12

Lab Sample ID: 240-31539-12

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131112-MLR-12 (Continued)

Lab Sample ID: 240-31539-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	21		1.0	0.17	ug/L	1		8260B	Total/NA
Tetrachloroethene	3.8		1.0	0.29	ug/L	1		8260B	Total/NA
Toluene	0.25	J B	1.0	0.13	ug/L	1		8260B	Total/NA
Trichloroethene	2.0		1.0	0.17	ug/L	1		8260B	Total/NA
Vinyl chloride	19		1.0	0.22	ug/L	1		8260B	Total/NA

Client Sample ID: W-131112-MLR-13

Lab Sample ID: 240-31539-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	19		5.0	0.65	ug/L	5		8260B	Total/NA
Ethylbenzene	210		5.0	0.85	ug/L	5		8260B	Total/NA
Toluene	9.5		5.0	0.65	ug/L	5		8260B	Total/NA
Xylenes, Total	440		5.0	0.70	ug/L	5		8260B	Total/NA

Client Sample ID: W-131112-MLR-14

Lab Sample ID: 240-31539-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.9		1.0	0.17	ug/L	1		8260B	Total/NA
Tetrachloroethene	1.4		1.0	0.29	ug/L	1		8260B	Total/NA
Trichloroethene	0.78	J	1.0	0.17	ug/L	1		8260B	Total/NA
Vinyl chloride	0.59	J	1.0	0.22	ug/L	1		8260B	Total/NA

Client Sample ID: W-131112-MLR-15

Lab Sample ID: 240-31539-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	97		2.9	0.49	ug/L	2.86		8260B	Total/NA
Tetrachloroethene	17		2.9	0.83	ug/L	2.86		8260B	Total/NA
Trichloroethene	6.9		2.9	0.49	ug/L	2.86		8260B	Total/NA
Vinyl chloride	1.0	J	2.9	0.63	ug/L	2.86		8260B	Total/NA

Client Sample ID: W-131112-MLR-16

Lab Sample ID: 240-31539-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	0.20	J	1.0	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: W-131112-MLR-17

Lab Sample ID: 240-31539-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	1.1	J	10	1.1	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	24		1.0	0.17	ug/L	1		8260B	Total/NA
Tetrachloroethene	20		1.0	0.29	ug/L	1		8260B	Total/NA
Trichloroethene	6.0		1.0	0.17	ug/L	1		8260B	Total/NA
Vinyl chloride	1.1		1.0	0.22	ug/L	1		8260B	Total/NA

Client Sample ID: W-131112-MLR-18

Lab Sample ID: 240-31539-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	0.31	J	1.0	0.19	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	27		1.0	0.17	ug/L	1		8260B	Total/NA
Tetrachloroethene	20		1.0	0.29	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131112-MLR-18 (Continued)

Lab Sample ID: 240-31539-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	6.5		1.0	0.17	ug/L	1		8260B	Total/NA
Vinyl chloride	1.6		1.0	0.22	ug/L	1		8260B	Total/NA

Client Sample ID: W-131112-MLR-19

Lab Sample ID: 240-31539-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3.5		1.0	0.17	ug/L	1		8260B	Total/NA
Tetrachloroethene	15		1.0	0.29	ug/L	1		8260B	Total/NA
Trichloroethene	2.3		1.0	0.17	ug/L	1		8260B	Total/NA
Vinyl chloride	1.2		1.0	0.22	ug/L	1		8260B	Total/NA

Client Sample ID: W-131112-MLR-20

Lab Sample ID: 240-31539-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	3.6	J	10	1.1	ug/L	1		8260B	Total/NA

Client Sample ID: W-131112-MLR-21

Lab Sample ID: 240-31539-21

No Detections.

Client Sample ID: W-131112-MLR-22

Lab Sample ID: 240-31539-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.47	J	1.0	0.17	ug/L	1		8260B	Total/NA
Trichloroethene	4.7		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-131112-MLR-23

Lab Sample ID: 240-31539-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	12		10	1.1	ug/L	1		8260B	Total/NA

Client Sample ID: W-131112-MLR-24

Lab Sample ID: 240-31539-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.0		1.0	0.17	ug/L	1		8260B	Total/NA
Trichloroethene	19		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-131112-MLR-25

Lab Sample ID: 240-31539-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.58	J	1.0	0.17	ug/L	1		8260B	Total/NA
Trichloroethene	16		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-131112-MLR-26

Lab Sample ID: 240-31539-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	1.6	J	10	1.1	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	0.20	J	1.0	0.17	ug/L	1		8260B	Total/NA
Trichloroethene	0.59	J	1.0	0.17	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131113-MLR-27

Lab Sample ID: 240-31539-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	1.1		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-131113-MLR-28

Lab Sample ID: 240-31539-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	11		10	1.1	ug/L	1		8260B	Total/NA
Trichloroethene	54		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-131113-MLR-29

Lab Sample ID: 240-31539-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	3.6	J	10	1.1	ug/L	1		8260B	Total/NA

Client Sample ID: W-131113-MLR-30

Lab Sample ID: 240-31539-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	0.22	J	1.0	0.19	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	0.74	J	1.0	0.17	ug/L	1		8260B	Total/NA
Trichloroethene	23		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-131113-MLR-31

Lab Sample ID: 240-31539-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.0		1.0	0.17	ug/L	1		8260B	Total/NA
Trichloroethene	7.9		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-131113-MLR-32

Lab Sample ID: 240-31539-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.32	J	1.0	0.17	ug/L	1		8260B	Total/NA
Trichloroethene	2.6		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-131113-MLR-33

Lab Sample ID: 240-31539-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	4.3		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-131113-MLR-34

Lab Sample ID: 240-31539-34

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	4.8		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-131113-MLR-35

Lab Sample ID: 240-31539-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.1		1.0	0.17	ug/L	1		8260B	Total/NA
Trichloroethene	2.2		1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: W-131113-MLR-36

Lab Sample ID: 240-31539-36

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131113-MLR-36 (Continued)

Lab Sample ID: 240-31539-36

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.45	J	1.0	0.17	ug/L	1		8260B	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-31539-37

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	5.3	J	10	1.1	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

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Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131111-MLR-01

Lab Sample ID: 240-31539-1

Date Collected: 11/11/13 13:19

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/22/13 16:03	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/22/13 16:03	1
Acetone	10	U	10	1.1	ug/L			11/22/13 16:03	1
Benzene	1.0	U	1.0	0.13	ug/L			11/22/13 16:03	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/22/13 16:03	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/22/13 16:03	1
cis-1,2-Dichloroethene	0.50	J	1.0	0.17	ug/L			11/22/13 16:03	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/22/13 16:03	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/22/13 16:03	1
Tetrachloroethene	1.4		1.0	0.29	ug/L			11/22/13 16:03	1
Toluene	1.0	U	1.0	0.13	ug/L			11/22/13 16:03	1
Trichloroethene	0.72	J	1.0	0.17	ug/L			11/22/13 16:03	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/22/13 16:03	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/22/13 16:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		63 - 129		11/22/13 16:03	1
4-Bromofluorobenzene (Surr)	87		66 - 117		11/22/13 16:03	1
Toluene-d8 (Surr)	92		74 - 115		11/22/13 16:03	1
Dibromofluoromethane (Surr)	90		75 - 121		11/22/13 16:03	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131111-MLR-02

Lab Sample ID: 240-31539-2

Date Collected: 11/11/13 15:20

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/22/13 19:45	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/22/13 19:45	1
Acetone	10	U	10	1.1	ug/L			11/22/13 19:45	1
Benzene	1.0	U	1.0	0.13	ug/L			11/22/13 19:45	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/22/13 19:45	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/22/13 19:45	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/22/13 19:45	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/22/13 19:45	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/22/13 19:45	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/22/13 19:45	1
Toluene	1.0	U	1.0	0.13	ug/L			11/22/13 19:45	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			11/22/13 19:45	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/22/13 19:45	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/22/13 19:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		63 - 129					11/22/13 19:45	1
4-Bromofluorobenzene (Surr)	85		66 - 117					11/22/13 19:45	1
Toluene-d8 (Surr)	92		74 - 115					11/22/13 19:45	1
Dibromofluoromethane (Surr)	89		75 - 121					11/22/13 19:45	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131111-MLR-03

Lab Sample ID: 240-31539-3

Date Collected: 11/11/13 15:22

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/22/13 20:08	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/22/13 20:08	1
Acetone	10	U	10	1.1	ug/L			11/22/13 20:08	1
Benzene	1.0	U	1.0	0.13	ug/L			11/22/13 20:08	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/22/13 20:08	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/22/13 20:08	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/22/13 20:08	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/22/13 20:08	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/22/13 20:08	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/22/13 20:08	1
Toluene	1.0	U	1.0	0.13	ug/L			11/22/13 20:08	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			11/22/13 20:08	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/22/13 20:08	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/22/13 20:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		63 - 129					11/22/13 20:08	1
4-Bromofluorobenzene (Surr)	90		66 - 117					11/22/13 20:08	1
Toluene-d8 (Surr)	97		74 - 115					11/22/13 20:08	1
Dibromofluoromethane (Surr)	97		75 - 121					11/22/13 20:08	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131111-MLR-04

Lab Sample ID: 240-31539-4

Date Collected: 11/11/13 15:35

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/22/13 20:31	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/22/13 20:31	1
Acetone	3.0	J	10	1.1	ug/L			11/22/13 20:31	1
Benzene	1.0	U	1.0	0.13	ug/L			11/22/13 20:31	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/22/13 20:31	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/22/13 20:31	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/22/13 20:31	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/22/13 20:31	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/22/13 20:31	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/22/13 20:31	1
Toluene	1.0	U	1.0	0.13	ug/L			11/22/13 20:31	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			11/22/13 20:31	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/22/13 20:31	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/22/13 20:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		63 - 129					11/22/13 20:31	1
4-Bromofluorobenzene (Surr)	86		66 - 117					11/22/13 20:31	1
Toluene-d8 (Surr)	93		74 - 115					11/22/13 20:31	1
Dibromofluoromethane (Surr)	92		75 - 121					11/22/13 20:31	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131111-MLR-05

Lab Sample ID: 240-31539-5

Date Collected: 11/11/13 15:55

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/22/13 20:53	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/22/13 20:53	1
Acetone	10	U	10	1.1	ug/L			11/22/13 20:53	1
Benzene	1.0	U	1.0	0.13	ug/L			11/22/13 20:53	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/22/13 20:53	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/22/13 20:53	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/22/13 20:53	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/22/13 20:53	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/22/13 20:53	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/22/13 20:53	1
Toluene	1.0	U	1.0	0.13	ug/L			11/22/13 20:53	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			11/22/13 20:53	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/22/13 20:53	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/22/13 20:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		63 - 129					11/22/13 20:53	1
4-Bromofluorobenzene (Surr)	91		66 - 117					11/22/13 20:53	1
Toluene-d8 (Surr)	98		74 - 115					11/22/13 20:53	1
Dibromofluoromethane (Surr)	96		75 - 121					11/22/13 20:53	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131111-MLR-06

Lab Sample ID: 240-31539-6

Date Collected: 11/11/13 15:50

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/22/13 21:15	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/22/13 21:15	1
Acetone	10	U	10	1.1	ug/L			11/22/13 21:15	1
Benzene	1.0	U	1.0	0.13	ug/L			11/22/13 21:15	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/22/13 21:15	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/22/13 21:15	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/22/13 21:15	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/22/13 21:15	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/22/13 21:15	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/22/13 21:15	1
Toluene	1.0	U	1.0	0.13	ug/L			11/22/13 21:15	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			11/22/13 21:15	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/22/13 21:15	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/22/13 21:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		63 - 129					11/22/13 21:15	1
4-Bromofluorobenzene (Surr)	90		66 - 117					11/22/13 21:15	1
Toluene-d8 (Surr)	97		74 - 115					11/22/13 21:15	1
Dibromofluoromethane (Surr)	96		75 - 121					11/22/13 21:15	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131111-MLR-07

Lab Sample ID: 240-31539-7

Date Collected: 11/11/13 16:40

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/22/13 21:37	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/22/13 21:37	1
Acetone	1.2	J	10	1.1	ug/L			11/22/13 21:37	1
Benzene	1.0	U	1.0	0.13	ug/L			11/22/13 21:37	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/22/13 21:37	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/22/13 21:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/22/13 21:37	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/22/13 21:37	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/22/13 21:37	1
Tetrachloroethene	7.3		1.0	0.29	ug/L			11/22/13 21:37	1
Toluene	1.0	U	1.0	0.13	ug/L			11/22/13 21:37	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			11/22/13 21:37	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/22/13 21:37	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/22/13 21:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		63 - 129		11/22/13 21:37	1
4-Bromofluorobenzene (Surr)	85		66 - 117		11/22/13 21:37	1
Toluene-d8 (Surr)	92		74 - 115		11/22/13 21:37	1
Dibromofluoromethane (Surr)	92		75 - 121		11/22/13 21:37	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131111-MLR-08

Lab Sample ID: 240-31539-8

Date Collected: 11/11/13 16:40

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/22/13 21:59	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/22/13 21:59	1
Acetone	10	U	10	1.1	ug/L			11/22/13 21:59	1
Benzene	1.0	U	1.0	0.13	ug/L			11/22/13 21:59	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/22/13 21:59	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/22/13 21:59	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/22/13 21:59	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/22/13 21:59	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/22/13 21:59	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/22/13 21:59	1
Toluene	1.0	U	1.0	0.13	ug/L			11/22/13 21:59	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			11/22/13 21:59	1
Vinyl chloride	0.26	J	1.0	0.22	ug/L			11/22/13 21:59	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/22/13 21:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		63 - 129		11/22/13 21:59	1
4-Bromofluorobenzene (Surr)	90		66 - 117		11/22/13 21:59	1
Toluene-d8 (Surr)	98		74 - 115		11/22/13 21:59	1
Dibromofluoromethane (Surr)	98		75 - 121		11/22/13 21:59	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131112-MLR-09

Lab Sample ID: 240-31539-9

Date Collected: 11/12/13 08:30

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/22/13 22:22	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/22/13 22:22	1
Acetone	10	U	10	1.1	ug/L			11/22/13 22:22	1
Benzene	1.0	U	1.0	0.13	ug/L			11/22/13 22:22	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/22/13 22:22	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/22/13 22:22	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/22/13 22:22	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/22/13 22:22	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/22/13 22:22	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/22/13 22:22	1
Toluene	1.0	U	1.0	0.13	ug/L			11/22/13 22:22	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			11/22/13 22:22	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/22/13 22:22	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/22/13 22:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		63 - 129					11/22/13 22:22	1
4-Bromofluorobenzene (Surr)	87		66 - 117					11/22/13 22:22	1
Toluene-d8 (Surr)	94		74 - 115					11/22/13 22:22	1
Dibromofluoromethane (Surr)	95		75 - 121					11/22/13 22:22	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131112-MLR-10

Lab Sample ID: 240-31539-10

Date Collected: 11/12/13 08:34

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/22/13 22:44	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/22/13 22:44	1
Acetone	10	U	10	1.1	ug/L			11/22/13 22:44	1
Benzene	1.0	U	1.0	0.13	ug/L			11/22/13 22:44	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/22/13 22:44	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/22/13 22:44	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/22/13 22:44	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/22/13 22:44	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/22/13 22:44	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/22/13 22:44	1
Toluene	1.0	U	1.0	0.13	ug/L			11/22/13 22:44	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			11/22/13 22:44	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/22/13 22:44	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/22/13 22:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		63 - 129					11/22/13 22:44	1
4-Bromofluorobenzene (Surr)	89		66 - 117					11/22/13 22:44	1
Toluene-d8 (Surr)	98		74 - 115					11/22/13 22:44	1
Dibromofluoromethane (Surr)	98		75 - 121					11/22/13 22:44	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131112-MLR-11

Lab Sample ID: 240-31539-11

Date Collected: 11/12/13 09:42

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/22/13 23:06	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/22/13 23:06	1
Acetone	1.5	J	10	1.1	ug/L			11/22/13 23:06	1
Benzene	1.0	U	1.0	0.13	ug/L			11/22/13 23:06	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/22/13 23:06	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/22/13 23:06	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/22/13 23:06	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/22/13 23:06	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/22/13 23:06	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/22/13 23:06	1
Toluene	1.0	U	1.0	0.13	ug/L			11/22/13 23:06	1
Trichloroethene	3.9		1.0	0.17	ug/L			11/22/13 23:06	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/22/13 23:06	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/22/13 23:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		63 - 129		11/22/13 23:06	1
4-Bromofluorobenzene (Surr)	89		66 - 117		11/22/13 23:06	1
Toluene-d8 (Surr)	98		74 - 115		11/22/13 23:06	1
Dibromofluoromethane (Surr)	96		75 - 121		11/22/13 23:06	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131112-MLR-12

Lab Sample ID: 240-31539-12

Date Collected: 11/12/13 13:09

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/21/13 22:30	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/21/13 22:30	1
Acetone	10	U	10	1.1	ug/L			11/21/13 22:30	1
Benzene	1.0	U	1.0	0.13	ug/L			11/21/13 22:30	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/21/13 22:30	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/21/13 22:30	1
cis-1,2-Dichloroethene	21		1.0	0.17	ug/L			11/21/13 22:30	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/21/13 22:30	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/21/13 22:30	1
Tetrachloroethene	3.8		1.0	0.29	ug/L			11/21/13 22:30	1
Toluene	0.25	J B	1.0	0.13	ug/L			11/21/13 22:30	1
Trichloroethene	2.0		1.0	0.17	ug/L			11/21/13 22:30	1
Vinyl chloride	19		1.0	0.22	ug/L			11/21/13 22:30	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/21/13 22:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		63 - 129					11/21/13 22:30	1
4-Bromofluorobenzene (Surr)	89		66 - 117					11/21/13 22:30	1
Toluene-d8 (Surr)	97		74 - 115					11/21/13 22:30	1
Dibromofluoromethane (Surr)	99		75 - 121					11/21/13 22:30	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131112-MLR-13

Lab Sample ID: 240-31539-13

Date Collected: 11/12/13 13:07

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	5.0	U	5.0	1.4	ug/L			11/25/13 19:13	5
1,1-Dichloroethene	5.0	U	5.0	0.95	ug/L			11/25/13 19:13	5
Acetone	50	U	50	5.5	ug/L			11/25/13 19:13	5
Benzene	19		5.0	0.65	ug/L			11/25/13 19:13	5
Carbon tetrachloride	5.0	U	5.0	0.65	ug/L			11/25/13 19:13	5
Chloroform	5.0	U	5.0	0.80	ug/L			11/25/13 19:13	5
cis-1,2-Dichloroethene	5.0	U	5.0	0.85	ug/L			11/25/13 19:13	5
Ethylbenzene	210		5.0	0.85	ug/L			11/25/13 19:13	5
Methylene Chloride	5.0	U	5.0	1.7	ug/L			11/25/13 19:13	5
Tetrachloroethene	5.0	U	5.0	1.5	ug/L			11/25/13 19:13	5
Toluene	9.5		5.0	0.65	ug/L			11/25/13 19:13	5
Trichloroethene	5.0	U	5.0	0.85	ug/L			11/25/13 19:13	5
Vinyl chloride	5.0	U	5.0	1.1	ug/L			11/25/13 19:13	5
Xylenes, Total	440		5.0	0.70	ug/L			11/25/13 19:13	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		63 - 129					11/25/13 19:13	5
4-Bromofluorobenzene (Surr)	95		66 - 117					11/25/13 19:13	5
Toluene-d8 (Surr)	98		74 - 115					11/25/13 19:13	5
Dibromofluoromethane (Surr)	94		75 - 121					11/25/13 19:13	5

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131112-MLR-14

Lab Sample ID: 240-31539-14

Date Collected: 11/12/13 13:22

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/25/13 19:35	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/25/13 19:35	1
Acetone	10	U	10	1.1	ug/L			11/25/13 19:35	1
Benzene	1.0	U	1.0	0.13	ug/L			11/25/13 19:35	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/25/13 19:35	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/25/13 19:35	1
cis-1,2-Dichloroethene	1.9		1.0	0.17	ug/L			11/25/13 19:35	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/25/13 19:35	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/25/13 19:35	1
Tetrachloroethene	1.4		1.0	0.29	ug/L			11/25/13 19:35	1
Toluene	1.0	U	1.0	0.13	ug/L			11/25/13 19:35	1
Trichloroethene	0.78	J	1.0	0.17	ug/L			11/25/13 19:35	1
Vinyl chloride	0.59	J	1.0	0.22	ug/L			11/25/13 19:35	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/25/13 19:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		63 - 129					11/25/13 19:35	1
4-Bromofluorobenzene (Surr)	86		66 - 117					11/25/13 19:35	1
Toluene-d8 (Surr)	91		74 - 115					11/25/13 19:35	1
Dibromofluoromethane (Surr)	92		75 - 121					11/25/13 19:35	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131112-MLR-15

Lab Sample ID: 240-31539-15

Date Collected: 11/12/13 13:41

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	2.9	U	2.9	0.77	ug/L			11/22/13 23:50	2.86
1,1-Dichloroethene	2.9	U	2.9	0.54	ug/L			11/22/13 23:50	2.86
Acetone	29	U	29	3.1	ug/L			11/22/13 23:50	2.86
Benzene	2.9	U	2.9	0.37	ug/L			11/22/13 23:50	2.86
Carbon tetrachloride	2.9	U	2.9	0.37	ug/L			11/22/13 23:50	2.86
Chloroform	2.9	U	2.9	0.46	ug/L			11/22/13 23:50	2.86
cis-1,2-Dichloroethene	97		2.9	0.49	ug/L			11/22/13 23:50	2.86
Ethylbenzene	2.9	U	2.9	0.49	ug/L			11/22/13 23:50	2.86
Methylene Chloride	2.9	U	2.9	0.94	ug/L			11/22/13 23:50	2.86
Tetrachloroethene	17		2.9	0.83	ug/L			11/22/13 23:50	2.86
Toluene	2.9	U	2.9	0.37	ug/L			11/22/13 23:50	2.86
Trichloroethene	6.9		2.9	0.49	ug/L			11/22/13 23:50	2.86
Vinyl chloride	1.0	J	2.9	0.63	ug/L			11/22/13 23:50	2.86
Xylenes, Total	2.9	U	2.9	0.40	ug/L			11/22/13 23:50	2.86
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		63 - 129					11/22/13 23:50	2.86
4-Bromofluorobenzene (Surr)	92		66 - 117					11/22/13 23:50	2.86
Toluene-d8 (Surr)	98		74 - 115					11/22/13 23:50	2.86
Dibromofluoromethane (Surr)	99		75 - 121					11/22/13 23:50	2.86

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131112-MLR-16

Lab Sample ID: 240-31539-16

Date Collected: 11/12/13 13:07

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/23/13 01:39	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/23/13 01:39	1
Acetone	10	U	10	1.1	ug/L			11/23/13 01:39	1
Benzene	1.0	U	1.0	0.13	ug/L			11/23/13 01:39	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/23/13 01:39	1
Chloroform	0.20	J	1.0	0.16	ug/L			11/23/13 01:39	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/23/13 01:39	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/23/13 01:39	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/23/13 01:39	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/23/13 01:39	1
Toluene	1.0	U	1.0	0.13	ug/L			11/23/13 01:39	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			11/23/13 01:39	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/23/13 01:39	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/23/13 01:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 129					11/23/13 01:39	1
4-Bromofluorobenzene (Surr)	92		66 - 117					11/23/13 01:39	1
Toluene-d8 (Surr)	92		74 - 115					11/23/13 01:39	1
Dibromofluoromethane (Surr)	106		75 - 121					11/23/13 01:39	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131112-MLR-17

Lab Sample ID: 240-31539-17

Date Collected: 11/12/13 13:55

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/23/13 02:02	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/23/13 02:02	1
Acetone	1.1	J	10	1.1	ug/L			11/23/13 02:02	1
Benzene	1.0	U	1.0	0.13	ug/L			11/23/13 02:02	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/23/13 02:02	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/23/13 02:02	1
cis-1,2-Dichloroethene	24		1.0	0.17	ug/L			11/23/13 02:02	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/23/13 02:02	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/23/13 02:02	1
Tetrachloroethene	20		1.0	0.29	ug/L			11/23/13 02:02	1
Toluene	1.0	U	1.0	0.13	ug/L			11/23/13 02:02	1
Trichloroethene	6.0		1.0	0.17	ug/L			11/23/13 02:02	1
Vinyl chloride	1.1		1.0	0.22	ug/L			11/23/13 02:02	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/23/13 02:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 129					11/23/13 02:02	1
4-Bromofluorobenzene (Surr)	90		66 - 117					11/23/13 02:02	1
Toluene-d8 (Surr)	93		74 - 115					11/23/13 02:02	1
Dibromofluoromethane (Surr)	108		75 - 121					11/23/13 02:02	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131112-MLR-18

Lab Sample ID: 240-31539-18

Date Collected: 11/12/13 13:55

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/23/13 02:24	1
1,1-Dichloroethene	0.31	J	1.0	0.19	ug/L			11/23/13 02:24	1
Acetone	10	U	10	1.1	ug/L			11/23/13 02:24	1
Benzene	1.0	U	1.0	0.13	ug/L			11/23/13 02:24	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/23/13 02:24	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/23/13 02:24	1
cis-1,2-Dichloroethene	27		1.0	0.17	ug/L			11/23/13 02:24	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/23/13 02:24	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/23/13 02:24	1
Tetrachloroethene	20		1.0	0.29	ug/L			11/23/13 02:24	1
Toluene	1.0	U	1.0	0.13	ug/L			11/23/13 02:24	1
Trichloroethene	6.5		1.0	0.17	ug/L			11/23/13 02:24	1
Vinyl chloride	1.6		1.0	0.22	ug/L			11/23/13 02:24	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/23/13 02:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 129					11/23/13 02:24	1
4-Bromofluorobenzene (Surr)	91		66 - 117					11/23/13 02:24	1
Toluene-d8 (Surr)	92		74 - 115					11/23/13 02:24	1
Dibromofluoromethane (Surr)	107		75 - 121					11/23/13 02:24	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131112-MLR-19

Lab Sample ID: 240-31539-19

Date Collected: 11/12/13 14:16

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/23/13 02:47	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/23/13 02:47	1
Acetone	10	U	10	1.1	ug/L			11/23/13 02:47	1
Benzene	1.0	U	1.0	0.13	ug/L			11/23/13 02:47	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/23/13 02:47	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/23/13 02:47	1
cis-1,2-Dichloroethene	3.5		1.0	0.17	ug/L			11/23/13 02:47	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/23/13 02:47	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/23/13 02:47	1
Tetrachloroethene	15		1.0	0.29	ug/L			11/23/13 02:47	1
Toluene	1.0	U	1.0	0.13	ug/L			11/23/13 02:47	1
Trichloroethene	2.3		1.0	0.17	ug/L			11/23/13 02:47	1
Vinyl chloride	1.2		1.0	0.22	ug/L			11/23/13 02:47	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/23/13 02:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 129					11/23/13 02:47	1
4-Bromofluorobenzene (Surr)	93		66 - 117					11/23/13 02:47	1
Toluene-d8 (Surr)	90		74 - 115					11/23/13 02:47	1
Dibromofluoromethane (Surr)	108		75 - 121					11/23/13 02:47	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131112-MLR-20

Lab Sample ID: 240-31539-20

Date Collected: 11/12/13 14:30

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/23/13 03:09	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/23/13 03:09	1
Acetone	3.6	J	10	1.1	ug/L			11/23/13 03:09	1
Benzene	1.0	U	1.0	0.13	ug/L			11/23/13 03:09	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/23/13 03:09	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/23/13 03:09	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/23/13 03:09	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/23/13 03:09	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/23/13 03:09	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/23/13 03:09	1
Toluene	1.0	U	1.0	0.13	ug/L			11/23/13 03:09	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			11/23/13 03:09	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/23/13 03:09	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/23/13 03:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 129					11/23/13 03:09	1
4-Bromofluorobenzene (Surr)	92		66 - 117					11/23/13 03:09	1
Toluene-d8 (Surr)	91		74 - 115					11/23/13 03:09	1
Dibromofluoromethane (Surr)	110		75 - 121					11/23/13 03:09	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131112-MLR-21

Lab Sample ID: 240-31539-21

Date Collected: 11/12/13 14:49

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/23/13 03:32	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/23/13 03:32	1
Acetone	10	U	10	1.1	ug/L			11/23/13 03:32	1
Benzene	1.0	U	1.0	0.13	ug/L			11/23/13 03:32	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/23/13 03:32	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/23/13 03:32	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/23/13 03:32	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/23/13 03:32	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/23/13 03:32	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/23/13 03:32	1
Toluene	1.0	U	1.0	0.13	ug/L			11/23/13 03:32	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			11/23/13 03:32	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/23/13 03:32	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/23/13 03:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		63 - 129					11/23/13 03:32	1
4-Bromofluorobenzene (Surr)	89		66 - 117					11/23/13 03:32	1
Toluene-d8 (Surr)	92		74 - 115					11/23/13 03:32	1
Dibromofluoromethane (Surr)	110		75 - 121					11/23/13 03:32	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131112-MLR-22

Lab Sample ID: 240-31539-22

Date Collected: 11/12/13 15:22

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/23/13 03:54	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/23/13 03:54	1
Acetone	10	U	10	1.1	ug/L			11/23/13 03:54	1
Benzene	1.0	U	1.0	0.13	ug/L			11/23/13 03:54	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/23/13 03:54	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/23/13 03:54	1
cis-1,2-Dichloroethene	0.47	J	1.0	0.17	ug/L			11/23/13 03:54	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/23/13 03:54	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/23/13 03:54	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/23/13 03:54	1
Toluene	1.0	U	1.0	0.13	ug/L			11/23/13 03:54	1
Trichloroethene	4.7		1.0	0.17	ug/L			11/23/13 03:54	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/23/13 03:54	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/23/13 03:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 129					11/23/13 03:54	1
4-Bromofluorobenzene (Surr)	89		66 - 117					11/23/13 03:54	1
Toluene-d8 (Surr)	93		74 - 115					11/23/13 03:54	1
Dibromofluoromethane (Surr)	110		75 - 121					11/23/13 03:54	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131112-MLR-23

Lab Sample ID: 240-31539-23

Date Collected: 11/12/13 16:15

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/23/13 04:17	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/23/13 04:17	1
Acetone	12		10	1.1	ug/L			11/23/13 04:17	1
Benzene	1.0	U	1.0	0.13	ug/L			11/23/13 04:17	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/23/13 04:17	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/23/13 04:17	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/23/13 04:17	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/23/13 04:17	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/23/13 04:17	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/23/13 04:17	1
Toluene	1.0	U	1.0	0.13	ug/L			11/23/13 04:17	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			11/23/13 04:17	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/23/13 04:17	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/23/13 04:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		63 - 129					11/23/13 04:17	1
4-Bromofluorobenzene (Surr)	88		66 - 117					11/23/13 04:17	1
Toluene-d8 (Surr)	89		74 - 115					11/23/13 04:17	1
Dibromofluoromethane (Surr)	110		75 - 121					11/23/13 04:17	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131112-MLR-24

Lab Sample ID: 240-31539-24

Date Collected: 11/12/13 16:48

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/23/13 04:39	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/23/13 04:39	1
Acetone	10	U	10	1.1	ug/L			11/23/13 04:39	1
Benzene	1.0	U	1.0	0.13	ug/L			11/23/13 04:39	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/23/13 04:39	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/23/13 04:39	1
cis-1,2-Dichloroethene	1.0		1.0	0.17	ug/L			11/23/13 04:39	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/23/13 04:39	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/23/13 04:39	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/23/13 04:39	1
Toluene	1.0	U	1.0	0.13	ug/L			11/23/13 04:39	1
Trichloroethene	19		1.0	0.17	ug/L			11/23/13 04:39	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/23/13 04:39	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/23/13 04:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		63 - 129					11/23/13 04:39	1
4-Bromofluorobenzene (Surr)	88		66 - 117					11/23/13 04:39	1
Toluene-d8 (Surr)	94		74 - 115					11/23/13 04:39	1
Dibromofluoromethane (Surr)	108		75 - 121					11/23/13 04:39	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131112-MLR-25

Lab Sample ID: 240-31539-25

Date Collected: 11/12/13 17:25

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/23/13 05:01	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/23/13 05:01	1
Acetone	10	U	10	1.1	ug/L			11/23/13 05:01	1
Benzene	1.0	U	1.0	0.13	ug/L			11/23/13 05:01	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/23/13 05:01	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/23/13 05:01	1
cis-1,2-Dichloroethene	0.58	J	1.0	0.17	ug/L			11/23/13 05:01	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/23/13 05:01	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/23/13 05:01	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/23/13 05:01	1
Toluene	1.0	U	1.0	0.13	ug/L			11/23/13 05:01	1
Trichloroethene	16		1.0	0.17	ug/L			11/23/13 05:01	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/23/13 05:01	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/23/13 05:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		63 - 129					11/23/13 05:01	1
4-Bromofluorobenzene (Surr)	92		66 - 117					11/23/13 05:01	1
Toluene-d8 (Surr)	90		74 - 115					11/23/13 05:01	1
Dibromofluoromethane (Surr)	112		75 - 121					11/23/13 05:01	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131112-MLR-26

Lab Sample ID: 240-31539-26

Date Collected: 11/12/13 17:50

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/23/13 05:24	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/23/13 05:24	1
Acetone	1.6	J	10	1.1	ug/L			11/23/13 05:24	1
Benzene	1.0	U	1.0	0.13	ug/L			11/23/13 05:24	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/23/13 05:24	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/23/13 05:24	1
cis-1,2-Dichloroethene	0.20	J	1.0	0.17	ug/L			11/23/13 05:24	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/23/13 05:24	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/23/13 05:24	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/23/13 05:24	1
Toluene	1.0	U	1.0	0.13	ug/L			11/23/13 05:24	1
Trichloroethene	0.59	J	1.0	0.17	ug/L			11/23/13 05:24	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/23/13 05:24	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/23/13 05:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		63 - 129					11/23/13 05:24	1
4-Bromofluorobenzene (Surr)	93		66 - 117					11/23/13 05:24	1
Toluene-d8 (Surr)	93		74 - 115					11/23/13 05:24	1
Dibromofluoromethane (Surr)	109		75 - 121					11/23/13 05:24	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131113-MLR-27

Lab Sample ID: 240-31539-27

Date Collected: 11/13/13 07:38

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/23/13 08:47	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/23/13 08:47	1
Acetone	10	U	10	1.1	ug/L			11/23/13 08:47	1
Benzene	1.0	U	1.0	0.13	ug/L			11/23/13 08:47	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/23/13 08:47	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/23/13 08:47	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/23/13 08:47	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/23/13 08:47	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/23/13 08:47	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/23/13 08:47	1
Toluene	1.0	U	1.0	0.13	ug/L			11/23/13 08:47	1
Trichloroethene	1.1		1.0	0.17	ug/L			11/23/13 08:47	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/23/13 08:47	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/23/13 08:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		63 - 129		11/23/13 08:47	1
4-Bromofluorobenzene (Surr)	88		66 - 117		11/23/13 08:47	1
Toluene-d8 (Surr)	90		74 - 115		11/23/13 08:47	1
Dibromofluoromethane (Surr)	114		75 - 121		11/23/13 08:47	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131113-MLR-28

Lab Sample ID: 240-31539-28

Date Collected: 11/13/13 08:16

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/25/13 19:57	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/25/13 19:57	1
Acetone	11		10	1.1	ug/L			11/25/13 19:57	1
Benzene	1.0	U	1.0	0.13	ug/L			11/25/13 19:57	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/25/13 19:57	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/25/13 19:57	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/25/13 19:57	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/25/13 19:57	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/25/13 19:57	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/25/13 19:57	1
Toluene	1.0	U	1.0	0.13	ug/L			11/25/13 19:57	1
Trichloroethene	54		1.0	0.17	ug/L			11/25/13 19:57	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/25/13 19:57	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/25/13 19:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		63 - 129					11/25/13 19:57	1
4-Bromofluorobenzene (Surr)	86		66 - 117					11/25/13 19:57	1
Toluene-d8 (Surr)	96		74 - 115					11/25/13 19:57	1
Dibromofluoromethane (Surr)	97		75 - 121					11/25/13 19:57	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131113-MLR-29

Lab Sample ID: 240-31539-29

Date Collected: 11/13/13 08:05

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/23/13 05:46	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/23/13 05:46	1
Acetone	3.6	J	10	1.1	ug/L			11/23/13 05:46	1
Benzene	1.0	U	1.0	0.13	ug/L			11/23/13 05:46	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/23/13 05:46	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/23/13 05:46	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/23/13 05:46	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/23/13 05:46	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/23/13 05:46	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/23/13 05:46	1
Toluene	1.0	U	1.0	0.13	ug/L			11/23/13 05:46	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			11/23/13 05:46	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/23/13 05:46	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/23/13 05:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		63 - 129					11/23/13 05:46	1
4-Bromofluorobenzene (Surr)	89		66 - 117					11/23/13 05:46	1
Toluene-d8 (Surr)	92		74 - 115					11/23/13 05:46	1
Dibromofluoromethane (Surr)	110		75 - 121					11/23/13 05:46	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131113-MLR-30

Lab Sample ID: 240-31539-30

Date Collected: 11/13/13 08:43

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/23/13 06:09	1
1,1-Dichloroethene	0.22	J	1.0	0.19	ug/L			11/23/13 06:09	1
Acetone	10	U	10	1.1	ug/L			11/23/13 06:09	1
Benzene	1.0	U	1.0	0.13	ug/L			11/23/13 06:09	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/23/13 06:09	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/23/13 06:09	1
cis-1,2-Dichloroethene	0.74	J	1.0	0.17	ug/L			11/23/13 06:09	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/23/13 06:09	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/23/13 06:09	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/23/13 06:09	1
Toluene	1.0	U	1.0	0.13	ug/L			11/23/13 06:09	1
Trichloroethene	23		1.0	0.17	ug/L			11/23/13 06:09	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/23/13 06:09	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/23/13 06:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		63 - 129					11/23/13 06:09	1
4-Bromofluorobenzene (Surr)	91		66 - 117					11/23/13 06:09	1
Toluene-d8 (Surr)	92		74 - 115					11/23/13 06:09	1
Dibromofluoromethane (Surr)	112		75 - 121					11/23/13 06:09	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131113-MLR-31

Lab Sample ID: 240-31539-31

Date Collected: 11/13/13 09:26

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/23/13 06:31	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/23/13 06:31	1
Acetone	10	U	10	1.1	ug/L			11/23/13 06:31	1
Benzene	1.0	U	1.0	0.13	ug/L			11/23/13 06:31	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/23/13 06:31	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/23/13 06:31	1
cis-1,2-Dichloroethene	1.0		1.0	0.17	ug/L			11/23/13 06:31	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/23/13 06:31	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/23/13 06:31	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/23/13 06:31	1
Toluene	1.0	U	1.0	0.13	ug/L			11/23/13 06:31	1
Trichloroethene	7.9		1.0	0.17	ug/L			11/23/13 06:31	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/23/13 06:31	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/23/13 06:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		63 - 129					11/23/13 06:31	1
4-Bromofluorobenzene (Surr)	88		66 - 117					11/23/13 06:31	1
Toluene-d8 (Surr)	91		74 - 115					11/23/13 06:31	1
Dibromofluoromethane (Surr)	108		75 - 121					11/23/13 06:31	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131113-MLR-32

Lab Sample ID: 240-31539-32

Date Collected: 11/13/13 09:55

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/23/13 06:54	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/23/13 06:54	1
Acetone	10	U	10	1.1	ug/L			11/23/13 06:54	1
Benzene	1.0	U	1.0	0.13	ug/L			11/23/13 06:54	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/23/13 06:54	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/23/13 06:54	1
cis-1,2-Dichloroethene	0.32	J	1.0	0.17	ug/L			11/23/13 06:54	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/23/13 06:54	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/23/13 06:54	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/23/13 06:54	1
Toluene	1.0	U	1.0	0.13	ug/L			11/23/13 06:54	1
Trichloroethene	2.6		1.0	0.17	ug/L			11/23/13 06:54	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/23/13 06:54	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/23/13 06:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		63 - 129					11/23/13 06:54	1
4-Bromofluorobenzene (Surr)	89		66 - 117					11/23/13 06:54	1
Toluene-d8 (Surr)	90		74 - 115					11/23/13 06:54	1
Dibromofluoromethane (Surr)	112		75 - 121					11/23/13 06:54	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131113-MLR-33

Lab Sample ID: 240-31539-33

Date Collected: 11/13/13 10:30

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/23/13 07:16	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/23/13 07:16	1
Acetone	10	U	10	1.1	ug/L			11/23/13 07:16	1
Benzene	1.0	U	1.0	0.13	ug/L			11/23/13 07:16	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/23/13 07:16	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/23/13 07:16	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/23/13 07:16	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/23/13 07:16	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/23/13 07:16	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/23/13 07:16	1
Toluene	1.0	U	1.0	0.13	ug/L			11/23/13 07:16	1
Trichloroethene	4.3		1.0	0.17	ug/L			11/23/13 07:16	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/23/13 07:16	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/23/13 07:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		63 - 129		11/23/13 07:16	1
4-Bromofluorobenzene (Surr)	87		66 - 117		11/23/13 07:16	1
Toluene-d8 (Surr)	89		74 - 115		11/23/13 07:16	1
Dibromofluoromethane (Surr)	113		75 - 121		11/23/13 07:16	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131113-MLR-34

Lab Sample ID: 240-31539-34

Date Collected: 11/13/13 10:30

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/23/13 07:38	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/23/13 07:38	1
Acetone	10	U	10	1.1	ug/L			11/23/13 07:38	1
Benzene	1.0	U	1.0	0.13	ug/L			11/23/13 07:38	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/23/13 07:38	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/23/13 07:38	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/23/13 07:38	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/23/13 07:38	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/23/13 07:38	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/23/13 07:38	1
Toluene	1.0	U	1.0	0.13	ug/L			11/23/13 07:38	1
Trichloroethene	4.8		1.0	0.17	ug/L			11/23/13 07:38	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/23/13 07:38	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/23/13 07:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		63 - 129					11/23/13 07:38	1
4-Bromofluorobenzene (Surr)	89		66 - 117					11/23/13 07:38	1
Toluene-d8 (Surr)	91		74 - 115					11/23/13 07:38	1
Dibromofluoromethane (Surr)	111		75 - 121					11/23/13 07:38	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131113-MLR-35

Lab Sample ID: 240-31539-35

Date Collected: 11/13/13 12:50

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/23/13 08:01	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/23/13 08:01	1
Acetone	10	U	10	1.1	ug/L			11/23/13 08:01	1
Benzene	1.0	U	1.0	0.13	ug/L			11/23/13 08:01	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/23/13 08:01	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/23/13 08:01	1
cis-1,2-Dichloroethene	1.1		1.0	0.17	ug/L			11/23/13 08:01	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/23/13 08:01	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/23/13 08:01	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/23/13 08:01	1
Toluene	1.0	U	1.0	0.13	ug/L			11/23/13 08:01	1
Trichloroethene	2.2		1.0	0.17	ug/L			11/23/13 08:01	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/23/13 08:01	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/23/13 08:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		63 - 129		11/23/13 08:01	1
4-Bromofluorobenzene (Surr)	88		66 - 117		11/23/13 08:01	1
Toluene-d8 (Surr)	92		74 - 115		11/23/13 08:01	1
Dibromofluoromethane (Surr)	110		75 - 121		11/23/13 08:01	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131113-MLR-36

Lab Sample ID: 240-31539-36

Date Collected: 11/13/13 13:20

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/23/13 08:24	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/23/13 08:24	1
Acetone	10	U	10	1.1	ug/L			11/23/13 08:24	1
Benzene	1.0	U	1.0	0.13	ug/L			11/23/13 08:24	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/23/13 08:24	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/23/13 08:24	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/23/13 08:24	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/23/13 08:24	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/23/13 08:24	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/23/13 08:24	1
Toluene	1.0	U	1.0	0.13	ug/L			11/23/13 08:24	1
Trichloroethene	0.45	J	1.0	0.17	ug/L			11/23/13 08:24	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/23/13 08:24	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/23/13 08:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		63 - 129					11/23/13 08:24	1
4-Bromofluorobenzene (Surr)	88		66 - 117					11/23/13 08:24	1
Toluene-d8 (Surr)	89		74 - 115					11/23/13 08:24	1
Dibromofluoromethane (Surr)	113		75 - 121					11/23/13 08:24	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-31539-37

Date Collected: 11/13/13 12:00

Matrix: Water

Date Received: 11/15/13 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/24/13 17:39	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/24/13 17:39	1
Acetone	5.3	J	10	1.1	ug/L			11/24/13 17:39	1
Benzene	1.0	U	1.0	0.13	ug/L			11/24/13 17:39	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/24/13 17:39	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/24/13 17:39	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/24/13 17:39	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/24/13 17:39	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/24/13 17:39	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/24/13 17:39	1
Toluene	1.0	U	1.0	0.13	ug/L			11/24/13 17:39	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			11/24/13 17:39	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/24/13 17:39	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/24/13 17:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		63 - 129					11/24/13 17:39	1
4-Bromofluorobenzene (Surr)	93		66 - 117					11/24/13 17:39	1
Toluene-d8 (Surr)	92		74 - 115					11/24/13 17:39	1
Dibromofluoromethane (Surr)	92		75 - 121					11/24/13 17:39	1

Surrogate Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (63-129)	BFB (66-117)	TOL (74-115)	DBFM (75-121)
240-31539-1	W-131111-MLR-01	89	87	92	90
240-31539-1 MS	W-131111-MLR-01	90	95	100	94
240-31539-1 MSD	W-131111-MLR-01	93	93	98	95
240-31539-2	W-131111-MLR-02	88	85	92	89
240-31539-3	W-131111-MLR-03	96	90	97	97
240-31539-4	W-131111-MLR-04	90	86	93	92
240-31539-5	W-131111-MLR-05	93	91	98	96
240-31539-6	W-131111-MLR-06	93	90	97	96
240-31539-7	W-131111-MLR-07	91	85	92	92
240-31539-8	W-131111-MLR-08	95	90	98	98
240-31539-9	W-131112-MLR-09	94	87	94	95
240-31539-10	W-131112-MLR-10	98	89	98	98
240-31539-11	W-131112-MLR-11	96	89	98	96
240-31539-12	W-131112-MLR-12	98	89	97	99
240-31539-12 MS	W-131112-MLR-12	87	88	94	88
240-31539-12 MSD	W-131112-MLR-12	95	95	101	96
240-31539-13	W-131112-MLR-13	96	95	98	94
240-31539-14	W-131112-MLR-14	95	86	91	92
240-31539-15	W-131112-MLR-15	97	92	98	99
240-31539-16	W-131112-MLR-16	101	92	92	106
240-31539-17	W-131112-MLR-17	102	90	93	108
240-31539-18	W-131112-MLR-18	101	91	92	107
240-31539-19	W-131112-MLR-19	102	93	90	108
240-31539-20	W-131112-MLR-20	102	92	91	110
240-31539-21	W-131112-MLR-21	103	89	92	110
240-31539-22	W-131112-MLR-22	102	89	93	110
240-31539-23	W-131112-MLR-23	105	88	89	110
240-31539-24	W-131112-MLR-24	103	88	94	108
240-31539-25	W-131112-MLR-25	105	92	90	112
240-31539-26	W-131112-MLR-26	100	93	93	109
240-31539-27	W-131113-MLR-27	107	88	90	114
240-31539-27 MS	W-131113-MLR-27	102	100	95	106
240-31539-27 MSD	W-131113-MLR-27	101	102	95	106
240-31539-28	W-131113-MLR-28	100	86	96	97
240-31539-29	W-131113-MLR-29	106	89	92	110
240-31539-30	W-131113-MLR-30	105	91	92	112
240-31539-31	W-131113-MLR-31	103	88	91	108
240-31539-32	W-131113-MLR-32	105	89	90	112
240-31539-33	W-131113-MLR-33	107	87	89	113
240-31539-34	W-131113-MLR-34	105	89	91	111
240-31539-35	W-131113-MLR-35	105	88	92	110
240-31539-36	W-131113-MLR-36	106	88	89	113
240-31539-37	TRIP BLANK	97	93	92	92
LCS 240-110936/4	Lab Control Sample	91	90	96	89
LCS 240-111106/4	Lab Control Sample	91	94	100	94
LCS 240-111146/4	Lab Control Sample	98	102	98	102
LCS 240-111206/4	Lab Control Sample	83	91	88	84
LCS 240-111286/4	Lab Control Sample	94	96	97	94
MB 240-110936/5	Method Blank	92	89	99	94

TestAmerica Canton

Surrogate Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	12DCE	BFB	TOL	DBFM
		(63-129)	(66-117)	(74-115)	(75-121)
MB 240-111106/6	Method Blank	88	90	98	91
MB 240-111146/6	Method Blank	99	90	94	106
MB 240-111206/5	Method Blank	86	86	84	83
MB 240-111286/5	Method Blank	95	90	97	93

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-110936/5

Matrix: Water

Analysis Batch: 110936

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/21/13 22:07	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/21/13 22:07	1
Acetone	2.00	J	10	1.1	ug/L			11/21/13 22:07	1
Benzene	1.0	U	1.0	0.13	ug/L			11/21/13 22:07	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/21/13 22:07	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/21/13 22:07	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/21/13 22:07	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/21/13 22:07	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/21/13 22:07	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/21/13 22:07	1
Toluene	0.307	J	1.0	0.13	ug/L			11/21/13 22:07	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			11/21/13 22:07	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/21/13 22:07	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/21/13 22:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		63 - 129		11/21/13 22:07	1
4-Bromofluorobenzene (Surr)	89		66 - 117		11/21/13 22:07	1
Toluene-d8 (Surr)	99		74 - 115		11/21/13 22:07	1
Dibromofluoromethane (Surr)	94		75 - 121		11/21/13 22:07	1

Lab Sample ID: LCS 240-110936/4

Matrix: Water

Analysis Batch: 110936

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2-Trichloroethane	25.0	23.7		ug/L		95	80 - 112
1,1-Dichloroethene	25.0	21.6		ug/L		86	78 - 131
Acetone	50.0	56.3		ug/L		113	43 - 136
Benzene	25.0	24.2		ug/L		97	83 - 112
Carbon tetrachloride	25.0	22.9		ug/L		92	66 - 128
Chloroform	25.0	25.0		ug/L		100	79 - 117
cis-1,2-Dichloroethene	25.0	23.8		ug/L		95	80 - 113
Ethylbenzene	25.0	24.5		ug/L		98	83 - 112
m-Xylene & p-Xylene	25.0	24.3		ug/L		97	83 - 113
Methylene Chloride	25.0	18.9		ug/L		75	66 - 131
o-Xylene	25.0	24.5		ug/L		98	83 - 113
Tetrachloroethene	25.0	24.1		ug/L		97	79 - 114
Toluene	25.0	23.2		ug/L		93	84 - 111
Trichloroethene	25.0	24.0		ug/L		96	76 - 117
Vinyl chloride	25.0	19.9		ug/L		80	53 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	91		63 - 129
4-Bromofluorobenzene (Surr)	90		66 - 117
Toluene-d8 (Surr)	96		74 - 115
Dibromofluoromethane (Surr)	89		75 - 121

TestAmerica Canton

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-31539-12 MS

Matrix: Water

Analysis Batch: 110936

Client Sample ID: W-131112-MLR-12

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	%Rec.
	Result	Qualifier		Result	Qualifier				
1,1,2-Trichloroethane	1.0	U	25.0	23.2		ug/L		93	75 - 115
1,1-Dichloroethene	1.0	U	25.0	22.0		ug/L		88	74 - 135
Acetone	10	U	50.0	41.4		ug/L		83	33 - 145
Benzene	1.0	U	25.0	24.2		ug/L		97	72 - 121
Carbon tetrachloride	1.0	U	25.0	23.1		ug/L		92	59 - 129
Chloroform	1.0	U	25.0	24.9		ug/L		100	76 - 118
cis-1,2-Dichloroethene	21		25.0	43.2		ug/L		89	70 - 120
Ethylbenzene	1.0	U	25.0	24.4		ug/L		98	75 - 116
m-Xylene & p-Xylene	1.0		25.0	24.3		ug/L		97	75 - 117
Methylene Chloride	1.0	U	25.0	18.3		ug/L		73	63 - 128
o-Xylene	1.0		25.0	24.8		ug/L		99	76 - 116
Tetrachloroethene	3.8		25.0	27.2		ug/L		94	70 - 117
Toluene	0.25	J B	25.0	24.6		ug/L		97	78 - 114
Trichloroethene	2.0		25.0	25.2		ug/L		93	66 - 120
Vinyl chloride	19		25.0	36.2		ug/L		70	49 - 130

Surrogate	MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	87		63 - 129
4-Bromofluorobenzene (Surr)	88		66 - 117
Toluene-d8 (Surr)	94		74 - 115
Dibromofluoromethane (Surr)	88		75 - 121

Lab Sample ID: 240-31539-12 MSD

Matrix: Water

Analysis Batch: 110936

Client Sample ID: W-131112-MLR-12

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier		Result	Qualifier						
1,1,2-Trichloroethane	1.0	U	25.0	23.6		ug/L		94	75 - 115	2	30
1,1-Dichloroethene	1.0	U	25.0	22.3		ug/L		89	74 - 135	1	30
Acetone	10	U	50.0	44.3		ug/L		89	33 - 145	7	30
Benzene	1.0	U	25.0	24.5		ug/L		98	72 - 121	1	30
Carbon tetrachloride	1.0	U	25.0	22.7		ug/L		91	59 - 129	2	30
Chloroform	1.0	U	25.0	26.0		ug/L		104	76 - 118	4	30
cis-1,2-Dichloroethene	21		25.0	42.9		ug/L		87	70 - 120	1	30
Ethylbenzene	1.0	U	25.0	23.6		ug/L		94	75 - 116	3	30
m-Xylene & p-Xylene	1.0		25.0	23.8		ug/L		95	75 - 117	2	30
Methylene Chloride	1.0	U	25.0	20.0		ug/L		80	63 - 128	8	30
o-Xylene	1.0		25.0	24.7		ug/L		99	76 - 116	0	30
Tetrachloroethene	3.8		25.0	26.0		ug/L		89	70 - 117	4	30
Toluene	0.25	J B	25.0	24.3		ug/L		96	78 - 114	1	30
Trichloroethene	2.0		25.0	25.3		ug/L		93	66 - 120	1	30
Vinyl chloride	19		25.0	35.8		ug/L		69	49 - 130	1	30

Surrogate	MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	95		63 - 129
4-Bromofluorobenzene (Surr)	95		66 - 117
Toluene-d8 (Surr)	101		74 - 115

TestAmerica Canton

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-31539-12 MSD

Matrix: Water

Analysis Batch: 110936

Client Sample ID: W-131112-MLR-12

Prep Type: Total/NA

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	96		75 - 121

Lab Sample ID: MB 240-111106/6

Matrix: Water

Analysis Batch: 111106

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/22/13 15:18	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/22/13 15:18	1
Acetone	10	U	10	1.1	ug/L			11/22/13 15:18	1
Benzene	1.0	U	1.0	0.13	ug/L			11/22/13 15:18	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/22/13 15:18	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/22/13 15:18	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/22/13 15:18	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/22/13 15:18	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/22/13 15:18	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/22/13 15:18	1
Toluene	1.0	U	1.0	0.13	ug/L			11/22/13 15:18	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			11/22/13 15:18	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/22/13 15:18	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/22/13 15:18	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	88		63 - 129		11/22/13 15:18	1
4-Bromofluorobenzene (Surr)	90		66 - 117		11/22/13 15:18	1
Toluene-d8 (Surr)	98		74 - 115		11/22/13 15:18	1
Dibromofluoromethane (Surr)	91		75 - 121		11/22/13 15:18	1

Lab Sample ID: LCS 240-111106/4

Matrix: Water

Analysis Batch: 111106

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	25.0	25.6		ug/L		102	78 - 131
Acetone	50.0	61.1		ug/L		122	43 - 136
Benzene	25.0	26.8		ug/L		107	83 - 112
Carbon tetrachloride	25.0	25.9		ug/L		104	66 - 128
Chloroform	25.0	27.1		ug/L		108	79 - 117
cis-1,2-Dichloroethene	25.0	26.6		ug/L		106	80 - 113
Ethylbenzene	25.0	27.4		ug/L		110	83 - 112
m-Xylene & p-Xylene	25.0	27.4		ug/L		109	83 - 113
Methylene Chloride	25.0	25.7		ug/L		103	66 - 131
o-Xylene	25.0	27.6		ug/L		110	83 - 113
Tetrachloroethene	25.0	28.1		ug/L		112	79 - 114
Toluene	25.0	26.1		ug/L		104	84 - 111
Trichloroethene	25.0	27.8		ug/L		111	76 - 117
Vinyl chloride	25.0	23.4		ug/L		93	53 - 127

TestAmerica Canton

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-111106/4

Matrix: Water

Analysis Batch: 111106

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Surrogate	LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	91		63 - 129
4-Bromofluorobenzene (Surr)	94		66 - 117
Toluene-d8 (Surr)	100		74 - 115
Dibromofluoromethane (Surr)	94		75 - 121

Lab Sample ID: 240-31539-1 MS

Matrix: Water

Analysis Batch: 111106

Client Sample ID: W-131111-MLR-01

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
1,1,2-Trichloroethane	1.0	U	25.0	23.6		ug/L		95	75 - 115	
1,1-Dichloroethene	1.0	U	25.0	23.6		ug/L		94	74 - 135	
Acetone	10	U	50.0	41.6		ug/L		83	33 - 145	
Benzene	1.0	U	25.0	24.4		ug/L		98	72 - 121	
Carbon tetrachloride	1.0	U	25.0	23.7		ug/L		95	59 - 129	
Chloroform	1.0	U	25.0	25.3		ug/L		101	76 - 118	
cis-1,2-Dichloroethene	0.50	J	25.0	24.8		ug/L		97	70 - 120	
Ethylbenzene	1.0	U	25.0	25.2		ug/L		101	75 - 116	
m-Xylene & p-Xylene	1.0		25.0	25.4		ug/L		102	75 - 117	
Methylene Chloride	1.0	U	25.0	22.8		ug/L		91	63 - 128	
o-Xylene	1.0		25.0	25.6		ug/L		103	76 - 116	
Tetrachloroethene	1.4		25.0	27.2		ug/L		103	70 - 117	
Toluene	1.0	U	25.0	23.7		ug/L		95	78 - 114	
Trichloroethene	0.72	J	25.0	25.9		ug/L		101	66 - 120	
Vinyl chloride	1.0	U	25.0	21.1		ug/L		84	49 - 130	

Surrogate	MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	90		63 - 129
4-Bromofluorobenzene (Surr)	95		66 - 117
Toluene-d8 (Surr)	100		74 - 115
Dibromofluoromethane (Surr)	94		75 - 121

Lab Sample ID: 240-31539-1 MSD

Matrix: Water

Analysis Batch: 111106

Client Sample ID: W-131111-MLR-01

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier							
1,1,2-Trichloroethane	1.0	U	25.0	24.8		ug/L		99	75 - 115	5	30	
1,1-Dichloroethene	1.0	U	25.0	22.3		ug/L		89	74 - 135	5	30	
Acetone	10	U	50.0	49.3		ug/L		99	33 - 145	17	30	
Benzene	1.0	U	25.0	24.4		ug/L		98	72 - 121	0	30	
Carbon tetrachloride	1.0	U	25.0	22.5		ug/L		90	59 - 129	5	30	
Chloroform	1.0	U	25.0	25.5		ug/L		102	76 - 118	1	30	
cis-1,2-Dichloroethene	0.50	J	25.0	25.0		ug/L		98	70 - 120	1	30	
Ethylbenzene	1.0	U	25.0	24.6		ug/L		98	75 - 116	3	30	
m-Xylene & p-Xylene	1.0		25.0	24.5		ug/L		98	75 - 117	4	30	
Methylene Chloride	1.0	U	25.0	23.7		ug/L		95	63 - 128	4	30	
o-Xylene	1.0		25.0	24.9		ug/L		100	76 - 116	3	30	

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QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-31539-1 MSD

Matrix: Water

Analysis Batch: 111106

Client Sample ID: W-131111-MLR-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Tetrachloroethene	1.4		25.0	25.3		ug/L		96	70 - 117	7	30
Toluene	1.0	U	25.0	23.1		ug/L		92	78 - 114	2	30
Trichloroethene	0.72	J	25.0	25.0		ug/L		97	66 - 120	4	30
Vinyl chloride	1.0	U	25.0	21.1		ug/L		85	49 - 130	0	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		63 - 129
4-Bromofluorobenzene (Surr)	93		66 - 117
Toluene-d8 (Surr)	98		74 - 115
Dibromofluoromethane (Surr)	95		75 - 121

Lab Sample ID: MB 240-111146/6

Matrix: Water

Analysis Batch: 111146

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/23/13 01:17	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/23/13 01:17	1
Acetone	10	U	10	1.1	ug/L			11/23/13 01:17	1
Benzene	1.0	U	1.0	0.13	ug/L			11/23/13 01:17	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/23/13 01:17	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/23/13 01:17	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/23/13 01:17	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/23/13 01:17	1
Methylene Chloride	0.556	J	1.0	0.33	ug/L			11/23/13 01:17	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/23/13 01:17	1
Toluene	1.0	U	1.0	0.13	ug/L			11/23/13 01:17	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			11/23/13 01:17	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/23/13 01:17	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/23/13 01:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		63 - 129		11/23/13 01:17	1
4-Bromofluorobenzene (Surr)	90		66 - 117		11/23/13 01:17	1
Toluene-d8 (Surr)	94		74 - 115		11/23/13 01:17	1
Dibromofluoromethane (Surr)	106		75 - 121		11/23/13 01:17	1

Lab Sample ID: LCS 240-111146/4

Matrix: Water

Analysis Batch: 111146

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2-Trichloroethane	10.0	10.1		ug/L		101	80 - 112
1,1-Dichloroethene	10.0	10.0		ug/L		100	78 - 131
Acetone	20.0	25.7		ug/L		128	43 - 136
Benzene	10.0	9.93		ug/L		99	83 - 112
Carbon tetrachloride	10.0	10.2		ug/L		102	66 - 128
Chloroform	10.0	10.6		ug/L		106	79 - 117

TestAmerica Canton

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-111146/4

Matrix: Water

Analysis Batch: 111146

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	10.0	10.4		ug/L		104	80 - 113
Ethylbenzene	10.0	9.47		ug/L		95	83 - 112
m-Xylene & p-Xylene	10.0	9.55		ug/L		95	83 - 113
Methylene Chloride	10.0	11.6		ug/L		116	66 - 131
o-Xylene	10.0	10.1		ug/L		101	83 - 113
Tetrachloroethene	10.0	10.4		ug/L		104	79 - 114
Toluene	10.0	9.49		ug/L		95	84 - 111
Trichloroethene	10.0	10.0		ug/L		100	76 - 117
Vinyl chloride	10.0	9.79		ug/L		98	53 - 127

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	98		63 - 129
4-Bromofluorobenzene (Surr)	102		66 - 117
Toluene-d8 (Surr)	98		74 - 115
Dibromofluoromethane (Surr)	102		75 - 121

Lab Sample ID: 240-31539-27 MS

Matrix: Water

Analysis Batch: 111146

Client Sample ID: W-131113-MLR-27

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2-Trichloroethane	1.0	U	10.0	10.4		ug/L		104	75 - 115
1,1-Dichloroethene	1.0	U	10.0	10.3		ug/L		103	74 - 135
Acetone	10	U	20.0	23.5		ug/L		117	33 - 145
Benzene	1.0	U	10.0	10.3		ug/L		103	72 - 121
Carbon tetrachloride	1.0	U	10.0	9.94		ug/L		99	59 - 129
Chloroform	1.0	U	10.0	11.5		ug/L		115	76 - 118
cis-1,2-Dichloroethene	1.0	U	10.0	11.0		ug/L		110	70 - 120
Ethylbenzene	1.0	U	10.0	8.78		ug/L		88	75 - 116
m-Xylene & p-Xylene	1.0		10.0	8.74		ug/L		87	75 - 117
Methylene Chloride	1.0	U	10.0	11.5		ug/L		115	63 - 128
o-Xylene	1.0		10.0	9.61		ug/L		96	76 - 116
Tetrachloroethene	1.0	U	10.0	8.61		ug/L		86	70 - 117
Toluene	1.0	U	10.0	8.76		ug/L		88	78 - 114
Trichloroethene	1.1		10.0	10.3		ug/L		92	66 - 120
Vinyl chloride	1.0	U	10.0	10.3		ug/L		103	49 - 130

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	102		63 - 129
4-Bromofluorobenzene (Surr)	100		66 - 117
Toluene-d8 (Surr)	95		74 - 115
Dibromofluoromethane (Surr)	106		75 - 121

TestAmerica Canton

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-31539-27 MSD

Matrix: Water

Analysis Batch: 111146

Client Sample ID: W-131113-MLR-27

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,2-Trichloroethane	1.0	U	10.0	10.3		ug/L		103	75 - 115	1	30
1,1-Dichloroethene	1.0	U	10.0	9.62		ug/L		96	74 - 135	6	30
Acetone	10	U	20.0	20.9		ug/L		105	33 - 145	12	30
Benzene	1.0	U	10.0	9.89		ug/L		99	72 - 121	4	30
Carbon tetrachloride	1.0	U	10.0	9.20		ug/L		92	59 - 129	8	30
Chloroform	1.0	U	10.0	11.1		ug/L		111	76 - 118	4	30
cis-1,2-Dichloroethene	1.0	U	10.0	10.3		ug/L		103	70 - 120	7	30
Ethylbenzene	1.0	U	10.0	8.39		ug/L		84	75 - 116	4	30
m-Xylene & p-Xylene	1.0		10.0	8.48		ug/L		85	75 - 117	3	30
Methylene Chloride	1.0	U	10.0	10.8		ug/L		108	63 - 128	6	30
o-Xylene	1.0		10.0	8.97		ug/L		90	76 - 116	7	30
Tetrachloroethene	1.0	U	10.0	8.21		ug/L		82	70 - 117	5	30
Toluene	1.0	U	10.0	8.45		ug/L		84	78 - 114	4	30
Trichloroethene	1.1		10.0	9.82		ug/L		87	66 - 120	5	30
Vinyl chloride	1.0	U	10.0	9.82		ug/L		98	49 - 130	5	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		63 - 129
4-Bromofluorobenzene (Surr)	102		66 - 117
Toluene-d8 (Surr)	95		74 - 115
Dibromofluoromethane (Surr)	106		75 - 121

Lab Sample ID: MB 240-111206/5

Matrix: Water

Analysis Batch: 111206

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/24/13 14:55	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/24/13 14:55	1
Acetone	10	U	10	1.1	ug/L			11/24/13 14:55	1
Benzene	1.0	U	1.0	0.13	ug/L			11/24/13 14:55	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/24/13 14:55	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/24/13 14:55	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/24/13 14:55	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/24/13 14:55	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/24/13 14:55	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/24/13 14:55	1
Toluene	1.0	U	1.0	0.13	ug/L			11/24/13 14:55	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			11/24/13 14:55	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/24/13 14:55	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/24/13 14:55	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		63 - 129		11/24/13 14:55	1
4-Bromofluorobenzene (Surr)	86		66 - 117		11/24/13 14:55	1
Toluene-d8 (Surr)	84		74 - 115		11/24/13 14:55	1
Dibromofluoromethane (Surr)	83		75 - 121		11/24/13 14:55	1

TestAmerica Canton

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-111206/4

Matrix: Water

Analysis Batch: 111206

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,2-Trichloroethane	10.0	10.2		ug/L		102	80 - 112
1,1-Dichloroethene	10.0	8.68		ug/L		87	78 - 131
Acetone	20.0	22.3		ug/L		112	43 - 136
Benzene	10.0	9.77		ug/L		98	83 - 112
Carbon tetrachloride	10.0	9.31		ug/L		93	66 - 128
Chloroform	10.0	9.56		ug/L		96	79 - 117
cis-1,2-Dichloroethene	10.0	9.69		ug/L		97	80 - 113
Ethylbenzene	10.0	10.2		ug/L		102	83 - 112
m-Xylene & p-Xylene	10.0	10.2		ug/L		102	83 - 113
Methylene Chloride	10.0	9.08		ug/L		91	66 - 131
o-Xylene	10.0	10.1		ug/L		101	83 - 113
Tetrachloroethene	10.0	10.3		ug/L		103	79 - 114
Toluene	10.0	10.4		ug/L		104	84 - 111
Trichloroethene	10.0	9.91		ug/L		99	76 - 117
Vinyl chloride	10.0	10.3		ug/L		103	53 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		63 - 129
4-Bromofluorobenzene (Surr)	91		66 - 117
Toluene-d8 (Surr)	88		74 - 115
Dibromofluoromethane (Surr)	84		75 - 121

Lab Sample ID: MB 240-111286/5

Matrix: Water

Analysis Batch: 111286

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.27	ug/L			11/25/13 12:39	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/25/13 12:39	1
Acetone	10	U	10	1.1	ug/L			11/25/13 12:39	1
Benzene	1.0	U	1.0	0.13	ug/L			11/25/13 12:39	1
Carbon tetrachloride	1.0	U	1.0	0.13	ug/L			11/25/13 12:39	1
Chloroform	1.0	U	1.0	0.16	ug/L			11/25/13 12:39	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.17	ug/L			11/25/13 12:39	1
Ethylbenzene	1.0	U	1.0	0.17	ug/L			11/25/13 12:39	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			11/25/13 12:39	1
Tetrachloroethene	1.0	U	1.0	0.29	ug/L			11/25/13 12:39	1
Toluene	1.0	U	1.0	0.13	ug/L			11/25/13 12:39	1
Trichloroethene	1.0	U	1.0	0.17	ug/L			11/25/13 12:39	1
Vinyl chloride	1.0	U	1.0	0.22	ug/L			11/25/13 12:39	1
Xylenes, Total	1.0	U	1.0	0.14	ug/L			11/25/13 12:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		63 - 129		11/25/13 12:39	1
4-Bromofluorobenzene (Surr)	90		66 - 117		11/25/13 12:39	1
Toluene-d8 (Surr)	97		74 - 115		11/25/13 12:39	1
Dibromofluoromethane (Surr)	93		75 - 121		11/25/13 12:39	1

TestAmerica Canton

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-111286/4

Matrix: Water

Analysis Batch: 111286

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2-Trichloroethane	25.0	25.6		ug/L		103	80 - 112
1,1-Dichloroethene	25.0	22.0		ug/L		88	78 - 131
Acetone	50.0	65.1		ug/L		130	43 - 136
Benzene	25.0	25.8		ug/L		103	83 - 112
Carbon tetrachloride	25.0	25.6		ug/L		103	66 - 128
Chloroform	25.0	26.3		ug/L		105	79 - 117
cis-1,2-Dichloroethene	25.0	24.9		ug/L		100	80 - 113
Ethylbenzene	25.0	26.7		ug/L		107	83 - 112
m-Xylene & p-Xylene	25.0	26.4		ug/L		106	83 - 113
Methylene Chloride	25.0	19.4		ug/L		78	66 - 131
o-Xylene	25.0	26.7		ug/L		107	83 - 113
Tetrachloroethene	25.0	26.7		ug/L		107	79 - 114
Toluene	25.0	27.2		ug/L		109	84 - 111
Trichloroethene	25.0	26.4		ug/L		106	76 - 117
Vinyl chloride	25.0	22.7		ug/L		91	53 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		63 - 129
4-Bromofluorobenzene (Surr)	96		66 - 117
Toluene-d8 (Surr)	97		74 - 115
Dibromofluoromethane (Surr)	94		75 - 121

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

GC/MS VOA

Analysis Batch: 110936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-31539-12	W-131112-MLR-12	Total/NA	Water	8260B	
240-31539-12 MS	W-131112-MLR-12	Total/NA	Water	8260B	
240-31539-12 MSD	W-131112-MLR-12	Total/NA	Water	8260B	
LCS 240-110936/4	Lab Control Sample	Total/NA	Water	8260B	
MB 240-110936/5	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 111106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-31539-1	W-131111-MLR-01	Total/NA	Water	8260B	
240-31539-1 MS	W-131111-MLR-01	Total/NA	Water	8260B	
240-31539-1 MSD	W-131111-MLR-01	Total/NA	Water	8260B	
240-31539-2	W-131111-MLR-02	Total/NA	Water	8260B	
240-31539-3	W-131111-MLR-03	Total/NA	Water	8260B	
240-31539-4	W-131111-MLR-04	Total/NA	Water	8260B	
240-31539-5	W-131111-MLR-05	Total/NA	Water	8260B	
240-31539-6	W-131111-MLR-06	Total/NA	Water	8260B	
240-31539-7	W-131111-MLR-07	Total/NA	Water	8260B	
240-31539-8	W-131111-MLR-08	Total/NA	Water	8260B	
240-31539-9	W-131112-MLR-09	Total/NA	Water	8260B	
240-31539-10	W-131112-MLR-10	Total/NA	Water	8260B	
240-31539-11	W-131112-MLR-11	Total/NA	Water	8260B	
240-31539-15	W-131112-MLR-15	Total/NA	Water	8260B	
LCS 240-111106/4	Lab Control Sample	Total/NA	Water	8260B	
MB 240-111106/6	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 111146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-31539-16	W-131112-MLR-16	Total/NA	Water	8260B	
240-31539-17	W-131112-MLR-17	Total/NA	Water	8260B	
240-31539-18	W-131112-MLR-18	Total/NA	Water	8260B	
240-31539-19	W-131112-MLR-19	Total/NA	Water	8260B	
240-31539-20	W-131112-MLR-20	Total/NA	Water	8260B	
240-31539-21	W-131112-MLR-21	Total/NA	Water	8260B	
240-31539-22	W-131112-MLR-22	Total/NA	Water	8260B	
240-31539-23	W-131112-MLR-23	Total/NA	Water	8260B	
240-31539-24	W-131112-MLR-24	Total/NA	Water	8260B	
240-31539-25	W-131112-MLR-25	Total/NA	Water	8260B	
240-31539-26	W-131112-MLR-26	Total/NA	Water	8260B	
240-31539-27	W-131113-MLR-27	Total/NA	Water	8260B	
240-31539-27 MS	W-131113-MLR-27	Total/NA	Water	8260B	
240-31539-27 MSD	W-131113-MLR-27	Total/NA	Water	8260B	
240-31539-29	W-131113-MLR-29	Total/NA	Water	8260B	
240-31539-30	W-131113-MLR-30	Total/NA	Water	8260B	
240-31539-31	W-131113-MLR-31	Total/NA	Water	8260B	
240-31539-32	W-131113-MLR-32	Total/NA	Water	8260B	
240-31539-33	W-131113-MLR-33	Total/NA	Water	8260B	
240-31539-34	W-131113-MLR-34	Total/NA	Water	8260B	
240-31539-35	W-131113-MLR-35	Total/NA	Water	8260B	
240-31539-36	W-131113-MLR-36	Total/NA	Water	8260B	
LCS 240-111146/4	Lab Control Sample	Total/NA	Water	8260B	
MB 240-111146/6	Method Blank	Total/NA	Water	8260B	

TestAmerica Canton

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

GC/MS VOA (Continued)

Analysis Batch: 111206

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-31539-37	TRIP BLANK	Total/NA	Water	8260B	
LCS 240-111206/4	Lab Control Sample	Total/NA	Water	8260B	
MB 240-111206/5	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 111286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-31539-13	W-131112-MLR-13	Total/NA	Water	8260B	
240-31539-14	W-131112-MLR-14	Total/NA	Water	8260B	
240-31539-28	W-131113-MLR-28	Total/NA	Water	8260B	
LCS 240-111286/4	Lab Control Sample	Total/NA	Water	8260B	
MB 240-111286/5	Method Blank	Total/NA	Water	8260B	



Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131111-MLR-01

Lab Sample ID: 240-31539-1

Date Collected: 11/11/13 13:19

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111106	11/22/13 16:03	RJQ	TAL CAN

Client Sample ID: W-131111-MLR-02

Lab Sample ID: 240-31539-2

Date Collected: 11/11/13 15:20

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111106	11/22/13 19:45	RJQ	TAL CAN

Client Sample ID: W-131111-MLR-03

Lab Sample ID: 240-31539-3

Date Collected: 11/11/13 15:22

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111106	11/22/13 20:08	RJQ	TAL CAN

Client Sample ID: W-131111-MLR-04

Lab Sample ID: 240-31539-4

Date Collected: 11/11/13 15:35

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111106	11/22/13 20:31	RJQ	TAL CAN

Client Sample ID: W-131111-MLR-05

Lab Sample ID: 240-31539-5

Date Collected: 11/11/13 15:55

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111106	11/22/13 20:53	RJQ	TAL CAN

Client Sample ID: W-131111-MLR-06

Lab Sample ID: 240-31539-6

Date Collected: 11/11/13 15:50

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111106	11/22/13 21:15	RJQ	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131111-MLR-07

Lab Sample ID: 240-31539-7

Date Collected: 11/11/13 16:40

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111106	11/22/13 21:37	RJQ	TAL CAN

Client Sample ID: W-131111-MLR-08

Lab Sample ID: 240-31539-8

Date Collected: 11/11/13 16:40

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111106	11/22/13 21:59	RJQ	TAL CAN

Client Sample ID: W-131112-MLR-09

Lab Sample ID: 240-31539-9

Date Collected: 11/12/13 08:30

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111106	11/22/13 22:22	RJQ	TAL CAN

Client Sample ID: W-131112-MLR-10

Lab Sample ID: 240-31539-10

Date Collected: 11/12/13 08:34

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111106	11/22/13 22:44	RJQ	TAL CAN

Client Sample ID: W-131112-MLR-11

Lab Sample ID: 240-31539-11

Date Collected: 11/12/13 09:42

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111106	11/22/13 23:06	RJQ	TAL CAN

Client Sample ID: W-131112-MLR-12

Lab Sample ID: 240-31539-12

Date Collected: 11/12/13 13:09

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	110936	11/21/13 22:30	RJQ	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131112-MLR-13

Lab Sample ID: 240-31539-13

Date Collected: 11/12/13 13:07

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	111286	11/25/13 19:13	RJQ	TAL CAN

Client Sample ID: W-131112-MLR-14

Lab Sample ID: 240-31539-14

Date Collected: 11/12/13 13:22

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111286	11/25/13 19:35	RJQ	TAL CAN

Client Sample ID: W-131112-MLR-15

Lab Sample ID: 240-31539-15

Date Collected: 11/12/13 13:41

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2.86	111106	11/22/13 23:50	RJQ	TAL CAN

Client Sample ID: W-131112-MLR-16

Lab Sample ID: 240-31539-16

Date Collected: 11/12/13 13:07

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111146	11/23/13 01:39	LRW	TAL CAN

Client Sample ID: W-131112-MLR-17

Lab Sample ID: 240-31539-17

Date Collected: 11/12/13 13:55

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111146	11/23/13 02:02	LRW	TAL CAN

Client Sample ID: W-131112-MLR-18

Lab Sample ID: 240-31539-18

Date Collected: 11/12/13 13:55

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111146	11/23/13 02:24	LRW	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131112-MLR-19

Lab Sample ID: 240-31539-19

Date Collected: 11/12/13 14:16

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111146	11/23/13 02:47	LRW	TAL CAN

Client Sample ID: W-131112-MLR-20

Lab Sample ID: 240-31539-20

Date Collected: 11/12/13 14:30

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111146	11/23/13 03:09	LRW	TAL CAN

Client Sample ID: W-131112-MLR-21

Lab Sample ID: 240-31539-21

Date Collected: 11/12/13 14:49

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111146	11/23/13 03:32	LRW	TAL CAN

Client Sample ID: W-131112-MLR-22

Lab Sample ID: 240-31539-22

Date Collected: 11/12/13 15:22

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111146	11/23/13 03:54	LRW	TAL CAN

Client Sample ID: W-131112-MLR-23

Lab Sample ID: 240-31539-23

Date Collected: 11/12/13 16:15

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111146	11/23/13 04:17	LRW	TAL CAN

Client Sample ID: W-131112-MLR-24

Lab Sample ID: 240-31539-24

Date Collected: 11/12/13 16:48

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111146	11/23/13 04:39	LRW	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131112-MLR-25

Lab Sample ID: 240-31539-25

Date Collected: 11/12/13 17:25

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111146	11/23/13 05:01	LRW	TAL CAN

Client Sample ID: W-131112-MLR-26

Lab Sample ID: 240-31539-26

Date Collected: 11/12/13 17:50

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111146	11/23/13 05:24	LRW	TAL CAN

Client Sample ID: W-131113-MLR-27

Lab Sample ID: 240-31539-27

Date Collected: 11/13/13 07:38

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111146	11/23/13 08:47	LRW	TAL CAN

Client Sample ID: W-131113-MLR-28

Lab Sample ID: 240-31539-28

Date Collected: 11/13/13 08:16

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111286	11/25/13 19:57	RJQ	TAL CAN

Client Sample ID: W-131113-MLR-29

Lab Sample ID: 240-31539-29

Date Collected: 11/13/13 08:05

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111146	11/23/13 05:46	LRW	TAL CAN

Client Sample ID: W-131113-MLR-30

Lab Sample ID: 240-31539-30

Date Collected: 11/13/13 08:43

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111146	11/23/13 06:09	LRW	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: W-131113-MLR-31

Lab Sample ID: 240-31539-31

Date Collected: 11/13/13 09:26

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111146	11/23/13 06:31	LRW	TAL CAN

Client Sample ID: W-131113-MLR-32

Lab Sample ID: 240-31539-32

Date Collected: 11/13/13 09:55

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111146	11/23/13 06:54	LRW	TAL CAN

Client Sample ID: W-131113-MLR-33

Lab Sample ID: 240-31539-33

Date Collected: 11/13/13 10:30

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111146	11/23/13 07:16	LRW	TAL CAN

Client Sample ID: W-131113-MLR-34

Lab Sample ID: 240-31539-34

Date Collected: 11/13/13 10:30

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111146	11/23/13 07:38	LRW	TAL CAN

Client Sample ID: W-131113-MLR-35

Lab Sample ID: 240-31539-35

Date Collected: 11/13/13 12:50

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111146	11/23/13 08:01	LRW	TAL CAN

Client Sample ID: W-131113-MLR-36

Lab Sample ID: 240-31539-36

Date Collected: 11/13/13 13:20

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111146	11/23/13 08:24	LRW	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-31539-37

Date Collected: 11/13/13 12:00

Matrix: Water

Date Received: 11/15/13 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	111206	11/24/13 17:39	LRW	TAL CAN

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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Certification Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 3978, Wausau

TestAmerica Job ID: 240-31539-1

Laboratory: TestAmerica Canton

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	NELAP	9	01144CA	06-30-14
Connecticut	State Program	1	PH-0590	12-31-13 *
Florida	NELAP	4	E87225	06-30-14
Georgia	State Program	4	N/A	06-30-14
Illinois	NELAP	5	200004	07-31-14 *
Kansas	NELAP	7	E-10336	01-31-14 *
Kentucky	State Program	4	58	06-30-14
L-A-B	DoD ELAP		L2315	07-18-16
Nevada	State Program	9	OH-000482008A	07-31-14
New Jersey	NELAP	2	OH001	06-30-14
New York	NELAP	2	10975	04-01-14
Ohio VAP	State Program	5	CL0024	10-31-15
Pennsylvania	NELAP	3	68-00340	08-31-14 *
Texas	NELAP	6		08-31-14 *
USDA	Federal		P330-13-00319	11-26-16
Virginia	NELAP	3	460175	09-14-14
Washington	State Program	10	C971	01-12-14 *
West Virginia DEP	State Program	3	210	12-31-13 *
Wisconsin	State Program	5	999518190	08-31-14

* Expired certification is currently pending renewal and is considered valid.

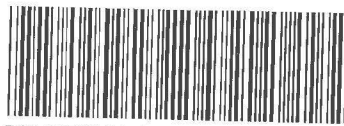
TestAmerica Canton

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

**CHAIN OF CUSTODY
AND
RECEIVING DOCUMENTS**



240-31539 Chain of Custody

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CONESTOGA-ROVERS & ASSOCIATES

CHAIN OF CUSTODY RECORD

1801 Old Highway 8 Northwest, Suite 114

St. Paul, Minnesota 55112 United States

Phone: (651) 639-0913

Fax: (651) 639-0923

3.2
4.6

COC NO. **SP-01057**

PAGE **1** OF **3**

(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 003976-000				Laboratory Name: TEST AMERICA - NORTH CANTON				Lab Location: NORTH CANTON, OH				SSOW ID:																																							
Project Name: WAUSAU WATER SUPPLY SITE				Lab Contact:				Lab Quote No:				Cooler No: 20F2																																							
Project Location: WAUSAU, WI				SAMPLE TYPE				CONTAINER QUANTITY & PRESERVATION				ANALYSIS REQUESTED (See Back of COC for Definitions)																																							
Chemistry Contact: GRANT ANDERSON				Matrix Code (see back of COC)				Unpreserved				Hydrochloric Acid (HCl)				Nitric Acid (HNO ₃)				Sulfuric Acid (H ₂ SO ₄)				Sodium Hydroxide (NaOH)				Methanol/Water (Soil VOC)				EnCores 3x6-g, 1x25-g				Other:				Total Containers/Sample VOLs (3x260B)				MS/MSD Request				Carrier: FED EX			
Sampler(s): M. REICHE ; N. ESTREM																																																Airbill No:			
Item	SAMPLE IDENTIFICATION (Containers for each sample may be combined on one line)			DATE (mm/dd/yy)	TIME (hr:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO ₃)	Sulfuric Acid (H ₂ SO ₄)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCores 3x6-g, 1x25-g	Other:	Total Containers/Sample	MS/MSD Request				COMMENTS/ SPECIAL INSTRUCTIONS:																														
1	W-13111-MLR-01			11/11/13	13:19	WG	G	3								3																																			
2	W-13111-MLR-02			11/11/13	15:20	WG	G	3								3																																			
3	W-13111-MLR-03			11/11/13	15:22	WG	G	3								3																																			
4	W-13111-MLR-04			11/11/13	15:35	WG	G	3								3																																			
5	W-13111-MLR-05			11/11/13	15:55	WG	G	3								3																																			
6	W-13111-MLR-06			11/11/13	15:50	WG	G	3								3																																			
7	W-13111-MLR-07			11/11/13	16:40	WG	G	3								3																																			
8	W-13111-MLR-08			11/11/13	16:40	WG	G	3								3																																			
9	W-13112-MLR-09			11/12/13	8:30	WG	G	3								3																																			
10	W-13112-MLR-10			11/12/13	8:34	WG	G	3								3																																			
11	W-13112-MLR-11			11/12/13	8:42	WG	G	3								3																																			
12	W-13112-MLR-12			11/12/13	13:09	WG	G	9								9																																			
13	W-13112-MLR-13			11/12/13	13:07	WG	G	3								3																																			
14	W-13112-MLR-14			11/12/13	13:22	WG	G	3								3																																			
15	W-13112-MLR-15			11/12/13	13:41	WG	G	3								3																																			
TAT Required in business days (use separate COCs for different TATs):								Total Number of Containers:								Notes/ Special Requirements:																																			
<input type="checkbox"/> 1 Day <input type="checkbox"/> 2 Days <input type="checkbox"/> 3 Days <input type="checkbox"/> 1 Week <input checked="" type="checkbox"/> 2 Week <input type="checkbox"/> Other: STANDARD								All Samples in Cooler must be on COC																																											
RELINQUISHED BY			COMPANY			DATE			TIME			RECEIVED BY			COMPANY			DATE			TIME																														
1. Michael Reiche			CRA			11/14/13			16:00			1. [Signature]			TM			11/15/13			930																														
2.												2.																																							
3.												3.																																							

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT - ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE - Fully Executed Copy (CRA)

YELLOW - Receiving Laboratory Copy

PINK - Shipper

GOLDENROD - Sampling Crew

CRA Form: COC-10A (20110804)





CONESTOGA-ROVERS & ASSOCIATES

CHAIN OF CUSTODY RECORD

1801 Old Highway 8 Northwest, Suite 114
St. Paul, Minnesota 55112 United States
Phone: (651) 639-0913 Fax: (651) 639-0923

COC NO.: **SP-01058**
PAGE **2** OF **3**
(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 003A748-00				Laboratory Name: TEST AMERICA - NORTH CAMDEN				Lab Location: NORTH CAMDEN, NJ				SSOW ID:					
Project Name: WAUBAU WATER SUPPLY SITE				Lab Contact:				Lab Quote No:				Cooler No: 2 OF 2					
Project Location: WAUBAU, WI				SAMPLE TYPE:				CONTAINER QUANTITY & PRESERVATION:				ANALYSIS REQUESTED (See Back of COC for Definitions)					
Chemistry Contact: CRAM ANDERSON				Matrix Code (see back of COC)				Unpreserved				MS/MSD Request					
Sampler(s): N. ESTREM, M. RICHIE				Grab (G) or Comp (C)				Hydrochloric Acid (HCl)				Carrier: FED EX					
								Nitric Acid (HNO ₃)				Airbill No:					
								Sulfuric Acid (H ₂ SO ₄)				Date Shipped: 11/14/13					
								Sodium Hydroxide (NaOH)				COMMENTS/ SPECIAL INSTRUCTIONS:					
								Methanol/Water (Soil VOC)									
								EnCores 3x6-g, 1x25-g									
								Other:									
								Total Containers/Sample VOL. (8000)									
Item	SAMPLE IDENTIFICATION (Containers for each sample may be combined on one line)	DATE (mm/dd/yyyy)	TIME (hh:mm)	Matrix Code	Grab (G) or Comp (C)	Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO ₃)	Sulfuric Acid (H ₂ SO ₄)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCores 3x6-g, 1x25-g	Other:	Total Containers/Sample	MS/MSD Request	COMMENTS/ SPECIAL INSTRUCTIONS:	
1	W-13112-MLR-16	11/12/13	13:07	WG	G		3							3			
2	W-13112-MLR-17	11/12/13	13:55	WG	G		3							3			
3	W-13112-MLR-18	11/12/13	13:55	WG	G		3							3			
Page 73 of 76	W-13112-MLR-19	11/12/13	14:16	WG	G		3							3			
	W-13112-MLR-20	11/12/13	14:30	WG	G		3							3			
	W-13112-MLR-21	11/12/13	14:49	WG	G		3							3			
	W-13112-MLR-22	11/12/13	15:22	WG	G		3							3			
8	W-13112-MLR-23	11/12/13	16:15	WG	G		3							3			
9	W-13112-MLR-24	11/12/13	16:48	WG	G		3							3			
10	W-13112-MLR-25	11/12/13	17:25	WG	G		3							3			
11	W-13112-MLR-26	11/12/13	17:50	WG	G		3							3			
12	W-13113-MLR-27	11/13/13	7:38	WG	G		9							9	X		
13	W-13113-MLR-28	11/13/13	8:16	WG	G		3							3			
14	W-13113-MLR-29	11/13/13	8:05	WG	G		3							3			
15	W-13113-MLR-30	11/13/13	8:43	WG	G		3							3			
TAT Required in business days (use separate COCs for different TATs):						Total Number of Containers:						Notes/ Special Requirements:					
<input type="checkbox"/> 1 Day <input type="checkbox"/> 2 Days <input type="checkbox"/> 3 Days <input type="checkbox"/> 1 Week <input checked="" type="checkbox"/> 2 Week <input type="checkbox"/> Other: STANDARD						All Samples in Cooler must be on COC											
RELINQUISHED BY		COMPANY		DATE		TIME		RECEIVED BY		COMPANY		DATE		TIME			
1. Michael Zecher		CRA		11/14/13		16:00		1. [Signature]		TR		11/15/13		9:30			
								2.									
								3.									

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CONESTOGA-ROVERS & ASSOCIATES

CHAIN OF CUSTODY RECORD

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

Phone: (651) 639-0913 Fax: (651) 639-0923

COC No: **SP-01059**

PAGE 3 OF 3

(See Reverse Side for Instructions)

Project No/Phase/Task Code: 003976-800				Laboratory Name: TEST AMERICA				Lab Location: NORTH CANTON, OH				SSOW ID:						
Project Name: WAUBAU WATER SUPPLY SITE				Lab Contact:				Lab Quote No:				Cooler No: 2 OF 2						
Project Location: WAUBAU, WI				SAMPLE TYPE				CONTAINER QUANTITY & PRESERVATION				ANALYSIS REQUESTED (See Back of COC for Definitions)						
Chemistry Contact: GRANT ANDERSON				Matrix Code (see back of COC)				Unpreserved				MS/MSD Request						
Sampler(s): M. REZNICE, N. ESTREM																		
Airbill No:				Date Shipped: 11/14/13				Carrier: FED EX				COMMENTS/SPECIAL INSTRUCTIONS:						
Item	SAMPLE IDENTIFICATION (Containers for each sample may be combined on one line)			DATE (mm/dd/yy)	TIME (hh:mm)	Grab (G) or Comp (C)	Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO ₃)	Sulfuric Acid (H ₂ SO ₄)	Sodium Hydroxide (NaOH)	Methanol/Water (Sol VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample			
1	W-13113-MLR-31			11/13/13	9:26	W/C		3							3	VOC (6/20/05)		
2	W-13113-MLR-32			11/13/13	9:55	W/C		3							3	VOC (6/20/05)		
3	W-13113-MLR-33			11/13/13	10:30	W/C		3							3	VOC (6/20/05)		
	W-13113-MLR-34			11/13/13	10:30	W/C		3							3	VOC (6/20/05)		
	W-13113-MLR-35			11/13/13	12:50	W/C		3							3	VOC (6/20/05)		
	W-13113-MLR-36			11/13/13	13:20	W/C		3							3	VOC (6/20/05)		
	TRIP BLANK			11/13/13	12:00	W/C		2							2	VOC (6/20/05)		
8																		
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11/27/2013

TAT Required in business days (use separate COCs for different TATs):
 1 Day 2 Days 3 Days 1 Week 2 Week Other: **STANDARD**

Total Number of Containers: _____ Notes/ Special Requirements: _____

All Samples in Cooler must be on COC

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
<i>M. Reznice</i>	CRA	11/14/13	16:00	<i>[Signature]</i>	TRM	11/15/13	9:30



TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login #: 31539

Client CLS Site Name _____ Cooler unpacked by: [Signature]

Cooler Received on 11-15-13 Opened on 11-15-13

FedEx: 1st Grd UPS FAS Stetson Client Drop Off TestAmerica Courier Other _____

TestAmerica Cooler # _____ Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt
 IR GUN# A (CF +0 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
 IR GUN# 4 (CF -1 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
 IR GUN# 5 (CF +1 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
 IR GUN# 8 (CF +1 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity _____ Yes No
 -Were custody seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were custody seals on the bottle(s)? Yes No

3. Shippers' packing slip attached to the cooler(s)? Yes No

4. Did custody papers accompany the sample(s)? Yes No

5. Were the custody papers relinquished & signed in the appropriate place? Yes No

6. Did all bottles arrive in good condition (Unbroken)? Yes No

7. Could all bottle labels be reconciled with the COC? Yes No

8. Were correct bottle(s) used for the test(s) indicated? Yes No

9. Sufficient quantity received to perform indicated analyses? Yes No

10. Were sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC391902

11. Were VOAs on the COC? Yes No

12. Were air bubbles >6 mm in any VOA vials? Yes No NA

13. Was a trip blank present in the cooler(s)? Yes No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
 Concerning _____

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: [Signature]

15. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____



MEMORANDUM

TO: Chuck Ahrens, CRA REF. NO.: 003978

FROM: Grant Anderson/sb/4  DATE: January 2, 2014

RE: **Analytical Results and Reduced Validation
Annual Groundwater Sampling Event
Wausau Superfund Site
Wausau, Wisconsin
November 2013**

1.0 Introduction

The following document details a reduced validation of analytical results for water samples collected in support of the annual groundwater sampling at the Wausau Superfund Site during November 2013. Samples were submitted to TestAmerica laboratories, Inc., located in North Canton, Ohio. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Standard Conestoga-Rovers & Associates (CRA) report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody forms, finished report forms, method blank data, recovery data from surrogate spikes, laboratory control samples (LCS), matrix spikes (MS), and field QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 3 and applicable guidance from the documents entitled:

- i.) Quality Assurance Project Plan (QAPP), February 1994, June, 11, 1999, letter to USEPA
- ii.) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", United States Environmental Protection Agency (USEPA) 540/R-99-008, October 1999

Item ii) will subsequently be referred to as the "Guidelines" in this Memorandum.

2.0 Sample Holding Time and Preservation

The sample holding time criteria and sample preservation requirements for the analyses are summarized in Table 3. Sample chain of custody documents and analytical reports were used to determine sample holding times. All samples were (prepared and) analyzed within the required holding times.

All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

3.0 Laboratory Method Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

Acetone, toluene and methylene chloride were detected in the method blanks. Acetone and methylene chloride were not detected in the associated batch samples. Table 4 lists associated sample data that are qualified based on toluene method blank detections.

4.0 Surrogate Spike Recoveries - Organic Analyses

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for VOC determinations were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against laboratory (method) control limits. All surrogate recoveries met the above criteria.

5.0 Laboratory Control Sample Analyses

LCS are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects.

For this study, LCS were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS contained all compounds of interest. All LCS recoveries were within the laboratory control limits, demonstrating acceptable analytical accuracy.

6.0 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the extraction or digestion process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision.

MS/MSD analyses were performed as specified in Table 1.

The MS/MSD samples were spiked with all compounds of interest. All percent recoveries and RPD values were within the laboratory (method) control limits, demonstrating acceptable analytical accuracy and precision.

7.0 Field QA/QC Samples

The field QA/QC consisted of a trip blank sample, two rinsate blank samples, a field blank sample, and three field duplicate sample sets.

Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, a trip blank was submitted to the laboratory for volatile organic compound (VOC) analysis. Acetone was detected in the trip blank. Table 5 lists the trip blank detection. Associated sample data are qualified as noted in the table.

Rinsate and Field Blank Sample Analysis

To assess field decontamination procedures, ambient conditions at the Site, and cleanliness of sample containers, two rinsate blanks and a field blank were submitted for analysis, as identified in Table 1. The rinsate and field blank samples yielded detectable concentrations of acetone. However acetone results were previously qualified due to detection in the trip blank. As a result, no qualification of data was necessary based on rinsate and/or field blank detections.

Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, 3 field duplicate sample sets were collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with these duplicate samples must be less than 50 for water samples. If the reported concentration in either the investigative sample or its duplicate is less than five times the practical quantitation limit (PQL), the evaluation criteria is one times the PQL value for water samples.

All field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision.

8.0 Analyte Reporting

The laboratory reported detected results down to the laboratory's method detection limit (MDL) for each analyte. Positive analyte detections less than the PQL but greater than the MDL were qualified as estimated (J) in Table 2 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the PQL in Table 2.

9.0 Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable with the specific qualifications noted herein.

TABLE 1

**SAMPLE COLLECTION AND ANALYSIS SUMMARY
ANNUAL SAMPLING EVENT
WAUSAU SUPERFUND SITE
WAUSAU, WISCONSIN
NOVEMBER 2013**

<i>Sample Identification</i>	<i>Location</i>	<i>Matrix</i>	<i>Date (mm/dd/yyyy)</i>	<i>Time (hr:min)</i>	<i>Analysis/Parameters</i>	<i>Comments</i>
W-131111-MLR-01	CW3	water	11/11/2013	1:19:00 PM	VOC (Site List)	
W-131111-MLR-02	E21	water	11/11/2013	3:20:00 PM	VOC (Site List)	
W-131111-MLR-03	E21	water	11/11/2013	3:22:00 PM	VOC (Site List)	Duplicate
W-131111-MLR-04	MW10A	water	11/11/2013	3:35:00 PM	VOC (Site List)	Rinsate Blank
W-131111-MLR-05	MW10A	water	11/11/2013	3:55:00 PM	VOC (Site List)	
W-131111-MLR-06	MW10B	water	11/11/2013	3:50:00 PM	VOC (Site List)	
W-131111-MLR-07	WC5A	water	11/11/2013	4:40:00 PM	VOC (Site List)	
W-131111-MLR-08	MW3B	water	11/11/2013	4:40:00 PM	VOC (Site List)	
W-131112-MLR-09	CW11	water	11/12/2013	8:30:00 AM	VOC (Site List)	
W-131112-MLR-10	CW10	water	11/12/2013	8:34:00 AM	VOC (Site List)	
W-131112-MLR-11	CW6	water	11/12/2013	9:42:00 AM	VOC (Site List)	
W-131112-MLR-12	WW6	water	11/12/2013	1:09:00 PM	VOC (Site List)	MS/MSD
W-131112-MLR-13	FVD5	water	11/12/2013	1:07:00 PM	VOC (Site List)	
W-131112-MLR-14	E37A	water	11/12/2013	1:22:00 PM	VOC (Site List)	
W-131112-MLR-15	E22A	water	11/12/2013	1:41:00 PM	VOC (Site List)	
W-131112-MLR-16	WW4	water	11/12/2013	1:07:00 PM	VOC (Site List)	
W-131112-MLR-17	E23A	water	11/12/2013	1:55:00 PM	VOC (Site List)	
W-131112-MLR-18	E23A	water	11/12/2013	1:55:00 PM	VOC (Site List)	Duplicate
W-131112-MLR-19	E24AR	water	11/12/2013	2:16:00 PM	VOC (Site List)	
W-131112-MLR-20	W56	water	11/12/2013	2:30:00 PM	VOC (Site List)	Rinsate Blank
W-131112-MLR-21	W56	water	11/12/2013	2:49:00 PM	VOC (Site List)	
W-131112-MLR-22	W55	water	11/12/2013	3:22:00 PM	VOC (Site List)	
W-131112-MLR-23	MW1A	water	11/12/2013	4:15:00 PM	VOC (Site List)	
W-131112-MLR-24	R2D	water	11/12/2013	4:48:00 PM	VOC (Site List)	
W-131112-MLR-25	R4D	water	11/12/2013	5:25:00 PM	VOC (Site List)	
W-131112-MLR-26	EW1 EFF	water	11/12/2013	5:50:00 PM	VOC (Site List)	
W-131113-MLR-27	C4S	water	11/13/2013	7:38:00 AM	VOC (Site List)	MS/MSD
W-131113-MLR-28	W53A	water	11/13/2013	8:16:00 AM	VOC (Site List)	
W-131113-MLR-29	W53A	water	11/13/2013	8:05:00 AM	VOC (Site List)	Field Blank

TABLE 1

**SAMPLE COLLECTION AND ANALYSIS SUMMARY
ANNUAL SAMPLING EVENT
WAUSAU SUPERFUND SITE
WAUSAU, WISCONSIN
NOVEMBER 2013**

<i>Sample Identification</i>	<i>Location</i>	<i>Matrix</i>	<i>Date (mm/dd/yyyy)</i>	<i>Time (hr:min)</i>	<i>Analysis/Parameters</i>	<i>Comments</i>
W-131113-MLR-30	W54	water	11/13/2013	8:43:00 AM	VOC (Site List)	
W-131113-MLR-31	C2S	water	11/13/2013	9:26:00 AM	VOC (Site List)	
W-131113-MLR-32	W52	water	11/13/2013	9:55:00 AM	VOC (Site List)	
W-131113-MLR-33	R3D	water	11/13/2013	10:30:00 AM	VOC (Site List)	
W-131113-MLR-34	R3D	water	11/13/2013	10:30:00 AM	VOC (Site List)	Duplicate
W-131113-MLR-35	IWD	water	11/13/2013	12:50:00 PM	VOC (Site List)	
W-131113-MLR-36	WSWD	water	11/13/2013	1:20:00 PM	VOC (Site List)	
Trip Blank	Trip Blank	water	11/13/2013	12:00:00 PM	VOC (Site List)	Trip Blank

Notes:

VOC - Volatile Organic Compounds

**VALIDATED ANALYTICAL RESULTS SUMMARY
ANNUAL SAMPLING EVENT
WAUSAU SUPERFUND SITE
WAUSAU, WISCONSIN
NOVEMBER 2013**

Sample Location:	C2S	C4S	CW10	CW11	CW3	CW6	E21
Sample ID:	W-131113-MLR-31	W-131113-MLR-27	W-131112-MLR-10	W-131112-MLR-09	W-131111-MLR-01	W-131112-MLR-11	W-131111-MLR-02
Sample Date:	11/13/2013	11/13/2013	11/12/2013	11/12/2013	11/11/2013	11/12/2013	11/11/2013
Sample Type:	N	N	N	N	N	N	N
Sample Depth:	-	-	-	-	-	-	-

VOAs

1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0	1.0 U	1.0 U	1.0 U	0.50 J	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.4	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	7.9	1.1	1.0 U	1.0 U	0.72 J	3.9	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

**VALIDATED ANALYTICAL RESULTS SUMMARY
ANNUAL SAMPLING EVENT
WAUSAU SUPERFUND SITE
WAUSAU, WISCONSIN
NOVEMBER 2013**

Sample Location:	E21	E22A	E23A	E23A	E24AR	E37A	EW1 EFF
Sample ID:	W-131111-MLR-03	W-131112-MLR-15	W-131112-MLR-17	W-131112-MLR-18	W-131112-MLR-19	W-131112-MLR-14	W-131112-MLR-26
Sample Date:	11/11/2013	11/12/2013	11/12/2013	11/12/2013	11/12/2013	11/12/2013	11/12/2013
Sample Type:	FD	N	N	FD	N	N	N
Sample Depth:	-	-	-	-	-	-	-

VOAs

1,1,2-Trichloroethane	ug/L	1.0 U	2.9 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	2.9 U	1.0 U	0.31 J	1.0 U	1.0 U	1.0 U
Acetone	ug/L	10 U	29 U	10 U	10 U	10 U	10 U	10 U
Benzene	ug/L	1.0 U	2.9 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	1.0 U	2.9 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	2.9 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	97	24	27	3.5	1.9	0.20 J
Ethylbenzene	ug/L	1.0 U	2.9 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	1.0 U	2.9 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	17	20	20	15	1.4	1.0 U
Toluene	ug/L	1.0 U	2.9 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	6.9	6.0	6.5	2.3	0.78 J	0.59 J
Vinyl chloride	ug/L	1.0 U	1.0 J	1.1	1.6	1.2	0.59 J	1.0 U
Xylenes (total)	ug/L	1.0 U	2.9 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

**VALIDATED ANALYTICAL RESULTS SUMMARY
ANNUAL SAMPLING EVENT
WAUSAU SUPERFUND SITE
WAUSAU, WISCONSIN
NOVEMBER 2013**

<i>Sample Location:</i>	<i>FVD5</i>	<i>IWD</i>	<i>Lab</i>	<i>MW10A</i>	<i>MW10A</i>	<i>MW10B</i>	<i>MW1A</i>
<i>Sample ID:</i>	<i>W-131112-MLR-13</i>	<i>W-131113-MLR-35</i>	<i>TRIP BLANK</i>	<i>W-131111-MLR-04</i>	<i>W-131111-MLR-05</i>	<i>W-131111-MLR-06</i>	<i>W-131112-MLR-23</i>
<i>Sample Date:</i>	<i>11/12/2013</i>	<i>11/13/2013</i>	<i>11/13/2013</i>	<i>11/11/2013</i>	<i>11/11/2013</i>	<i>11/11/2013</i>	<i>11/12/2013</i>
<i>Sample Type:</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>EB</i>	<i>N</i>	<i>N</i>	<i>N</i>
<i>Sample Depth:</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>

VOAs

1,1,2-Trichloroethane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	ug/L	50 U	10 U	5.3 J	10 U	10 U	10 U	12 U
Benzene	ug/L	19	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	5.0 U	1.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	210	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	9.5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	5.0 U	2.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	440	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

**VALIDATED ANALYTICAL RESULTS SUMMARY
ANNUAL SAMPLING EVENT
WAUSAU SUPERFUND SITE
WAUSAU, WISCONSIN
NOVEMBER 2013**

<i>Sample Location:</i>	<i>MW3B</i>	<i>R2D</i>	<i>R3D</i>	<i>R3D</i>	<i>R4D</i>	<i>W52</i>	<i>W53A</i>
<i>Sample ID:</i>	<i>W-131111-MLR-08</i>	<i>W-131112-MLR-24</i>	<i>W-131113-MLR-33</i>	<i>W-131113-MLR-34</i>	<i>W-131112-MLR-25</i>	<i>W-131113-MLR-32</i>	<i>W-131113-MLR-28</i>
<i>Sample Date:</i>	<i>11/11/2013</i>	<i>11/12/2013</i>	<i>11/13/2013</i>	<i>11/13/2013</i>	<i>11/12/2013</i>	<i>11/13/2013</i>	<i>11/13/2013</i>
<i>Sample Type:</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>FD</i>	<i>N</i>	<i>N</i>	<i>N</i>
<i>Sample Depth:</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>

VOAs

1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	11 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0	1.0 U	1.0 U	0.58 J	0.32 J	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	19	4.3	4.8	16	2.6	54
Vinyl chloride	ug/L	0.26 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

**VALIDATED ANALYTICAL RESULTS SUMMARY
ANNUAL SAMPLING EVENT
WAUSAU SUPERFUND SITE
WAUSAU, WISCONSIN
NOVEMBER 2013**

Sample Location:	W53A	W54	W55	W56	W56	WC5A	WSWD
Sample ID:	W-131113-MLR-29	W-131113-MLR-30	W-131112-MLR-22	W-131112-MLR-20	W-131112-MLR-21	W-131111-MLR-07	W-131113-MLR-36
Sample Date:	11/13/2013	11/13/2013	11/12/2013	11/12/2013	11/12/2013	11/11/2013	11/13/2013
Sample Type:	FB	N	N	EB	N	N	N
Sample Depth:	-	-	-	-	-	-	-

VOAs

1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	0.22 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	0.74 J	0.47 J	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	7.3	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	23	4.7	1.0 U	1.0 U	1.0 U	0.45 J
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

**VALIDATED ANALYTICAL RESULTS SUMMARY
ANNUAL SAMPLING EVENT
WAUSAU SUPERFUND SITE
WAUSAU, WISCONSIN
NOVEMBER 2013**

Sample Location:	WW4	WW6
Sample ID:	W-131112-MLR-16	W-131112-MLR-12
Sample Date:	11/12/2013	11/12/2013
Sample Type:	N	N
Sample Depth:	-	-

VOAs

1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U
Acetone	ug/L	10 U	10 U
Benzene	ug/L	1.0 U	1.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	0.20 J	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	21
Ethylbenzene	ug/L	1.0 U	1.0 U
Methylene chloride	ug/L	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	3.8
Toluene	ug/L	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	2.0
Vinyl chloride	ug/L	1.0 U	19
Xylenes (total)	ug/L	1.0 U	1.0 U

Notes:

FD - Field Duplicate
 EB - Equipment (Rinsate) Blank
 U - Not detected at the associated reporting limit
 J - Estimated concentration

TABLE 3

**ANALYTICAL METHODS AND HOLDING TIME CRITERIA
ANNUAL SAMPLING EVENT
WAUSAU SUPERFUND SITE
WAUSAU, WISCONSIN
NOVEMBER 2013**

<i>Parameter</i>	<i>Method</i>	<i>Matrix</i>	<i>Holding Time</i>	
			<i>Collection to Extraction (Days)</i>	<i>Collection or Extraction to Analysis (Days)</i>
VOC (Site List)	SW-846 8260	Water	-	14

Notes:

SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions

TABLE 4

**QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN THE METHOD BLANKS
ANNUAL SAMPLING EVENT
WAUSAU SUPERFUND SITE
WAUSAU, WISCONSIN**

<i>Parameter</i>	<i>Analyte</i>	<i>Analysis Batch</i>	<i>Blank Result *</i>	<i>Sample ID</i>	<i>Original Result</i>	<i>Qualified Result</i>	<i>Units</i>
VOC (Site List)	Toluene	110936	0.307J	W-131111-MLR-12	0.025 J	1.0 U	µg/L

Notes:

- * - Blank result adjusted for sample factors where applicable
- J - Estimated concentration
- U - Not detected at the associated reporting limit

TABLE 5

**QUALIFIED SAMPLE DATA DUE TO ANALYTE CONCENTRATIONS IN THE TRIP BLANK
ANNUAL SAMPLING EVENT
WAUSAU SUPERFUND SITE
WAUSAU, WISCONSIN**

<i>Parameter</i>	<i>Blank Date</i>	<i>Analyte</i>	<i>Blank Result</i>	<i>Associated Sample ID</i>	<i>Original Result</i>	<i>Qualified Result</i>	<i>Units</i>
VOC (Site List)	11/13/2013	Acetone	5.3J	W-131111-MLR-04	3.0 J	10 U	µg/L
				W-131111-MLR-07	1.2 J	10 U	µg/L
				W-131112-MLR-11	1.5 J	10 U	µg/L
				W-131112-MLR-17	1.1 J	10 U	µg/L
				W-131112-MLR-20	3.6 J	10 U	µg/L
				W-131112-MLR-23	12 J	12 U	µg/L
				W-131112-MLR-26	1.6 J	10 U	µg/L
				W-131113-MLR-28	11 J	11 U	µg/L
W-131113-MLR-29	3.6 J	10 U	µg/L				

Notes:

U - Not detected at the associated reporting limit

J - Estimated concentration

Appendix B

Wausau Chemical Pavement Inspection Report



Photo 1 – Parking lot south of Wausau Chemical. Looking northeast.



Photo 2 – Parking lot south of Wausau Chemical. Looking southeast.

Site Photographs



Photo 3 – Parking and access area west of Wausau Chemical. Looking north. Crack repair in foreground.



Photo 4 – Close-up of crack repair.

Site Photographs



APPENDIX B TABLE 1

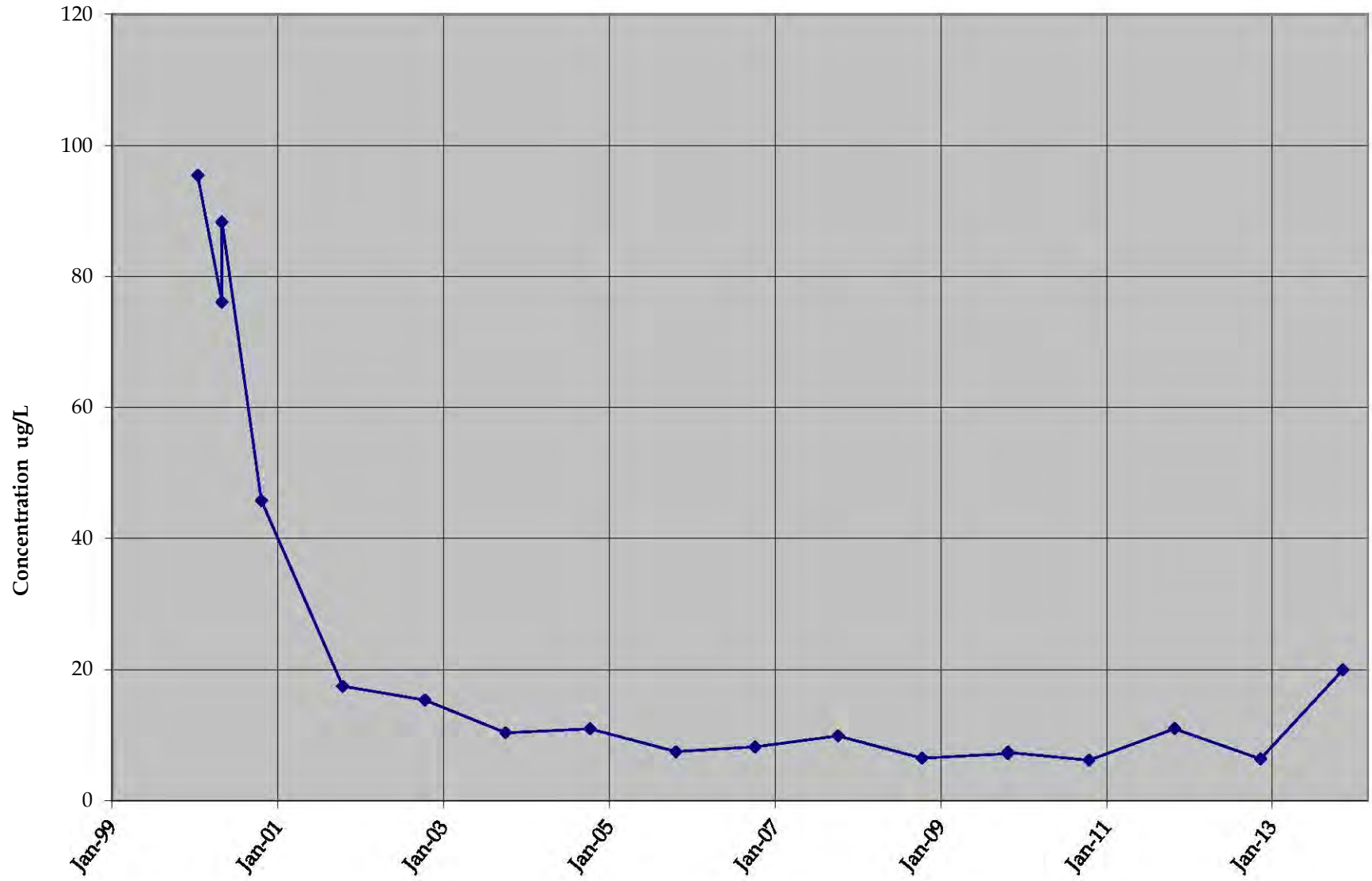
PAVEMENT BARRIER INSPECTION LOG
WAUSAU CHEMICAL CORP.

<i>Inspection Date</i>	<i>Inspector</i>	<i>Condition of Cap</i>	<i>Recommendations</i>	<i>Have Recommendations From Previous Inspection Been Implemented?</i>
5/21/2013	Rob Flashinski	No change in appearance.	None.	Yes.
11/6/2013	Rob Flashinski	Overall condition is still good. Some hairline type cracks starting to form on the ends of previously filled cracks and near gas company asphalt work.	Nothing at this point. The hairline cracks will likely need attention in the spring.	Yes.

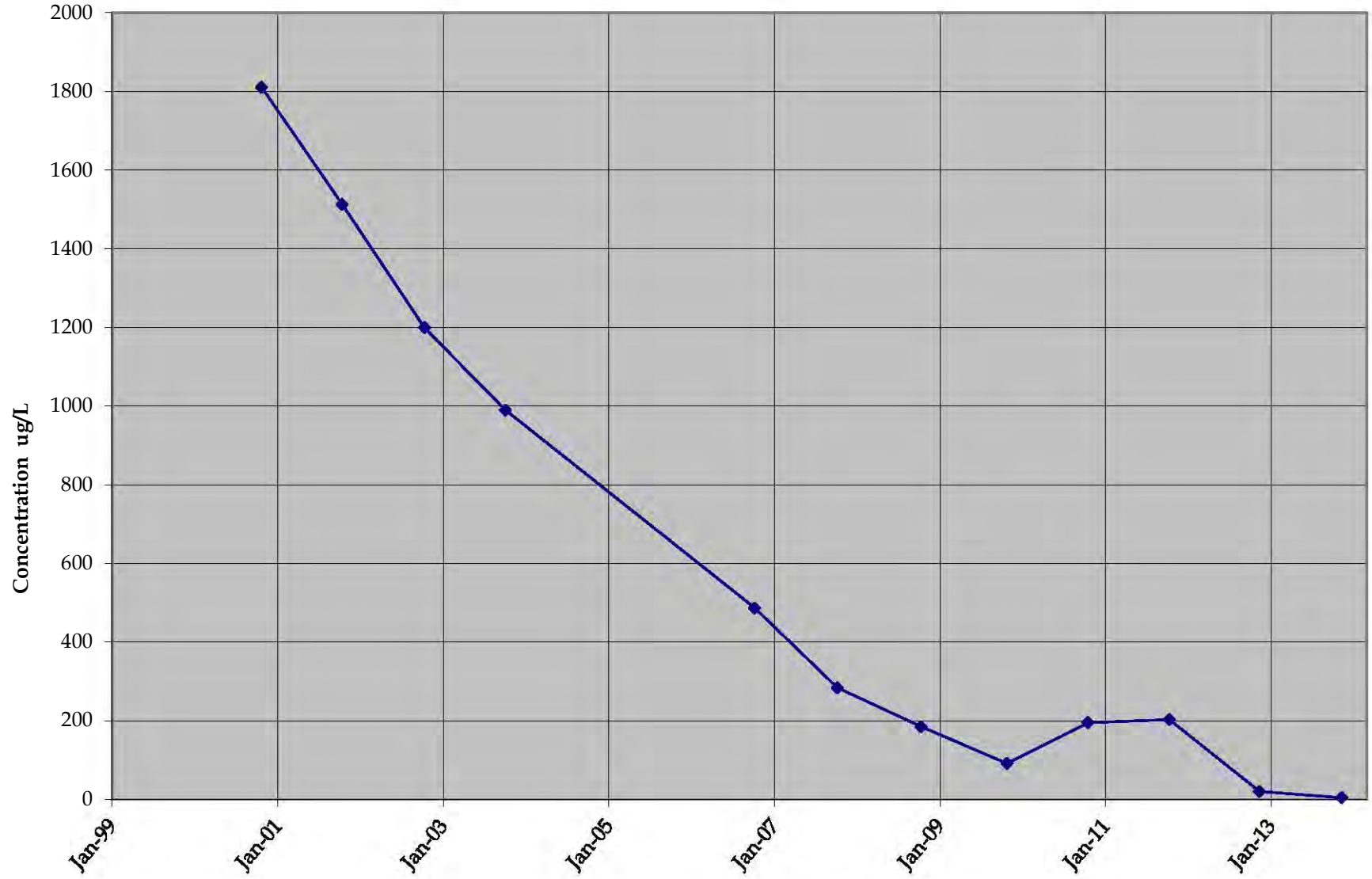
Appendix C

Total Chlorinated VOC Concentrations Over Time

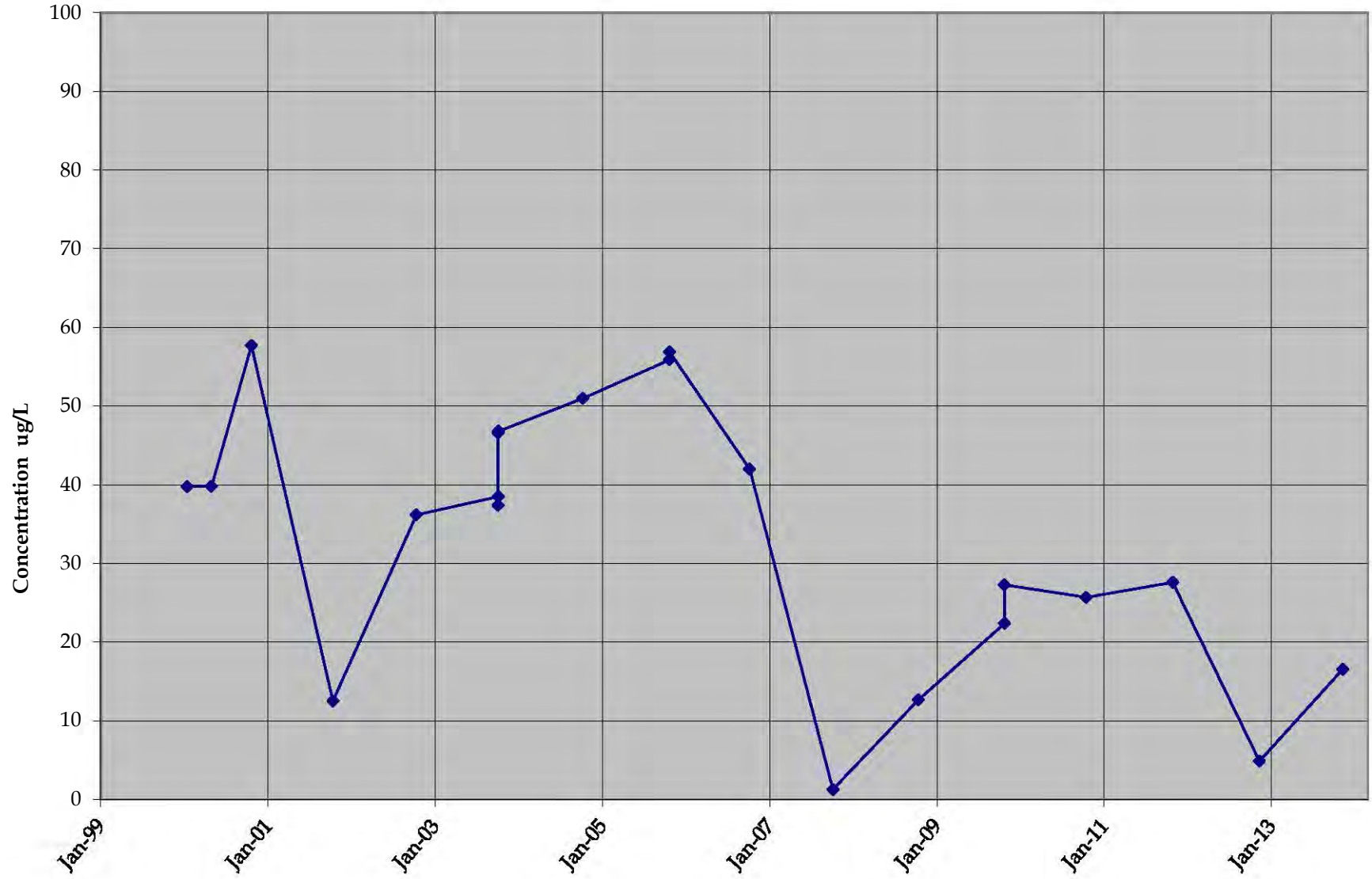
R2D TCVOC



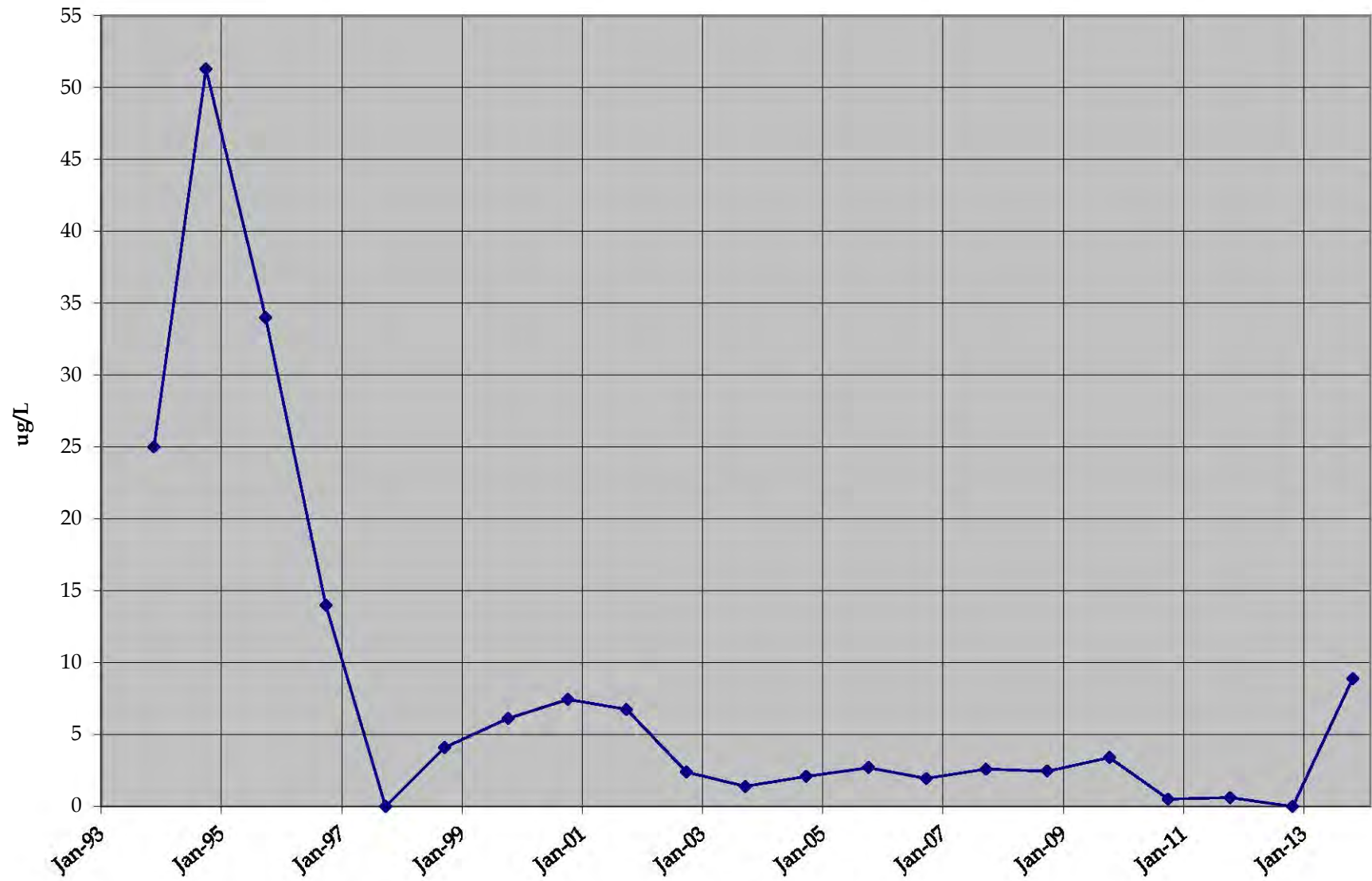
R3D TCVOC



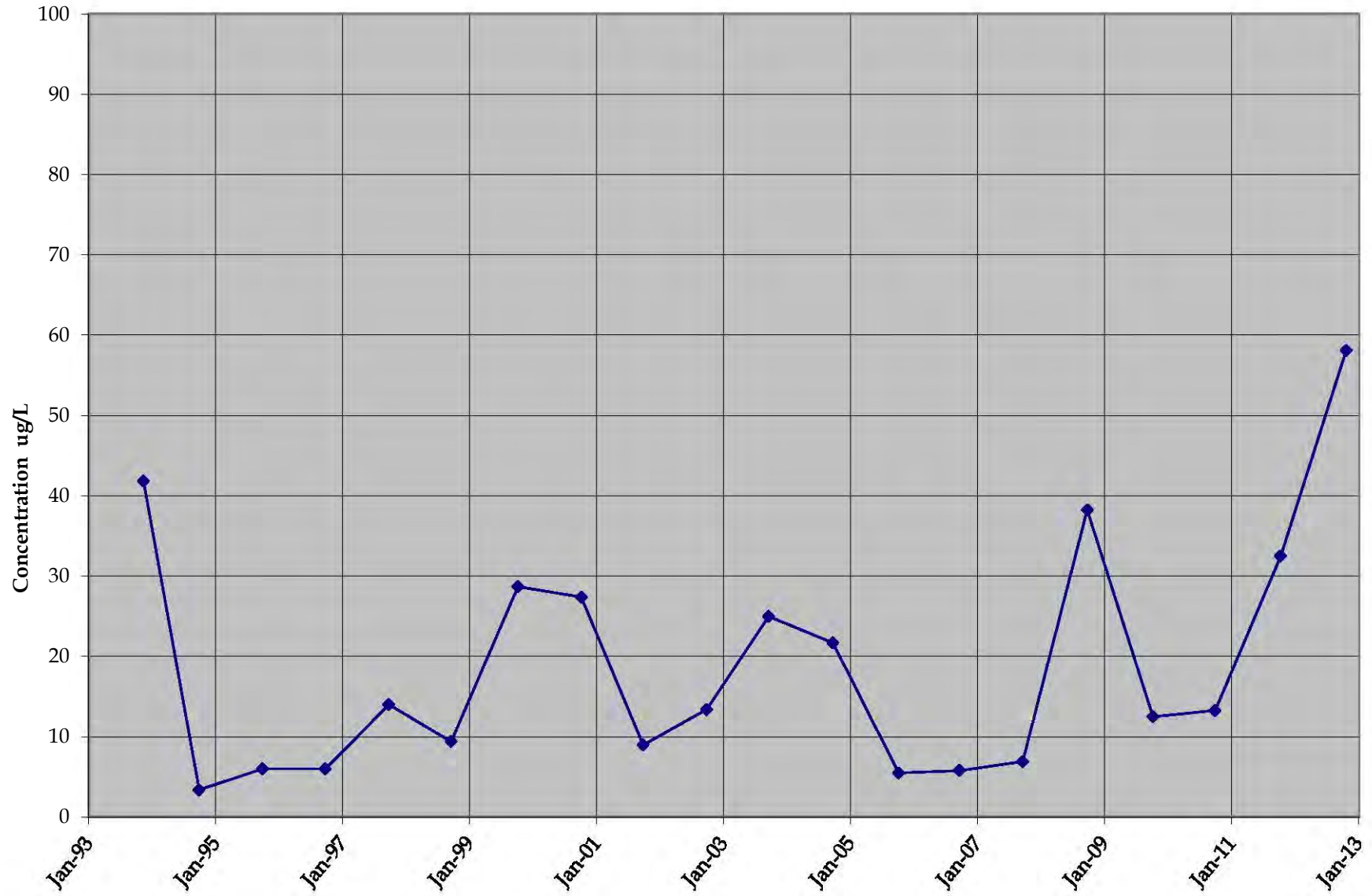
R4D TCVOC



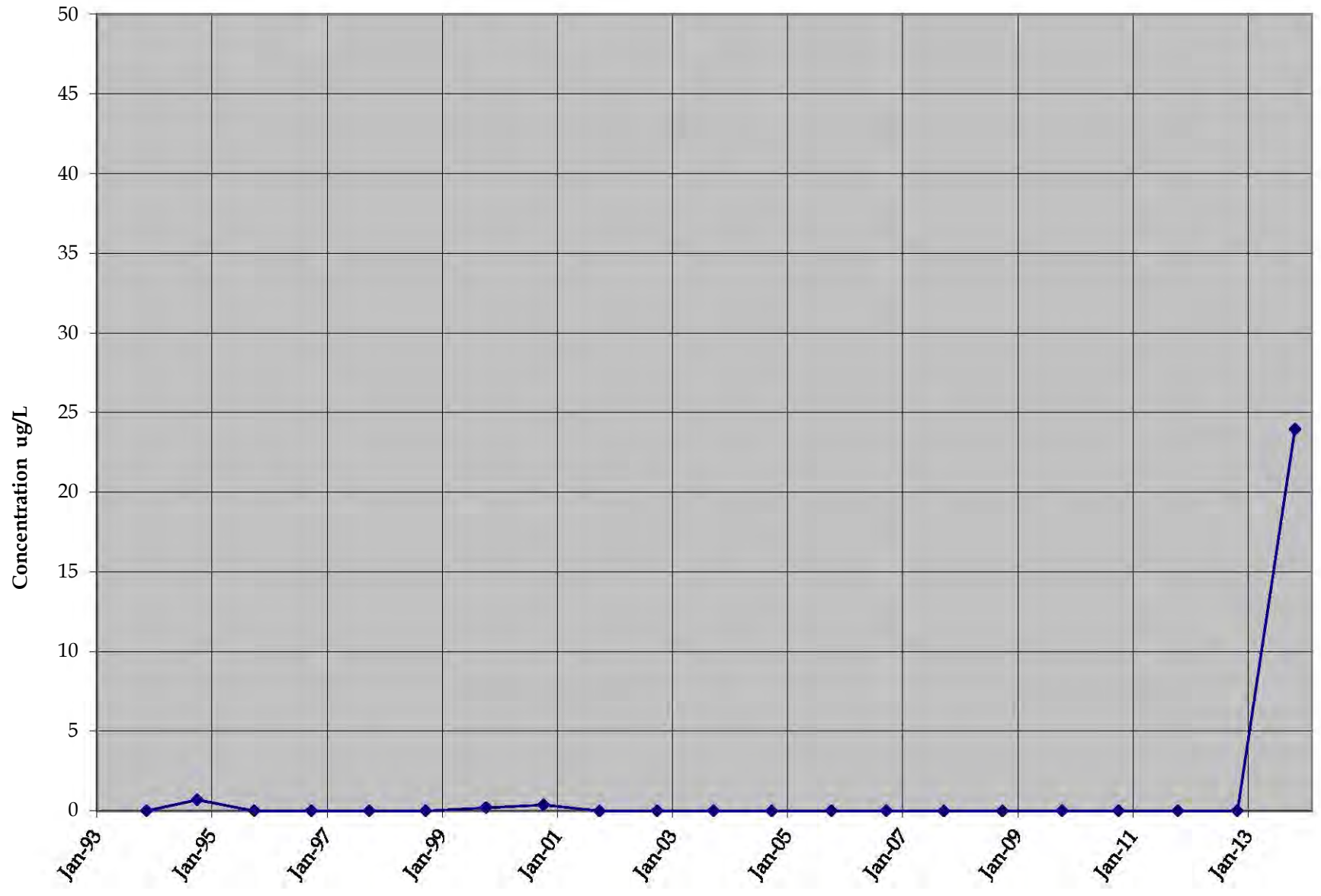
C2S TCVOC



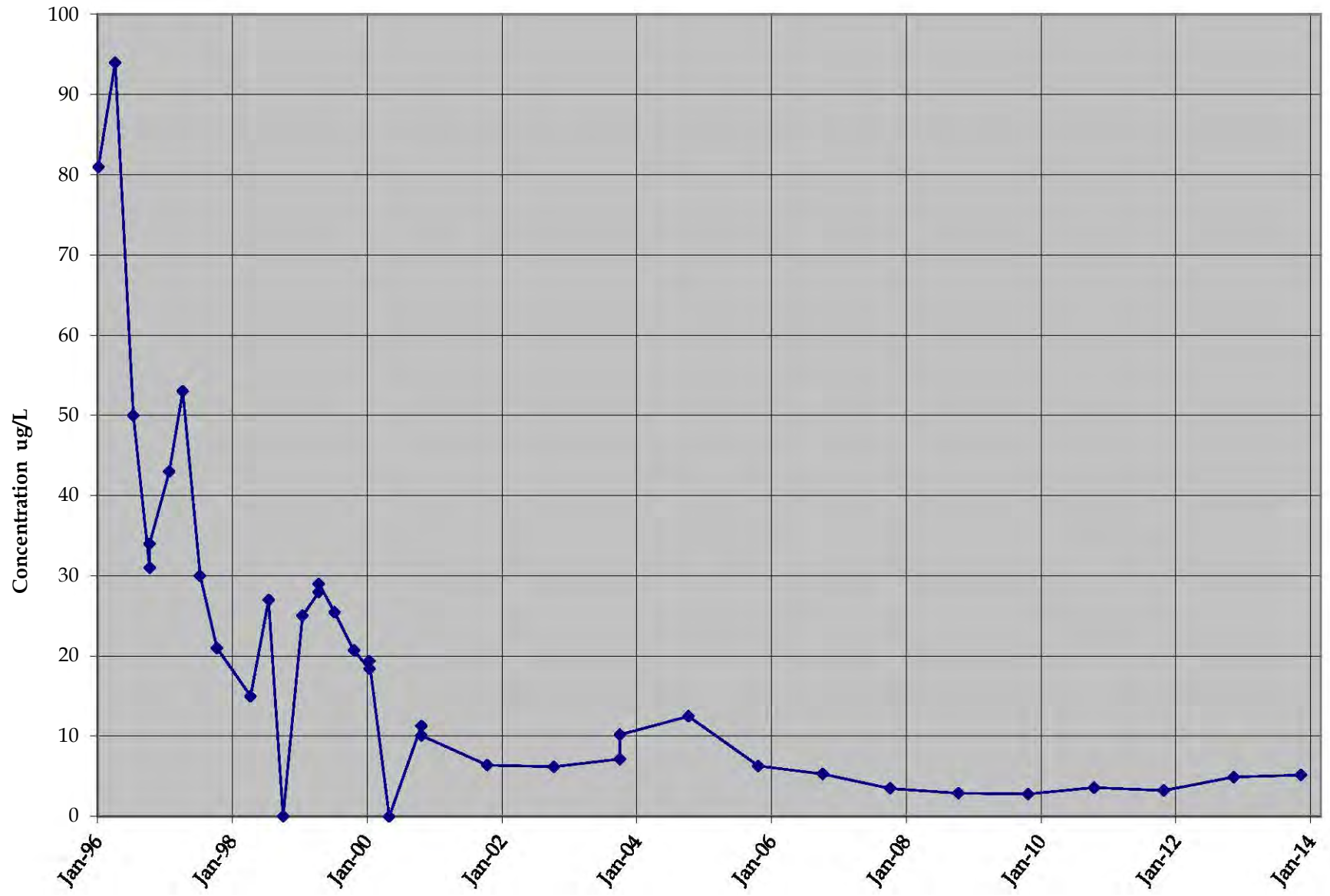
W53A TCVOC



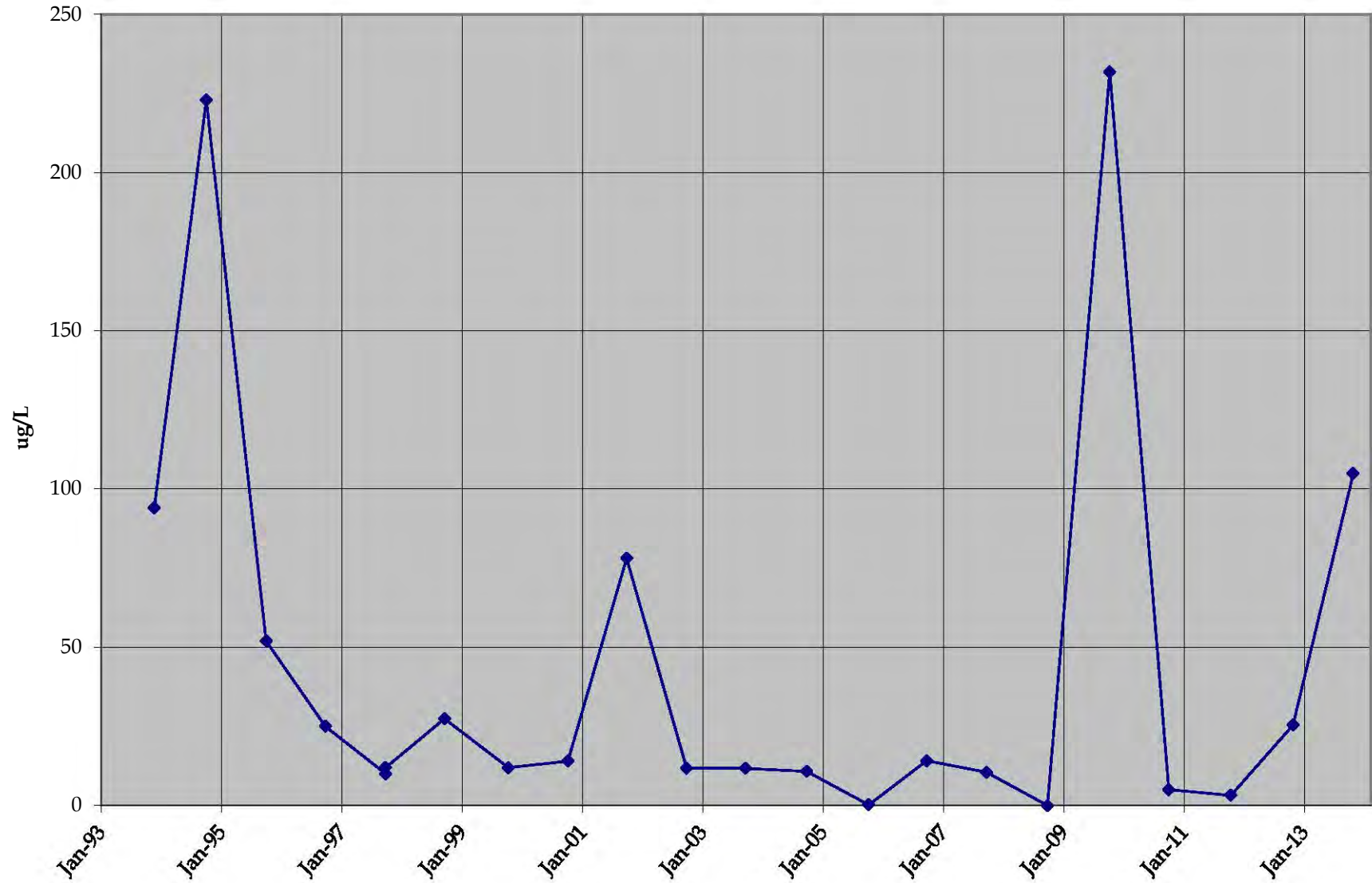
W54 TCVOC



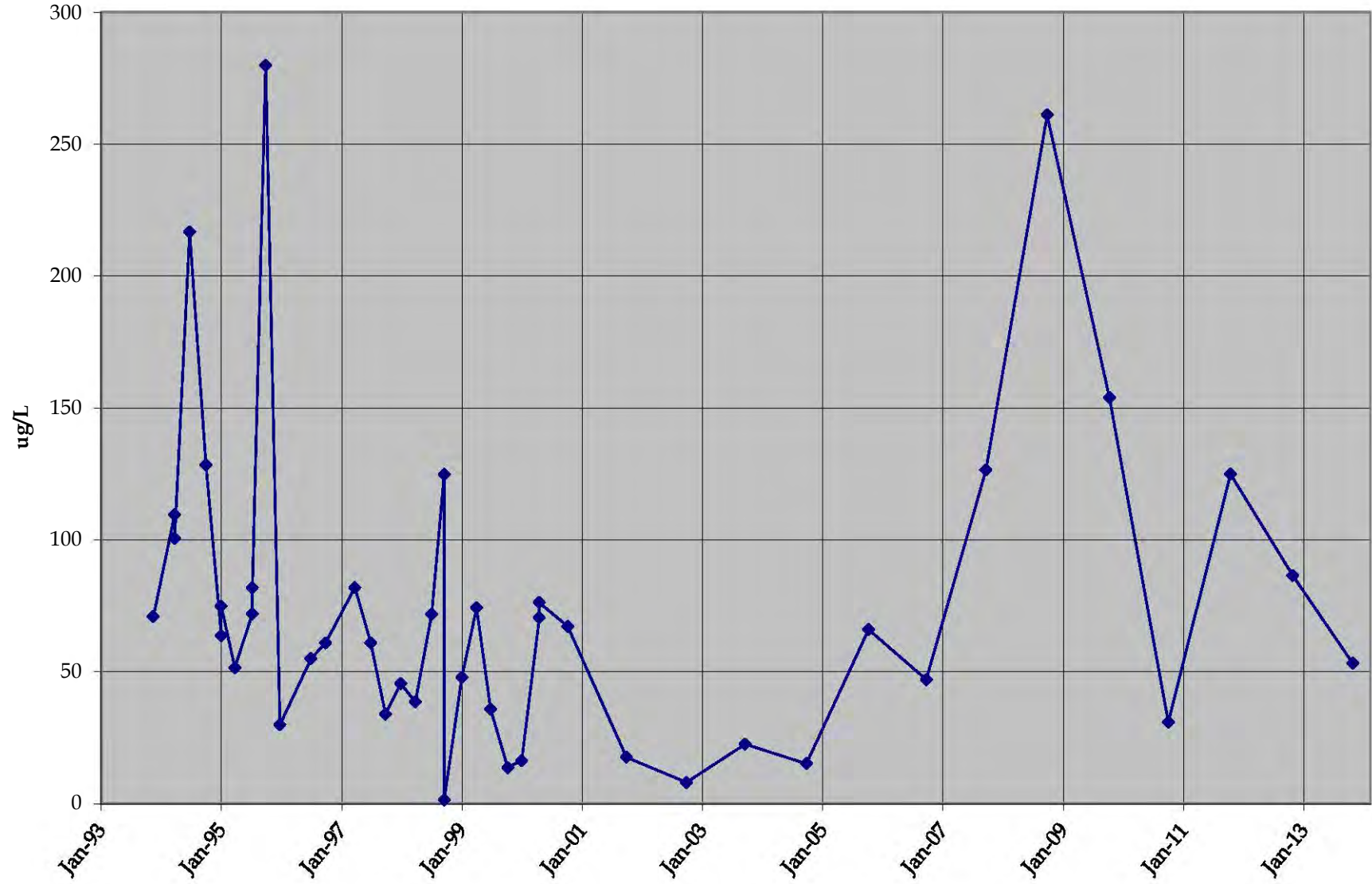
W55 TCVOC



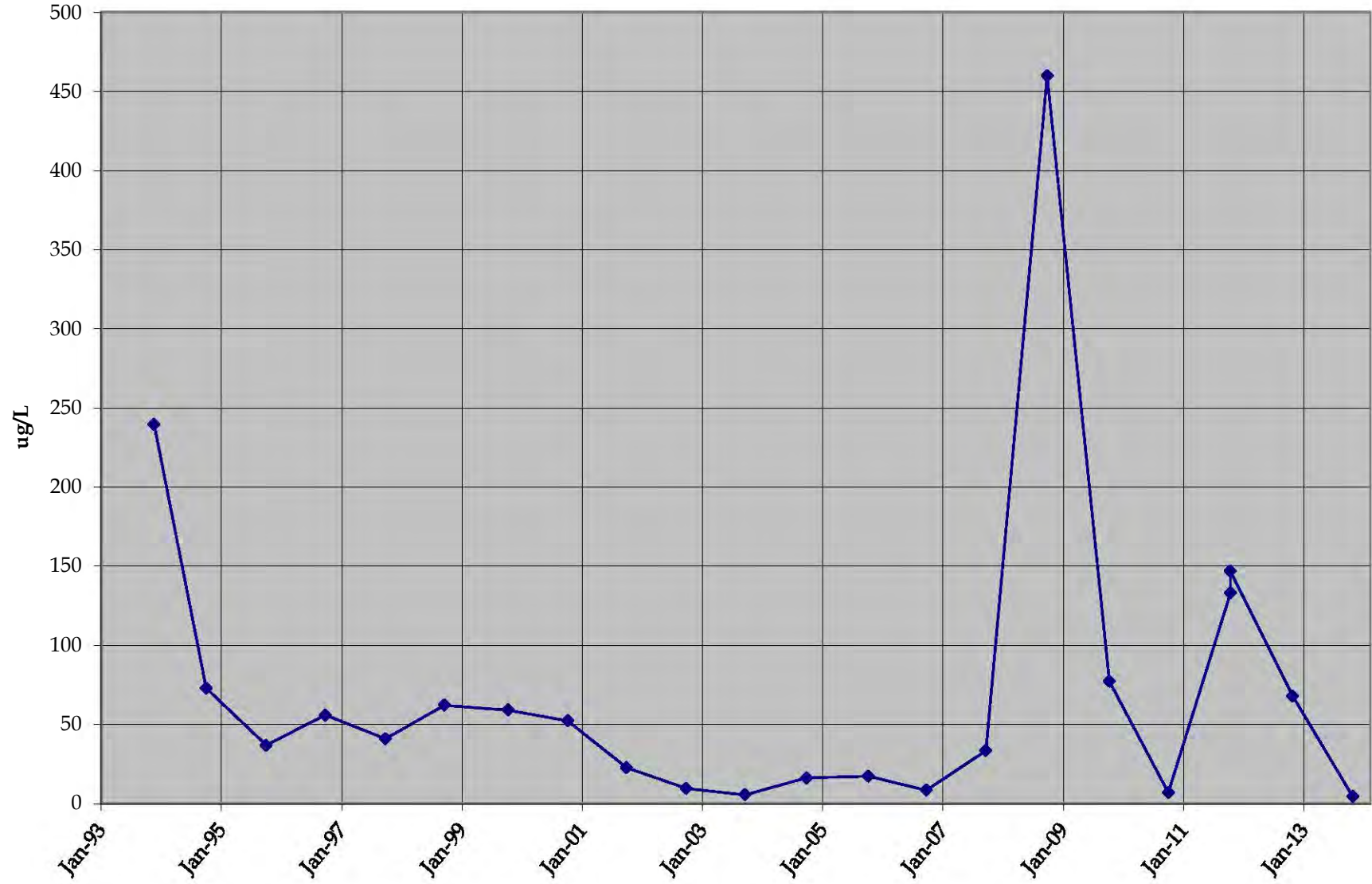
E22A TCVOC



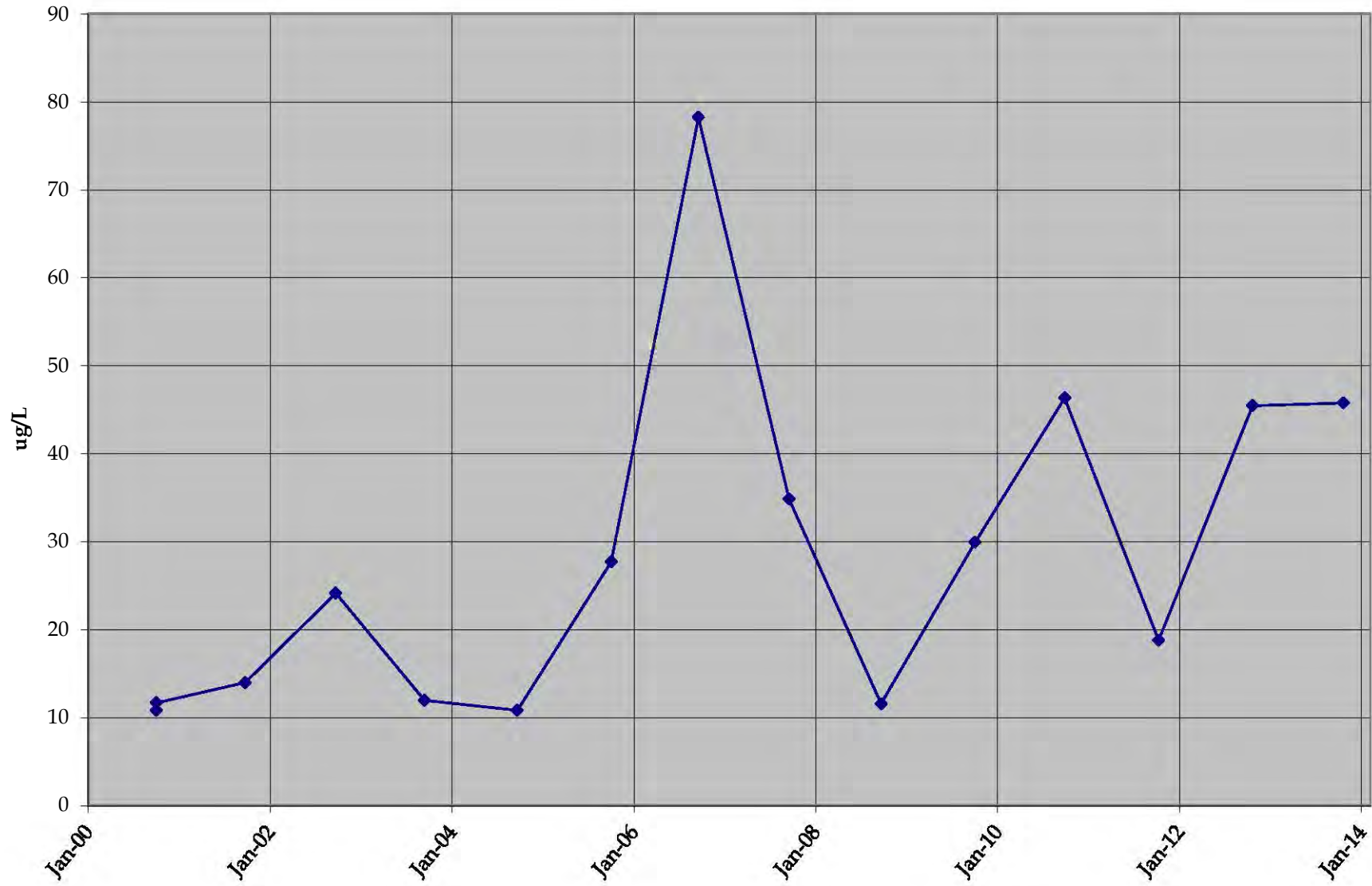
E23A TCVOC



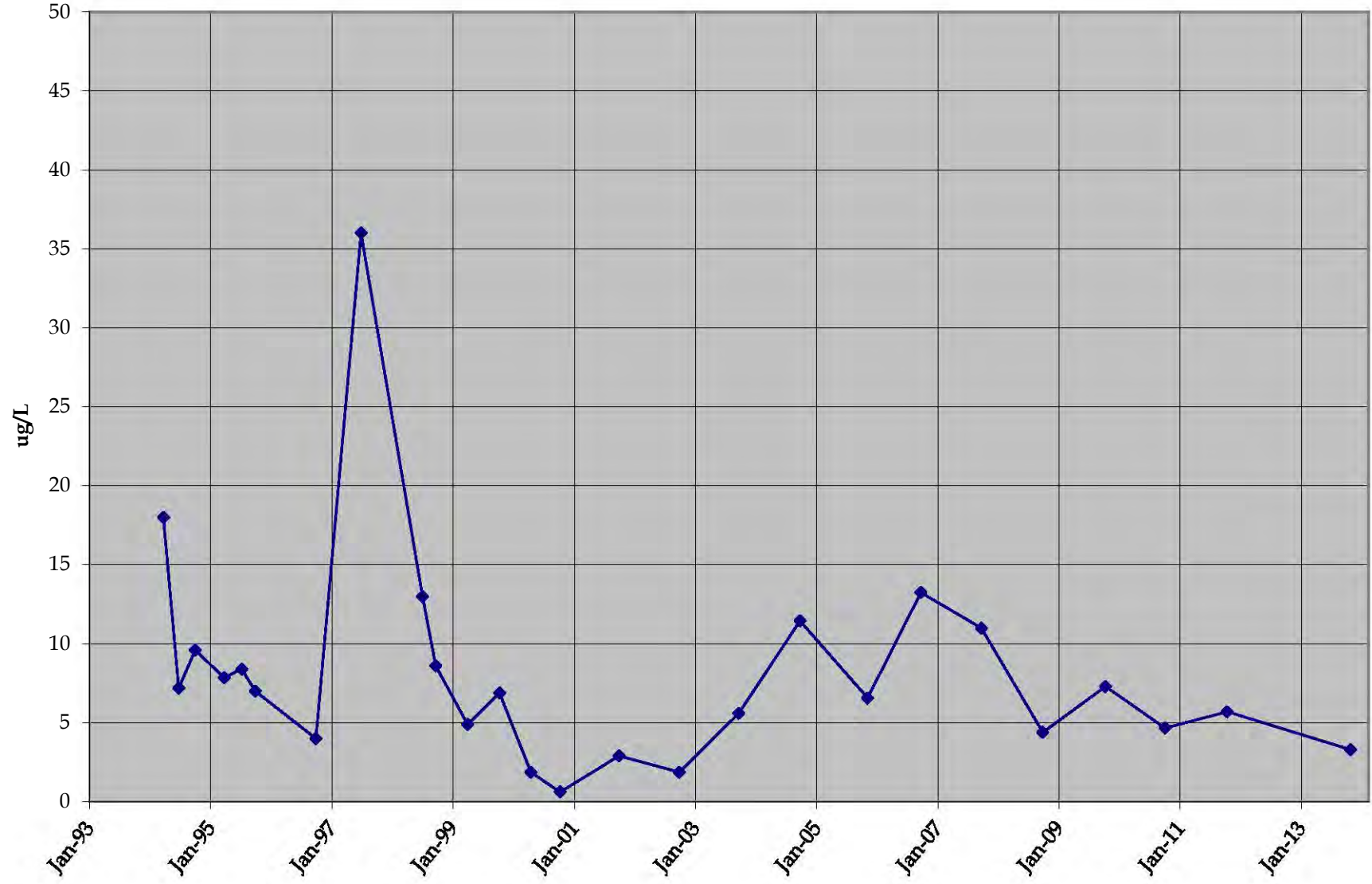
E37A TCVOC



WW6 TCVOC



IWD TCVOC



Appendix D

City Treatment System Laboratory Results

NORTHERN LAKE SERVICE, INC.
 Analytical Laboratory and Environmental Services
 400 North Lake Avenue - Crandon, WI 54520
 Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
 WDATCP Laboratory Certification No. 105-330
 EPA Laboratory ID No. WI00034

Printed: 03/19/13 Code: NNNN-S Page 1 of 1

NLS Project: 193486

NLS Customer: 36394

Fax: 715 261 6946 Phone: 715 261 7288

Client: Wausau Waterworks
 Attn: Dick Boers
 Drinking Water Division
 407 Grant Street
 Wausau, WI 54403 4783

Project: Drinking Water PWS# 73701023

#200 NLS ID: 708563

COC: 153004:1 Matrix: DW
 Collected: 03/08/13 07:02 Received: 03/08/13

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					03/18/13	EPA 524.2, Rev 4.1	721026460

#300 NLS ID: 708564

COC: 153004:2 Matrix: DW
 Collected: 03/08/13 11:08 Received: 03/08/13

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					03/18/13	EPA 524.2, Rev 4.1	721026460

Trip Blank NLS ID: 708565

COC: 153004 Matrix: TB
 Collected: 03/08/13 00:00 Received: 03/08/13

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					03/18/13	EPA 524.2, Rev 4.1	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and/or LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dilution.

LOD = Limit of Detection LOQ = Limit of Quantitation ND = Not Detected (< LOD) 1000 ug/L = 1 mg/L
 DWB = Dry Weight Basis NA = Not Applicable %DWB = (mg/kg DWB) / 10000
 MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:



Authorized by:
 R. T. Krueger
 President

ANALYTICAL RESULTS: GCMS 524.2, Rev 4.1 Safe Drinking Water Analysis - DNR Form

Page 1 of 3

Customer: Wausau Waterworks NLS Project: 193486

Project Description: Drinking Water

Project Title: PWS# 73701023

Template: SAT2DNRL Printed: 03/19/2013 13:10

Sample: 708563 #200 Collected: 03/08/13 Analyzed: 03/18/13 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.27	0.95	5	
Bromobenzene	ND	ug/L	1	0.32	1.1		
Bromodichloromethane	[0.46]	ug/L	1	0.20	0.72	80	
Bromoform	ND	ug/L	1	0.17	0.59	80	
Bromomethane	ND	ug/L	1	0.13	0.45		
Carbon Tetrachloride	ND	ug/L	1	0.25	0.89	5	
Chloroethane	ND	ug/L	1	0.73	2.6		
Chloroform	11	ug/L	1	0.22	0.79	80	
Chloromethane	ND	ug/L	1	0.23	0.80		
o-Chlorotoluene	ND	ug/L	1	0.33	1.2		
p-Chlorotoluene	ND	ug/L	1	0.36	1.3		
Dibromochloromethane	ND	ug/L	1	0.17	0.61	80	
Dibromomethane	ND	ug/L	1	0.20	0.72		
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.32	1.1		
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.32	1.1	600	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.37	1.3	75	
1,1-Dichloroethane	ND	ug/L	1	0.25	0.90		
1,2-Dichloroethane	ND	ug/L	1	0.19	0.67	5	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.74	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.20	0.71	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.19	0.67	100	
Dichloromethane	ND	ug/L	1	0.26	0.92	5	
1,2-Dichloropropane	ND	ug/L	1	0.25	0.89	5	
1,3-Dichloropropane	ND	ug/L	1	0.26	0.92		
2,2-Dichloropropane	ND	ug/L	1	0.25	0.90		
1,1-Dichloropropene	ND	ug/L	1	0.24	0.84		
1,3-Dichloropropene	ND	ug/L	1	0.33	1.2		
Ethylbenzene	ND	ug/L	1	0.31	1.1	700	
Chlorobenzene	ND	ug/L	1	0.32	1.1	100	
Styrene	ND	ug/L	1	0.34	1.2	100	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.27	0.95		
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.16	0.55		
Tetrachloroethene	ND	ug/L	1	0.26	0.92	5	
Toluene	ND	ug/L	1	0.25	0.90	1000	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.35	1.2	70	
1,1,1-Trichloroethane	ND	ug/L	1	0.26	0.92	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.17	0.61	5	
Trichloroethene	ND	ug/L	1	0.25	0.87	5	
1,2,3-Trichloropropane	ND	ug/L	1	0.19	0.64		
Vinyl chloride	ND	ug/L	1	0.18	0.65	2	
Xylene total	ND	ug/L	1	0.92	3.3	10000	
4-Bromofluorobenzene (SURR)	93%						S
1,2-Dichlorobenzene-d4 (SURR)	104%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: GCMS 524.2, Rev 4.1 Safe Drinking Water Analysis - DNR Form

Page 2 of 3

Customer: Wausau Waterworks NLS Project: 193486

Project Description: Drinking Water

Project Title: PWS# 73701023

Template: SAT2DNRL Printed: 03/19/2013 13:10

Sample: 708564 #300 Collected: 03/08/13 Analyzed: 03/18/13 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.27	0.95	5	
Bromobenzene	ND	ug/L	1	0.32	1.1		
Bromodichloromethane	[0.34]	ug/L	1	0.20	0.72	80	
Bromoform	ND	ug/L	1	0.17	0.59	80	
Bromomethane	ND	ug/L	1	0.13	0.45		
Carbon Tetrachloride	ND	ug/L	1	0.25	0.89	5	
Chloroethane	ND	ug/L	1	0.73	2.6		
Chloroform	8.9	ug/L	1	0.22	0.79	80	
Chloromethane	ND	ug/L	1	0.23	0.80		
o-Chlorotoluene	ND	ug/L	1	0.33	1.2		
p-Chlorotoluene	ND	ug/L	1	0.36	1.3		
Dibromochloromethane	ND	ug/L	1	0.17	0.61	80	
Dibromomethane	ND	ug/L	1	0.20	0.72		
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.32	1.1		
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.32	1.1	600	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.37	1.3	75	
1,1-Dichloroethane	ND	ug/L	1	0.25	0.90		
1,2-Dichloroethane	ND	ug/L	1	0.19	0.67	5	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.74	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.20	0.71	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.19	0.67	100	
Dichloromethane	ND	ug/L	1	0.26	0.92	5	
1,2-Dichloropropane	ND	ug/L	1	0.25	0.89	5	
1,3-Dichloropropane	ND	ug/L	1	0.26	0.92		
2,2-Dichloropropane	ND	ug/L	1	0.25	0.90		
1,1-Dichloropropene	ND	ug/L	1	0.24	0.84		
1,3-Dichloropropene	ND	ug/L	1	0.33	1.2		
Ethylbenzene	ND	ug/L	1	0.31	1.1	700	
Chlorobenzene	ND	ug/L	1	0.32	1.1	100	
Styrene	ND	ug/L	1	0.34	1.2	100	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.27	0.95		
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.16	0.55		
Tetrachloroethene	ND	ug/L	1	0.26	0.92	5	
Toluene	ND	ug/L	1	0.25	0.90	1000	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.35	1.2	70	
1,1,1-Trichloroethane	ND	ug/L	1	0.26	0.92	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.17	0.61	5	
Trichloroethene	ND	ug/L	1	0.25	0.87	5	
1,2,3-Trichloropropane	ND	ug/L	1	0.19	0.64		
Vinyl chloride	ND	ug/L	1	0.18	0.65	2	
Xylene total	ND	ug/L	1	0.92	3.3	10000	
4-Bromofluorobenzene (SURR)	102%						S
1,2-Dichlorobenzene-d4 (SURR)	111%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: GCMS 524.2, Rev 4.1 Safe Drinking Water Analysis - DNR Form

Page 3 of 3

Customer: Wausau Waterworks NLS Project: 193486

Project Description: Drinking Water

Project Title: PWS# 73701023

Template: SAT2DNRL Printed: 03/19/2013 13:10

Sample: 708565 Trip Blank Collected: 03/08/13 Analyzed: 03/18/13 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	Note
Benzene	ND	ug/L	1	0.27	0.95	
Bromobenzene	ND	ug/L	1	0.32	1.1	
Bromodichloromethane	ND	ug/L	1	0.20	0.72	
Bromoform	ND	ug/L	1	0.17	0.59	
Bromomethane	ND	ug/L	1	0.13	0.45	
Carbon Tetrachloride	ND	ug/L	1	0.25	0.89	
Chloroethane	ND	ug/L	1	0.73	2.6	
Chloroform	ND	ug/L	1	0.22	0.79	
Chloromethane	ND	ug/L	1	0.23	0.80	
o-Chlorotoluene	ND	ug/L	1	0.33	1.2	
p-Chlorotoluene	ND	ug/L	1	0.36	1.3	
Dibromochloromethane	ND	ug/L	1	0.17	0.61	
Dibromomethane	ND	ug/L	1	0.20	0.72	
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.32	1.1	
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.32	1.1	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.37	1.3	
1,1-Dichloroethane	ND	ug/L	1	0.25	0.90	
1,2-Dichloroethane	ND	ug/L	1	0.19	0.67	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.74	
cis-1,2-Dichloroethene	ND	ug/L	1	0.20	0.71	
trans-1,2-Dichloroethene	ND	ug/L	1	0.19	0.67	
Dichloromethane	ND	ug/L	1	0.26	0.92	
1,2-Dichloropropane	ND	ug/L	1	0.25	0.89	
1,3-Dichloropropane	ND	ug/L	1	0.26	0.92	
2,2-Dichloropropane	ND	ug/L	1	0.25	0.90	
1,1-Dichloropropene	ND	ug/L	1	0.24	0.84	
1,3-Dichloropropene	ND	ug/L	1	0.33	1.2	
Ethylbenzene	ND	ug/L	1	0.31	1.1	
Chlorobenzene	ND	ug/L	1	0.32	1.1	
Styrene	ND	ug/L	1	0.34	1.2	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.27	0.95	
1,1,2,2-Tetrachloroethane	ND	ug/L	1	0.16	0.55	
Tetrachloroethene	ND	ug/L	1	0.26	0.92	
Toluene	ND	ug/L	1	0.25	0.90	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.35	1.2	
1,1,1-Trichloroethane	ND	ug/L	1	0.26	0.92	
1,1,2-Trichloroethane	ND	ug/L	1	0.17	0.61	
Trichloroethene	ND	ug/L	1	0.25	0.87	
1,2,3-Trichloropropane	ND	ug/L	1	0.19	0.64	
Vinyl chloride	ND	ug/L	1	0.18	0.65	
Xylene total	ND	ug/L	1	0.92	3.3	
4-Bromofluorobenzene (SURR)	95%					S
1,2-Dichlorobenzene-d4 (SURR)	107%					S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

NORTHERN LAKE SERVICE, INC.
 Analytical Laboratory and Environmental Services
 400 North Lake Avenue - Crandon, WI 54520
 Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
 WDATCP Laboratory Certification No. 105-330
 EPA Laboratory ID No. WI00034

Printed: 06/17/13 Code: NNNN-S Page 1 of 1

Client: **Wausau Waterworks**
 Attn: Dick Boers
 Drinking Water Division
 407 Grant Street
 Wausau, WI 54403 4783

NLS Project: **198435**
 NLS Customer: **36394**
 Fax: 715 261 6946 Phone: 715 261 7288

Project: **2nd Quarter VOC Samples PWS #73701023**

300 - VOC NLS ID: 724081

COC: 162086:1 Matrix: DW

Collected: 06/07/13 07:03 Received: 06/07/13

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					06/16/13	EPA 524.2, Rev 4.1	721026460

200 - VOC NLS ID: 724082

COC: 162086:2 Matrix: DW

Collected: 06/07/13 11:15 Received: 06/07/13

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					06/16/13	EPA 524.2, Rev 4.1	721026460

Trip Blank NLS ID: 724083

COC: 162086:3 Matrix: TB

Collected: 06/07/13 00:00 Received: 06/07/13

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					06/16/13	EPA 524.2, Rev 4.1	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and/or LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dilution.

LOD = Limit of Detection LOQ = Limit of Quantitation ND = Not Detected (< LOD) 1000 ug/L = 1 mg/L
 DWB = Dry Weight Basis NA = Not Applicable %DWB = (mg/kg DWB) / 10000
 MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:



Authorized by:
 R. T. Krueger
 President

ANALYTICAL RESULTS: GCMS 524.2, Rev 4.1 Safe Drinking Water Analysis - DNR Form

Customer: Wausau Waterworks NLS Project: 198435

Project Description: 2nd Quarter VOC Samples

Project Title: PWS #73701023

Template: SAT3DNRL Printed: 06/17/2013 12:08

Sample: 724081 300 - VOC Collected: 06/07/13 Analyzed: 06/16/13 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.17	0.60	5	
Bromobenzene	ND	ug/L	1	0.18	0.64		
Bromodichloromethane	[0.39]	ug/L	1	0.18	0.64	80	
Bromoform	ND	ug/L	1	0.17	0.60	80	
Bromomethane	ND	ug/L	1	0.36	1.3		
Carbon Tetrachloride	ND	ug/L	1	0.24	0.85	5	
Chloroethane	ND	ug/L	1	1.3	4.6		
Chloroform	6.5	ug/L	1	0.20	0.70	80	
Chloromethane	ND	ug/L	1	0.14	0.51		
o-Chlorotoluene	ND	ug/L	1	0.15	0.55		
p-Chlorotoluene	ND	ug/L	1	0.19	0.66		
Dibromochloromethane	ND	ug/L	1	0.15	0.53	80	
Dibromomethane	ND	ug/L	1	0.21	0.75		
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.20	0.71		
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.61	600	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.14	0.47	75	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.68		
1,2-Dichloroethane	ND	ug/L	1	0.23	0.80	5	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.75	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.13	0.47	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.16	0.55	100	
Dichloromethane	ND	ug/L	1	0.17	0.61	5	
1,2-Dichloropropane	ND	ug/L	1	0.26	0.92	5	
1,3-Dichloropropane	ND	ug/L	1	0.26	0.91		
2,2-Dichloropropane	ND	ug/L	1	0.17	0.62		
1,1-Dichloropropene	ND	ug/L	1	0.16	0.55		
1,3-Dichloropropene	ND	ug/L	1	0.35	1.2		
Ethylbenzene	ND	ug/L	1	0.15	0.51	700	
Chlorobenzene	ND	ug/L	1	0.19	0.69	100	
Styrene	ND	ug/L	1	0.20	0.68	100	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.17	0.59		
1,1,1,2,2-Tetrachloroethane	ND	ug/L	1	0.15	0.55		
Tetrachloroethene	ND	ug/L	1	0.18	0.62	5	
Toluene	ND	ug/L	1	0.14	0.48	1000	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.15	0.51	70	
1,1,1-Trichloroethane	ND	ug/L	1	0.11	0.37	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.22	0.78	5	
Trichloroethene	ND	ug/L	1	0.19	0.66	5	
1,2,3-Trichloropropane	ND	ug/L	1	0.25	0.87		
Vinyl chloride	ND	ug/L	1	0.19	0.67	2	
Xylene total	ND	ug/L	1	0.53	1.9	10000	
4-Bromofluorobenzene (SURR)	98%						S
1,2-Dichlorobenzene-d4 (SURR)	103%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: GCMS 524.2, Rev 4.1 Safe Drinking Water Analysis - DNR Form

Page 2 of 3

Customer: Wausau Waterworks NLS Project: 198435

Project Description: 2nd Quarter VOC Samples

Project Title: PWS #73701023

Template: SAT3DNRL Printed: 06/17/2013 12:08

Sample: 724082 200 - VOC Collected: 06/07/13 Analyzed: 06/16/13 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOG	MCL	Note
Benzene	ND	ug/L	1	0.17	0.60	5	
Bromobenzene	ND	ug/L	1	0.18	0.64		
Bromodichloromethane	1.0	ug/L	1	0.18	0.64	80	
Bromoform	ND	ug/L	1	0.17	0.60	80	
Bromomethane	ND	ug/L	1	0.36	1.3		
Carbon Tetrachloride	ND	ug/L	1	0.24	0.85	5	
Chloroethane	ND	ug/L	1	1.3	4.6		
Chloroform	9.0	ug/L	1	0.20	0.70	80	
Chloromethane	ND	ug/L	1	0.14	0.51		
o-Chlorotoluene	ND	ug/L	1	0.15	0.55		
p-Chlorotoluene	ND	ug/L	1	0.19	0.66		
Dibromochloromethane	ND	ug/L	1	0.15	0.53	80	
Dibromomethane	ND	ug/L	1	0.21	0.75		
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.20	0.71		
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.61	600	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.14	0.47	75	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.68		
1,2-Dichloroethane	ND	ug/L	1	0.23	0.80	5	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.75	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.13	0.47	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.16	0.55	100	
Dichloromethane	ND	ug/L	1	0.17	0.61	5	
1,2-Dichloropropane	ND	ug/L	1	0.26	0.92	5	
1,3-Dichloropropane	ND	ug/L	1	0.26	0.91		
2,2-Dichloropropane	ND	ug/L	1	0.17	0.62		
1,1-Dichloropropene	ND	ug/L	1	0.16	0.55		
1,3-Dichloropropene	ND	ug/L	1	0.35	1.2		
Ethylbenzene	ND	ug/L	1	0.15	0.51	700	
Chlorobenzene	ND	ug/L	1	0.19	0.69	100	
Styrene	ND	ug/L	1	0.20	0.68	100	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.17	0.59		
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.15	0.55		
Tetrachloroethene	ND	ug/L	1	0.18	0.62	5	
Toluene	ND	ug/L	1	0.14	0.48	1000	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.15	0.51	70	
1,1,1-Trichloroethane	ND	ug/L	1	0.11	0.37	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.22	0.78	5	
Trichloroethene	ND	ug/L	1	0.19	0.66	5	
1,2,3-Trichloropropane	ND	ug/L	1	0.25	0.87		
Vinyl chloride	ND	ug/L	1	0.19	0.67	2	
Xylene total	ND	ug/L	1	0.53	1.9	10000	
4-Bromofluorobenzene (SURR)	109%						S
1,2-Dichlorobenzene-d4 (SURR)	110%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: GCMS 524.2, Rev 4.1 Safe Drinking Water Analysis - DNR Form

Customer: Wausau Waterworks NLS Project: 198435

Project Description: 2nd Quarter VOC Samples

Project Title: PWS #73701023

Template: SAT3DNRL Printed: 06/17/2013 12:08

Sample: 724083 Trip Blank Collected: 06/07/13 Analyzed: 06/16/13 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	Note
Benzene	ND	ug/L	1	0.17	0.60	
Bromobenzene	ND	ug/L	1	0.18	0.64	
Bromodichloromethane	ND	ug/L	1	0.18	0.64	
Bromoform	ND	ug/L	1	0.17	0.60	
Bromomethane	ND	ug/L	1	0.36	1.3	
Carbon Tetrachloride	ND	ug/L	1	0.24	0.85	
Chloroethane	ND	ug/L	1	1.3	4.6	
Chloroform	ND	ug/L	1	0.20	0.70	
Chloromethane	ND	ug/L	1	0.14	0.51	
o-Chlorotoluene	ND	ug/L	1	0.15	0.55	
p-Chlorotoluene	ND	ug/L	1	0.19	0.66	
Dibromochloromethane	ND	ug/L	1	0.15	0.53	
Dibromomethane	ND	ug/L	1	0.21	0.75	
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.20	0.71	
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.61	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.14	0.47	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.68	
1,2-Dichloroethane	ND	ug/L	1	0.23	0.80	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.75	
cis-1,2-Dichloroethene	ND	ug/L	1	0.13	0.47	
trans-1,2-Dichloroethene	ND	ug/L	1	0.16	0.55	
Dichloromethane	1.4	ug/L	1	0.17	0.61	LB
1,2-Dichloropropane	ND	ug/L	1	0.26	0.92	
1,3-Dichloropropane	ND	ug/L	1	0.26	0.91	
2,2-Dichloropropane	ND	ug/L	1	0.17	0.62	
1,1-Dichloropropene	ND	ug/L	1	0.16	0.55	
1,3-Dichloropropene	ND	ug/L	1	0.35	1.2	
Ethylbenzene	ND	ug/L	1	0.15	0.51	
Chlorobenzene	ND	ug/L	1	0.19	0.69	
Styrene	ND	ug/L	1	0.20	0.68	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.17	0.59	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.15	0.55	
Tetrachloroethene	ND	ug/L	1	0.18	0.62	
Toluene	ND	ug/L	1	0.14	0.48	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.15	0.51	
1,1,1-Trichloroethane	ND	ug/L	1	0.11	0.37	
1,1,2-Trichloroethane	ND	ug/L	1	0.22	0.78	
Trichloroethene	ND	ug/L	1	0.19	0.66	
1,2,3-Trichloropropane	ND	ug/L	1	0.25	0.87	
Vinyl chloride	ND	ug/L	1	0.19	0.67	
Xylene total	ND	ug/L	1	0.53	1.9	
4-Bromofluorobenzene (SURR)	109%					S
1,2-Dichlorobenzene-d4 (SURR)	109%					S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

LB = Compound is suspected of being a laboratory contaminant.

NORTHERN LAKE SERVICE, INC.
 Analytical Laboratory and Environmental Services
 400 North Lake Avenue - Crandon, WI 54520
 Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
 WDATCP Laboratory Certification No. 105-330
 EPA Laboratory ID No. WI00034

Printed: 09/27/13 Code: NNNN-S Page 1 of 2

Client: **Wausau Waterworks**
 Attn: Dick Boers cellphone
 Drinking Water Division
 407 Grant Street
 Wausau, WI 54403 4783

NLS Project: **203977**

NLS Customer: **36394**

Fax: 715 261 6946 Phone: 715 261 7288

Project: **2013 Drinking Water PWS#73701023**

300 - VOC NLS ID: 741549

COC: 150283:1 Matrix: DW

Collected: 09/04/13 07:05 Received: 09/04/13

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					09/09/13	EPA 524.2, Rev 4.1	721026460

300 - NO3 NLS ID: 741550

COC: 150283:2 Matrix: DW

Collected: 09/04/13 07:07 Received: 09/04/13

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Nitrate as N, uncorr. for NO2 (unfilt)	0.98	mg/L	1	0.025	0.075 / 10	09/09/13	SM 4500NO3-F 20ed	721026460

The Plaza D-11 NLS ID: 741551

COC: 150283:3 Matrix: DW

Collected: 09/04/13 09:40 Received: 09/04/13

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Total Trihalomethanes (TTHM) EPA 524.2	see attached					09/06/13	EPA 524.2, Rev 4.1	721026460
Micro extraction - (552.2)	yes					09/13/13	EPA 552.2, Rev 1	721026460
Haloacetic Acids by EPA 552.2	see attached					09/18/13	EPA 552.2, Rev 1	721026460

Van Ert D-16 NLS ID: 741552

COC: 150283:4 Matrix: DW

Collected: 09/04/13 10:00 Received: 09/04/13

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Total Trihalomethanes (TTHM) EPA 524.2	see attached					09/06/13	EPA 524.2, Rev 4.1	721026460
Micro extraction - (552.2)	yes					09/13/13	EPA 552.2, Rev 1	721026460
Haloacetic Acids by EPA 552.2	see attached					09/18/13	EPA 552.2, Rev 1	721026460

200-VOC NLS ID: 741553

COC: 150283:5 Matrix: DW

Collected: 09/04/13 11:11 Received: 09/04/13

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					09/09/13	EPA 524.2, Rev 4.1	721026460

200-NO3 NLS ID: 741554

COC: 150283:6 Matrix: DW

Collected: 09/04/13 11:13 Received: 09/04/13

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Nitrate as N, uncorr. for NO2 (unfilt)	0.80	mg/L	1	0.025	0.075 / 10	09/09/13	SM 4500NO3-F 20ed	721026460

200-SOC NLS ID: 741555

COC: 150283:7 Matrix: DW

Collected: 09/04/13 11:17 Received: 09/04/13

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
EPA 525.2 Solid Phase Extraction	yes					09/17/13	EPA 525.2, Rev 2	721026460
Semi-Volatile Drinking Water Analysis GC/MS by 525.2	see attached					09/19/13	EPA 525.2, Rev 2	721026460

Trip Blank NLS ID: 741556

COC: 150283:8 Matrix: TB

Collected: 09/04/13 00:00 Received: 09/04/13

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					09/10/13	EPA 524.2, Rev 4.1	721026460

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

Printed: 09/27/13 Code: NNNN-S Page 2 of 2

Client: Wausau Waterworks
Attn: Dick Boers cellphone
Drinking Water Division
407 Grant Street
Wausau, WI 54403 4783

NLS Project: 203977

NLS Customer: 36394

Fax: 715 261 6946 Phone: 715 261 7288

Project: 2013 Drinking Water PWS#73701023

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and/or LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dilution.

LOD = Limit of Detection LOQ = Limit of Quantitation ND = Not Detected (< LOD) 1000 ug/L = 1 mg/L
DWB = Dry Weight Basis NA = Not Applicable %DWB = (mg/kg DWB) / 10000
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:



Authorized by:
R. T. Krueger
President

ANALYTICAL RESULTS: Haloacetic Acids by EPA 552.2, Rev 1

Customer: Wausau Waterworks NLS Project: 203977

Project Description: 2013 Drinking Water

Project Title: PWS#73701023

Template: 552DW Printed: 09/27/2013 08:06

Sample: 741551 The Plaza D-11 Collected: 09/04/13 Analyzed: 09/18/13 - Analytes: 6

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Dibromoacetic acid	ND	ug/L	1	0.092	0.31		
Dichloroacetic acid	10	ug/L	1	0.51	1.7		
Total Haloacetic Acid (HAA5)	14	ug/L	1			60	
Monobromoacetic acid	ND	ug/L	1	0.27	0.90		
Monochloroacetic acid	1.5	ug/L	1	0.40	1.3		
Trichloroacetic acid	2.2	ug/L	1	0.15	0.51		
2,3-Dibromopropionic Acid (SURR)	129%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

Sample: 741552 Van Ert D-16 Collected: 09/04/13 Analyzed: 09/18/13 - Analytes: 6

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Dibromoacetic acid	ND	ug/L	1	0.092	0.31		
Dichloroacetic acid	11	ug/L	1	0.51	1.7		
Total Haloacetic Acid (HAA5)	16	ug/L	1			60	
Monobromoacetic acid	ND	ug/L	1	0.27	0.90		
Monochloroacetic acid	2.1	ug/L	1	0.40	1.3		
Trichloroacetic acid	2.7	ug/L	1	0.15	0.51		
2,3-Dibromopropionic Acid (SURR)	129%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: GCMS 525.2, Rev 2 Safe Drinking Water Analysis - DNR form

Page 1 of 1

Customer: Wausau Waterworks NLS Project: 203977**Project Description: 2013 Drinking Water****Project Title: PWS#73701023****Template: 525DNRSP Printed: 09/27/2013 08:06**

Sample: 741555 200-SOC Collected: 09/04/13 Analyzed: 09/19/13 - Analytes: 1

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Di(2-ethylhexyl)phthalate	ND	ug/L	1	0.60	1.2	6	
1,3-Dimethyl-2-Nitrobenzene (SURR)	100%						S
Triphenylphosphate (SURR)	118%						S
Perylene-d12 (SURR)	95%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: GCMS 524.2, Rev 4.1 Safe Drinking Water Analysis - DNR Form

Customer: Wausau Waterworks NLS Project: 203977

Project Description: 2013 Drinking Water

Project Title: PWS#73701023

Template: SAT2THM Printed: 09/27/2013 08:06

Sample: 741551 The Plaza D-11 Collected: 09/04/13 Analyzed: 09/06/13 - Analytes: 4

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Bromodichloromethane	[0.60]	ug/L	1	0.20	0.72	80	
Bromoform	ND	ug/L	1	0.17	0.59	80	
Chloroform	9.4	ug/L	1	0.22	0.79	80	
Dibromochloromethane	ND	ug/L	1	0.17	0.61	80	
TTHM in water, (summation)	10	ug/L	1			80	
4-Bromofluorobenzene (SURR)	88%						S
1,2-Dichlorobenzene-d4 (SURR)	96%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

Sample: 741552 Van Ert D-16 Collected: 09/04/13 Analyzed: 09/06/13 - Analytes: 4

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Bromodichloromethane	0.79	ug/L	1	0.20	0.72	80	
Bromoform	ND	ug/L	1	0.17	0.59	80	
Chloroform	8.4	ug/L	1	0.22	0.79	80	
Dibromochloromethane	ND	ug/L	1	0.17	0.61	80	
TTHM in water, (summation)	9.2	ug/L	1			80	
4-Bromofluorobenzene (SURR)	93%						S
1,2-Dichlorobenzene-d4 (SURR)	110%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: GCMS 524.2, Rev 4.1 Safe Drinking Water Analysis - DNR Form

Customer: Wausau Waterworks NLS Project: 203977

Project Description: 2013 Drinking Water

Project Title: PWS#73701023

Template: SAT3DNRL Printed: 09/27/2013 08:06

Sample: 741549 300 - VOC Collected: 09/04/13 Analyzed: 09/09/13 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.17	0.60	5	
Bromobenzene	ND	ug/L	1	0.18	0.64		
Bromodichloromethane	[0.48]	ug/L	1	0.18	0.64	80	
Bromoform	ND	ug/L	1	0.17	0.60	80	
Bromomethane	ND	ug/L	1	0.36	1.3		
Carbon Tetrachloride	ND	ug/L	1	0.24	0.85	5	
Chloroethane	ND	ug/L	1	1.3	4.6		
Chloroform	5.2	ug/L	1	0.20	0.70	80	
Chloromethane	ND	ug/L	1	0.14	0.51		
o-Chlorotoluene	ND	ug/L	1	0.15	0.55		
p-Chlorotoluene	ND	ug/L	1	0.19	0.66		
Dibromochloromethane	ND	ug/L	1	0.15	0.53	80	
Dibromomethane	ND	ug/L	1	0.21	0.75		
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.20	0.71		
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.61	600	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.14	0.47	75	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.68		
1,2-Dichloroethane	ND	ug/L	1	0.23	0.80	5	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.75	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.13	0.47	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.16	0.55	100	
Dichloromethane	ND	ug/L	1	0.17	0.61	5	
1,2-Dichloropropane	ND	ug/L	1	0.26	0.92	5	
1,3-Dichloropropane	ND	ug/L	1	0.26	0.91		
2,2-Dichloropropane	ND	ug/L	1	0.17	0.62		
1,1-Dichloropropene	ND	ug/L	1	0.16	0.55		
1,3-Dichloropropene	ND	ug/L	1	0.35	1.2		
Ethylbenzene	ND	ug/L	1	0.15	0.51	700	
Chlorobenzene	ND	ug/L	1	0.19	0.69	100	
Styrene	ND	ug/L	1	0.20	0.68	100	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.17	0.59		
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.15	0.55		
Tetrachloroethene	ND	ug/L	1	0.18	0.62	5	
Toluene	ND	ug/L	1	0.14	0.48	1000	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.15	0.51	70	
1,1,1-Trichloroethane	ND	ug/L	1	0.11	0.37	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.22	0.78	5	
Trichloroethene	ND	ug/L	1	0.19	0.66	5	
1,2,3-Trichloropropane	ND	ug/L	1	0.25	0.87		
Vinyl chloride	ND	ug/L	1	0.19	0.67	2	
Xylene total	ND	ug/L	1	0.53	1.9	10000	
4-Bromofluorobenzene (SURR)	105%						S
1,2-Dichlorobenzene-d4 (SURR)	108%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: GCMS 524.2, Rev 4.1 Safe Drinking Water Analysis - DNR Form

Customer: Wausau Waterworks NLS Project: 203977

Project Description: 2013 Drinking Water

Project Title: PWS#73701023

Template: SAT3DNRL Printed: 09/27/2013 08:06

Sample: 741553 200-VOC Collected: 09/04/13 Analyzed: 09/09/13 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.17	0.60	5	
Bromobenzene	ND	ug/L	1	0.18	0.64		
Bromodichloromethane	1.1	ug/L	1	0.18	0.64	80	
Bromoform	ND	ug/L	1	0.17	0.60	80	
Bromomethane	ND	ug/L	1	0.36	1.3		
Carbon Tetrachloride	ND	ug/L	1	0.24	0.85	5	
Chloroethane	ND	ug/L	1	1.3	4.6		
Chloroform	9.4	ug/L	1	0.20	0.70	80	
Chloromethane	ND	ug/L	1	0.14	0.51		
o-Chlorotoluene	ND	ug/L	1	0.15	0.55		
p-Chlorotoluene	ND	ug/L	1	0.19	0.66		
Dibromochloromethane	ND	ug/L	1	0.15	0.53	80	
Dibromomethane	ND	ug/L	1	0.21	0.75		
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.20	0.71		
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.61	600	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.14	0.47	75	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.68		
1,2-Dichloroethane	ND	ug/L	1	0.23	0.80	5	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.75	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.13	0.47	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.16	0.55	100	
Dichloromethane	ND	ug/L	1	0.17	0.61	5	
1,2-Dichloropropane	ND	ug/L	1	0.26	0.92	5	
1,3-Dichloropropane	ND	ug/L	1	0.26	0.91		
2,2-Dichloropropane	ND	ug/L	1	0.17	0.62		
1,1-Dichloropropene	ND	ug/L	1	0.16	0.55		
1,3-Dichloropropene	ND	ug/L	1	0.35	1.2		
Ethylbenzene	ND	ug/L	1	0.15	0.51	700	
Chlorobenzene	ND	ug/L	1	0.19	0.69	100	
Styrene	ND	ug/L	1	0.20	0.68	100	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.17	0.59		
1,1,1,2,2-Tetrachloroethane	ND	ug/L	1	0.15	0.55		
Tetrachloroethene	ND	ug/L	1	0.18	0.62	5	
Toluene	ND	ug/L	1	0.14	0.48	1000	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.15	0.51	70	
1,1,1-Trichloroethane	ND	ug/L	1	0.11	0.37	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.22	0.78	5	
Trichloroethene	ND	ug/L	1	0.19	0.66	5	
1,2,3-Trichloropropane	ND	ug/L	1	0.25	0.87		
Vinyl chloride	ND	ug/L	1	0.19	0.67	2	
Xylene total	ND	ug/L	1	0.53	1.9	10000	
4-Bromofluorobenzene (SURR)	108%						S
1,2-Dichlorobenzene-d4 (SURR)	113%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: GCMS 524.2, Rev 4.1 Safe Drinking Water Analysis - DNR Form

Customer: Wausau Waterworks NLS Project: 203977

Project Description: 2013 Drinking Water

Project Title: PWS#73701023

Template: SAT3DNRL Printed: 09/27/2013 08:06

Sample: 741556 Trip Blank Collected: 09/04/13 Analyzed: 09/10/13 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	Note
Benzene	ND	ug/L	1	0.17	0.60	
Bromobenzene	ND	ug/L	1	0.18	0.64	
Bromodichloromethane	ND	ug/L	1	0.18	0.64	
Bromoform	ND	ug/L	1	0.17	0.60	
Bromomethane	ND	ug/L	1	0.36	1.3	
Carbon Tetrachloride	ND	ug/L	1	0.24	0.85	
Chloroethane	ND	ug/L	1	1.3	4.6	
Chloroform	ND	ug/L	1	0.20	0.70	
Chloromethane	ND	ug/L	1	0.14	0.51	
o-Chlorotoluene	ND	ug/L	1	0.15	0.55	
p-Chlorotoluene	ND	ug/L	1	0.19	0.66	
Dibromochloromethane	ND	ug/L	1	0.15	0.53	
Dibromomethane	ND	ug/L	1	0.21	0.75	
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.20	0.71	
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.61	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.14	0.47	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.68	
1,2-Dichloroethane	ND	ug/L	1	0.23	0.80	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.75	
cis-1,2-Dichloroethene	ND	ug/L	1	0.13	0.47	
trans-1,2-Dichloroethene	ND	ug/L	1	0.16	0.55	
Dichloromethane	ND	ug/L	1	0.17	0.61	
1,2-Dichloropropane	ND	ug/L	1	0.26	0.92	
1,3-Dichloropropane	ND	ug/L	1	0.26	0.91	
2,2-Dichloropropane	ND	ug/L	1	0.17	0.62	
1,1-Dichloropropene	ND	ug/L	1	0.16	0.55	
1,3-Dichloropropene	ND	ug/L	1	0.35	1.2	
Ethylbenzene	ND	ug/L	1	0.15	0.51	
Chlorobenzene	ND	ug/L	1	0.19	0.69	
Styrene	ND	ug/L	1	0.20	0.68	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.17	0.59	
1,1,2,2-Tetrachloroethane	ND	ug/L	1	0.15	0.55	
Tetrachloroethene	ND	ug/L	1	0.18	0.62	
Toluene	ND	ug/L	1	0.14	0.48	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.15	0.51	
1,1,1-Trichloroethane	ND	ug/L	1	0.11	0.37	
1,1,2-Trichloroethane	ND	ug/L	1	0.22	0.78	
Trichloroethene	ND	ug/L	1	0.19	0.66	
1,2,3-Trichloropropane	ND	ug/L	1	0.25	0.87	
Vinyl chloride	ND	ug/L	1	0.19	0.67	
Xylene total	ND	ug/L	1	0.53	1.9	
4-Bromofluorobenzene (SURR)	103%					S
1,2-Dichlorobenzene-d4 (SURR)	108%					S

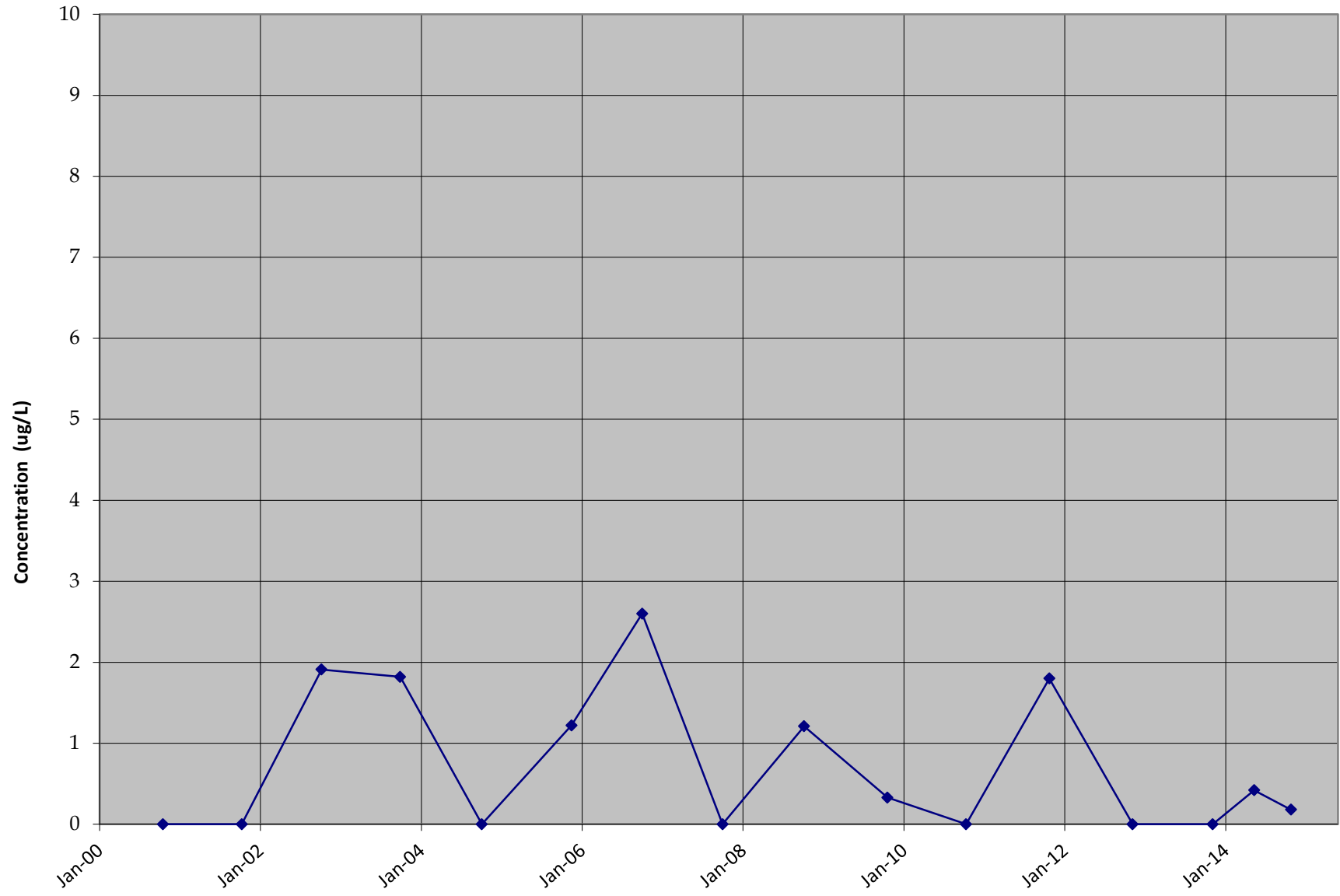
NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

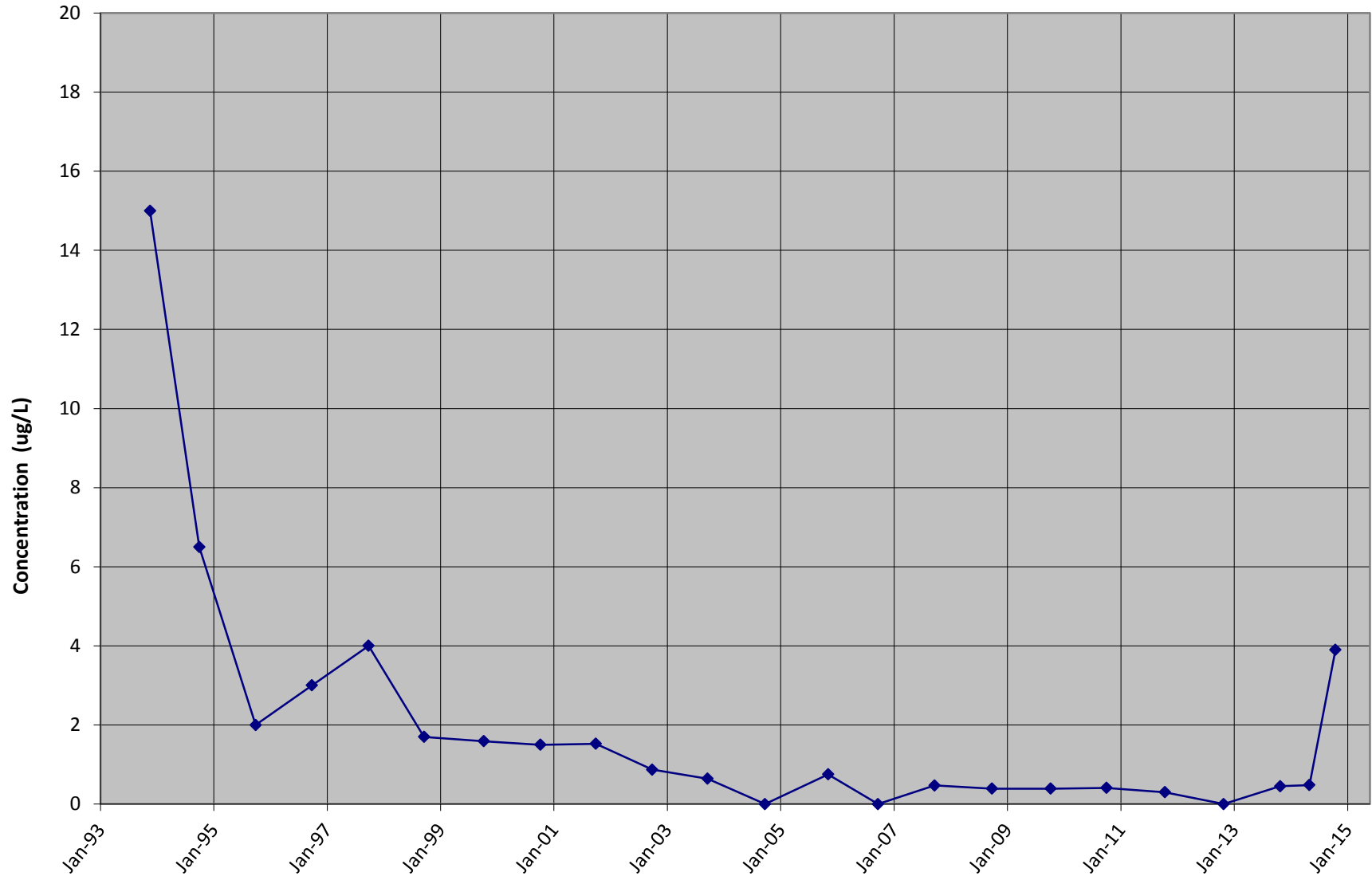
Appendix B

Total VOC Charts for Site Monitoring Wells

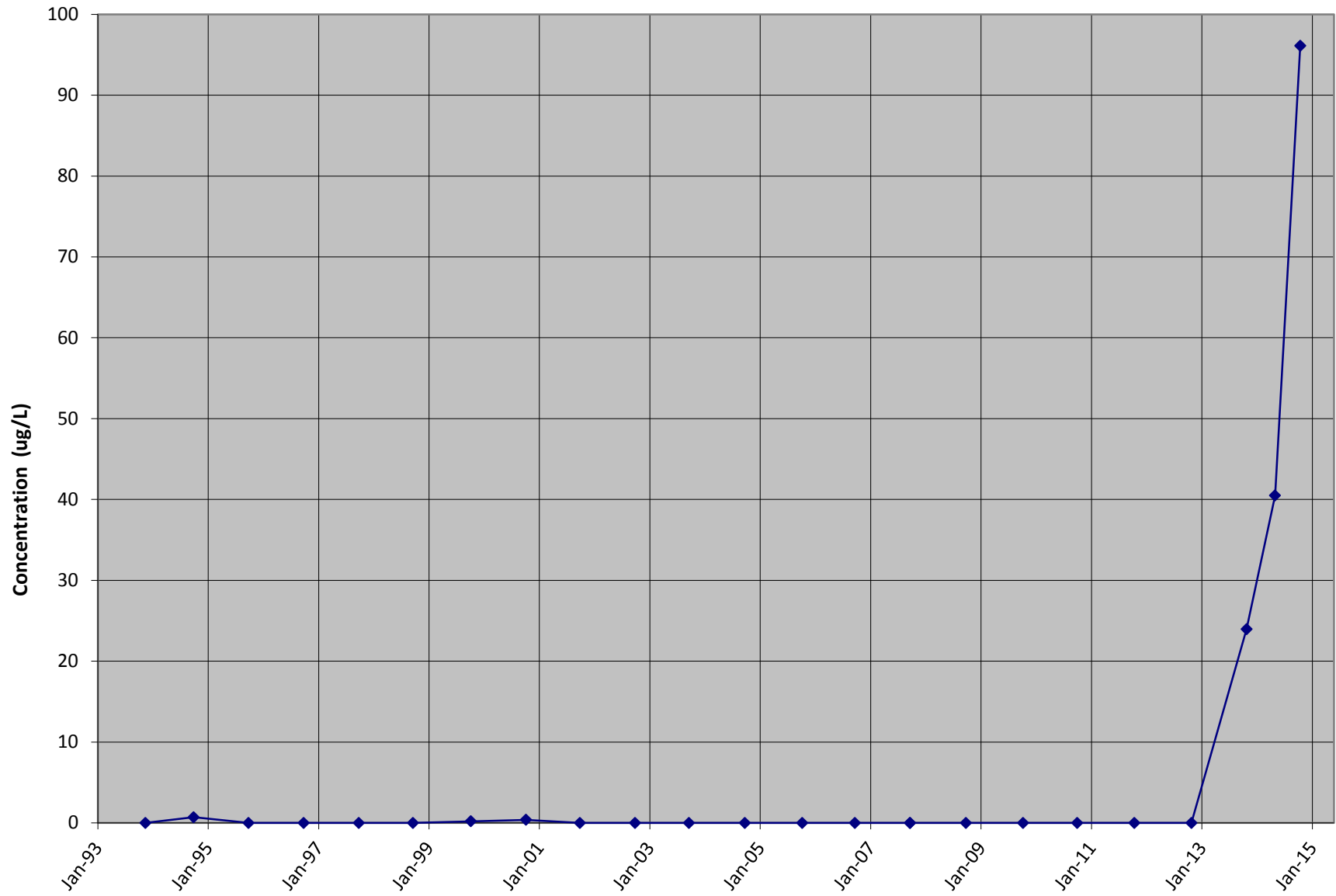
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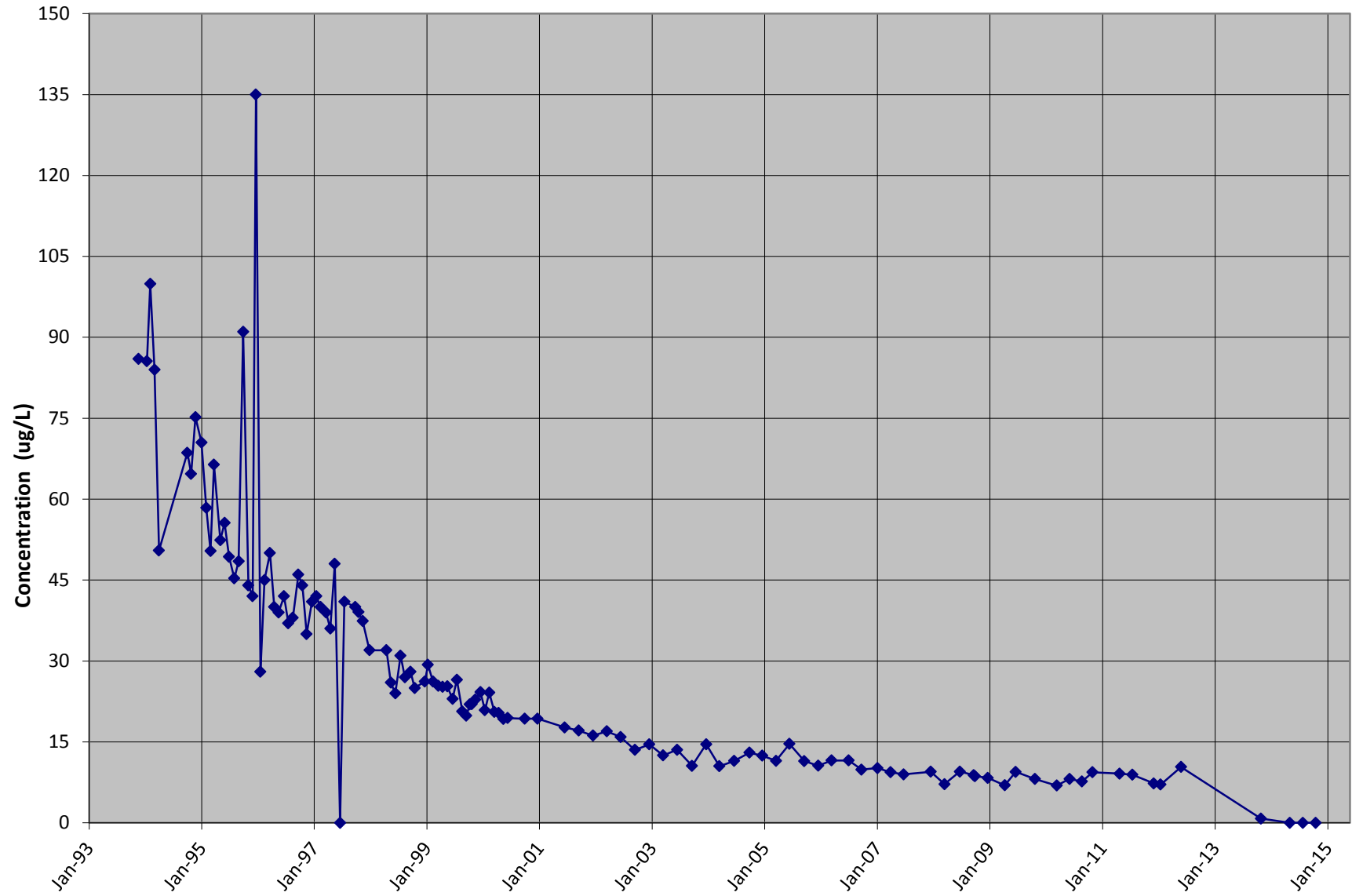
WSWD TCVOC



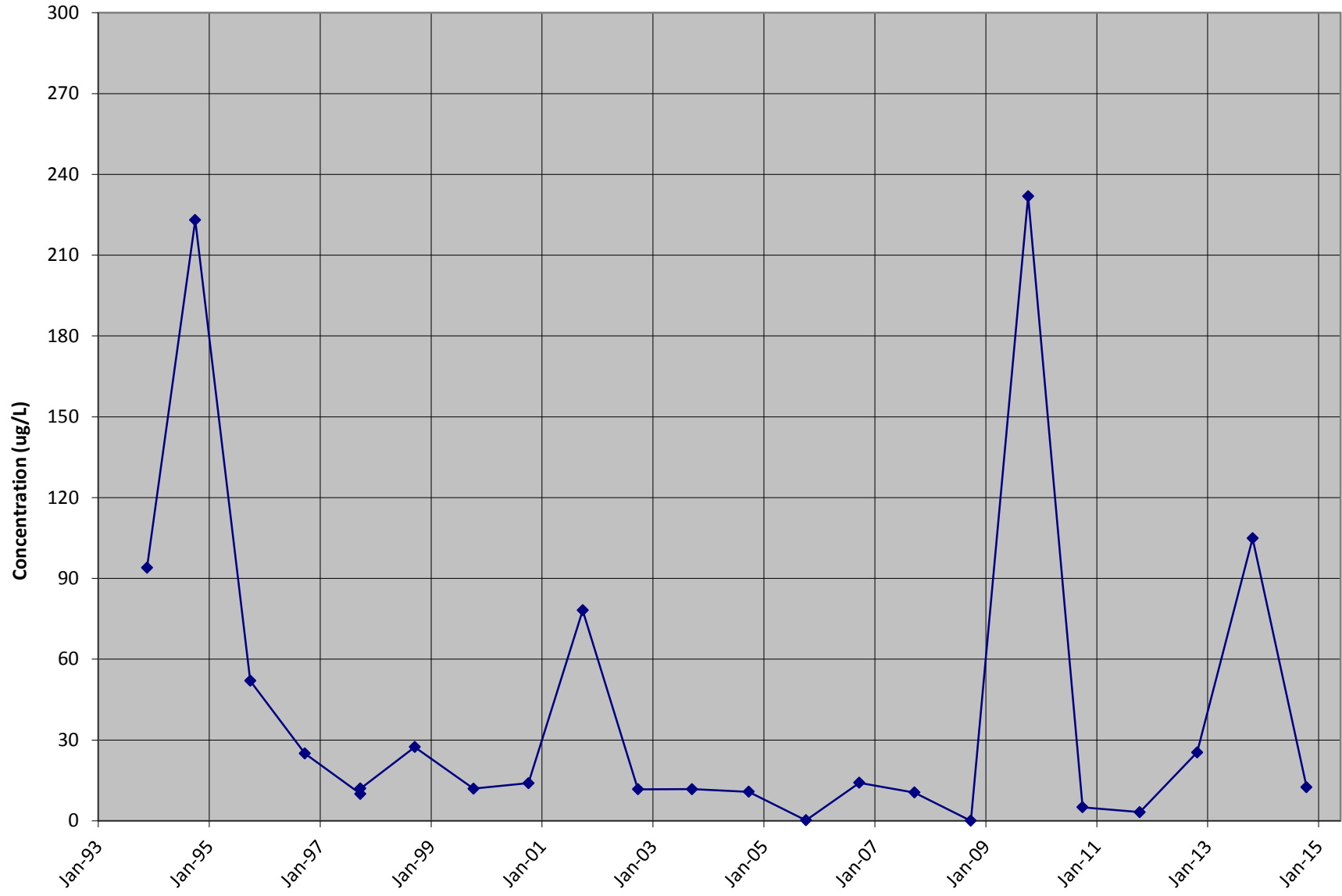
W54 TCVOC



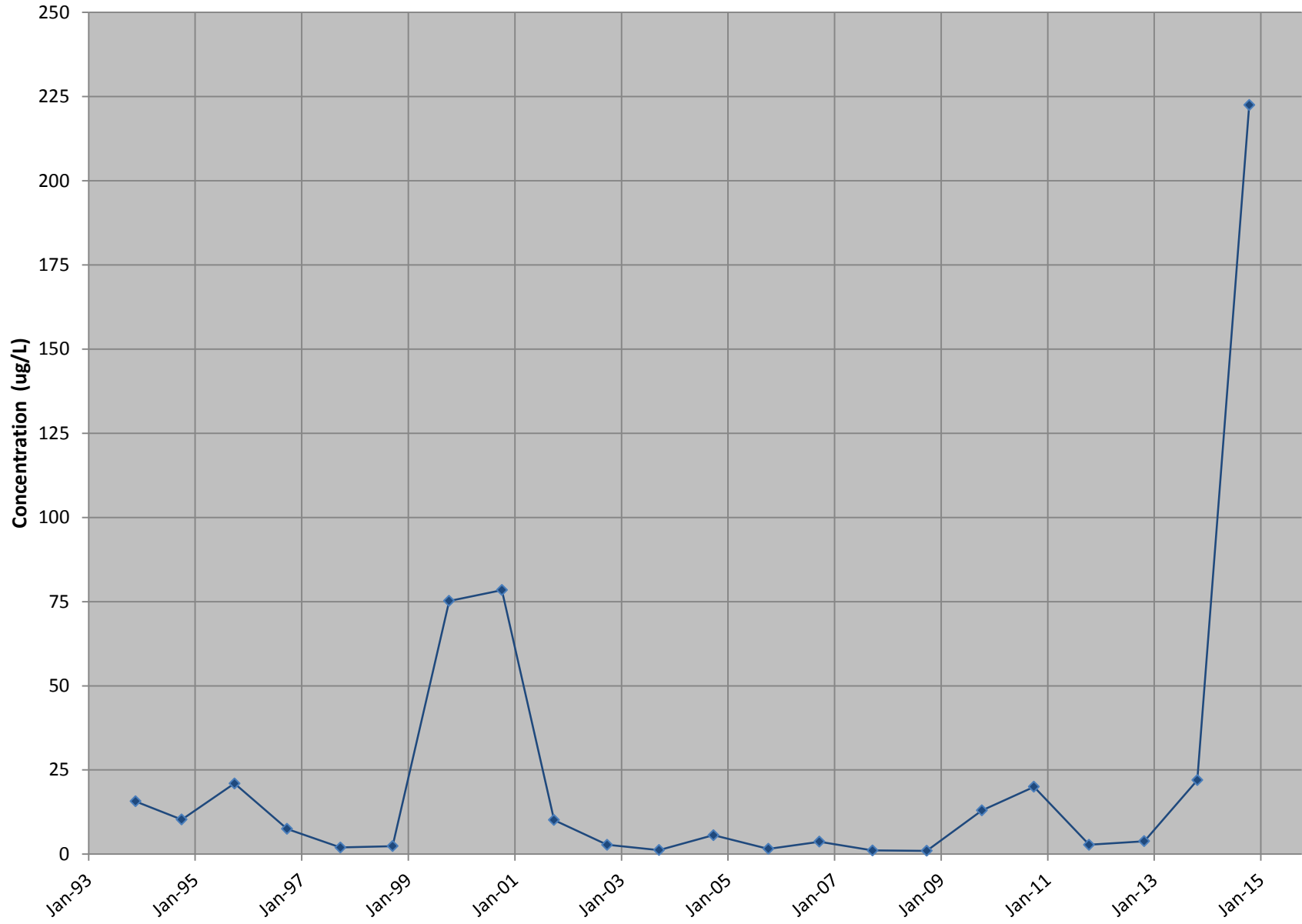
EW1 TCVOC



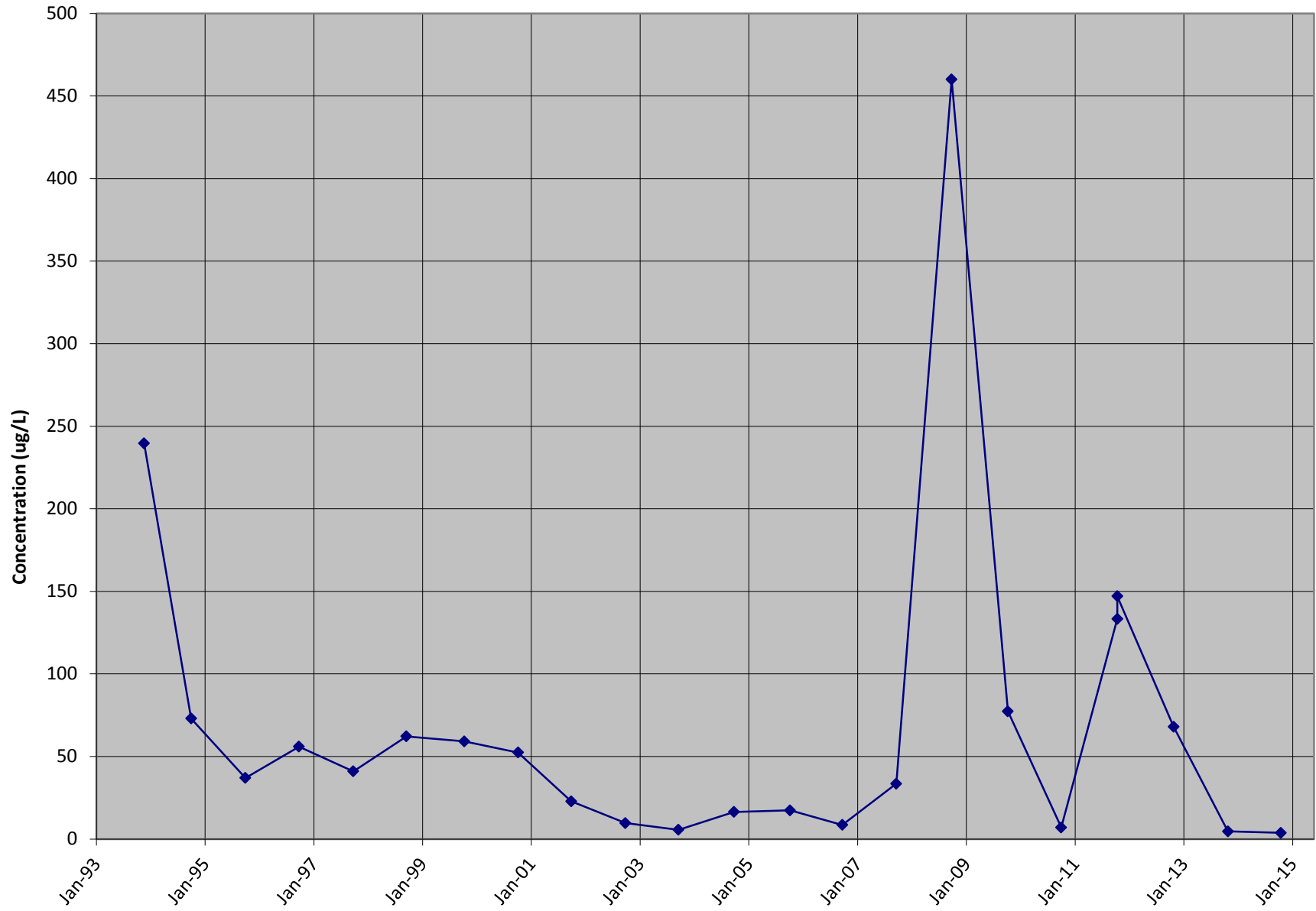
E22A TCVOC



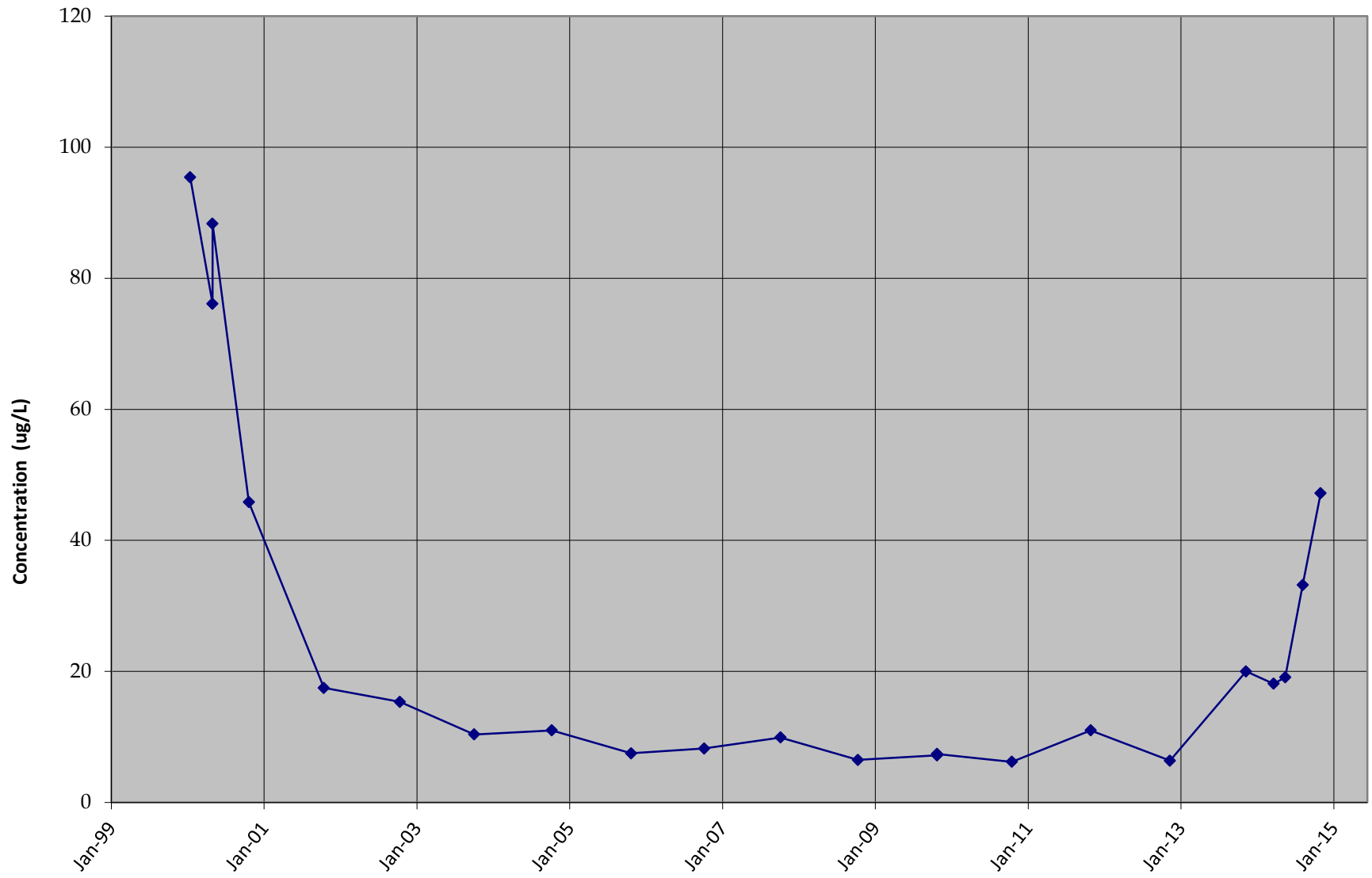
E24A TCVOC



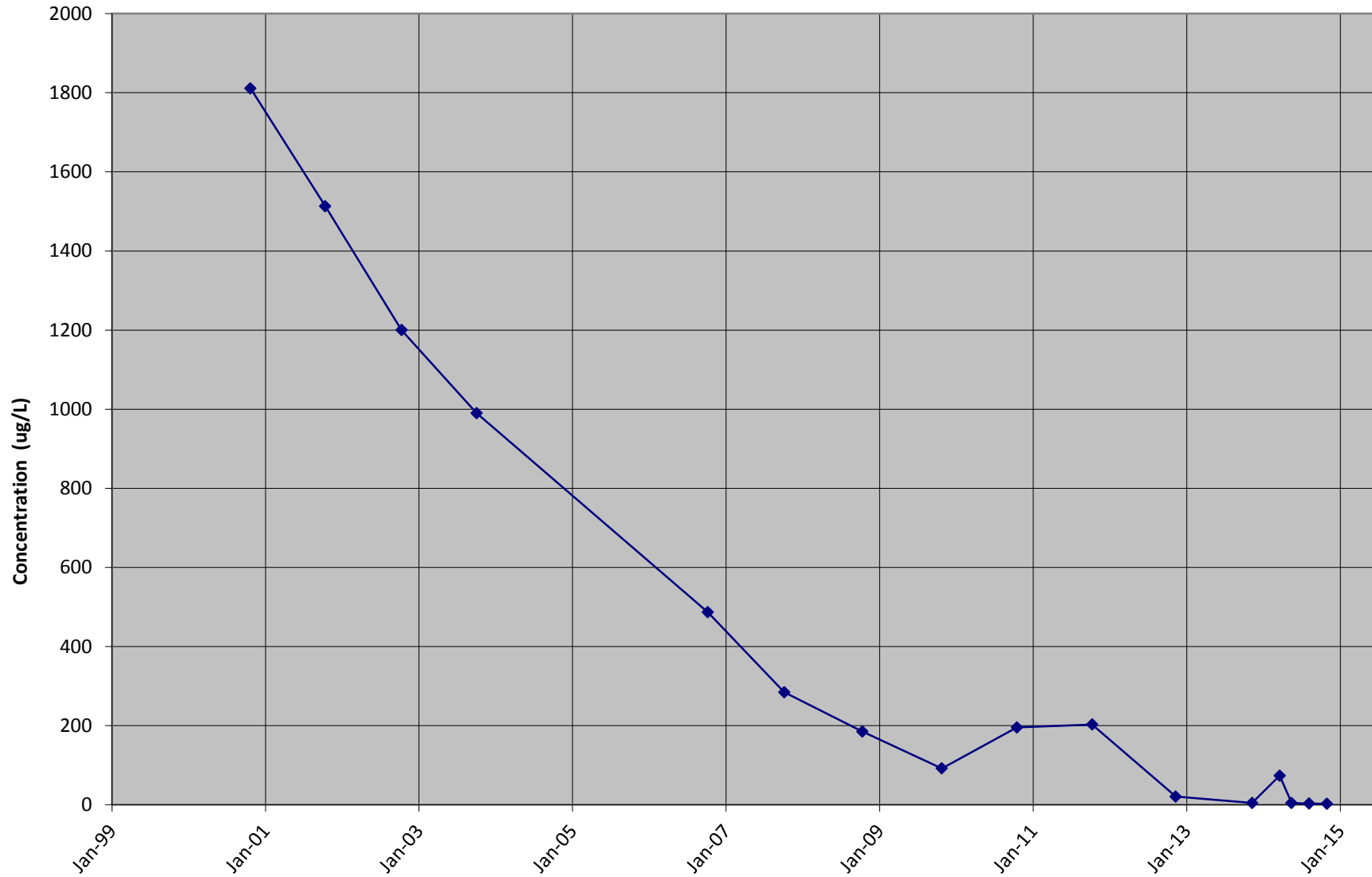
E37A TCVOC



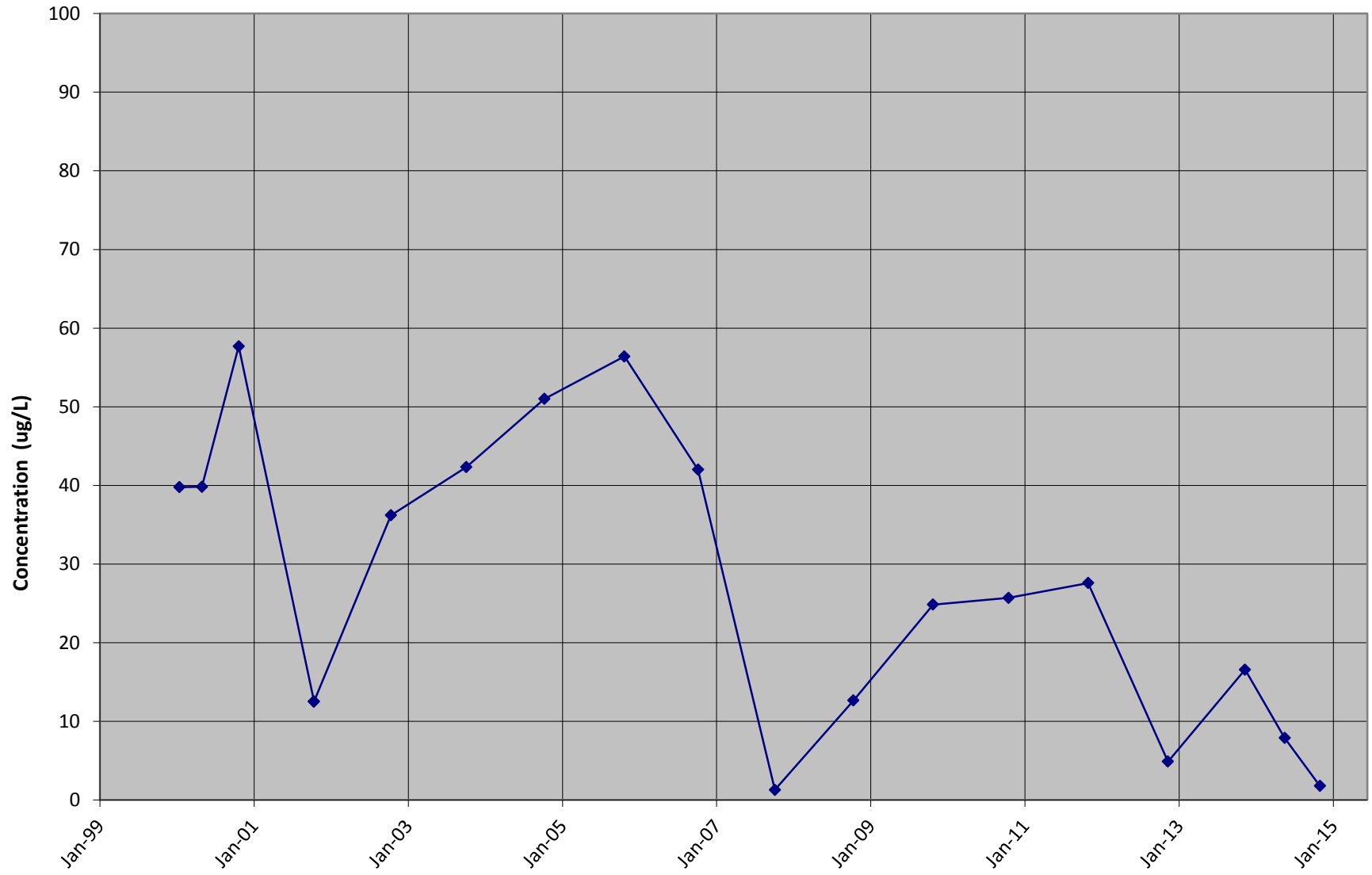
R2D TCVOC



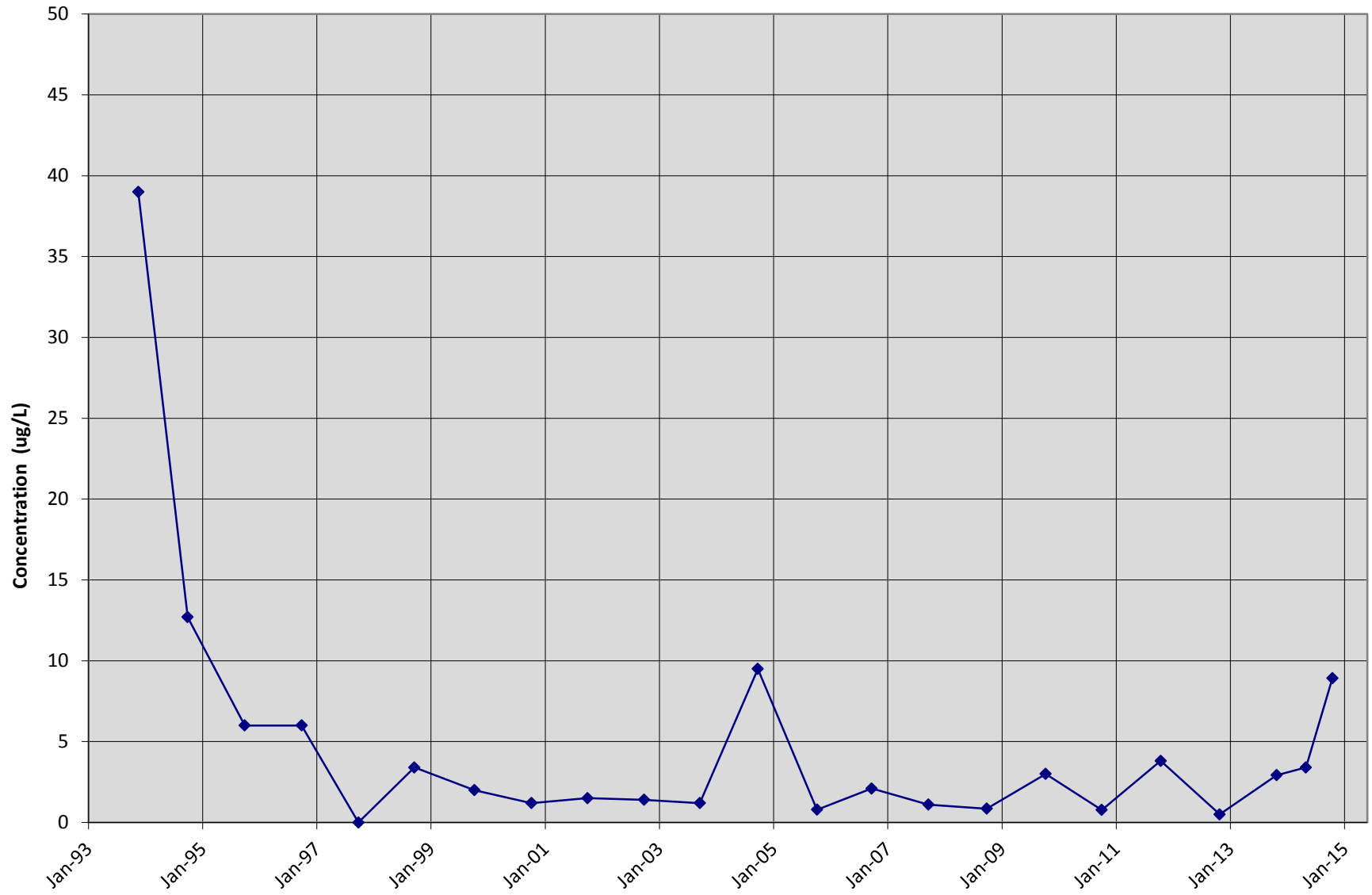
R3D TCVOC



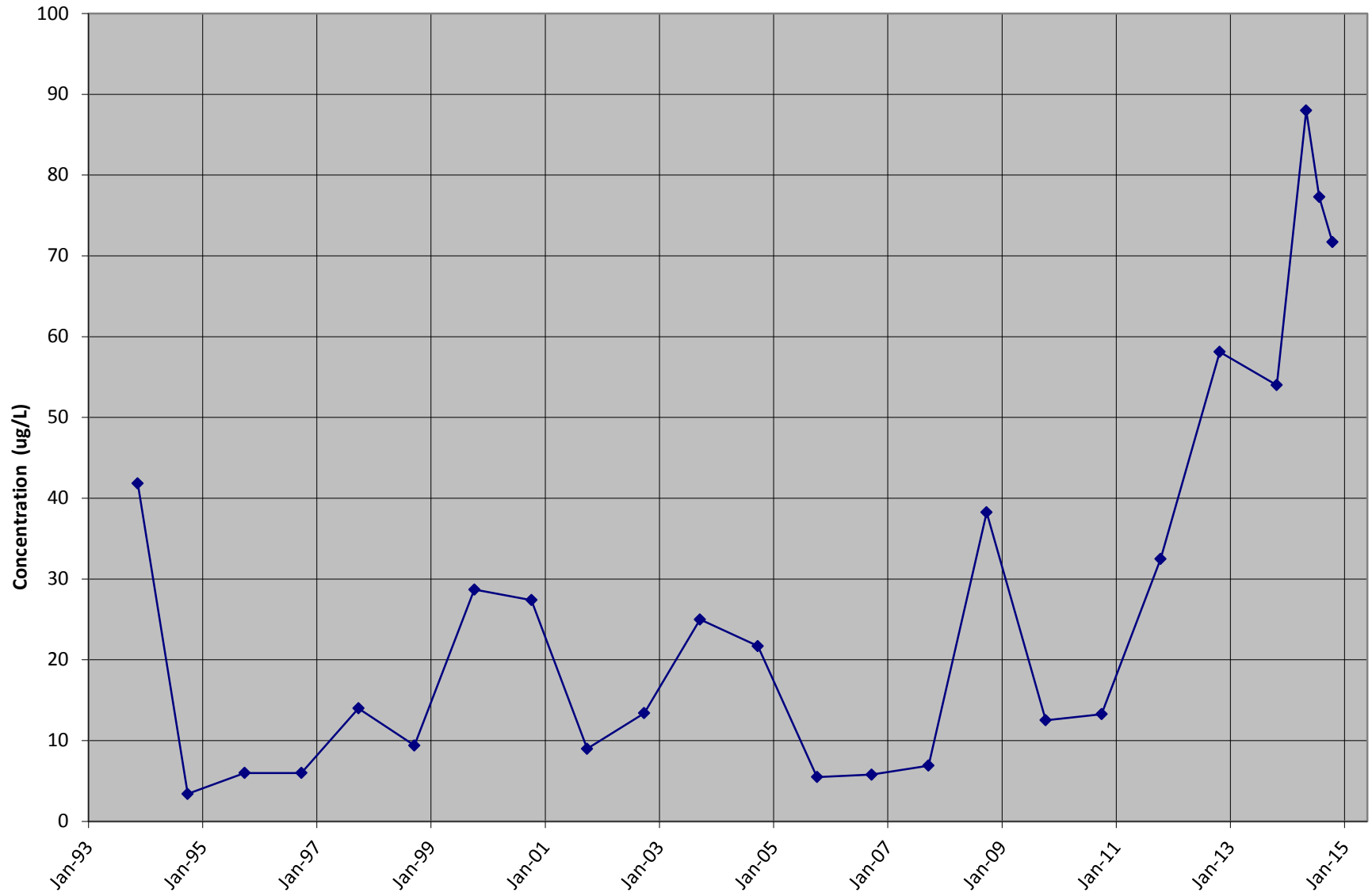
R4D TCVOC



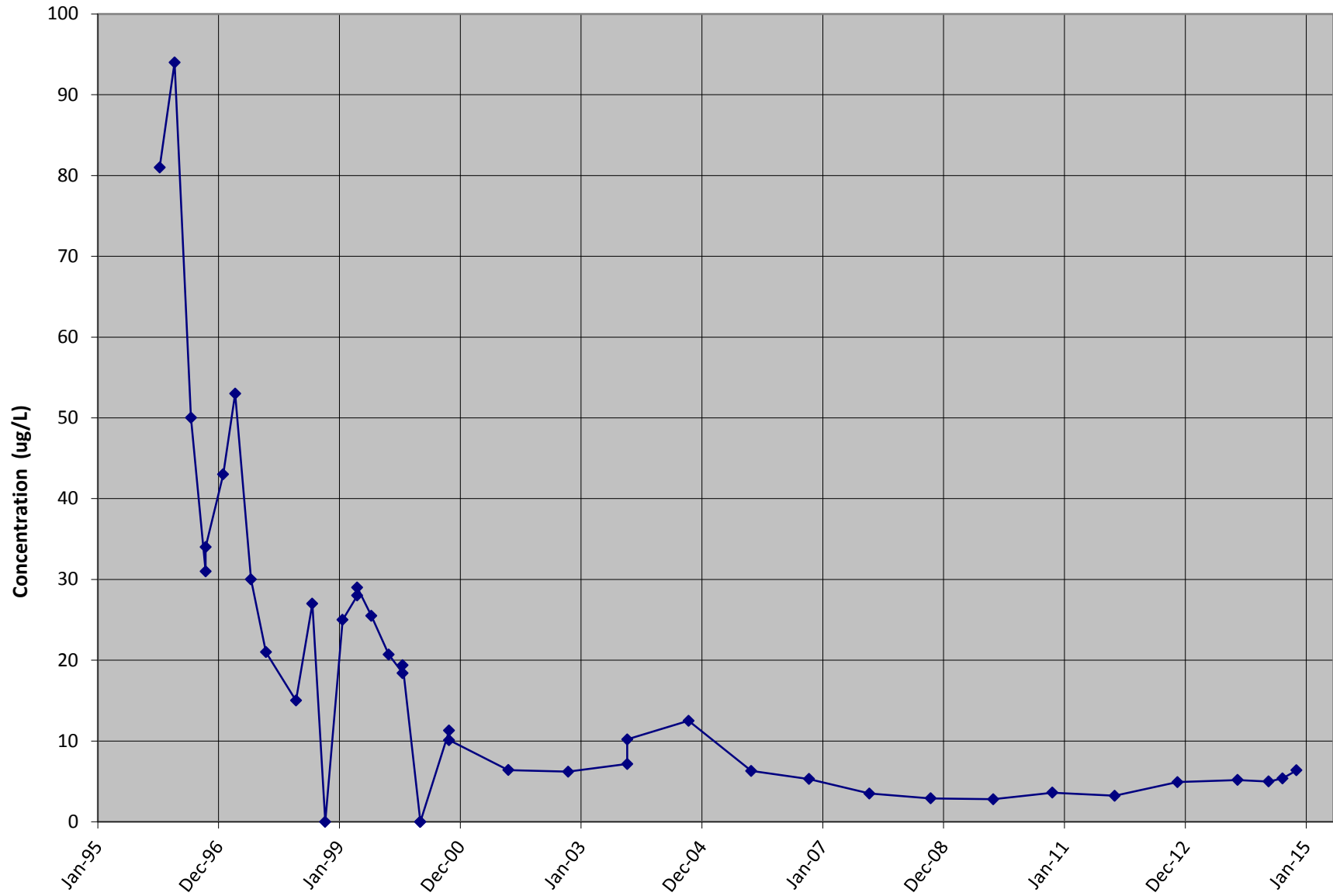
W52 TCVOC



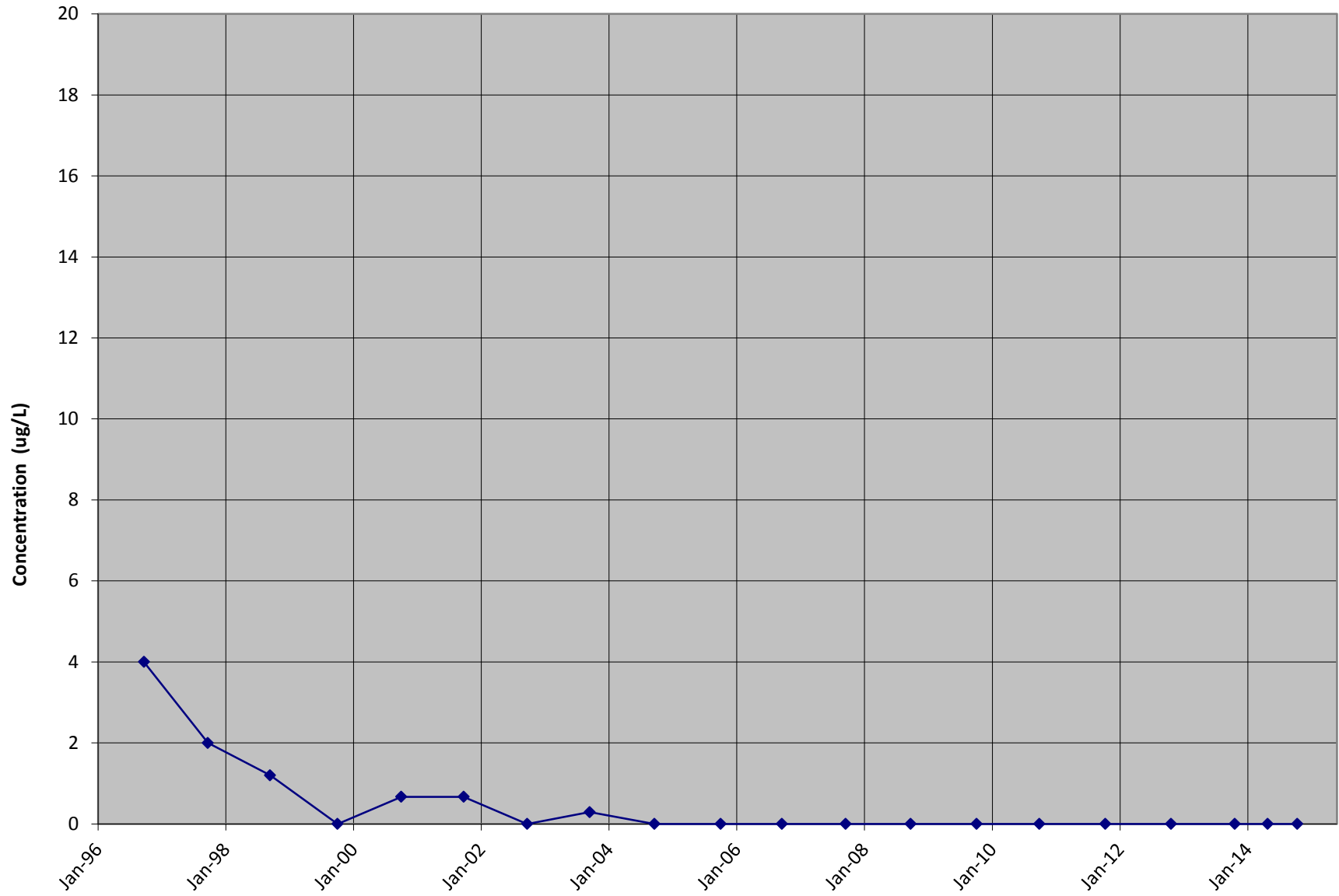
W53A TCVOC



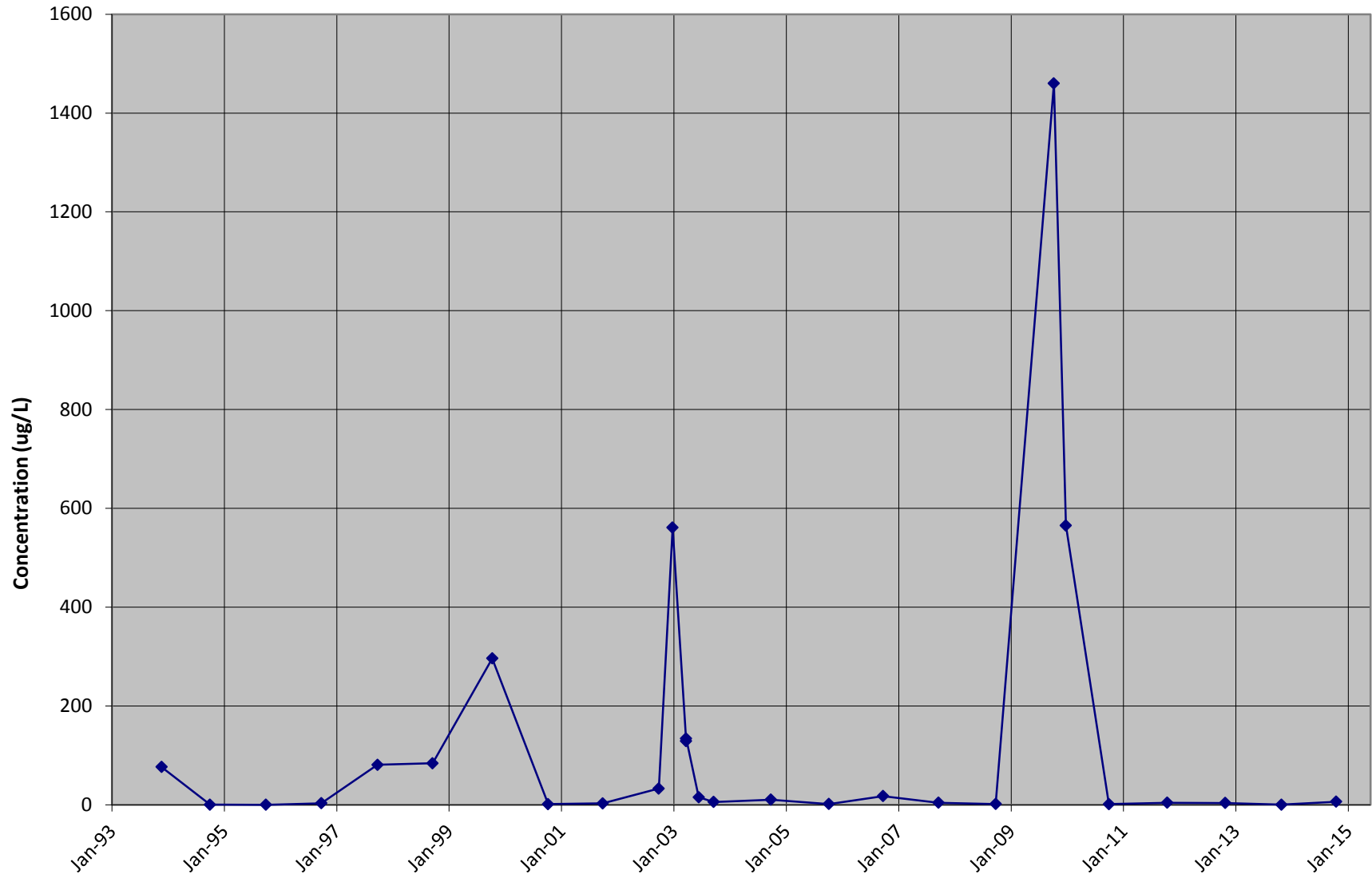
W55 TCVOC



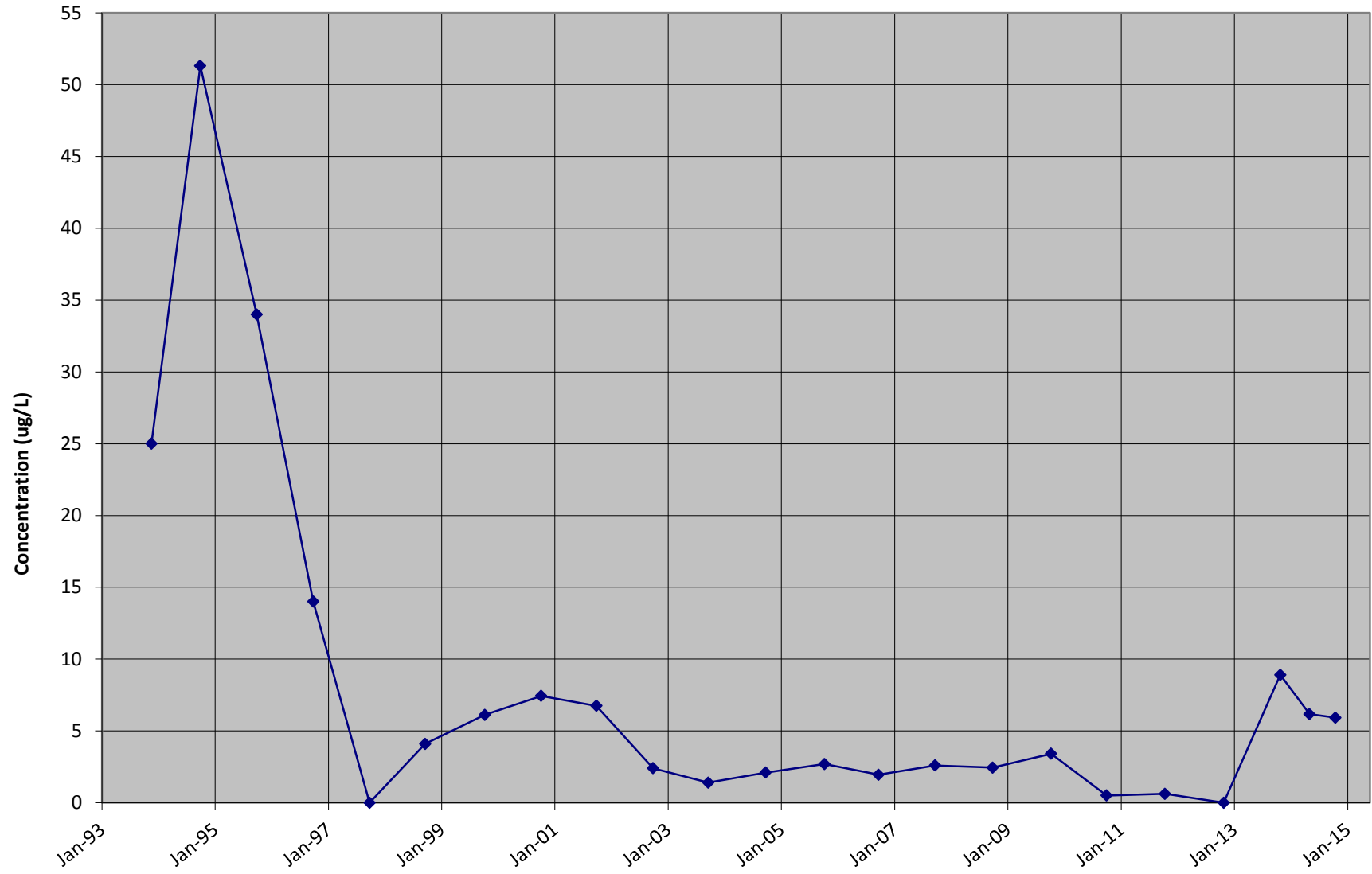
W56 TCVOC



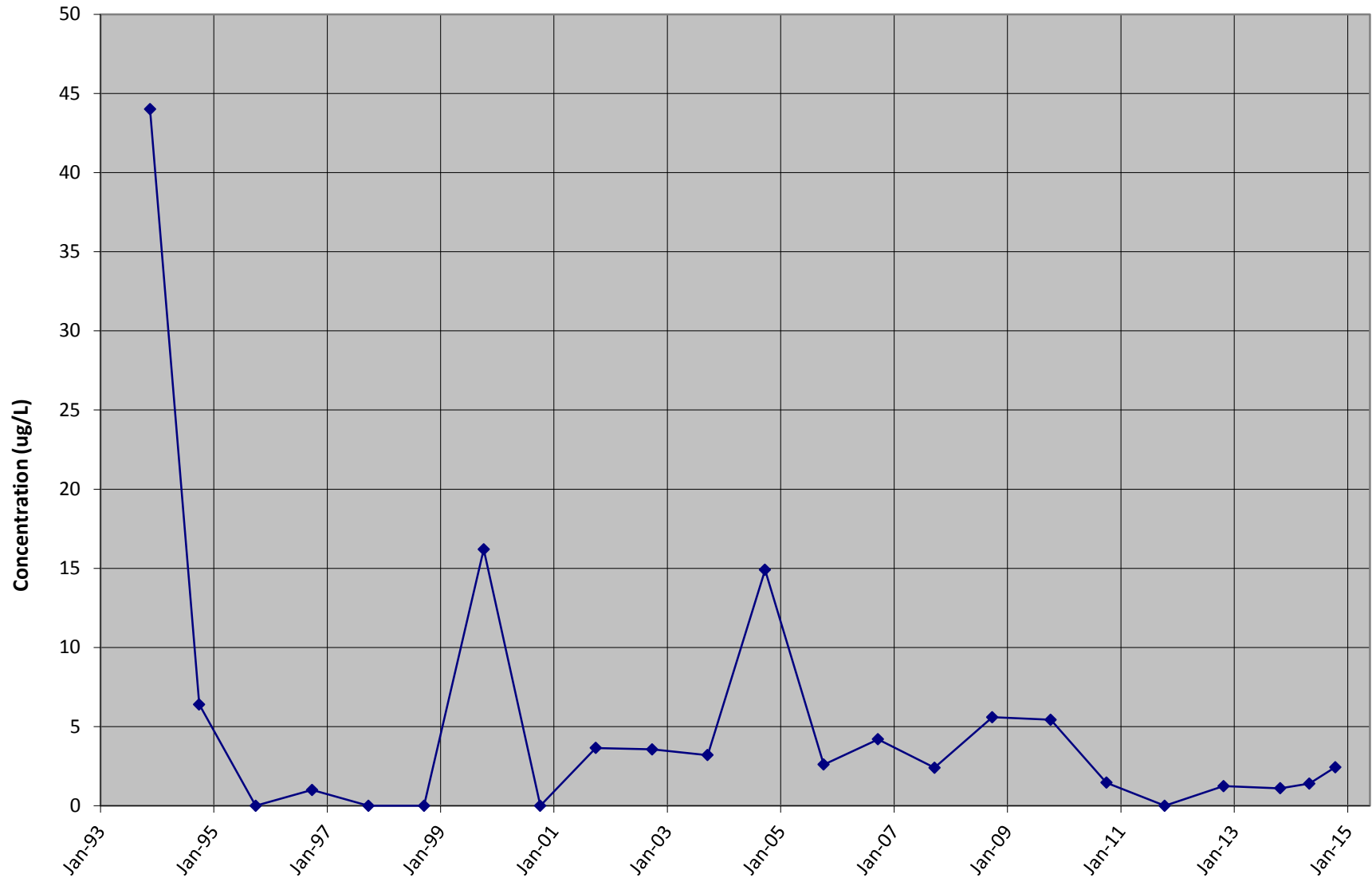
WC3B TVOC



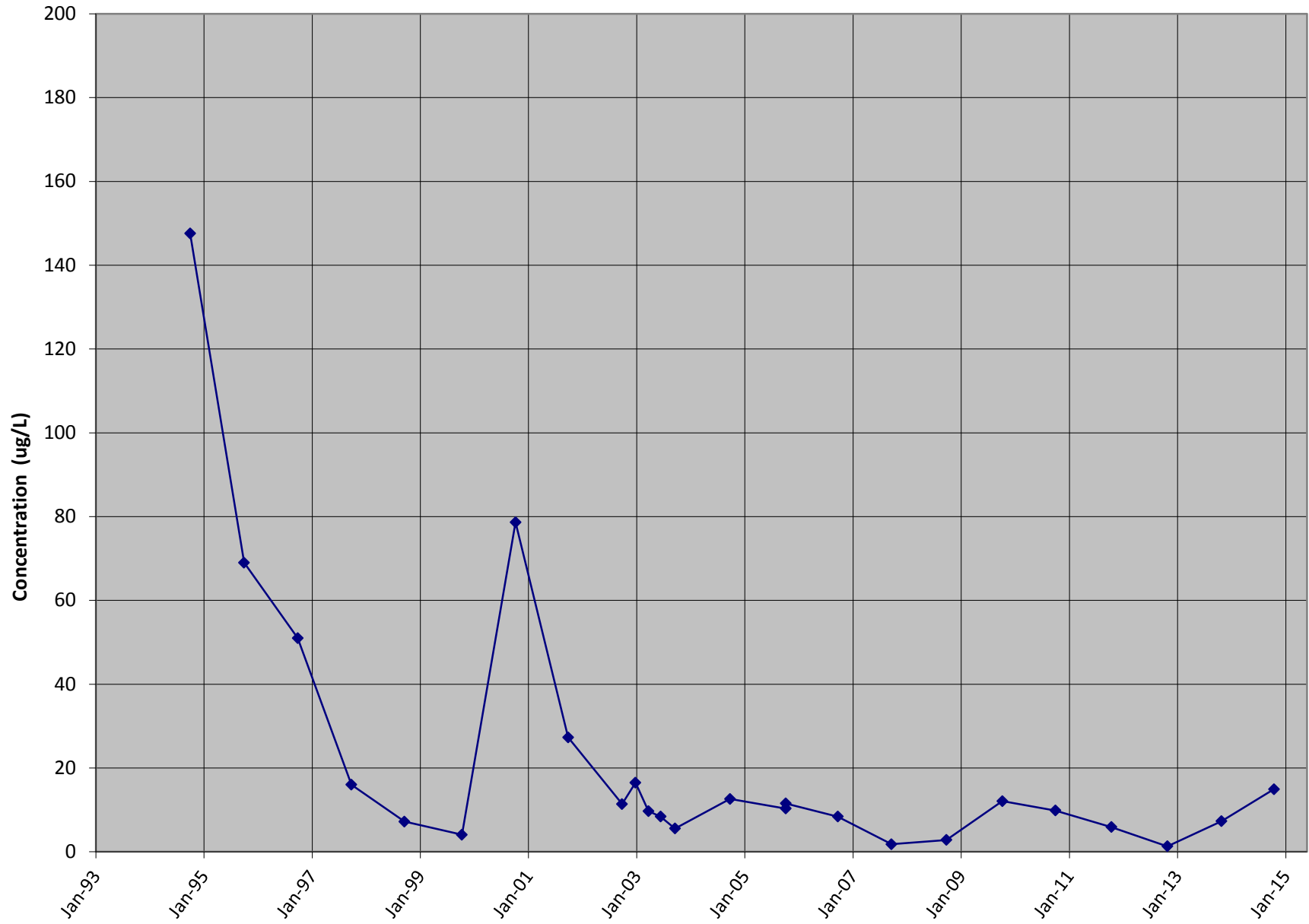
C2S TCVOC



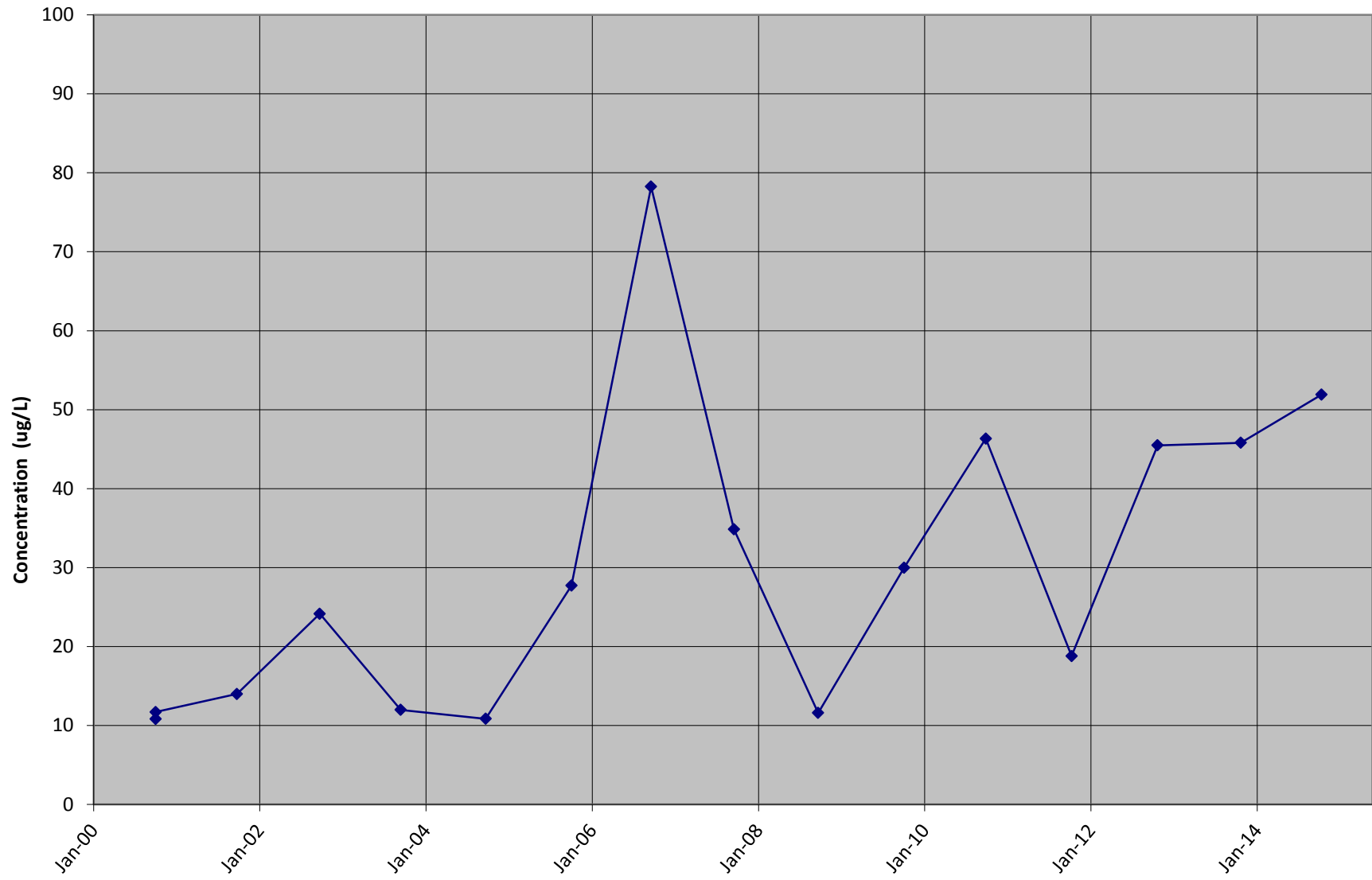
C4S TCVOC



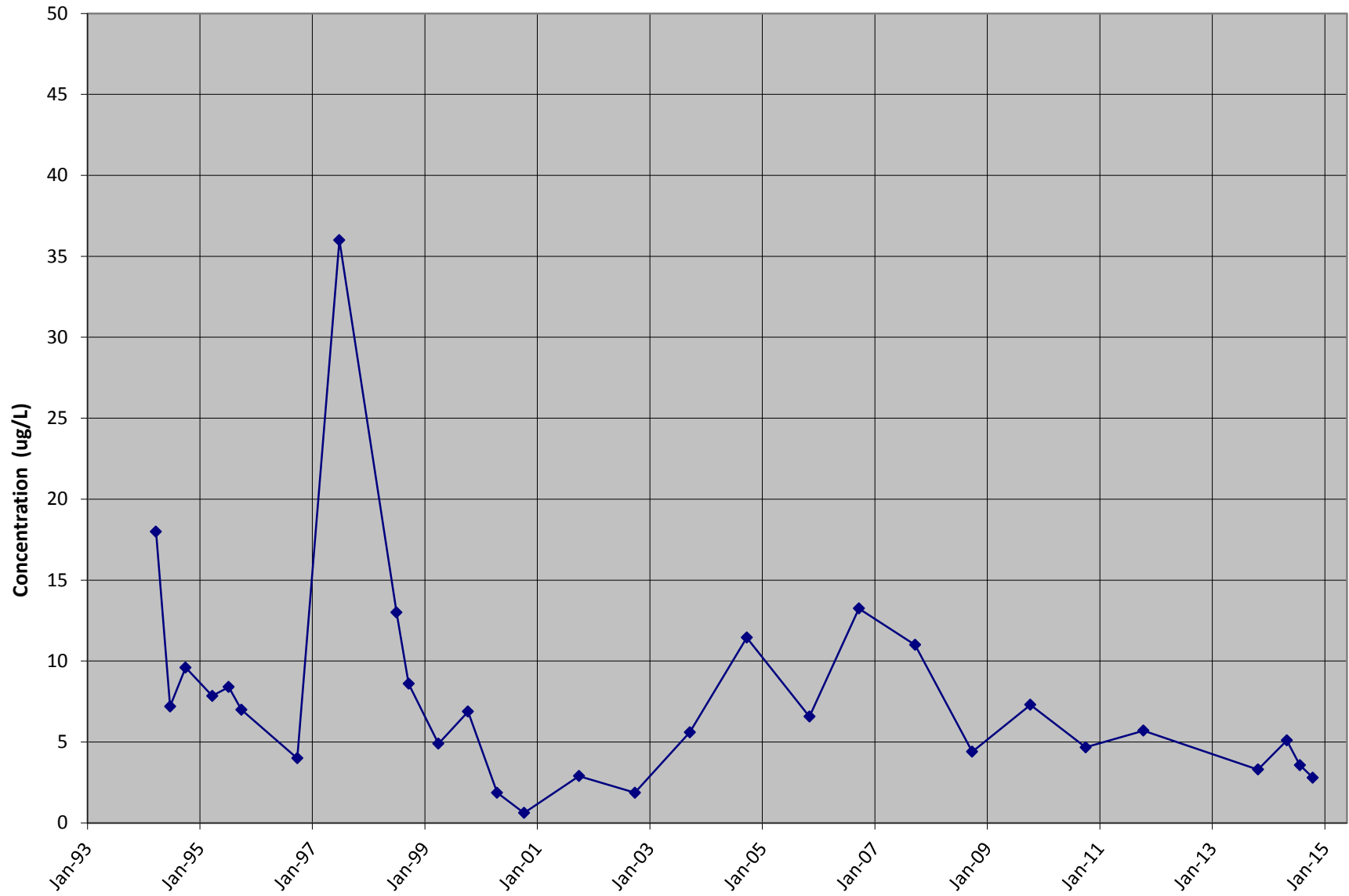
WC5A TCVOC



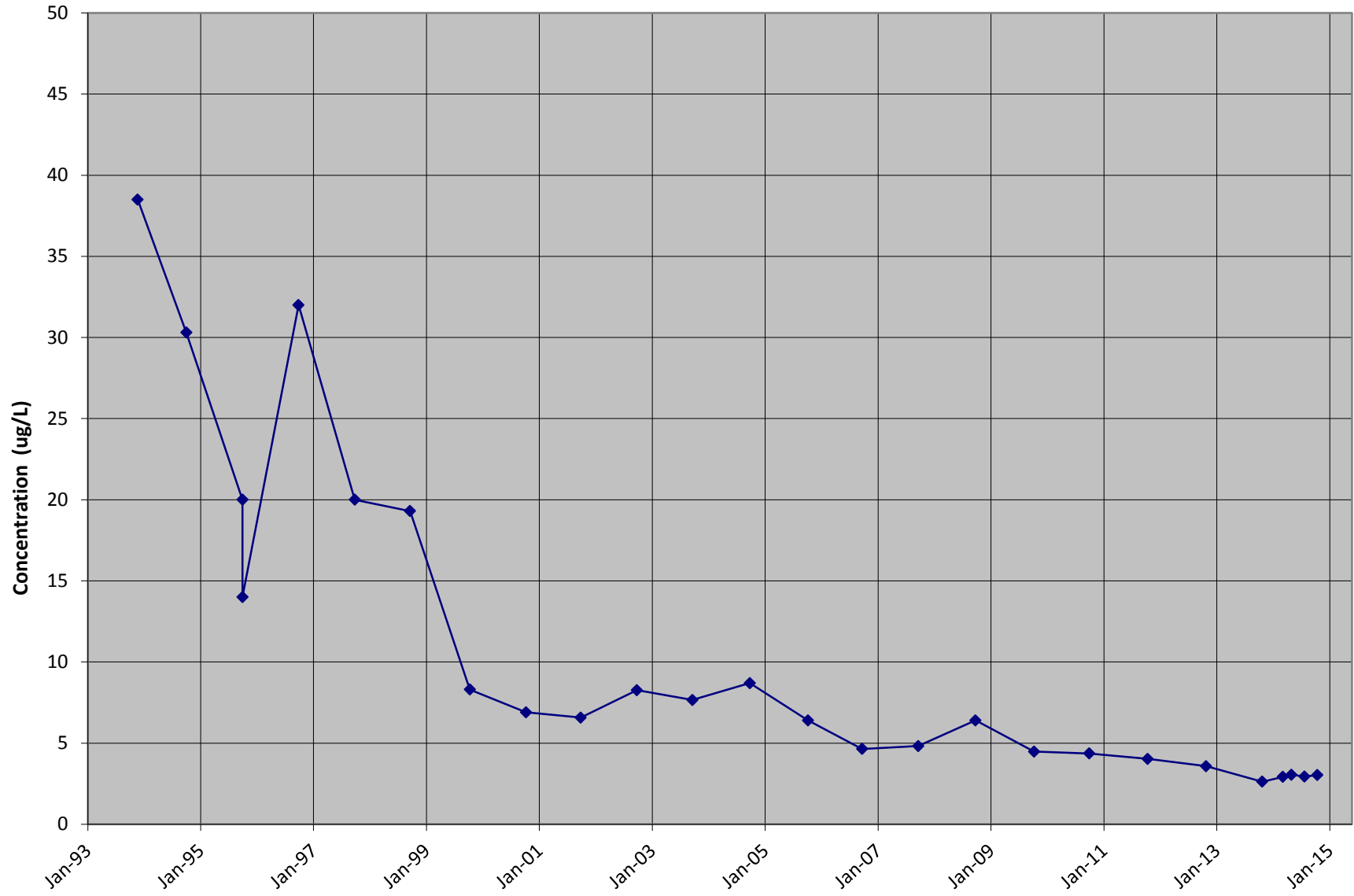
WW6 TCVOC



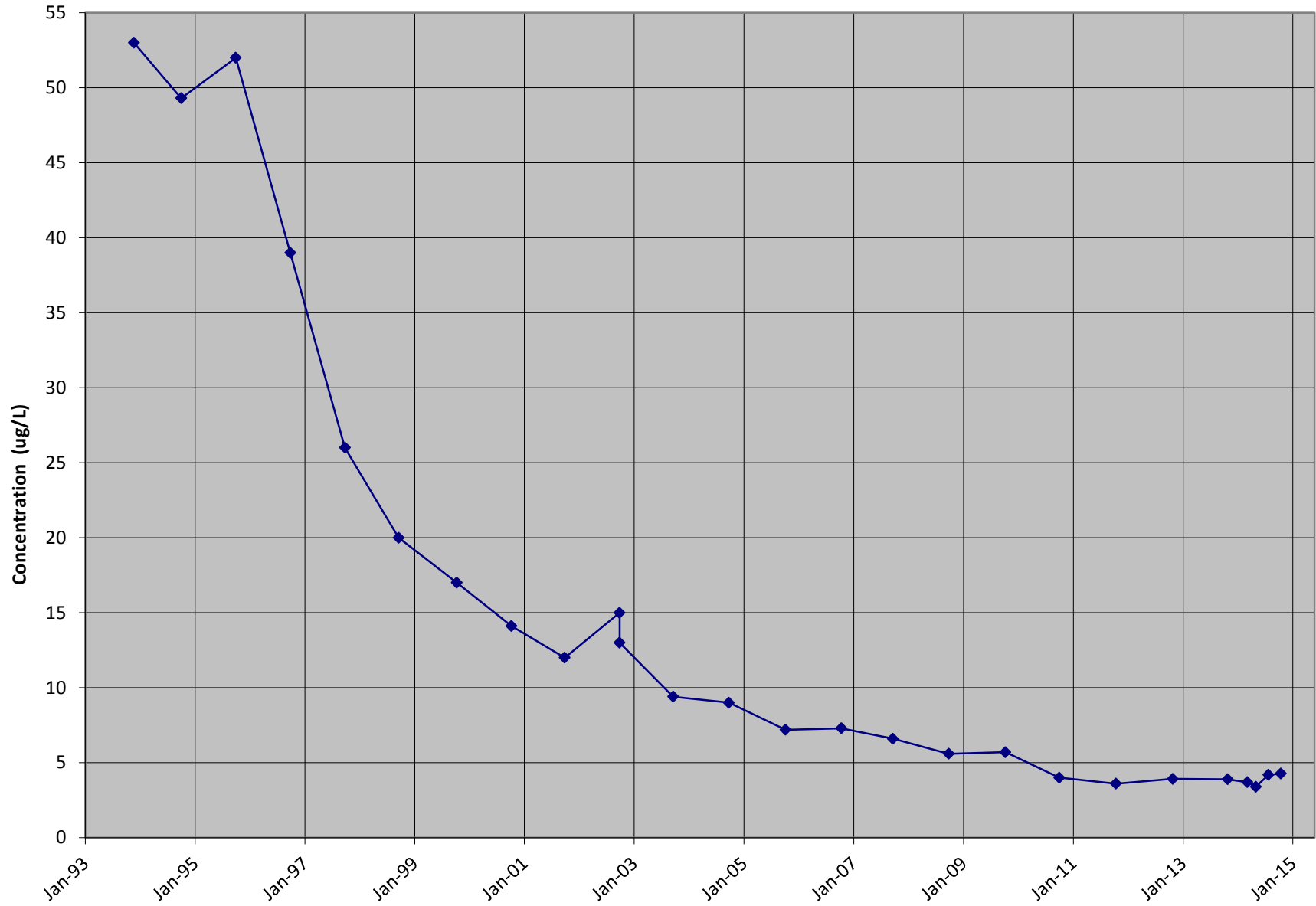
IWD TCVOC



CW3 TCVOC



CW6 TCVOC



Appendix C
City of Wausau Treatment Plant
Laboratory Reports

NORTHERN LAKE SERVICE, INC.
 Analytical Laboratory and Environmental Services
 400 North Lake Avenue - Crandon, WI 54520
 Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
 WDATCP Laboratory Certification No. 105-330
 EPA Laboratory ID No. WI00034

Printed: 04/29/14 Code: NNNN-S Page 1 of 1

Client: Wausau Waterworks
 Attn: Dick Boers
 Drinking Water Division
 407 Grant Street
 Wausau, WI 54403 4783

NLS Project: 209912

NLS Customer: 36394

Fax: 715 261 6946 **Phone:** 715 261 7288

Project: 2013 Drinking Water VOCs PWS#73701023

EP 300 - VOC NLS ID: 760889

COC: 166319:1 Matrix: DW
 Collected: 12/03/13 07:02 Received: 12/03/13

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					12/09/13	EPA 524.2, Rev 4.1	721026460

EP 200 - VOC NLS ID: 760890

COC: 166319:2 Matrix: DW
 Collected: 12/03/13 11:05 Received: 12/03/13

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					12/05/13	EPA 524.2, Rev 4.1	721026460

Trip Blank NLS ID: 760891

COC: 166319 Matrix: TB
 Collected: 12/03/13 00:00 Received: 12/03/13

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					12/05/13	EPA 524.2, Rev 4.1	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and/or LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dilution.

LOD = Limit of Detection LOQ = Limit of Quantitation ND = Not Detected (< LOD) 1000 ug/L = 1 mg/L
 DWB = Dry Weight Basis NA = Not Applicable %DWB = (mg/kg DWB) / 10000
 MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:



Authorized by:
 R. T. Krueger
 President

NORTHERN LAKE SERVICE, INC.
 Analytical Laboratory and Environmental Services
 400 North Lake Avenue - Crandon, WI 54520
 Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
 WDATCP Laboratory Certification No. 105-330
 EPA Laboratory ID No. WI00034

Printed: 03/21/14 Code: NNNN-S Page 1 of 1

Client: **Wausau Waterworks**
 Attn: Dick Boers
 Drinking Water Division
 407 Grant Street
 Wausau, WI 54403 4783

NLS Project: **214554**

NLS Customer: **36394**

Fax: 715 261 6946 Phone: 715 261 7288

Project: 2014 Volatiles PWS#73701023

200 NLS ID: 774544

COC: 173932:1 Matrix: DW

Collected: 03/13/14 07:05 Received: 03/13/14

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					03/20/14	EPA 524.2, Rev 4.1	721026460

300 NLS ID: 774545

COC: 173932:2 Matrix: DW

Collected: 03/13/14 11:11 Received: 03/13/14

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					03/20/14	EPA 524.2, Rev 4.1	721026460

Trip Blank NLS ID: 774546

COC: 173932 Matrix: TB

Collected: 03/13/14 00:00 Received: 03/13/14

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					03/19/14	EPA 524.2, Rev 4.1	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and/or LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dilution.

LOD = Limit of Detection LOQ = Limit of Quantitation ND = Not Detected (< LOD) 1000 ug/L = 1 mg/L
 DWB = Dry Weight Basis NA = Not Applicable %DWB = (mg/kg DWB) / 10000
 MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:



Authorized by:
 R. T. Krueger
 President

ANALYTICAL RESULTS: GCMS 524.2, Rev 4.1 Safe Drinking Water Analysis - DNR Form

Page 1 of 3

Customer: Wausau Waterworks NLS Project: 214554

Project Description: 2014 Volatiles

Project Title: PWS#73701023

Template: AGIDNRL Printed: 03/21/2014 09:51

Sample: 774544 200 Collected: 03/13/14 Analyzed: 03/19/14 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.22	0.72	5	
Bromobenzene	ND	ug/L	1	0.17	0.57		
Bromodichloromethane	0.70	ug/L	1	0.15	0.49	80	
Bromoform	ND	ug/L	1	0.16	0.53	80	
Bromomethane	ND	ug/L	1	0.26	0.85		
Carbon Tetrachloride	ND	ug/L	1	0.20	0.66	5	
Chloroethane	ND	ug/L	1	0.94	3.1		
Chloroform	22	ug/L	2	0.39	1.4	80	
Chloromethane	ND	ug/L	1	0.16	0.53		
o-Chlorotoluene	ND	ug/L	1	0.18	0.59		
p-Chlorotoluene	ND	ug/L	1	0.19	0.63		
Dibromochloromethane	ND	ug/L	1	0.15	0.49	80	
Dibromomethane	ND	ug/L	1	0.22	0.74		
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.21	0.69		
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.57	600	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.17	0.56	75	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.65		
1,2-Dichloroethane	ND	ug/L	1	0.16	0.54	5	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.68	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.19	0.65	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.14	0.45	100	
Dichloromethane	ND	ug/L	1	0.19	0.63	5	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.78	5	
1,3-Dichloropropane	ND	ug/L	1	0.19	0.63		
2,2-Dichloropropane	ND	ug/L	1	0.14	0.46		
1,1-Dichloropropene	ND	ug/L	1	0.10	0.32		
1,3-Dichloropropene	ND	ug/L	1	0.36	1.2		
Ethylbenzene	ND	ug/L	1	0.19	0.64	700	
Chlorobenzene	ND	ug/L	1	0.19	0.63	100	
Styrene	ND	ug/L	1	0.17	0.56	100	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.18	0.59		
1,1,2,2-Tetrachloroethane	ND	ug/L	1	0.15	0.49		
Tetrachloroethene	ND	ug/L	1	0.18	0.61	5	
Toluene	ND	ug/L	1	0.18	0.59	1000	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.19	0.62	70	
1,1,1-Trichloroethane	ND	ug/L	1	0.15	0.51	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.20	0.65	5	
Trichloroethene	ND	ug/L	1	0.11	0.36	5	
1,2,3-Trichloropropane	ND	ug/L	1	0.19	0.62		
Vinyl chloride	ND	ug/L	1	0.18	0.61	2	
Xylene total	ND	ug/L	1	0.53	1.8	10000	
4-Bromofluorobenzene (SURR)	81%						S
1,2-Dichlorobenzene-d4 (SURR)	87%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

Customer: Wausau Waterworks NLS Project: 214554

Project Description: 2014 Volatiles

Project Title: PWS#73701023

Template: AGIDNRL Printed: 03/21/2014 09:51

Sample: 774545 300 Collected: 03/13/14 Analyzed: 03/19/14 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.22	0.72	5	
Bromobenzene	ND	ug/L	1	0.17	0.57		
Bromodichloromethane	0.67	ug/L	1	0.15	0.49	80	
Bromoform	ND	ug/L	1	0.16	0.53	80	
Bromomethane	ND	ug/L	1	0.26	0.85		
Carbon Tetrachloride	ND	ug/L	1	0.20	0.66	5	
Chloroethane	ND	ug/L	1	0.94	3.1		
Chloroform	20	ug/L	2	0.39	1.4	80	
Chloromethane	ND	ug/L	1	0.16	0.53		
o-Chlorotoluene	ND	ug/L	1	0.18	0.59		
p-Chlorotoluene	ND	ug/L	1	0.19	0.63		
Dibromochloromethane	ND	ug/L	1	0.15	0.49	80	
Dibromomethane	ND	ug/L	1	0.22	0.74		
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.21	0.69		
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.57	600	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.17	0.56	75	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.65		
1,2-Dichloroethane	ND	ug/L	1	0.16	0.54	5	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.68	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.19	0.65	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.14	0.45	100	
Dichloromethane	ND	ug/L	1	0.19	0.63	5	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.78	5	
1,3-Dichloropropane	ND	ug/L	1	0.19	0.63		
2,2-Dichloropropane	ND	ug/L	1	0.14	0.46		
1,1-Dichloropropene	ND	ug/L	1	0.10	0.32		
1,3-Dichloropropene	ND	ug/L	1	0.36	1.2		
Ethylbenzene	ND	ug/L	1	0.19	0.64	700	
Chlorobenzene	ND	ug/L	1	0.19	0.63	100	
Styrene	ND	ug/L	1	0.17	0.56	100	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.18	0.59		
1,1,2,2-Tetrachloroethane	ND	ug/L	1	0.15	0.49		
Tetrachloroethene	ND	ug/L	1	0.18	0.61	5	
Toluene	ND	ug/L	1	0.18	0.59	1000	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.19	0.62	70	
1,1,1-Trichloroethane	ND	ug/L	1	0.15	0.51	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.20	0.65	5	
Trichloroethene	ND	ug/L	1	0.11	0.36	5	
1,2,3-Trichloropropane	ND	ug/L	1	0.19	0.62		
Vinyl chloride	ND	ug/L	1	0.18	0.61	2	
Xylene total	ND	ug/L	1	0.53	1.8	10000	
4-Bromofluorobenzene (SURR)	81%						S
1,2-Dichlorobenzene-d4 (SURR)	89%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

Customer: Wausau Waterworks NLS Project: 214554

Project Description: 2014 Volatiles

Project Title: PWS#73701023

Template: AGIDNRL Printed: 03/21/2014 09:51

Sample: 774546 Trip Blank Collected: 03/13/14 Analyzed: 03/19/14 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	Note
Benzene	ND	ug/L	1	0.22	0.72	
Bromobenzene	ND	ug/L	1	0.17	0.57	
Bromodichloromethane	ND	ug/L	1	0.15	0.49	
Bromoform	ND	ug/L	1	0.16	0.53	
Bromomethane	ND	ug/L	1	0.26	0.85	
Carbon Tetrachloride	ND	ug/L	1	0.20	0.66	
Chloroethane	ND	ug/L	1	0.94	3.1	
Chloroform	ND	ug/L	1	0.19	0.62	
Chloromethane	ND	ug/L	1	0.16	0.53	
o-Chlorotoluene	ND	ug/L	1	0.18	0.59	
p-Chlorotoluene	ND	ug/L	1	0.19	0.63	
Dibromochloromethane	ND	ug/L	1	0.15	0.49	
Dibromomethane	ND	ug/L	1	0.22	0.74	
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.21	0.69	
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.57	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.17	0.56	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.65	
1,2-Dichloroethane	ND	ug/L	1	0.16	0.54	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.68	
cis-1,2-Dichloroethene	ND	ug/L	1	0.19	0.65	
trans-1,2-Dichloroethene	ND	ug/L	1	0.14	0.45	
Dichloromethane	ND	ug/L	1	0.19	0.63	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.78	
1,3-Dichloropropane	ND	ug/L	1	0.19	0.63	
2,2-Dichloropropane	ND	ug/L	1	0.14	0.46	
1,1-Dichloropropene	ND	ug/L	1	0.10	0.32	
1,3-Dichloropropene	ND	ug/L	1	0.36	1.2	
Ethylbenzene	ND	ug/L	1	0.19	0.64	
Chlorobenzene	ND	ug/L	1	0.19	0.63	
Styrene	ND	ug/L	1	0.17	0.56	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.18	0.59	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.15	0.49	
Tetrachloroethene	ND	ug/L	1	0.18	0.61	
Toluene	ND	ug/L	1	0.18	0.59	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.19	0.62	
1,1,1-Trichloroethane	ND	ug/L	1	0.15	0.51	
1,1,2-Trichloroethane	ND	ug/L	1	0.20	0.65	
Trichloroethene	ND	ug/L	1	0.11	0.36	
1,2,3-Trichloropropane	ND	ug/L	1	0.19	0.62	
Vinyl chloride	ND	ug/L	1	0.18	0.61	
Xylene total	ND	ug/L	1	0.53	1.8	
4-Bromofluorobenzene (SURR)	78%					S
1,2-Dichlorobenzene-d4 (SURR)	85%					S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

Customer: Wausau Waterworks NLS Project: 209912

Project Description: 2013 Drinking Water VOCs

Project Title: PWS#73701023

Template: SAT3DNRL Printed: 04/29/2014 11:31

Sample: 760889 EP 300 - VOC Collected: 12/03/13 Analyzed: 12/05/13 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.17	0.60	5	
Bromobenzene	ND	ug/L	1	0.18	0.64		
Bromodichloromethane	3.5	ug/L	1	0.18	0.64	80	
Bromoform	ND	ug/L	1	0.17	0.60	80	
Bromomethane	ND	ug/L	1	0.36	1.3		
Carbon Tetrachloride	ND	ug/L	1	0.24	0.85	5	
Chloroethane	ND	ug/L	1	1.3	4.6		
Chloroform	23	ug/L	2.5	0.49	1.7	80	
Chloromethane	ND	ug/L	1	0.14	0.51		
o-Chlorotoluene	ND	ug/L	1	0.15	0.55		
p-Chlorotoluene	ND	ug/L	1	0.19	0.66		
Dibromochloromethane	[0.27]	ug/L	1	0.15	0.53	80	
Dibromomethane	ND	ug/L	1	0.21	0.75		
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.20	0.71		
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.61	600	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.14	0.47	75	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.68		
1,2-Dichloroethane	ND	ug/L	1	0.23	0.80	5	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.75	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.13	0.47	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.16	0.55	100	
Dichloromethane	ND	ug/L	1	0.17	0.61	5	
1,2-Dichloropropane	ND	ug/L	1	0.26	0.92	5	
1,3-Dichloropropane	ND	ug/L	1	0.26	0.91		
2,2-Dichloropropane	ND	ug/L	1	0.17	0.62		
1,1-Dichloropropene	ND	ug/L	1	0.16	0.55		
1,3-Dichloropropene	ND	ug/L	1	0.35	1.2		
Ethylbenzene	ND	ug/L	1	0.15	0.51	700	
Chlorobenzene	[0.26]	ug/L	1	0.19	0.69	100	
Styrene	ND	ug/L	1	0.20	0.68	100	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.17	0.59		
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.15	0.55		
Tetrachloroethene	ND	ug/L	1	0.18	0.62	5	
Toluene	ND	ug/L	1	0.14	0.48	1000	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.15	0.51	70	
1,1,1-Trichloroethane	ND	ug/L	1	0.11	0.37	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.22	0.78	5	
Trichloroethene	ND	ug/L	1	0.19	0.66	5	
1,2,3-Trichloropropane	ND	ug/L	1	0.25	0.87		
Vinyl chloride	ND	ug/L	1	0.19	0.67	.2	
Xylene total	ND	ug/L	1	0.53	1.9	10000	
4-Bromofluorobenzene (SURR)	86%						S
1,2-Dichlorobenzene-d4 (SURR)	96%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

Customer: Wausau Waterworks NLS Project: 209912

Project Description: 2013 Drinking Water VOCs

Project Title: PWS#73701023

Template: SAT3DNRL Printed: 04/29/2014 11:31

Sample: 760890 EP 200 - VOC Collected: 12/03/13 Analyzed: 12/05/13 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.17	0.60	5	
Bromobenzene	ND	ug/L	1	0.18	0.64		
Bromodichloromethane	1.5	ug/L	1	0.18	0.64	80	
Bromoform	ND	ug/L	1	0.17	0.60	80	
Bromomethane	ND	ug/L	1	0.36	1.3		
Carbon Tetrachloride	ND	ug/L	1	0.24	0.85	5	
Chloroethane	ND	ug/L	1	1.3	4.6		
Chloroform	15	ug/L	1	0.20	0.70	80	
Chloromethane	ND	ug/L	1	0.14	0.51		
o-Chlorotoluene	ND	ug/L	1	0.15	0.55		
p-Chlorotoluene	ND	ug/L	1	0.19	0.66		
Dibromochloromethane	ND	ug/L	1	0.15	0.53	80	
Dibromomethane	ND	ug/L	1	0.21	0.75		
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.20	0.71		
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.61	600	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.14	0.47	75	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.68		
1,2-Dichloroethane	ND	ug/L	1	0.23	0.80	5	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.75	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.13	0.47	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.16	0.55	100	
Dichloromethane	ND	ug/L	1	0.17	0.61	5	
1,2-Dichloropropane	ND	ug/L	1	0.26	0.92	5	
1,3-Dichloropropane	ND	ug/L	1	0.26	0.91		
2,2-Dichloropropane	ND	ug/L	1	0.17	0.62		
1,1-Dichloropropene	ND	ug/L	1	0.16	0.55		
1,3-Dichloropropene	ND	ug/L	1	0.35	1.2		
Ethylbenzene	ND	ug/L	1	0.15	0.51	700	
Chlorobenzene	[0.29]	ug/L	1	0.19	0.69	100	
Styrene	ND	ug/L	1	0.20	0.68	100	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.17	0.59		
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.15	0.55		
Tetrachloroethene	ND	ug/L	1	0.18	0.62	5	
Toluene	ND	ug/L	1	0.14	0.48	1000	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.15	0.51	70	
1,1,1-Trichloroethane	ND	ug/L	1	0.11	0.37	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.22	0.78	5	
Trichloroethene	ND	ug/L	1	0.19	0.66	5	
1,2,3-Trichloropropane	ND	ug/L	1	0.25	0.87		
Vinyl chloride	ND	ug/L	1	0.19	0.67	.2	
Xylene total	ND	ug/L	1	0.53	1.9	10000	
4-Bromofluorobenzene (SURR)	86%						S
1,2-Dichlorobenzene-d4 (SURR)	96%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

Customer: Wausau Waterworks NLS Project: 209912

Project Description: 2013 Drinking Water VOCs

Project Title: PWS#73701023

Template: SAT3DNRL Printed: 04/29/2014 11:31

Sample: 760891 Trip Blank Collected: 12/03/13 Analyzed: 12/05/13 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	Note
Benzene	ND	ug/L	1	0.17	0.60	
Bromobenzene	ND	ug/L	1	0.18	0.64	
Bromodichloromethane	ND	ug/L	1	0.18	0.64	
Bromoform	ND	ug/L	1	0.17	0.60	
Bromomethane	ND	ug/L	1	0.36	1.3	
Carbon Tetrachloride	ND	ug/L	1	0.24	0.85	
Chloroethane	ND	ug/L	1	1.3	4.6	
Chloroform	ND	ug/L	1	0.20	0.70	
Chloromethane	ND	ug/L	1	0.14	0.51	
o-Chlorotoluene	ND	ug/L	1	0.15	0.55	
p-Chlorotoluene	ND	ug/L	1	0.19	0.66	
Dibromochloromethane	ND	ug/L	1	0.15	0.53	
Dibromomethane	ND	ug/L	1	0.21	0.75	
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.20	0.71	
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.61	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.14	0.47	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.68	
1,2-Dichloroethane	ND	ug/L	1	0.23	0.80	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.75	
cis-1,2-Dichloroethene	ND	ug/L	1	0.13	0.47	
trans-1,2-Dichloroethene	ND	ug/L	1	0.16	0.55	
Dichloromethane	ND	ug/L	1	0.17	0.61	
1,2-Dichloropropane	ND	ug/L	1	0.26	0.92	
1,3-Dichloropropane	ND	ug/L	1	0.26	0.91	
2,2-Dichloropropane	ND	ug/L	1	0.17	0.62	
1,1-Dichloropropene	ND	ug/L	1	0.16	0.55	
1,3-Dichloropropene	ND	ug/L	1	0.35	1.2	
Ethylbenzene	ND	ug/L	1	0.15	0.51	
Chlorobenzene	ND	ug/L	1	0.19	0.69	
Styrene	ND	ug/L	1	0.20	0.68	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.17	0.59	
1,1,1,2,2-Tetrachloroethane	ND	ug/L	1	0.15	0.55	
Tetrachloroethene	ND	ug/L	1	0.18	0.62	
Toluene	ND	ug/L	1	0.14	0.48	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.15	0.51	
1,1,1-Trichloroethane	ND	ug/L	1	0.11	0.37	
1,1,2-Trichloroethane	ND	ug/L	1	0.22	0.78	
Trichloroethene	ND	ug/L	1	0.19	0.66	
1,2,3-Trichloropropane	ND	ug/L	1	0.25	0.87	
Vinyl chloride	ND	ug/L	1	0.19	0.67	
Xylene total	ND	ug/L	1	0.53	1.9	
4-Bromofluorobenzene (SURR)	81%					S
1,2-Dichlorobenzene-d4 (SURR)	83%					S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

NORTHERN LAKE SERVICE, INC.
 Analytical Laboratory and Environmental Services
 400 North Lake Avenue - Crandon, WI 54520
 Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
 WDATCP Laboratory Certification No. 105-330
 EPA Laboratory ID No. WI00034

Printed: 05/27/14 Code: NNNN-S Page 1 of 1

Client: **Wausau Waterworks**
 Attn: Dick Boers
 Drinking Water Division
 407 Grant Street
 Wausau, WI 54403 4783

NLS Project: **219016**

NLS Customer: **36394**

Fax: 715 261 6946 Phone: 715 261 7288

Project: **2014 Drinking Water VOCs PWS#73701023**

200 NLS ID: 789472

COC: 143816:1 Matrix: DW

Collected: 05/16/14 07:03 Received: 05/16/14

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					05/23/14	EPA 524.2, Rev 4.1	721026460

300 NLS ID: 789473

COC: 143816:2 Matrix: DW

Collected: 05/16/14 11:10 Received: 05/16/14

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					05/23/14	EPA 524.2, Rev 4.1	721026460

Trip Blank NLS ID: 789474

COC: 143816 Matrix: TB

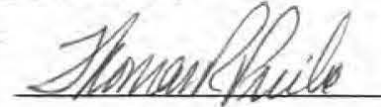
Collected: 05/16/14 00:00 Received: 05/16/14

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					05/24/14	EPA 524.2, Rev 4.1	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and/or LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dilution.

LOD = Limit of Detection LOQ = Limit of Quantitation ND = Not Detected (< LOD) 1000 ug/L = 1 mg/L
 DWB = Dry Weight Basis NA = Not Applicable %DWB = (mg/kg DWB) / 10000
 MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:



Authorized by:
 R. T. Krueger
 President

Customer: Wausau Waterworks NLS Project: 219016

Project Description: 2014 Drinking Water VOCs

Project Title: PWS#73701023

Template: AGIDNRL Printed: 05/27/2014 11:24

Sample: 789474 Trip Blank Collected: 05/16/14 Analyzed: 05/24/14 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	Note
Benzene	ND	ug/L	1	0.22	0.72	
Bromobenzene	ND	ug/L	1	0.17	0.57	
Bromodichloromethane	ND	ug/L	1	0.15	0.49	
Bromoform	ND	ug/L	1	0.16	0.53	
Bromomethane	ND	ug/L	1	0.26	0.85	
Carbon Tetrachloride	ND	ug/L	1	0.20	0.66	
Chloroethane	ND	ug/L	1	0.94	3.1	
Chloroform	ND	ug/L	1	0.19	0.62	
Chloromethane	ND	ug/L	1	0.16	0.53	
o-Chlorotoluene	ND	ug/L	1	0.18	0.59	
p-Chlorotoluene	ND	ug/L	1	0.19	0.63	
Dibromochloromethane	ND	ug/L	1	0.15	0.49	
Dibromomethane	ND	ug/L	1	0.22	0.74	
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.21	0.69	
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.57	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.17	0.56	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.65	
1,2-Dichloroethane	ND	ug/L	1	0.16	0.54	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.68	
cis-1,2-Dichloroethene	ND	ug/L	1	0.19	0.65	
trans-1,2-Dichloroethene	ND	ug/L	1	0.14	0.45	
Dichloromethane	ND	ug/L	1	0.19	0.63	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.78	
1,3-Dichloropropane	ND	ug/L	1	0.19	0.63	
2,2-Dichloropropane	ND	ug/L	1	0.14	0.46	
1,1-Dichloropropene	ND	ug/L	1	0.10	0.32	
1,3-Dichloropropene	ND	ug/L	1	0.36	1.2	
Ethylbenzene	ND	ug/L	1	0.19	0.64	
Chlorobenzene	ND	ug/L	1	0.19	0.63	
Styrene	ND	ug/L	1	0.17	0.56	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.18	0.59	
1,1,1,2,2-Tetrachloroethane	ND	ug/L	1	0.15	0.49	
Tetrachloroethene	ND	ug/L	1	0.18	0.61	
Toluene	ND	ug/L	1	0.18	0.59	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.19	0.62	
1,1,1-Trichloroethane	ND	ug/L	1	0.15	0.51	
1,1,2-Trichloroethane	ND	ug/L	1	0.20	0.65	
Trichloroethene	ND	ug/L	1	0.11	0.36	
1,2,3-Trichloropropane	ND	ug/L	1	0.19	0.62	
Vinyl chloride	ND	ug/L	1	0.18	0.61	
Xylene total	ND	ug/L	1	0.53	1.8	
4-Bromofluorobenzene (SURR)	75%					S
1,2-Dichlorobenzene-d4 (SURR)	75%					S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: GCMS 524.2, Rev 4.1 Safe Drinking Water Analysis - DNR Form

Customer: Wausau Waterworks NLS Project: 219016

Project Description: 2014 Drinking Water VOCs

Project Title: PWS#73701023

Template: SAT3DNRL Printed: 05/27/2014 11:24

Sample: 789472 200 Collected: 05/16/14 Analyzed: 05/23/14 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.17	0.60	5	
Bromobenzene	ND	ug/L	1	0.18	0.64		
Bromodichloromethane	0.67	ug/L	1	0.18	0.64	80	
Bromoform	ND	ug/L	1	0.17	0.60	80	
Bromomethane	ND	ug/L	1	0.36	1.3		
Carbon Tetrachloride	ND	ug/L	1	0.24	0.85	5	
Chloroethane	ND	ug/L	1	1.3	4.6		
Chloroform	13	ug/L	1	0.20	0.70	80	
Chloromethane	ND	ug/L	1	0.14	0.51		
o-Chlorotoluene	ND	ug/L	1	0.15	0.55		
p-Chlorotoluene	ND	ug/L	1	0.19	0.66		
Dibromochloromethane	ND	ug/L	1	0.15	0.53	80	
Dibromomethane	ND	ug/L	1	0.21	0.75		
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.20	0.71		
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.61	600	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.14	0.47	75	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.68		
1,2-Dichloroethane	ND	ug/L	1	0.23	0.80	5	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.75	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.13	0.47	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.16	0.55	100	
Dichloromethane	ND	ug/L	1	0.17	0.61	5	
1,2-Dichloropropane	ND	ug/L	1	0.26	0.92	5	
1,3-Dichloropropane	ND	ug/L	1	0.26	0.91		
2,2-Dichloropropane	ND	ug/L	1	0.17	0.62		
1,1-Dichloropropene	ND	ug/L	1	0.16	0.55		
1,3-Dichloropropene	ND	ug/L	1	0.35	1.2		
Ethylbenzene	ND	ug/L	1	0.15	0.51	700	
Chlorobenzene	ND	ug/L	1	0.19	0.69	100	
Styrene	ND	ug/L	1	0.20	0.68	100	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.17	0.59		
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.15	0.55		
Tetrachloroethene	ND	ug/L	1	0.18	0.62	5	
Toluene	ND	ug/L	1	0.14	0.48	1000	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.15	0.51	70	
1,1,1-Trichloroethane	ND	ug/L	1	0.11	0.37	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.22	0.78	5	
Trichloroethene	ND	ug/L	1	0.19	0.66	5	
1,2,3-Trichloropropane	ND	ug/L	1	0.25	0.87		
Vinyl chloride	ND	ug/L	1	0.19	0.67	.2	
Xylene total	ND	ug/L	1	0.53	1.9	10000	
4-Bromofluorobenzene (SURR)	67%						S
1,2-Dichlorobenzene-d4 (SURR)	87%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

Customer: Wausau Waterworks NLS Project: 219016

Project Description: 2014 Drinking Water VOCs

Project Title: PWS#73701023

Template: SAT3DNRL Printed: 05/27/2014 11:24

Sample: 789473 300 Collected: 05/16/14 Analyzed: 05/23/14 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.17	0.60	5	
Bromobenzene	ND	ug/L	1	0.18	0.64		
Bromodichloromethane	[0.36]	ug/L	1	0.18	0.64	80	
Bromoform	ND	ug/L	1	0.17	0.60	80	
Bromomethane	ND	ug/L	1	0.36	1.3		
Carbon Tetrachloride	ND	ug/L	1	0.24	0.85	5	
Chloroethane	ND	ug/L	1	1.3	4.6		
Chloroform	13	ug/L	1	0.20	0.70	80	
Chloromethane	ND	ug/L	1	0.14	0.51		
o-Chlorotoluene	ND	ug/L	1	0.15	0.55		
p-Chlorotoluene	ND	ug/L	1	0.19	0.66		
Dibromochloromethane	ND	ug/L	1	0.15	0.53	80	
Dibromomethane	ND	ug/L	1	0.21	0.75		
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.20	0.71		
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.61	600	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.14	0.47	75	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.68		
1,2-Dichloroethane	ND	ug/L	1	0.23	0.80	5	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.75	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.13	0.47	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.16	0.55	100	
Dichloromethane	ND	ug/L	1	0.17	0.61	5	
1,2-Dichloropropane	ND	ug/L	1	0.26	0.92	5	
1,3-Dichloropropane	ND	ug/L	1	0.26	0.91		
2,2-Dichloropropane	ND	ug/L	1	0.17	0.62		
1,1-Dichloropropene	ND	ug/L	1	0.16	0.55		
1,3-Dichloropropene	ND	ug/L	1	0.35	1.2		
Ethylbenzene	ND	ug/L	1	0.15	0.51	700	
Chlorobenzene	ND	ug/L	1	0.19	0.69	100	
Styrene	ND	ug/L	1	0.20	0.68	100	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.17	0.59		
1,1,1,2,2-Tetrachloroethane	ND	ug/L	1	0.15	0.55		
Tetrachloroethene	ND	ug/L	1	0.18	0.62	5	
Toluene	ND	ug/L	1	0.14	0.48	1000	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.15	0.51	70	
1,1,1-Trichloroethane	ND	ug/L	1	0.11	0.37	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.22	0.78	5	
Trichloroethene	ND	ug/L	1	0.19	0.66	5	
1,2,3-Trichloropropane	ND	ug/L	1	0.25	0.87		
Vinyl chloride	ND	ug/L	1	0.19	0.67	2	
Xylene total	ND	ug/L	1	0.53	1.9	10000	
4-Bromofluorobenzene (SURR)	66%						S
1,2-Dichlorobenzene-d4 (SURR)	87%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: GCMS 524.2, Rev 4.1 Safe Drinking Water Analysis - DNR Form

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Customer: Wausau Waterworks NLS Project: 227065

Project Description: 2014 Drinking Water

Project Title: PWS#73701023

Template: AGIDNRL Printed: 10/08/2014 09:41

Sample: 817478 200 - VOC Collected: 09/11/14 Analyzed: 09/22/14 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.22	0.72	5	
Bromobenzene	ND	ug/L	1	0.17	0.57		
Bromodichloromethane	[0.21]	ug/L	1	0.15	0.49	80	
Bromoform	ND	ug/L	1	0.16	0.53	80	
Bromomethane	ND	ug/L	1	0.26	0.85		
Carbon Tetrachloride	ND	ug/L	1	0.20	0.66	5	
Chloroethane	ND	ug/L	1	0.94	3.1		
Chloroform	6.9	ug/L	1	0.19	0.62	80	
Chloromethane	ND	ug/L	1	0.16	0.53		
o-Chlorotoluene	ND	ug/L	1	0.18	0.59		
p-Chlorotoluene	ND	ug/L	1	0.19	0.63		
Dibromochloromethane	ND	ug/L	1	0.15	0.49	80	
Dibromomethane	ND	ug/L	1	0.22	0.74		
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.21	0.69		
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.57	600	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.17	0.56	75	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.65		
1,2-Dichloroethane	ND	ug/L	1	0.16	0.54	5	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.68	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.19	0.65	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.14	0.45	100	
Dichloromethane	ND	ug/L	1	0.19	0.63	5	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.78	5	
1,3-Dichloropropane	ND	ug/L	1	0.19	0.63		
2,2-Dichloropropane	ND	ug/L	1	0.14	0.46		
1,1-Dichloropropene	ND	ug/L	1	0.10	0.32		
1,3-Dichloropropene	ND	ug/L	1	0.36	1.2		
Ethylbenzene	ND	ug/L	1	0.19	0.64	700	
Chlorobenzene	ND	ug/L	1	0.19	0.63	100	
Styrene	ND	ug/L	1	0.17	0.56	100	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.18	0.59		
1,1,2,2-Tetrachloroethane	ND	ug/L	1	0.15	0.49		
Tetrachloroethene	ND	ug/L	1	0.18	0.61	5	
Toluene	ND	ug/L	1	0.18	0.59	1000	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.19	0.62	70	
1,1,1-Trichloroethane	ND	ug/L	1	0.15	0.51	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.20	0.65	5	
Trichloroethene	ND	ug/L	1	0.11	0.36	5	
1,2,3-Trichloropropane	ND	ug/L	1	0.19	0.62		
Vinyl chloride	ND	ug/L	1	0.18	0.61	2	
Xylene total	ND	ug/L	1	0.53	1.8	10000	
4-Bromofluorobenzene (SURR)	96%						S
1,2-Dichlorobenzene-d4 (SURR)	103%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: GCMS 524.2, Rev 4.1 Safe Drinking Water Analysis - DNR Form

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Customer: Wausau Waterworks NLS Project: 227065

Project Description: 2014 Drinking Water

Project Title: PWS#73701023

Template: AGIDNRL Printed: 10/08/2014 09:41

Sample: 817483 300 - VOC Collected: 09/11/14 Analyzed: 09/22/14 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.22	0.72	5	
Bromobenzene	ND	ug/L	1	0.17	0.57		
Bromodichloromethane	[0.19]	ug/L	1	0.15	0.49	80	
Bromoform	ND	ug/L	1	0.16	0.53	80	
Bromomethane	ND	ug/L	1	0.26	0.85		
Carbon Tetrachloride	ND	ug/L	1	0.20	0.66	5	
Chloroethane	ND	ug/L	1	0.94	3.1		
Chloroform	6.2	ug/L	1	0.19	0.62	80	
Chloromethane	ND	ug/L	1	0.16	0.53		
o-Chlorotoluene	ND	ug/L	1	0.18	0.59		
p-Chlorotoluene	ND	ug/L	1	0.19	0.63		
Dibromochloromethane	ND	ug/L	1	0.15	0.49	80	
Dibromomethane	ND	ug/L	1	0.22	0.74		
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.21	0.69		
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.57	600	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.17	0.56	75	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.65		
1,2-Dichloroethane	ND	ug/L	1	0.16	0.54	5	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.68	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.19	0.65	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.14	0.45	100	
Dichloromethane	ND	ug/L	1	0.19	0.63	5	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.78	5	
1,3-Dichloropropane	ND	ug/L	1	0.19	0.63		
2,2-Dichloropropane	ND	ug/L	1	0.14	0.46		
1,1-Dichloropropene	ND	ug/L	1	0.10	0.32		
1,3-Dichloropropene	ND	ug/L	1	0.36	1.2		
Ethylbenzene	ND	ug/L	1	0.19	0.64	700	
Chlorobenzene	ND	ug/L	1	0.19	0.63	100	
Styrene	ND	ug/L	1	0.17	0.56	100	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.18	0.59		
1,1,2,2-Tetrachloroethane	ND	ug/L	1	0.15	0.49		
Tetrachloroethene	ND	ug/L	1	0.18	0.61	5	
Toluene	ND	ug/L	1	0.18	0.59	1000	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.19	0.62	70	
1,1,1-Trichloroethane	ND	ug/L	1	0.15	0.51	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.20	0.65	5	
Trichloroethene	ND	ug/L	1	0.11	0.36	5	
1,2,3-Trichloropropane	ND	ug/L	1	0.19	0.62		
Vinyl chloride	ND	ug/L	1	0.18	0.61	.2	
Xylene total	ND	ug/L	1	0.53	1.8	10000	
4-Bromofluorobenzene (SURR)	91%						S
1,2-Dichlorobenzene-d4 (SURR)	108%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: GCMS 524.2, Rev 4.1 Safe Drinking Water Analysis - DNR Form

Customer: Wausau Waterworks NLS Project: 227065

Project Description: 2014 Drinking Water

Project Title: PWS#73701023

Template: AGIDNRL Printed: 10/08/2014 09:41

Sample: 817484 Trip Blank Collected: 09/11/14 Analyzed: 09/22/14 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	Note
Benzene	ND	ug/L	1	0.22	0.72	
Bromobenzene	ND	ug/L	1	0.17	0.57	
Bromodichloromethane	ND	ug/L	1	0.15	0.49	
Bromoform	ND	ug/L	1	0.16	0.53	
Bromomethane	ND	ug/L	1	0.26	0.85	
Carbon Tetrachloride	ND	ug/L	1	0.20	0.66	
Chloroethane	ND	ug/L	1	0.94	3.1	
Chloroform	ND	ug/L	1	0.19	0.62	
Chloromethane	ND	ug/L	1	0.16	0.53	
o-Chlorotoluene	ND	ug/L	1	0.18	0.59	
p-Chlorotoluene	ND	ug/L	1	0.19	0.63	
Dibromochloromethane	ND	ug/L	1	0.15	0.49	
Dibromomethane	ND	ug/L	1	0.22	0.74	
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.21	0.69	
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.57	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.17	0.56	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.65	
1,2-Dichloroethane	ND	ug/L	1	0.16	0.54	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.68	
cis-1,2-Dichloroethene	ND	ug/L	1	0.19	0.65	
trans-1,2-Dichloroethene	ND	ug/L	1	0.14	0.45	
Dichloromethane	ND	ug/L	1	0.19	0.63	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.78	
1,3-Dichloropropane	ND	ug/L	1	0.19	0.63	
2,2-Dichloropropane	ND	ug/L	1	0.14	0.46	
1,1-Dichloropropene	ND	ug/L	1	0.10	0.32	
1,3-Dichloropropene	ND	ug/L	1	0.36	1.2	
Ethylbenzene	ND	ug/L	1	0.19	0.64	
Chlorobenzene	ND	ug/L	1	0.19	0.63	
Styrene	ND	ug/L	1	0.17	0.56	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.18	0.59	
1,1,2,2-Tetrachloroethane	ND	ug/L	1	0.15	0.49	
Tetrachloroethene	ND	ug/L	1	0.18	0.61	
Toluene	ND	ug/L	1	0.18	0.59	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.19	0.62	
1,1,1-Trichloroethane	ND	ug/L	1	0.15	0.51	
1,1,2-Trichloroethane	ND	ug/L	1	0.20	0.65	
Trichloroethene	ND	ug/L	1	0.11	0.36	
1,2,3-Trichloropropane	ND	ug/L	1	0.19	0.62	
Vinyl chloride	ND	ug/L	1	0.18	0.61	
Xylene total	ND	ug/L	1	0.53	1.8	
4-Bromofluorobenzene (SURR)	89%					S
1,2-Dichlorobenzene-d4 (SURR)	103%					S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

NORTHERN LAKE SERVICE, INC.
 Analytical Laboratory and Environmental Services
 400 North Lake Avenue - Crandon, WI 54520
 Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
 WDATCP Laboratory Certification No. 105-330
 EPA Laboratory ID No. WI00034

Printed: 10/20/14 Code: NNNN-S Page 1 of 1

Client: **Wausau Waterworks**
 Attn: Dick Boers
 Drinking Water Division
 407 Grant Street
 Wausau, WI 54403 4783

NLS Project: **229264**

NLS Customer: **36394**

Fax: 715 261 6946 Phone: 715 261 7288

Project: **4th Quarter VOC Analyses PWS#73701023**

E -200 VOC NLS ID: 824991

COC: 183834:1 Matrix: DW

Collected: 10/10/14 07:02 Received: 10/10/14

Parameter

SDWA Volatile Organics (VOCs) by EPA 524.2

Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
see attached					10/15/14	EPA 524.2, Rev 4.1	721026460

E -300 VOC NLS ID: 824992

COC: 183834:2 Matrix: DW

Collected: 10/10/14 11:09 Received: 10/10/14

Parameter

SDWA Volatile Organics (VOCs) by EPA 524.2

Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
see attached					10/15/14	EPA 524.2, Rev 4.1	721026460

Trip Blank NLS ID: 824993

COC: 183834:3 Matrix: TB

Collected: 10/10/14 00:00 Received: 10/10/14

Parameter

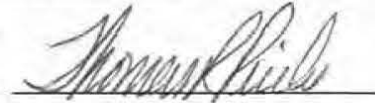
SDWA Volatile Organics (VOCs) by EPA 524.2

Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
see attached					10/17/14	EPA 524.2, Rev 4.1	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and/or LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dilution.

LOD = Limit of Detection LOQ = Limit of Quantitation ND = Not Detected (< LOD) 1000 ug/L = 1 mg/L
 DWB = Dry Weight Basis NA = Not Applicable %DWB = (mg/kg DWB) / 10000
 MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:



Authorized by:
 R. T. Krueger
 President

ANALYTICAL RESULTS: GCMS 524.2, Rev 4.1 Safe Drinking Water Analysis - DNR Form

Page 1 of 3

Customer: Wausau Waterworks NLS Project: 229264

Project Description: 4th Quarter VOC Analyses

Project Title: PWS#73701023

Template: SAT3DNRL Printed: 10/20/2014 10:30

Sample: 824991 E-200 VOC Collected: 10/10/14 Analyzed: 10/15/14 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.17	0.60	5	
Bromobenzene	ND	ug/L	1	0.18	0.64		
Bromodichloromethane	1.1	ug/L	1	0.18	0.64	80	
Bromoform	ND	ug/L	1	0.17	0.60	80	
Bromomethane	ND	ug/L	1	0.36	1.3		
Carbon Tetrachloride	ND	ug/L	1	0.24	0.85	5	
Chloroethane	ND	ug/L	1	1.3	4.6		
Chloroform	15	ug/L	1	0.20	0.70	80	
Chloromethane	ND	ug/L	1	0.14	0.51		
o-Chlorotoluene	ND	ug/L	1	0.15	0.55		
p-Chlorotoluene	ND	ug/L	1	0.19	0.66		
Dibromochloromethane	ND	ug/L	1	0.15	0.53	80	
Dibromomethane	ND	ug/L	1	0.21	0.75		
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.20	0.71		
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.61	600	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.14	0.47	75	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.68		
1,2-Dichloroethane	ND	ug/L	1	0.23	0.80	5	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.75	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.13	0.47	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.16	0.55	100	
Dichloromethane	ND	ug/L	1	0.17	0.61	5	
1,2-Dichloropropane	ND	ug/L	1	0.26	0.92	5	
1,3-Dichloropropane	ND	ug/L	1	0.26	0.91		
2,2-Dichloropropane	ND	ug/L	1	0.17	0.62		
1,1-Dichloropropene	ND	ug/L	1	0.16	0.55		
1,3-Dichloropropene	ND	ug/L	1	0.35	1.2		
Ethylbenzene	ND	ug/L	1	0.15	0.51	700	
Chlorobenzene	ND	ug/L	1	0.19	0.69	100	
Styrene	ND	ug/L	1	0.20	0.68	100	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.17	0.59		
1,1,1,2,2-Tetrachloroethane	ND	ug/L	1	0.15	0.55		
Tetrachloroethene	ND	ug/L	1	0.18	0.62	5	
Toluene	ND	ug/L	1	0.14	0.48	1000	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.15	0.51	70	
1,1,1-Trichloroethane	ND	ug/L	1	0.11	0.37	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.22	0.78	5	
Trichloroethene	ND	ug/L	1	0.19	0.66	5	
1,2,3-Trichloropropane	ND	ug/L	1	0.25	0.87		
Vinyl chloride	ND	ug/L	1	0.19	0.67	2	
Xylene total	ND	ug/L	1	0.53	1.9	10000	
4-Bromofluorobenzene (SURR)	103%						S
1,2-Dichlorobenzene-d4 (SURR)	99%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

Customer: Wausau Waterworks NLS Project: 229264

Project Description: 4th Quarter VOC Analyses

Project Title: PWS#73701023

Template: SAT3DNRL Printed: 10/20/2014 10:30

Sample: 824992 E -300 VOC Collected: 10/10/14 Analyzed: 10/15/14 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.17	0.60	5	
Bromobenzene	ND	ug/L	1	0.18	0.64		
Bromodichloromethane	[0.22]	ug/L	1	0.18	0.64	80	
Bromoform	ND	ug/L	1	0.17	0.60	80	
Bromomethane	ND	ug/L	1	0.36	1.3		
Carbon Tetrachloride	ND	ug/L	1	0.24	0.85	5	
Chloroethane	ND	ug/L	1	1.3	4.6		
Chloroform	6.0	ug/L	1	0.20	0.70	80	
Chloromethane	ND	ug/L	1	0.14	0.51		
o-Chlorotoluene	ND	ug/L	1	0.15	0.55		
p-Chlorotoluene	ND	ug/L	1	0.19	0.66		
Dibromochloromethane	ND	ug/L	1	0.15	0.53	80	
Dibromomethane	ND	ug/L	1	0.21	0.75		
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.20	0.71		
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.61	600	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.14	0.47	75	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.68		
1,2-Dichloroethane	ND	ug/L	1	0.23	0.80	5	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.75	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.13	0.47	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.16	0.55	100	
Dichloromethane	ND	ug/L	1	0.17	0.61	5	
1,2-Dichloropropane	ND	ug/L	1	0.26	0.92	5	
1,3-Dichloropropane	ND	ug/L	1	0.26	0.91		
2,2-Dichloropropane	ND	ug/L	1	0.17	0.62		
1,1-Dichloropropene	ND	ug/L	1	0.16	0.55		
1,3-Dichloropropene	ND	ug/L	1	0.35	1.2		
Ethylbenzene	ND	ug/L	1	0.15	0.51	700	
Chlorobenzene	ND	ug/L	1	0.19	0.69	100	
Styrene	ND	ug/L	1	0.20	0.68	100	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.17	0.59		
1,1,1,2,2-Tetrachloroethane	ND	ug/L	1	0.15	0.55		
Tetrachloroethene	ND	ug/L	1	0.18	0.62	5	
Toluene	ND	ug/L	1	0.14	0.48	1000	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.15	0.51	70	
1,1,1-Trichloroethane	ND	ug/L	1	0.11	0.37	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.22	0.78	5	
Trichloroethene	ND	ug/L	1	0.19	0.66	5	
1,2,3-Trichloropropane	ND	ug/L	1	0.25	0.87		
Vinyl chloride	ND	ug/L	1	0.19	0.67	2	
Xylene total	ND	ug/L	1	0.53	1.9	10000	
4-Bromofluorobenzene (SURR)	108%						S
1,2-Dichlorobenzene-d4 (SURR)	105%						S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

Customer: Wausau Waterworks NLS Project: 229264

Project Description: 4th Quarter VOC Analyses

Project Title: PWS#73701023

Template: SAT3DNRL Printed: 10/20/2014 10:30

Sample: 824993 Trip Blank Collected: 10/10/14 Analyzed: 10/17/14 - Analytes: 41

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	Note
Benzene	ND	ug/L	1	0.17	0.60	
Bromobenzene	ND	ug/L	1	0.18	0.64	
Bromodichloromethane	ND	ug/L	1	0.18	0.64	
Bromoform	ND	ug/L	1	0.17	0.60	
Bromomethane	ND	ug/L	1	0.36	1.3	
Carbon Tetrachloride	ND	ug/L	1	0.24	0.85	
Chloroethane	ND	ug/L	1	1.3	4.6	
Chloroform	ND	ug/L	1	0.20	0.70	
Chloromethane	ND	ug/L	1	0.14	0.51	
o-Chlorotoluene	ND	ug/L	1	0.15	0.55	
p-Chlorotoluene	ND	ug/L	1	0.19	0.66	
Dibromochloromethane	ND	ug/L	1	0.15	0.53	
Dibromomethane	ND	ug/L	1	0.21	0.75	
1,3-Dichlorobenzene (m)	ND	ug/L	1	0.20	0.71	
1,2-Dichlorobenzene (o)	ND	ug/L	1	0.17	0.61	
1,4-Dichlorobenzene (p)	ND	ug/L	1	0.14	0.47	
1,1-Dichloroethane	ND	ug/L	1	0.20	0.68	
1,2-Dichloroethane	ND	ug/L	1	0.23	0.80	
1,1-Dichloroethene	ND	ug/L	1	0.21	0.75	
cis-1,2-Dichloroethene	ND	ug/L	1	0.13	0.47	
trans-1,2-Dichloroethene	ND	ug/L	1	0.16	0.55	
Dichloromethane	ND	ug/L	1	0.17	0.61	
1,2-Dichloropropane	ND	ug/L	1	0.26	0.92	
1,3-Dichloropropane	ND	ug/L	1	0.26	0.91	
2,2-Dichloropropane	ND	ug/L	1	0.17	0.62	
1,1-Dichloropropene	ND	ug/L	1	0.16	0.55	
1,3-Dichloropropene	ND	ug/L	1	0.35	1.2	
Ethylbenzene	ND	ug/L	1	0.15	0.51	
Chlorobenzene	ND	ug/L	1	0.19	0.69	
Styrene	ND	ug/L	1	0.20	0.68	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.17	0.59	
1,1,1,2,2-Tetrachloroethane	ND	ug/L	1	0.15	0.55	
Tetrachloroethene	ND	ug/L	1	0.18	0.62	
Toluene	ND	ug/L	1	0.14	0.48	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.15	0.51	
1,1,1-Trichloroethane	ND	ug/L	1	0.11	0.37	
1,1,2-Trichloroethane	ND	ug/L	1	0.22	0.78	
Trichloroethene	ND	ug/L	1	0.19	0.66	
1,2,3-Trichloropropane	ND	ug/L	1	0.25	0.87	
Vinyl chloride	ND	ug/L	1	0.19	0.67	
Xylene total	ND	ug/L	1	0.53	1.9	
4-Bromofluorobenzene (SURR)	102%					S
1,2-Dichlorobenzene-d4 (SURR)	107%					S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

Appendix D

2014 Quarterly Groundwater Contour Figures

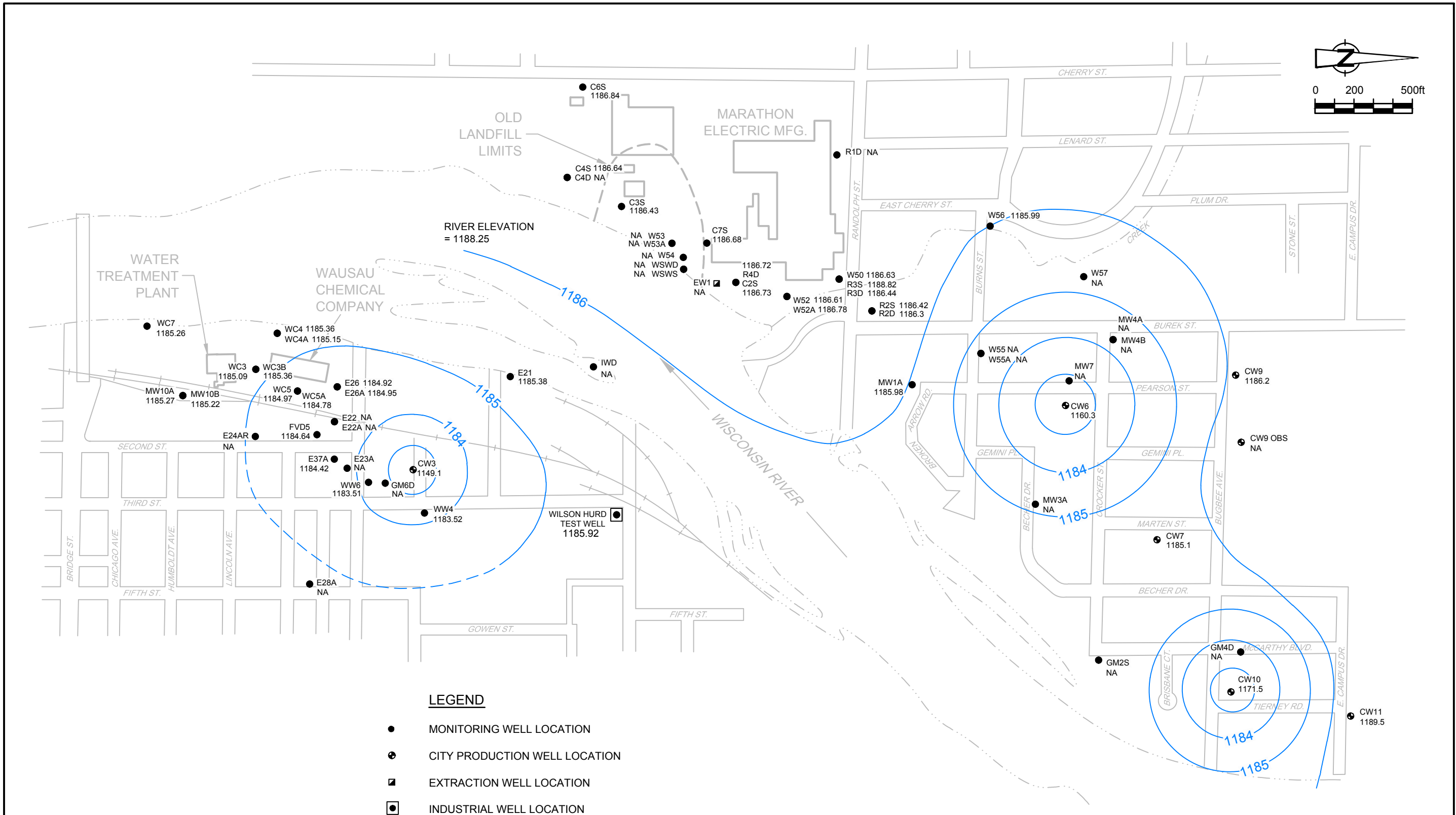


figure 2
 GROUNDWATER ELEVATIONS
 MARCH 24, 25, 2014
 WAUSAU WATER SUPPLY NPL SITE
 Wausau, Wisconsin



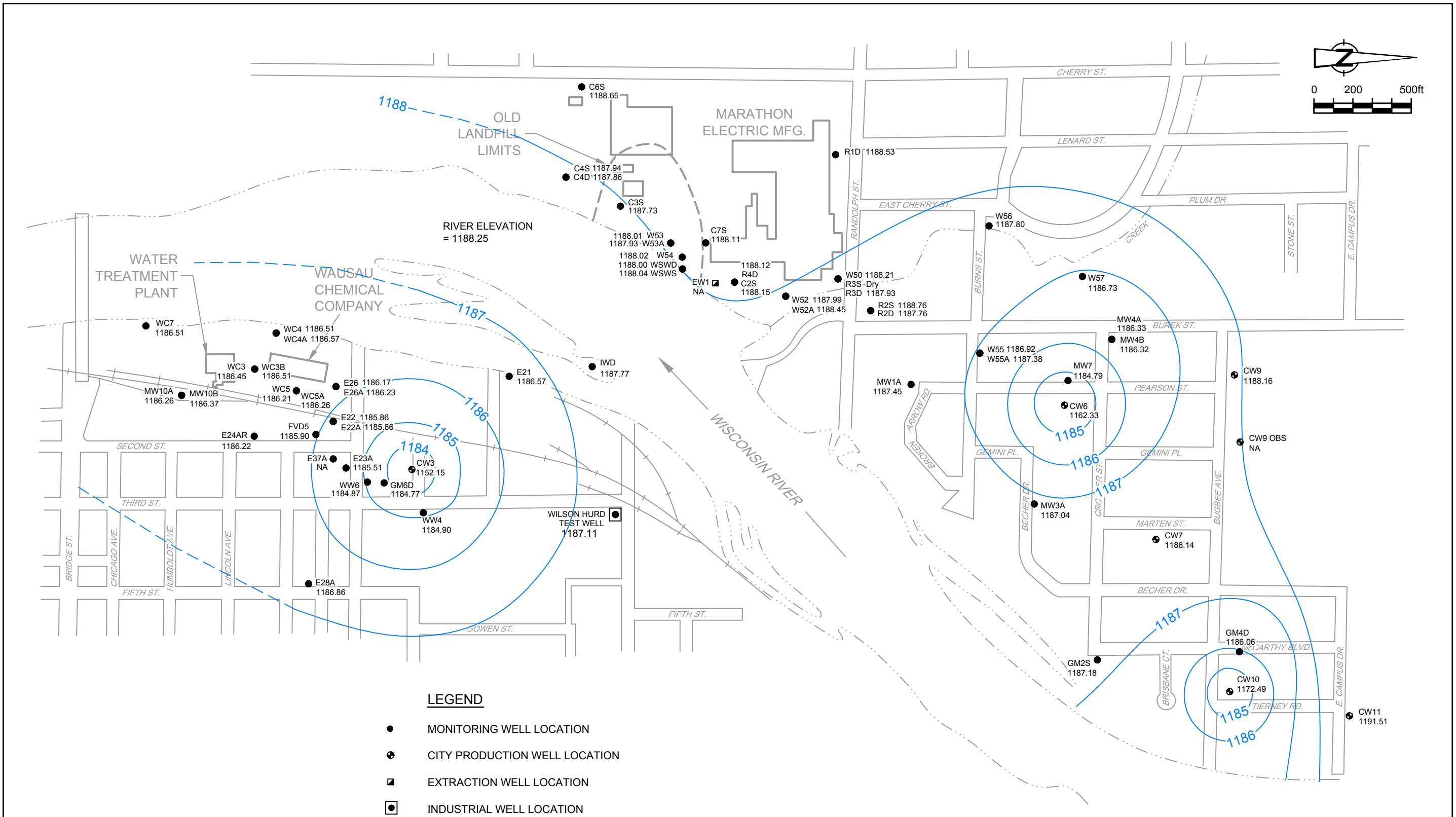


figure 2
 GROUNDWATER ELEVATIONS
 MAY 19, 2014
 WAUSAU WATER SUPPLY NPL SITE
 Wausau, Wisconsin

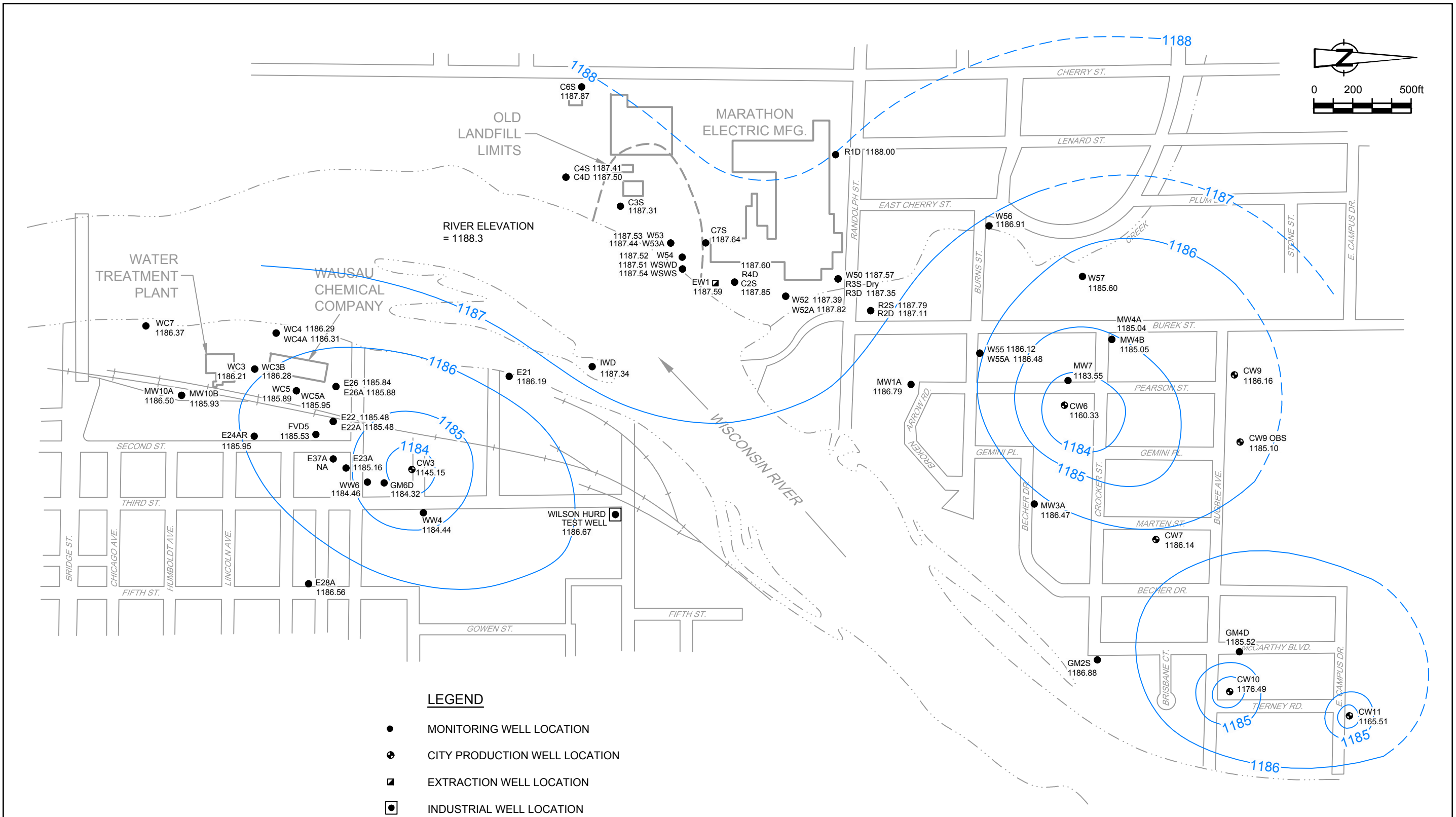


figure 2
 GROUNDWATER ELEVATIONS
 AUGUST 12, 2014
 WAUSAU WATER SUPPLY NPL SITE
 Wausau, Wisconsin

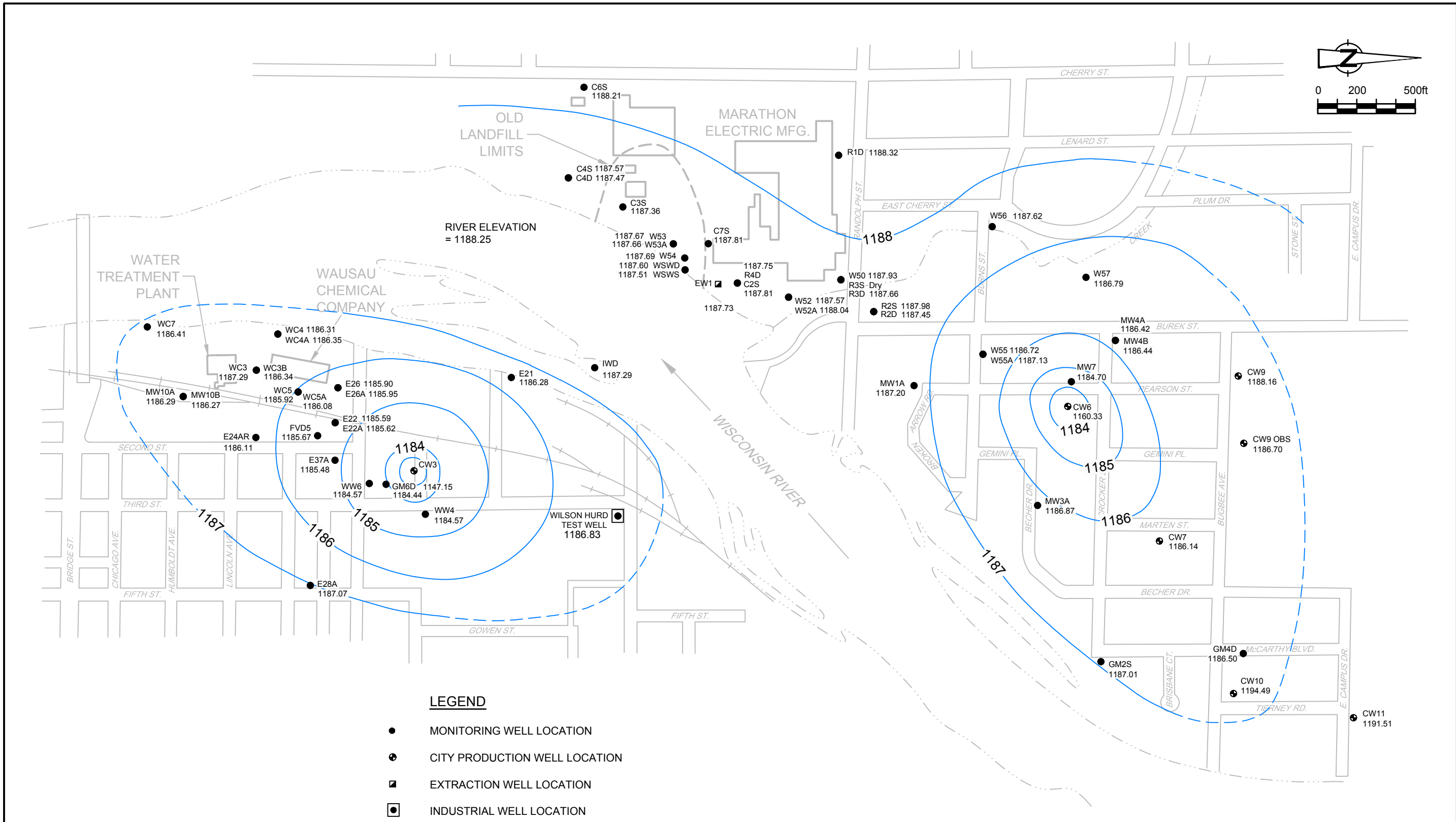


figure 2.1
 GROUNDWATER ELEVATIONS
 NOVEMBER 3, 4, 2014
 WAUSAU WATER SUPPLY NPL SITE
 Wausau, Wisconsin



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

03978-00(034)GN-WA002 FEB 2/2015

Appendix E

City of Wausau Ordinances

Chapter 19.30

PRIVATE WATER WELLS

Sections:

- 19.30.010 Purpose.
- 19.30.020 Definitions.
- 19.30.030 Private well permit.
- 19.30.040 Private well abandonment.
- 19.30.050 Penalties.

19.30.010 Purpose. This chapter regulates the construction and continued use of private wells within the city where public water service is provided. This chapter is also intended to prevent contamination of groundwater and to protect public health, safety and welfare by assuring that unused, unsafe or noncomplying wells or wells which may serve as conduits for contamination or wells which may be illegally cross-connected to the public water system are properly abandoned. (Ord. 61-4738 §1(part), 1991.)

19.30.020 Definitions. For the purpose of this chapter:

- (a) "Municipal water system" means Wausau Water Works.
- (b) "Noncomplying" means a well or pump installation which does not comply with the provisions of Chapter NR 812, Wisconsin Administrative Code, in effect at the time the well was constructed, a potential contamination source was installed, the pump was installed or work was done on either the well or pump installation.
- (c) "Pump installation" means the pump and related equipment used for withdrawing water from a well including the discharge piping, the underground connections, pitless adapters, pressure tanks, pits, sampling faucets and well seals or caps.
- (d) "Unsafe" means a well or pump installation which produces water which is bacteriologically contaminated or contaminated with substances exceeding the standards of Chs. NR 109 or 140, Wisconsin Administrative Code, or for which a health advisory has been issued by the Department of Natural Resources.
- (e) "Unused" means a well or pump installation which is not in use or does not have a functional pumping system.
- (f) "Well" means an excavation or opening into the ground made by digging, boring, drilling, driving, or other methods for the purpose of obtaining groundwater for consumption or other use.

(g) "Well abandonment" means the filling and sealing of a well according to the provisions of Ch. NR 812, Wisconsin Administrative Code. (Ord. 61-5126 §1(part), 2001, File No. 01-0833; Ord. 61-4738 §1(part), 1991.)

19.30.030 Private well permit. The plumbing inspector may grant a permit to a private well owner to operate a well for a period not to exceed five years, providing conditions of this code and other applicable state and health requirements are met. An owner may request an initial or renewal of a private well permit on an application form provided by Wausau Water Works. The permit request must clearly state the purpose of the well. Applications for a new permit or to renew an existing permit submitted after July 1, 2011 must include the following:

(a) A copy of a Bacteriological Analysis report from a state approved drinking water laboratory indicating the water is bacteriologically safe;

(b) A Wisconsin Department of Natural Resources Well and Pressure System Inspection form signed by a licensed well driller or pump installer certifying that the well system is in compliance with ch. NR812 requirements;

(c) A separate statement signed by a licensed well driller, pump installer, plumber, or certified cross connection inspector surveyor stating that there are no cross connections between the well or pump system and the municipal water system;

(d) The permit application for existing wells shall be reviewed by the utility director or environmental engineer prior to the permit issuance by the plumbing inspector. Requests for permits for new private water supply wells to be constructed within the city limits shall be reviewed by the commission. (Ord. 61-5477 §1(part), 2011, File No. 11-0508; Ord. 61-5126 §1(part), 2001, File No. 01-0833; Ord. 61-5021 §1, 1999; Ord. 61-4738 §1(part), 1991.)

19.30.040 Private well abandonment. All wells located on premises served by the municipal water system shall be abandoned in accordance with the terms of this code and Ch. NR 812, Wisconsin Administrative Code, no later than one year from the date of connection to the municipal water system, unless a private well permit has been obtained by the well owner from the city as specified by this code.

All wells abandoned under the jurisdiction of this code or rule shall be abandoned according to the procedures and methods of Ch. NR 812, Wisconsin Administrative Code. All debris, pump, piping, unsealed liners and any other obstructions which may interfere with sealing operations shall be removed prior to abandonment.

An abandonment report form, supplied by the Department of Natural Resources, shall be submitted by the well owner to Wausau Water Works and the Department of Natural Resources within ten days of the completion of the well abandonment. (Ord. 61-5472 §7 (part), 2011, File No. 78-0745; Ord. 61-5126 §1(part), 2001, File No. 01-0833; Ord. 61-4738 §1(part), 1991.)

19.30.050 Penalties. Any well owner violating any provision of this chapter shall upon conviction be punished by forfeiture of not less than twenty dollars nor more than one hundred

dollars and the cost of prosecution. Each day of violation is a separate offense. If any person fails to comply with this chapter for more than ten days after receiving written notice of the violation, the municipality may impose a penalty and cause the well abandonment to be performed and the expense to be assessed as a special tax against the property. (Ord. 61-4738 §1(part), 1991.)

Chapter 19.32

SWIMMING POOLS

Sections:

19.32.010 Public—Permit required.

19.32.020 Private—Permit required.

19.32.010 Public—Permit required. Before commencing the installation of a public swimming pool, a permit authorizing plumbing, mechanical and drainage work shall be obtained from the plumbing inspector. The application for a permit shall be accompanied by plans and specifications together with written approval from the State Board of Health, copies of which shall be filed with the plumbing inspector. (Ord. 61-4380 §1(part), 1978.)

19.32.020 Private—Permit required. Before commencing the installation of a private residential swimming pool, a permit authorizing plumbing, mechanical and drainage work shall be obtained from the plumbing inspector. The application for a permit shall be accompanied by plans and specifications showing the following in sufficient detail:

- (a) Pool dimensions and volume of water in gallons;
- (b) Type and size of filter system, filtration and backwash capabilities;
- (c) Pool piping layout, showing pipe sizes, valves and type of materials;
- (d) The rated capacity and head at filtration and backwash flows of the pool pump in gallons per minute with size and type of motor;
- (e) Location and type of waste water disposal system. (Ord. 61-4380 §1(part), 1978.)

Chapter 23.54WH—WELL HEAD PROTECTION OVERLAY DISTRICTSections:

23.54.010	Purpose.
23.54.020	General provisions.
23.54.030	Establishment of districts.
23.54.040	Permitted and prohibited uses.
23.54.050	Conditional uses.
23.54.060	Nonconforming uses.

23.54.010 Purpose. The consequences of certain land use activities, whether intentional or accidental, can seriously impair groundwater quality. The purpose of the well head protection overlay district (WH) is to help protect municipal well groundwater resources from contamination by certain land use activities. This is accomplished by imposing certain land use restrictions upon the area located within the approximate groundwater recharge area of the city municipal wells. The restrictions imposed upon the property within this overlay district are in addition to the regulations governing the underlying residential, commercial, industrial or other zoning districts or any other provisions of the zoning ordinance. (Ord. 61-4988 §1(part), 1997.)

23.54.020 General provisions. (a) The regulations established by this overlay district are intended to either prohibit certain land uses that might otherwise be permitted in the underlying zoning districts or to allow certain activities as a conditional use that might otherwise be permitted in the underlying zoning district.

(b) The uses prohibited in the well head protection overlay district are activities that, as a result of normal operations or accidents, may impair groundwater quality. These prohibitions are intended to provide a reasonably high degree of assurance that, within the municipal well recharge area, discharges of contaminants into the groundwater supply will be minimized. These preventive measures are important since groundwater clean-up is often prohibitively expensive, and liability for such clean-up is often hard or impossible to establish.

(c) The uses prohibited within a well head protection overlay district are prohibited based upon the pollution experience of the individual uses, the operational methods and technology generally employed by that type of use, or the materials or products commonly handled by these uses. As the technology of identified uses changes to nonrisk materials or operational methods, the list of prohibited land uses may be amended to reflect these changes. (Ord. 61-4988 §1(part), 1997.)

23.54.030 Establishment of districts. For purposes of minimizing the potential for groundwater contamination in close proximity to the municipal wells, two zoning districts are established: The Well Head Zone A (WH-A) and the Well Head Zone B (WH-B).

(a) Zone WH-A is identified as the primary source of water for recharge of the municipal well aquifer and as the area from which groundwater contaminants are most likely to be transmitted to the municipal wells. Zone WH-A is more restrictive than Zone WH-B.

(b) Zone WH-B is identified as a secondary source of water for recharge of the municipal wells aquifer and as an area where there is a lower probability of surface contaminants reaching the municipal well fields. Zone WH-B is less restrictive than Zone WH-A. (Ord. 61-4988 §1(part), 1997.)

23.54.040 Permitted and prohibited uses. (a) Well Head Zone A (WH-A). All principal and accessory uses which are permitted uses within the underlying zoning districts are permitted within Zone A of the well head protection overlay district except the following uses, which are specifically prohibited and those uses identified as conditional uses in section 23.54.050:

- (1) Areas for dumping or disposal of garbage, refuse or trash;
- (2) Asphalt products manufacture;
- (3) Automobile service stations;
- (4) Building materials and products sales;
- (5) Cartage and express facilities;
- (6) Car washes;
- (7) Cemeteries;
- (8) Chemical processing and manufacturing;
- (9) Contractor or construction shops or yards;
- (10) Demolition and construction material disposal sites;
- (11) Dry cleaning establishments;
- (12) Electroplating;
- (13) Exterminating shops or businesses;
- (14) Feed and seed sales;
- (15) Foundries and forge plants;
- (16) Fuel and ice sales;

- (17) Garages for repair and servicing of motor vehicles, including body repair, painting or engine rebuilding;
- (18) Garden supply, tool and seed stores;
- (19) Greenhouses and nurseries;
- (20) Heavy machinery production;
- (21) Industrial liquid waste storage areas;
- (22) Junk yards and auto graveyards;
- (23) Leather tanning or processing;
- (24) Linoleum manufacturing;
- (25) Machine shop;
- (26) Metal reduction and refinement;
- (27) Metal stamping;
- (28) Mining operations;
- (29) Motor freight terminals;
- (30) Outdoor kennels;
- (31) Paint products manufacture;
- (32) Paper products manufacture;
- (33) Petroleum products storage or processing;
- (34) Photography studios which include the developing of film and pictures;
- (35) Plastics manufacture;
- (36) Printing and publishing establishments;
- (37) Rubber processing or manufacture;
- (38) Sewage treatment plants;
- (39) Soap manufacture;

- (40) Steel manufacture;
- (41) Stone products manufacture;
- (42) Underground petroleum products storage tanks for industrial, commercial, residential or other uses;
- (43) Woodworking and wood products.

(b) Well Head Zone B (WH-B). All principal and accessory permitted uses within the underlying zoning districts are permitted within Zone B of the well head protection overlay district except those uses identified as conditional uses in section 23.54.050 and underground petroleum products storage tanks for residential use. Said tanks are specifically prohibited in Zone B. (Ord. 61-4988 §1(part), 1997.)

23.54.050 Conditional uses. (a) The following conditional uses may be allowed in the WH-A Zone subject to the provisions of Chapter 23.72:

- (1) Any other business or industrial use which is not listed as a prohibited use in section 23.54.040(a) provided that the proposed use is a permitted or conditional use in the underlying zoning district.

(b) The following conditional uses may be allowed in the WH-B Zone subject to the provisions of Chapter 23.72:

- (1) Underground petroleum products storage tanks for industrial, commercial or other nonresidential uses;
- (2) Any business or industrial use provided that the proposed use is a permitted or conditional use in the underlying zoning district.

(Ord. 61-4988 §1(part), 1997.)

23.54.060 Nonconforming uses. Any lawfully existing building, structure or use which does not conform to the regulations of a mapped well head protection overlay district may be continued subject to the following provisions:

(a) For nonconforming buildings, structures or uses which were nonconforming prior to being designated as part of a well head protection overlay district, the regulations in Chapter 23.70 apply.

(b) For nonconforming buildings, structures or uses which are made nonconforming through establishment of a well head protection overlay district, the regulations identified in Chapter 23.70 also apply; however, these regulations may be modified to meet the particular circumstances

4768 §1, 1992; Ord. 61-4753 §1, 1991; Ord. 61-4714 §1, 1990; Ord. 61-4711 §1, 1990; Ord. 61-4709 §1, 1990; Ord. 61-4703 §1, 1990; Ord. 61-4688 §1, 1989; Ord. No. 61-4679 §1, 1989.)

1.01.027 Providing inspectors with the ability to issue citations. The director of inspections and electrical systems, the building inspector, the plumbing inspector, the electrical inspector, the property inspector, the director of public works, the fire chief, and the police chief, and any employee within the table of organization of the department of public works specifically delegated with this citation authority by the director of public works, and any employee within the table of organization of the fire department specifically delegated with this citation authority by the fire chief, and any employee within the table of organization of the police department specifically delegated with this citation authority by the police chief, are given the authority, pursuant to the provisions of Section 66.0113 of the Wisconsin Statutes, to issue citations for violations of ordinances directly relating to their official responsibilities. (Ord. 61-5106 §1, 2001, File No. 89-0425; Ord. 61-4784 §1, 1992; Ord. 61-4710 §1, 1990; Ord. 61-4680 §1, 1989.)

1.01.030 Reference applies to amendments. Whenever a reference is made to this code as the Wausau Municipal Code or to any portion thereof, or to any ordinance of the city, the reference shall apply to all amendments, corrections and additions heretofore, now, or hereafter made. (Ord. 61-4113 §3, 1968.)

1.01.040 Codification authority. This code consists of all of the regulatory and penal ordinances and certain of the administrative ordinances of the city, codified pursuant to Section 66.0103 of the Wisconsin Statutes. (Ord. 61-4113 §4, 1968.)

1.01.050 Definitions. The following words and phrases whenever used in this code shall be construed as defined in this section unless from the context a different meaning is intended, or unless a different meaning is specifically defined and more particularly directed to the use of such words or phrases:

- (a) "City" means the city of Wausau, Wisconsin, and such territory outside of this city over which the city has jurisdiction or control by virtue of any constitutional provisions, or any law;
- (b) "Common council" means the common council of the city;
- (c) "Mayor" means the mayor of the city;
- (d) "County" means the county of Marathon;
- (e) "Fiscal year." The calendar year shall be the fiscal year;
- (f) "Person" means any natural person, firm, association, joint venture, joint stock company, partnership, organization, club, company, corporation, business trust, or its manager, lessee, agent, servant, officer, or employee or any of them;
- (g) "Oath" includes affirmative;

(i) "Office." The use of the title of any officer, employee, or any office, or ordinance shall mean such officer, employee, office, ordinance of the city, unless otherwise specifically designated;

(j) "State" means the state of Wisconsin;

(k) "Shall" and "must." Each is mandatory;

(l) "May" is permissive;

(m) "Written" includes printed, typewritten, mimeographed or multigraphed. (Ord. 41-4113 §5, 1968.)

1.01.060 Grammatical interpretation. The following grammatical rules shall apply in this code:

(a) Gender. Any gender includes the other genders;

(b) Singular and plural. The singular number includes the plural and the plural includes the singular;

(c) Tenses. Words used in the present tense include the past and the future tenses and vice versa;

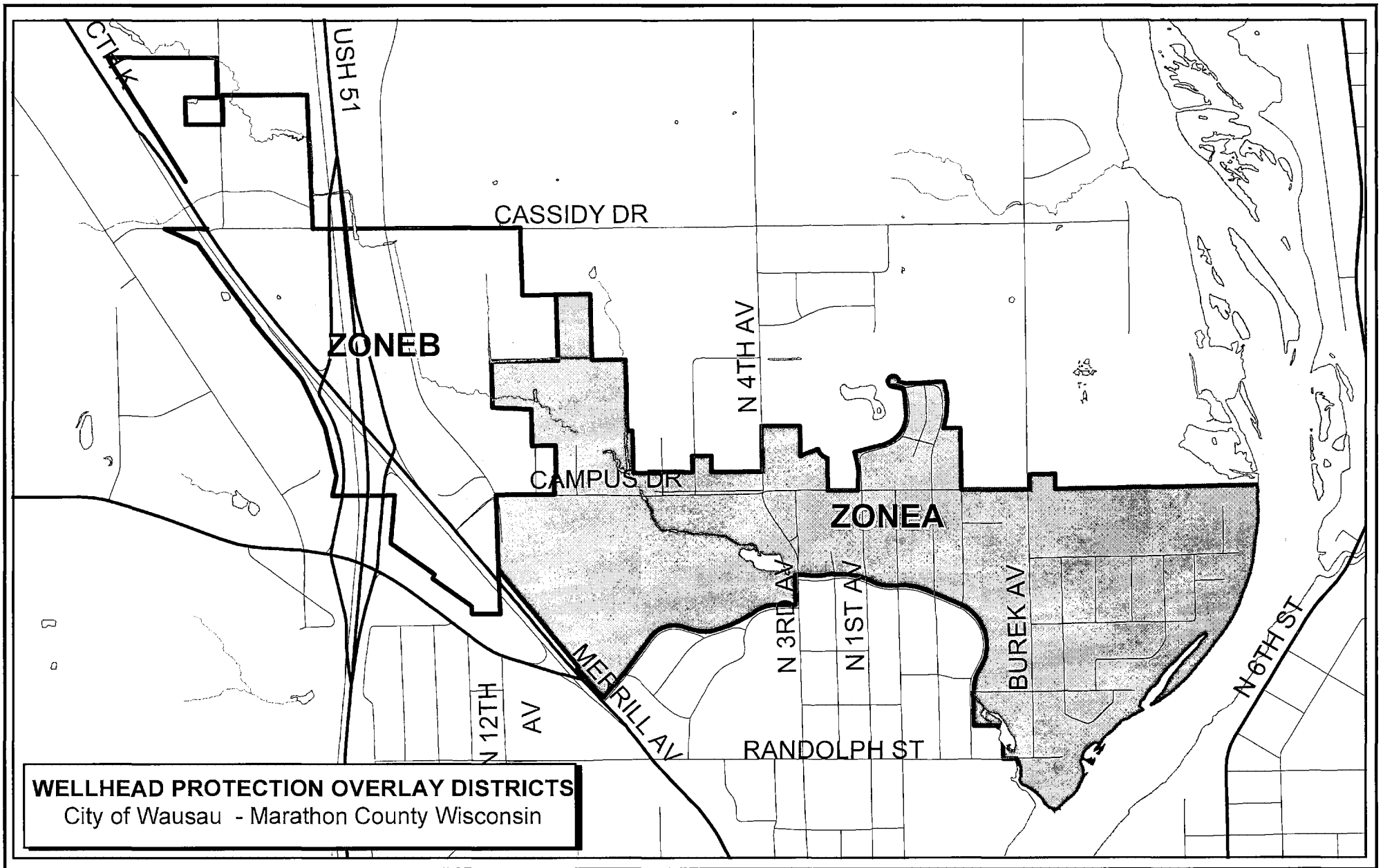
(d) Use of words and phrases. Words and phrases used in this code and not specifically defined shall be construed according to the context and approved usage of the language. (Ord. 61-4113 §6, 1968.)

1.01.070 Construction. The provisions of this code and all proceedings under it are to be construed with a view to effect its objects and to promote justice. (Ord. 61-4113 §7, 1968.)

1.01.080 Title, chapter and section headings. Title, chapter and section headings contained herein shall not be deemed to govern, limit, modify or in any manner affect the scope, meaning or intent of the provisions of any title, chapter or section hereof. (Ord. 61-4113 §8, 1968.)

1.01.090 Reference to specific ordinances. The provisions of this code shall not in any manner affect deposits or other matters of record which refer to, or are otherwise connected with ordinances which are therein specifically designated by number or otherwise and which are included within this code, but such reference shall be construed to apply to the corresponding provisions contained within this code. (Ord. 61-4113 §9, 1968.)

1.01.100 Effect on past actions and obligations. Neither the adoption of this code nor the repeal or amendments hereby of any ordinance or part or portion of any ordinance of the city shall in any manner affect the prosecution for violations of ordinances, which violations were committed prior to the effective date hereof, nor be construed as a waiver of any license, fee, or penalty at said effective date due and unpaid under such ordinances, nor be construed as affecting any of the





about GHD

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, and construction services to private and public sector clients.

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