CONESTOGA-ROVERS
& ASSOCIATES

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February 7, 2014

Reference No. 003978

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, WI 54880

Dear Ms. Bianchin and Ms. Endsley:

Re: 2013 Annual Monitoring Report
Wausau Water Supply NPL Site

On behalf of the Wausau Water Supply PRP Group, Conestoga-Rovers and Associates (CRA) is pleased to submit this 2013 Annual Monitoring Report for the Wausau Water Supply NPL Site. This Report has been prepared as required by the Groundwater Monitoring Plan and as proposed in the EW1 Shutdown Pilot Study Work Plan.

As noted in the report, due to high snowfall amounts and continuous cold weather this winter, the first quarter monitoring event may have to be postponed until March. We will monitor conditions during February and notify you when we have scheduled the monitoring event.

Please contact me if you have any questions or comments.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

Charles Ahrens

CEA/sb/29
Encl.

cc: Kevin Fabel, City of Wausau
Lee Bergmann, Regal Beloit (via email)
Rob Flashinski, Wausau Chemical (via email)
Amy Gahala, USGS (via email)

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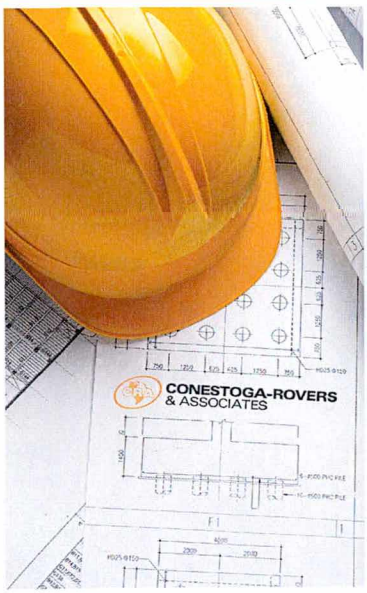

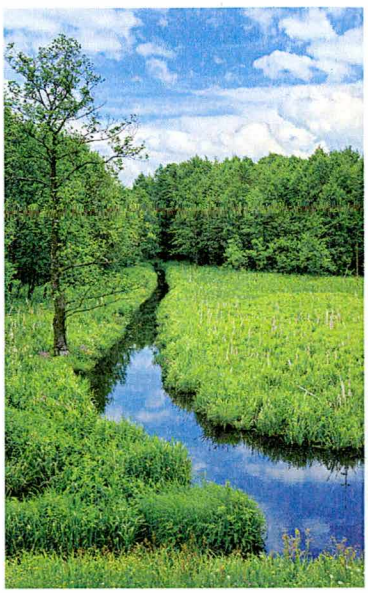
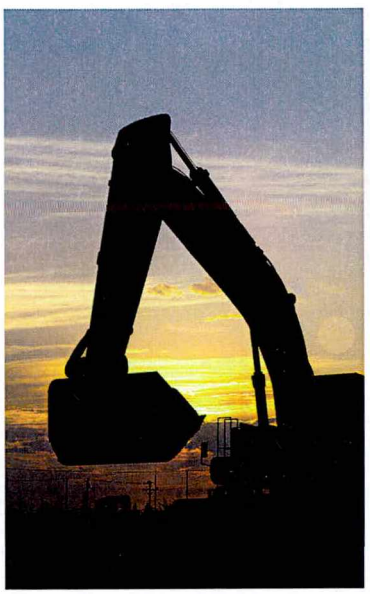


# Final Report

## 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)

Partners in Sustainability

## Table of Contents

## List of Figures
## (Following Text)



## List of Tables
## (Following Text)



## List of Appendices

# 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 Study[1].

## 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.

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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 (µg/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:

| ***Total CVOCs (µg/L)*** | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Well*** | ***2007*** | ***2008*** | ***2009*** | ***2010*** | ***2011*** | ***2012*** | ***2013*** |
| 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.

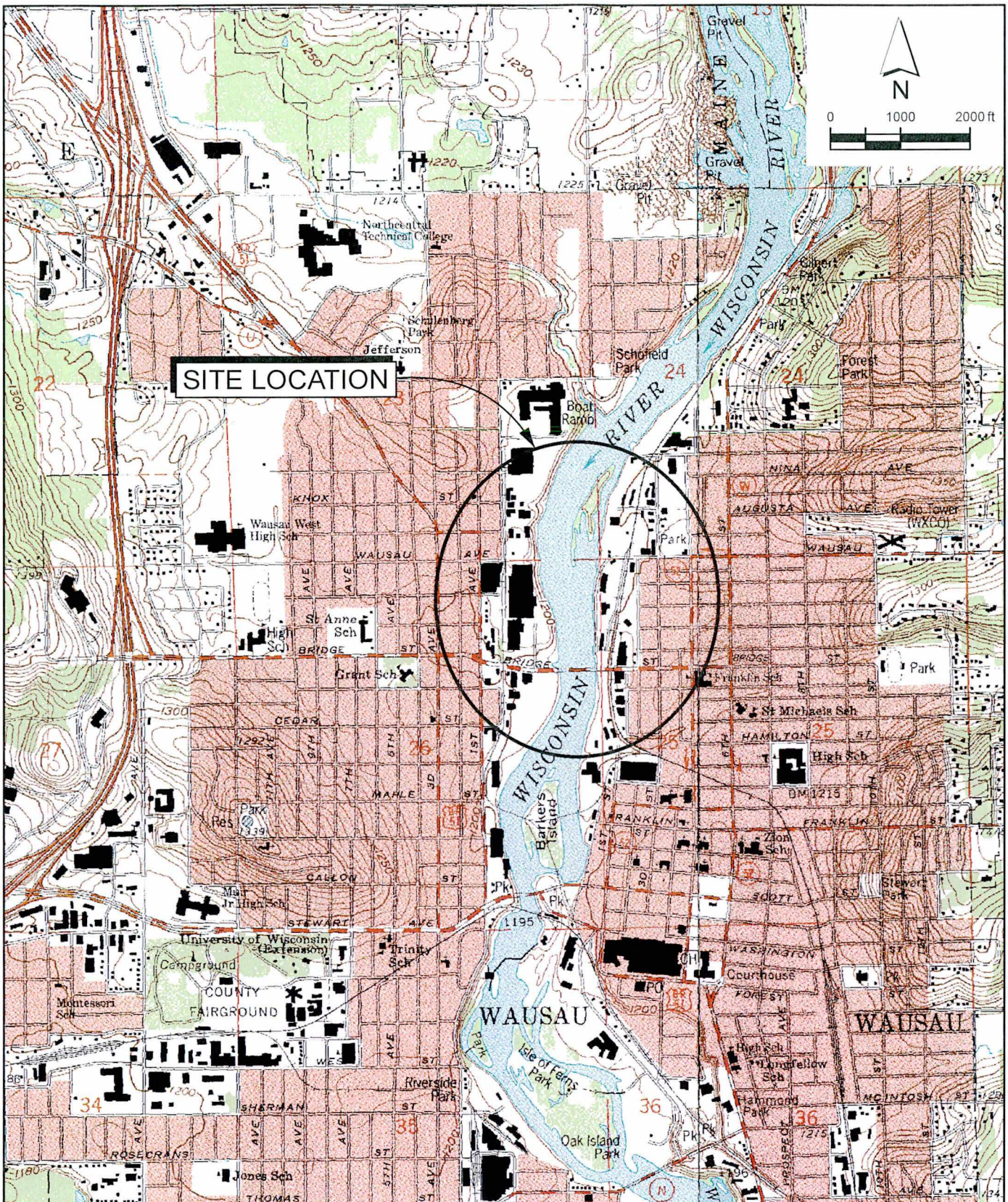
# Section 5.0 Conclusions and Recommendations

## 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

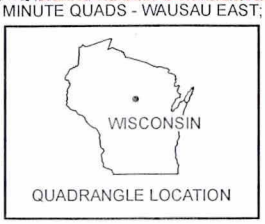


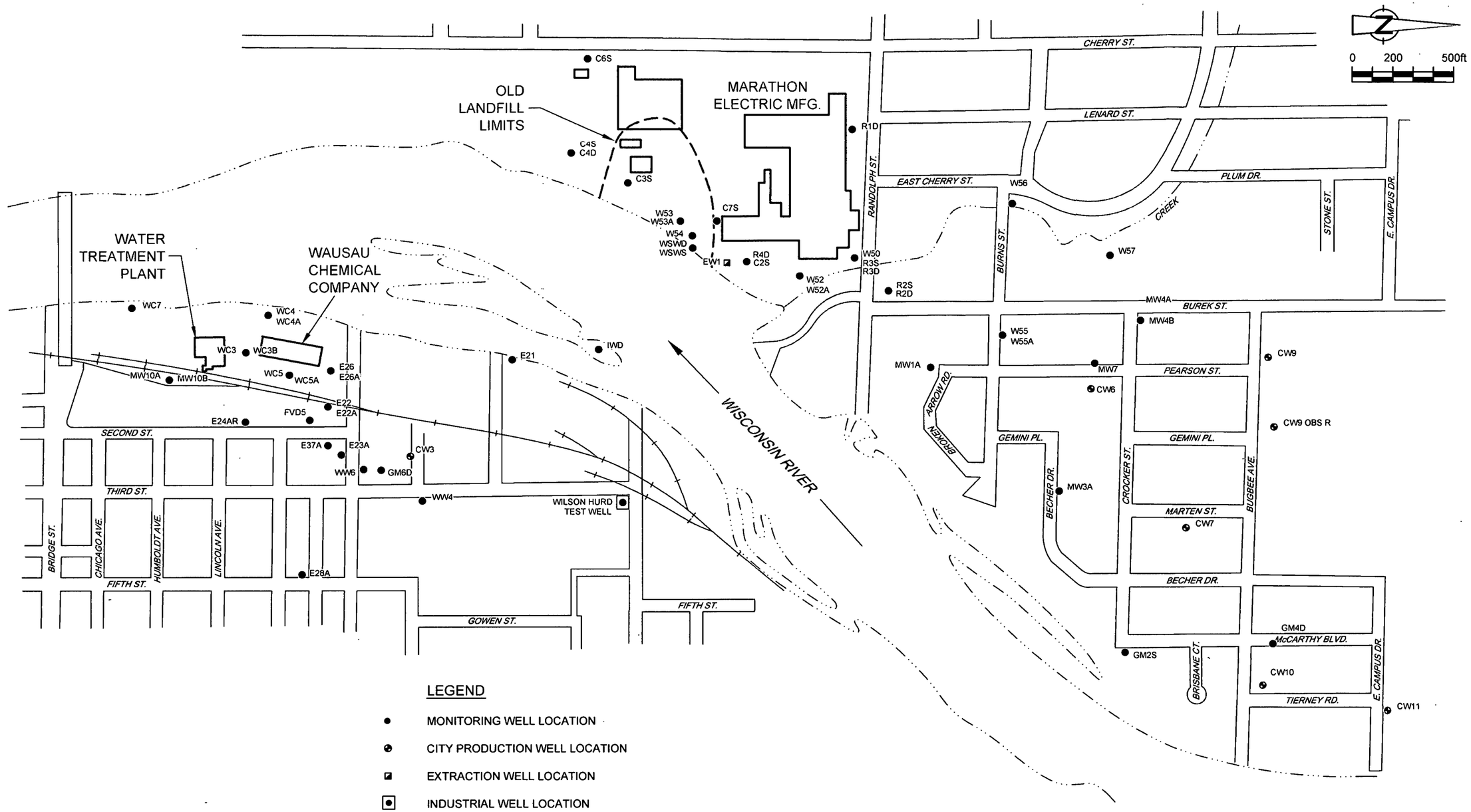

figure 1.1

SITE LOCATION

WAUSAU WATER SUPPLY NPL SITE

*Wausau, Wisconsin*

003978-00(033)GIS-SP001 JAN 08/2014




LEGEND

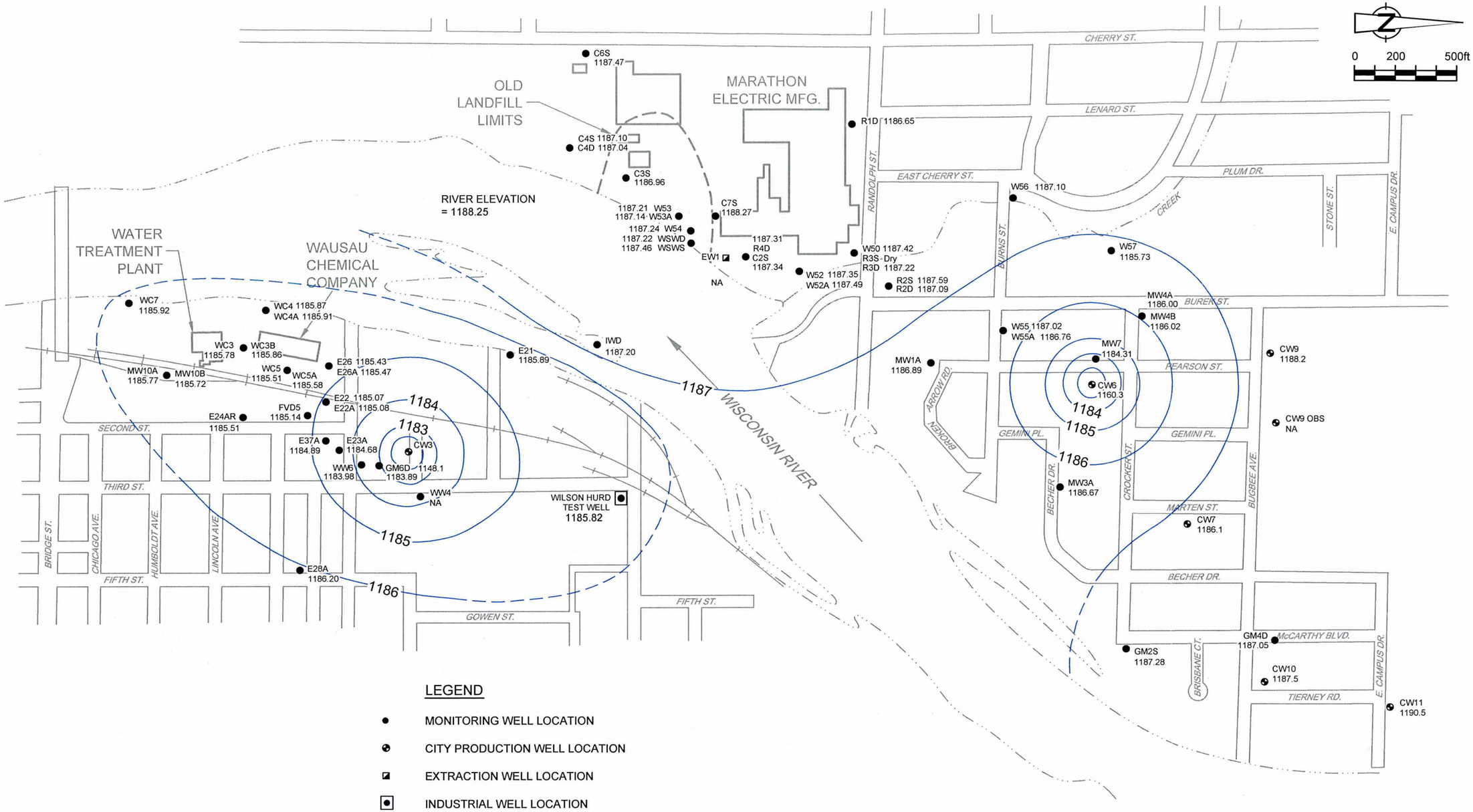
- MONITORING WELL LOCATION
- CITY PRODUCTION WELL LOCATION
- EXTRACTION WELL LOCATION
- INDUSTRIAL WELL LOCATION

figure 1.2

SITE PLAN
WAUSAU WATER SUPPLY NPL SITE
*Wausau, Wisconsin*

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

03978-00(033)GN-WA001 JAN 8/2014




LEGEND

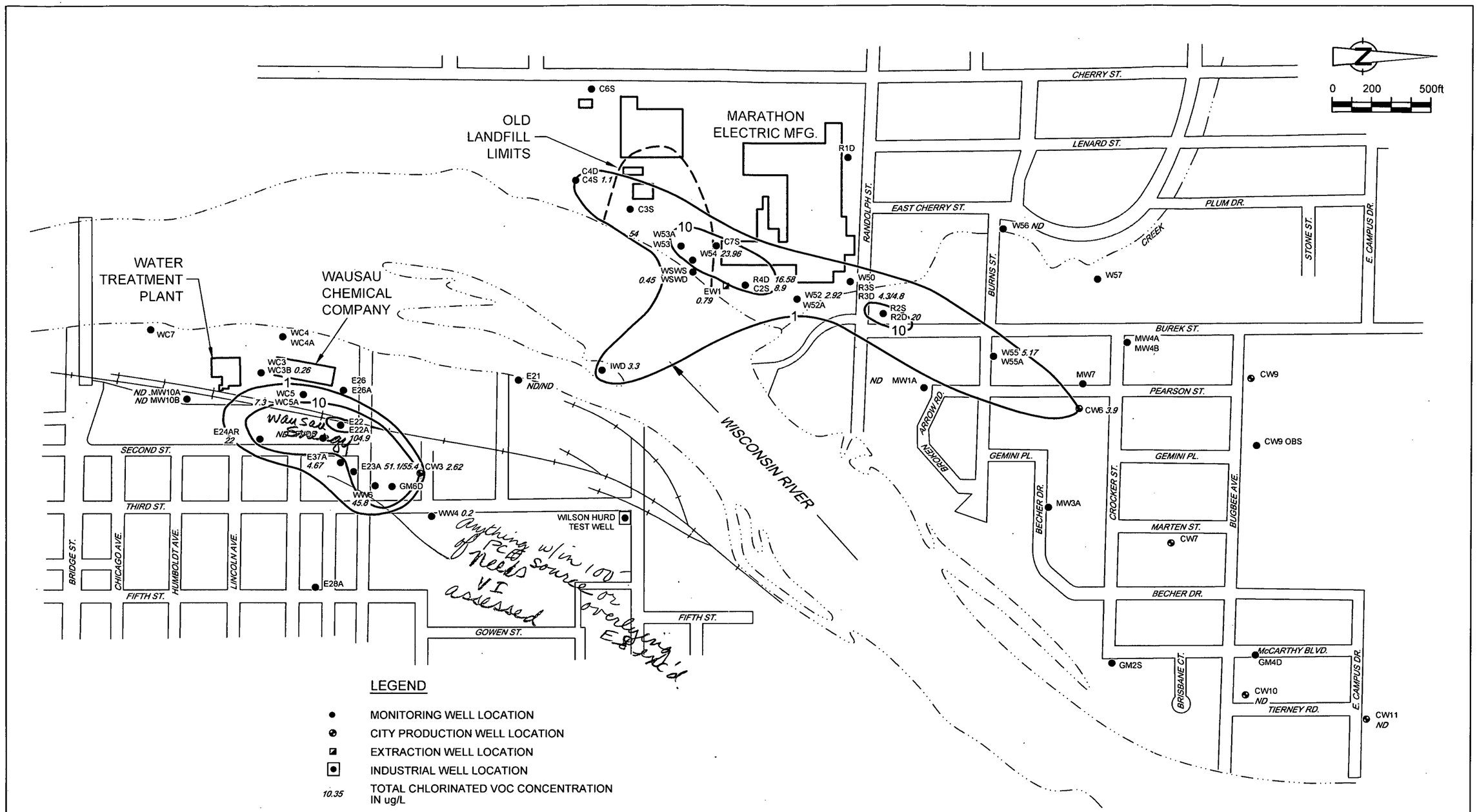
- MONITORING WELL LOCATION
- CITY PRODUCTION WELL LOCATION
- EXTRACTION WELL LOCATION
- INDUSTRIAL WELL LOCATION

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




LEGEND

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

NOTE:
WHERE NO VALUE IS SHOWN, WELL WAS NOT SAMPLED

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

figure 4.1

TOTAL CHLORINATED VOCs IN GROUNDWATER (NOVEMBER 2013)
WAUSAU WATER SUPPLY NPL SITE
*Wausau, Wisconsin*

03978-00(033)GN-WA003 JAN 8/2014

TABLE 2.1

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

| | *Reference Elevation* | | *Water Level (ft BTOC)* | *Water Table Elevation (ft AMSL)* |
|---|---|---|---|---|
| ***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 |

TABLE 2.1

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

| | *Reference Elevation* | | *Water Level (ft BTOC)* | *Water Table Elevation (ft AMSL)* |
|---|---|---|---|---|
| ***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**

| *Well* | *Date* | *pH* | *Conductivity (uS/cm)* | *Temperature (ºC)* | *Water Clarity* | *Gallons Removed* | *Sample ID* | *QA/QC* |
|---|---|---|---|---|---|---|---|---|
| ***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 | Equipment Blank |
| | | | | | | | W-131111-MLR-05 | |
| 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**

| *Well* | *Date* | *pH* | *Conductivity (uS/cm)* | *Temperature (ºC)* | *Water Clarity* | *Gallons Removed* | *Sample ID* | *QA/QC* |
|---|---|---|---|---|---|---|---|---|
| ***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<br>W-131113-MLR-34 | <br>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<br>W-131113-MLR-29 | <br>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<br>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

| Well Name | Total Depth from TOC/Stickup (ft.) | Well ID/Tag Visible? | Casing & Grout Condition | Well Cap Condition (inner/outer) | Lock Condition | Concrete Seal Condition | Ground Condition (subsidence?) | Flush Mount | Notes | Maintenance Completed |
|---|---|---|---|---|---|---|---|---|---|---|
| *East Bank* | | | | | | | | | | |
| **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**

| *Well Name* | *Total Depth from TOC/Stickup (ft.)* | *Well ID/Tag Visible?* | *Casing & Grout Condition* | *Well Cap Condition (inner/outer)* | *Lock Condition* | *Concrete Seal Condition* | *Ground Condition (subsidence?)* | *Flush Mount* | *Notes* | *Maintenance Completed* |
|---|---|---|---|---|---|---|---|---|---|---|
| *West Bank* | | | | | | | | | | |
| **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**

| *Well Name* | *Total Depth from TOC/Stickup (ft.)* | *Well ID/Tag Visible?* | *Casing & Grout Condition* | *Well Cap Condition (inner/outer)* | *Lock Condition* | *Concrete Seal Condition* | *Ground Condition (subsidence?)* | *Flush Mount* | *Notes* | *Maintenance Completed* |
|---|---|---|---|---|---|---|---|---|---|---|
| *West Bank (Continued)* | | | | | | | | | | |
| **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 | | | |

**TABLE 3.2**

**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* |
|---|---|---|---|---|---|---|---|
| | Hours | 312.9 | 427 | 206.4 | 31.1 | 89 | 126.1 |
| *January* | Gallons | 30.867 | 41.2 | 27.045 | 1.677 | 17.677 | 21.962 |
| | gpm | 1644 | 1608 | 2184 | 899 | 3310 | 2903 |
| | Hours | 288.5 | 379.9 | 212.4 | 50.2 | 105.6 | 111.8 |
| *February* | Gallons | 27.885 | 35.064 | 25.657 | 2.724 | 21.012 | 19.437 |
| | gpm | 1611 | 1538 | 2013 | 904 | 3316 | 2898 |
| | Hours | 401.9 | 333.5 | 273.1 | 48.8 | 83.2 | 81.1 |
| *March* | Gallons | 37.6 | 30.217 | 33.732 | 2.637 | 17.933 | 14.007 |
| | gpm | 1559 | 1510 | 2059 | 901 | 3592 | 2879 |
| | Hours | 267.6 | 446.5 | 148.1 | 42.5 | 83.2 | 116.2 |
| *April* | Gallons | 24.036 | 40.487 | 15.429 | 2.289 | 16.689 | 18.332 |
| | gpm | 1497 | 1511 | 1736 | 898 | 3343 | 2629 |
| | Hours | 356.1 | 380.4 | 218.6 | 23 | 129.8 | 111 |
| *May* | Gallons | 29.353 | 34.409 | 22.509 | 1.247 | 24.805 | 19.254 |
| | gpm | 1374 | 1508 | 1716 | 904 | 3185 | 2891 |
| | Hours | 353.6 | 357.1 | 238.8 | 47.1 | 158.4 | 67.1 |
| *June* | Gallons | 30.374 | 32.799 | 23.951 | 2.55 | 31.64 | 11.671 |
| | gpm | 1432 | 1531 | 1672 | 902 | 3329 | 2899 |
| | Hours | 288.2 | 442.9 | 215.2 | 109.1 | 215.9 | 172 |
| *July* | Gallons | 26.352 | 40.727 | 22.009 | 6.088 | 40.756 | 30.032 |
| | gpm | 1524 | 1533 | 1705 | 930 | 3146 | 2910 |
| | Hours | 378.4 | 371 | 294.9 | 204.1 | 201.5 | 157.6 |
| *August* | Gallons | 32.698 | 33.638 | 30.359 | 10.548 | 34.618 | 27.946 |
| | gpm | 1440 | 1511 | 1716 | 861 | 2863 | 2955 |
| | Hours | 334.4 | 354.7 | 247.7 | 95.5 | 116 | 147.6 |
| *September* | Gallons | 32.006 | 32.091 | 25.877 | 5.182 | 22.141 | 25.64 |
| | gpm | 1595 | 1508 | 1741 | 904 | 3181 | 2895 |
| | Hours | 309.9 | 430.8 | 136.6 | 74.1 | 131.3 | 80.9 |
| *October* | Gallons | 28 | 38.945 | 14.548 | 4.024 | 26.067 | 14.03 |
| | gpm | 1506 | 1507 | 1775 | 905 | 3309 | 2890 |
| | Hours | 410.7 | 303.6 | 183.1 | 61 | 38.2 | 86.5 |
| *November* | Gallons | 37.212 | 27.412 | 19.423 | 2.972 | 7.314 | 14.971 |
| | gpm | 1510 | 1505 | 1768 | 812 | 3191 | 2885 |
| | Hours | 331.4 | 403.9 | 182.1 | 35.7 | 82.9 | 74.8 |
| *December* | 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**

| *Sample Location:* | | | *CW3* | *E21* | *E21* | *E22A* | *E23A* | *E23A* | *E24AR* |
|---|---|---|---|---|---|---|---|---|---|
| *Sample ID:* | | | *W-131111-MLR-01* | *W-131111-MLR-02* | *W-131111-MLR-03* | *W-131112-MLR-15* | *W-131112-MLR-17* | *W-131112-MLR-18* | *W-131112-MLR-19* |
| *Sample Date:* | | | *11/11/2013* | *11/11/2013* | *11/11/2013* | *11/12/2013* | *11/12/2013* | *11/12/2013* | *11/12/2013* |
| | | | | | *FIELD DUP* | | | *FIELD DUP* | |
| *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 |

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

| *Sample Location:* | | | *E37A* | *FVD5* | *IWD* | *MW10A* | *MW10B* | *WC3B* | *WC5A* |
|---|---|---|---|---|---|---|---|---|---|
| *Sample ID:* | | | *W-131112-MLR-14* | *W-131112-MLR-13* | *W-131113-MLR-35* | *W-131111-MLR-05* | *W-131111-MLR-06* | *W-131111-MLR-08* | *W-131111-MLR-07* |
| *Sample Date:* | | | *11/12/2013* | *11/12/2013* | *11/13/2013* | *11/11/2013* | *11/11/2013* | *11/11/2013* | *11/11/2013* |
| *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 | 1.0 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 | 1.0 U |
| Acetone | ug/L | -- | 10 U | 50 U | 10 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 | 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 | 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 | 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 | 1.0 U |
| Ethylbenzene | ug/L | 700 | 1.0 U | 210 | 1.0 U | 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 | 1.0 U |
| Tetrachloroethene | ug/L | 5 | 1.4 | 5.0 U | 1.0 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 | 1.0 U |
| Trichloroethene | ug/L | 5 | 0.78 J | 5.0 U | 2.2 | 1.0 U | 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 | 1.0 U |
| Xylenes (total) | ug/L | 10000 | 1.0 U | 440 | 1.0 U | 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

| *Sample Location:* | | | *WW4* | *WW6* | *R2D* | *R3D* | *R3D* | *R4D* | *C2S* |
|---|---|---|---|---|---|---|---|---|---|
| *Sample ID:* | | | *W-131112-MLR-16* | *W-131112-MLR-12* | *W-131112-MLR-24* | *W-131113-MLR-33* | *W-131113-MLR-34* | *W-131112-MLR-25* | *W-131113-MLR-31* |
| *Sample Date:* | | | *11/12/2013* | *11/12/2013* | *11/12/2013* | *11/13/2013* | *11/13/2013* *FIELD DUP* | *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 | 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**

| *Sample Location:* | | | *C4S* | *W52* | *W53A* | *W54* | *W55* | *W56* | *WSWD* |
|---|---|---|---|---|---|---|---|---|---|
| *Sample ID:* | | | *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* |
| *Sample Date:* | | | *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**

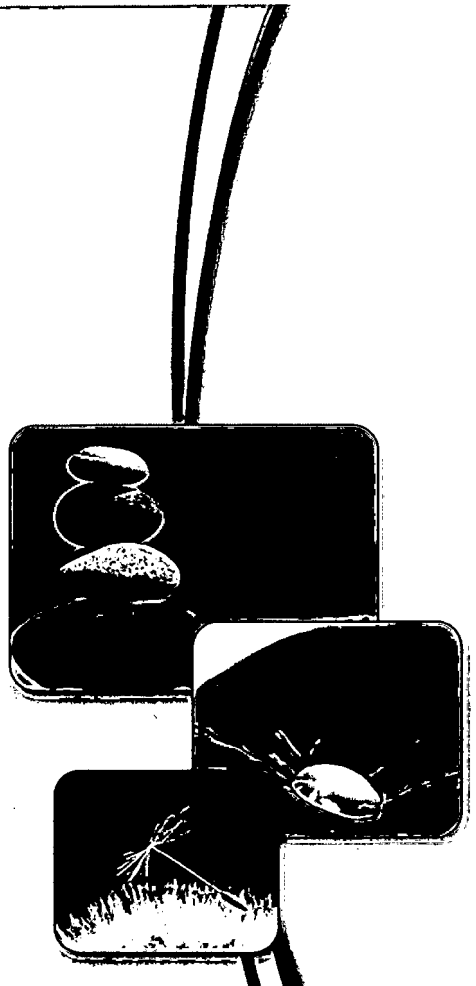
| *Sample Location:* | | | *MW1A* | *EW1* | *CW6* | *CW10* | *CW11* |
|---|---|---|---|---|---|---|---|
| *Sample ID:* | | | *W-131112-MLR-23* | *W-131112-MLR-26* | *W-131112-MLR-11* | *W-131112-MLR-10* | *W-131112-MLR-09* |
| *Sample Date:* | | | *11/12/2013* | *11/12/2013* | *11/12/2013* | *11/12/2013* | *11/12/2013* |
| ***VOAs*** | | ***MCL*** | | | | | |
| 1,1,2-Trichloroethane | ug/L | 5 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 1,1-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

Denise D Heckler

*Authorized for release by:*
*11/27/2013 3:44:52 PM*

Denise Heckler, Project Manager II
(330)966-9477
denise.heckler@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.*

# Table of Contents

## 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) |

## 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

## 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.

# 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.

## 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.

## 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.

# 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.

**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.

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131111-MLR-01**
**Date Collected: 11/11/13 13:19**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-1**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131111-MLR-02**
**Date Collected: 11/11/13 15:20**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-2**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131111-MLR-03**
**Date Collected: 11/11/13 15:22**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-3**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131111-MLR-04**
**Date Collected: 11/11/13 15:35**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-4**
**Matrix: Water**

**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 ID: W-131111-MLR-05**
**Date Collected: 11/11/13 15:55**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-5**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131111-MLR-06**
**Date Collected: 11/11/13 15:50**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-6**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131111-MLR-07**
**Date Collected: 11/11/13 16:40**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-7**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131111-MLR-08**
**Date Collected: 11/11/13 16:40**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-8**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131112-MLR-09**
**Date Collected: 11/12/13 08:30**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-9**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131112-MLR-10**
**Date Collected: 11/12/13 08:34**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-10**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131112-MLR-11**
**Date Collected: 11/12/13 09:42**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-11**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131112-MLR-12**
**Date Collected: 11/12/13 13:09**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-12**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131112-MLR-13**
**Date Collected: 11/12/13 13:07**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-13**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131112-MLR-14**
**Date Collected: 11/12/13 13:22**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-14**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131112-MLR-15**
**Date Collected: 11/12/13 13:41**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-15**
**Matrix: Water**

**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 ID: W-131112-MLR-16**
**Date Collected: 11/12/13 13:07**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-16**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131112-MLR-17**
**Date Collected: 11/12/13 13:55**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-17**
**Matrix: Water**

**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 ID: W-131112-MLR-18**
**Date Collected: 11/12/13 13:55**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-18**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131112-MLR-19**
**Date Collected: 11/12/13 14:16**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-19**
**Matrix: Water**

**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 ID: W-131112-MLR-20**
**Date Collected: 11/12/13 14:30**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-20**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131112-MLR-21**
**Date Collected: 11/12/13 14:49**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-21**
**Matrix: Water**

**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 ID: W-131112-MLR-22**
**Date Collected: 11/12/13 15:22**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-22**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131112-MLR-23**
**Date Collected: 11/12/13 16:15**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-23**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131112-MLR-24**
**Date Collected: 11/12/13 16:48**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-24**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131112-MLR-25**
**Date Collected: 11/12/13 17:25**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-25**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131112-MLR-26**
**Date Collected: 11/12/13 17:50**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-26**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131113-MLR-27**
**Date Collected: 11/13/13 07:38**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-27**
**Matrix: Water**

**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 ID: W-131113-MLR-28**
**Date Collected: 11/13/13 08:16**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-28**
**Matrix: Water**

**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 ID: W-131113-MLR-29**
**Date Collected: 11/13/13 08:05**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-29**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131113-MLR-30**
**Date Collected: 11/13/13 08:43**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-30**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131113-MLR-31**
**Date Collected: 11/13/13 09:26**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-31**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131113-MLR-32**
**Date Collected: 11/13/13 09:55**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-32**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131113-MLR-33**
**Date Collected: 11/13/13 10:30**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-33**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131113-MLR-34**
**Date Collected: 11/13/13 10:30**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-34**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: W-131113-MLR-35**
**Date Collected: 11/13/13 12:50**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-35**
**Matrix: Water**

**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 ID: W-131113-MLR-36**
**Date Collected: 11/13/13 13:20**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-36**
**Matrix: Water**

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

TestAmerica Job ID: 240-31539-1

**Client Sample ID: TRIP BLANK**
**Date Collected: 11/13/13 12:00**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-37**
**Matrix: Water**

**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**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | |
|---|---|---|---|---|---|
| | | 12DCE | BFB | TOL | DBFM |
| Lab Sample ID | Client Sample ID | (63-129) | (66-117) | (74-115) | (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 |

## 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 (63-129) | BFB (66-117) | TOL (74-115) | DBFM (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)

## 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* |

## 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 Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| 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 %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *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 Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *63 - 129* |
| *4-Bromofluorobenzene (Surr)* | *95* | | *66 - 117* |
| *Toluene-d8 (Surr)* | *101* | | *74 - 115* |

## 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 %Recovery | MSD Qualifier | Limits |
|---|---|---|---|
| *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 Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloroethane | 1.0 | U | 1.0 | 0.27 | ug/L | | | 11/22/13 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 %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *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 |
|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloroethane | 25.0 | 25.4 | | ug/L | | 101 | 80 - 112 |
| 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 |

## 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 %Recovery | LCS Qualifier | Limits |
|---|---|---|---|
| 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 Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| 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 %Recovery | MS Qualifier | Limits |
|---|---|---|---|
| 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 Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

## 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 |

## 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 %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *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 %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *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* |

## 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* |

## 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* |

## 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* |

## 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 | |

## 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 |

**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 |

**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 |

**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 |

**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 |

**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 |

**Client Sample ID: TRIP BLANK**
**Date Collected: 11/13/13 12:00**
**Date Received: 11/15/13 09:30**

**Lab Sample ID: 240-31539-37**
**Matrix: Water**

| 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

# 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
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

# CHAIN OF CUSTODY
# AND
# RECEIVING DOCUMENTS

240-31539 Chain of Custody

# CHAIN OF CUSTODY RECORD

CONESTOGA-ROVERS & ASSOCIATES
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: 2 OF 2 |
| Project Location: WAUSAU, WI | | | Carrier: FED EX |
| Chemistry Contact: GRANT ANDERSON | | | Airbill No: |
| Sampler(s): M. RICHIE ; N. ESTREM | | | Date Shipped: 11/14/13 |

| 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 ($H_2SO_4$) | Sodium Hydroxide (NaOH) | Methanol/Water (Soil VOC) | EnCores 3x5-g, 1x25-g | Other: | Total Containers/Sample | VOCs (8260B) | MS/MSD Request | Comments/ Special Instructions: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | W-13111-MLR-01 | 11/11/13 | 13:19 | WG | G | | 3 | | | | | | | 3 | X | | |
| 2 | W-13111-MLR-02 | 11/11/13 | 15:20 | WG | G | | 3 | | | | | | | 3 | X | | |
| 3 | W-13111-MLR-03 | 11/11/13 | 15:22 | WG | G | | 3 | | | | | | | 3 | X | | |
| 4 | W-13111-MLR-04 | 11/11/13 | 15:35 | WG | G | | 3 | | | | | | | 3 | X | | |
| 5 | W-13111-MLR-05 | 11/11/13 | 15:55 | WG | G | | 3 | | | | | | | 3 | X | | |
| 6 | W-13111-MLR-06 | 11/11/13 | 15:50 | WG | G | | 3 | | | | | | | 3 | X | | |
| 7 | W-13111-MLR-07 | 11/11/13 | 16:40 | WG | G | | 3 | | | | | | | 3 | X | | |
| 8 | W-13111-MLR-08 | 11/11/13 | 16:40 | WG | G | | 3 | | | | | | | 3 | X | | |
| 9 | W-13112-MLR-09 | 11/12/13 | 8:30 | WG | G | | 3 | | | | | | | 3 | X | | |
| 10 | W-13112-MLR-10 | 11/12/13 | 8:34 | WG | G | | 3 | | | | | | | 3 | X | | |
| 11 | W-13112-MLR-11 | 11/12/13 | 8:42 | WG | G | | 3 | | | | | | | 3 | X | | |
| 12 | W-13112-MLR-12 | 11/12/13 | 13:09 | WG | G | | 9 | | | | | | | 9 | X | X | |
| 13 | W-13112-MLR-13 | 11/12/13 | 13:07 | WG | G | | 3 | | | | | | | 3 | X | | |
| 14 | W-13112-MLR-14 | 11/12/13 | 13:22 | WG | G | | 3 | | | | | | | 3 | X | | |
| 15 | W-13112-MLR-15 | 11/12/13 | 13:41 | WG | G | | 3 | | | | | | | 3 | X | | |

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:
All Samples in Cooler must be on COC

Notes/ Special Requirements:

| Relinquished By | Company | Date | Time | Received By | Company | Date | Time |
|---|---|---|---|---|---|---|---|
| 1. Michael Richie | CRA | 11/14/13 | 16:00 | 1. | TN | 11/15/13 | 930 |
| | | | | 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)

# CHAIN OF CUSTODY RECORD

CONESTOGA-ROVERS & ASSOCIATES

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: 003176-00 | 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: 2 OF 2 |
| Project Location: WAUSAU, WI | | | Carrier: FED EX |
| Chemistry Contact: GRANT ANDERSON | | | Airbill No: |
| Sampler(s): N. Eastern, M. Richie | | | Date Shipped: 11/14/13 |

| 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 ($H_2SO_4$) | Sodium Hydroxide (NaOH) | Methanol/Water (Soil VOC) | EnCores 3x5-g, 1x25-g | Other: | Total Containers/Sample | VOCs (8260B) | MS/MSD Request | Comments/ Special Instructions: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | W-13112-MLR-16 | 11/12/13 | 13:07 | WG | G | | 3 | | | | | | | 3 | X | | |
| 2 | W-13112-MLR-17 | 11/12/13 | 13:55 | WG | G | | 3 | | | | | | | 3 | X | | |
| 3 | W-13112-MLR-18 | 11/12/13 | 13:55 | WG | G | | 3 | | | | | | | 3 | X | | |
| 4 | W-13112-MLR-19 | 11/12/13 | 14:16 | WG | G | | 3 | | | | | | | 3 | X | | |
| 5 | W-13112-MLR-20 | 11/12/13 | 14:30 | WG | G | | 3 | | | | | | | 3 | X | | |
| 6 | W-13112-MLR-21 | 11/12/13 | 14:49 | WG | G | | 3 | | | | | | | 3 | X | | |
| 7 | W-13112-MLR-22 | 11/12/13 | 15:22 | WG | G | | 3 | | | | | | | 3 | X | | |
| 8 | W-13112-MLR-23 | 11/12/13 | 16:15 | WG | G | | 3 | | | | | | | 3 | X | | |
| 9 | W-13112-MLR-24 | 11/12/13 | 16:46 | WG | G | | 3 | | | | | | | 3 | X | | |
| 10 | W-13112-MLR-25 | 11/12/13 | 17:25 | WG | G | | 3 | | | | | | | 3 | X | | |
| 11 | W-13112-MLR-26 | 11/12/13 | 17:50 | WG | G | | 3 | | | | | | | 3 | X | | |
| 12 | W-13113-MLR-27 | 11/13/13 | 7:38 | WG | G | | 9 | | | | | | | 9 | X | X | |
| 13 | W-13113-MLR-28 | 11/13/13 | 8:16 | WG | G | | 3 | | | | | | | 3 | X | | |
| 14 | W-13113-MLR-29 | 11/13/13 | 8:05 | WG | G | | 3 | | | | | | | 3 | X | | |
| 15 | W-13113-MLR-30 | 11/13/13 | 8:43 | WG | G | | 3 | | | | | | | 3 | X | | |

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:

All Samples in Cooler must be on COC

Notes/ Special Requirements:

| Relinquished By | Company | Date | Time | Received By | Company | Date | Time |
|---|---|---|---|---|---|---|---|
| 1. Michael Richie | CRA | 11/14/13 | 16:00 | 1. | FM | 11/15/13 | 9:30 |
| | | | | 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- 01059
PAGE 3 OF 3
(See Reverse Side for Instructions)

| | | | |
|---|---|---|---|
| Project No/ Phase/Task Code: 003974-800 | Laboratory Name: TEST AMERICA | Lab Location: NORTH CANTON, OH | SSOW ID: |
| Project Name: WAUSAU WATER SUPPLY SITE | Lab Contact: | Lab Quote No: | Cooler No: 2 OF 2 |
| Project Location: WAUSAU, WI | | | Carrier: FED EX |
| Chemistry Contact: GRANT ANDERSON | | | Airbill No: |
| Sampler(s): M. RICHIE, N. ESTERN | | | Date Shipped: 11/14/13 |

| 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 ($H_2SO_4$) | Sodium Hydroxide (NaOH) | Methanol/Water (Soil VOC) | EnCores 3x5-g, 1x25-g | Other: | Total Containers/Sample | VOCs (624.1) | MS/MSD Request | Comments/ Special Instructions: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | W-131113-MLR-31 | 11/13/13 | 9:26 | WC | G | | 3 | | | | | | | 3 | X | | |
| 2 | W-131113-MLR-32 | 11/13/13 | 9:55 | WC | G | | 3 | | | | | | | 3 | X | | |
| 3 | W-131113-MLR-33 | 11/13/13 | 10:30 | WC | G | | 3 | | | | | | | 3 | X | | |
| 4 | W-131113-MLR-34 | 11/13/13 | 10:30 | WC | G | | 3 | | | | | | | 3 | X | | |
| 5 | W-131113-MLR-35 | 11/13/13 | 12:50 | WC | G | | 3 | | | | | | | 3 | X | | |
| 6 | W-131113-MLR-36 | 11/13/13 | 13:20 | WC | G | | 3 | | | | | | | 3 | X | | |
| 7 | TRIP BLANK | 11/13/13 | 12:00 | W | G | | 2 | | | | | | | 2 | X | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | |

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:
All Samples In Cooler must be on COC

Notes/ Special Requirements:

| Relinquished By | Company | Date | Time | Received By | Company | Date | Time |
|---|---|---|---|---|---|---|---|
| 1. Michael J. Richie | CRA | 11/14/13 | 16:00 | 1. | FedEx | 11/15/13 | 9:30 |
| 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)

**TestAmerica Canton Sample Receipt Form/Narrative** Login # : 31539
**Canton Facility**

Client CLA Site Name _____ Cooler unpacked by:

Cooler Received on 11-15-13 Opened on 11-15-13

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._____°C | Corrected Cooler Temp._____°C | |
| IR GUN# 4 | (CF -1 °C) Observed Cooler Temp._____°C | Corrected Cooler Temp._____°C | ☐ See Multiple Cooler Form |
| 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:

**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): _____

| TestAmerica Multiple Cooler Receipt Form/Narrative<br>Canton Facility | | Login # : 31539 | | |
|---|---|---|---|---|
| Cooler # | IR Gun # | Observed Temp °C | Corrected Temp °C | Coolant |
| Client | A | 3.2 | 3.2 | IC |
| Client | I | 4.6 | 4.6 | I |

CONESTOGA-ROVERS & ASSOCIATES

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

# MEMORANDUM

TO: Chuck Ahrens, CRA

REF. NO.: 003978

FROM: 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**

| *Sample Identification* | *Location* | *Matrix* | *Date (mm/dd/yyyy)* | *Time (hr:min)* | *Analysis/Parameters* | *Comments* |
|---|---|---|---|---|---|---|
| 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**

| *Sample Identification* | *Location* | *Matrix* | *Date (mm/dd/yyyy)* | *Time (hr:min)* | *Analysis/Parameters* | *Comments* |
|---|---|---|---|---|---|---|
| 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

**TABLE 2**

**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 |

**TABLE 2**

**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 |

**TABLE 2**

**VALIDATED ANALYTICAL RESULTS SUMMARY**
**ANNUAL SAMPLING EVENT**
**WAUSAU SUPERFUND SITE**
**WAUSAU, WISCONSIN**
**NOVEMBER 2013**

| *Sample Location:* | | *FVD5* | *IWD* | *Lab* | *MW10A* | *MW10A* | *MW10B* | *MW1A* |
|---|---|---|---|---|---|---|---|---|
| *Sample ID:* | | *W-131112-MLR-13* | *W-131113-MLR-35* | *TRIP BLANK* | *W-131111-MLR-04* | *W-131111-MLR-05* | *W-131111-MLR-06* | *W-131112-MLR-23* |
| *Sample Date:* | | *11/12/2013* | *11/13/2013* | *11/13/2013* | *11/11/2013* | *11/11/2013* | *11/11/2013* | *11/12/2013* |
| *Sample Type:* | | *N* | *N* | *N* | *EB* | *N* | *N* | *N* |
| *Sample Depth:* | | - | - | - | - | - | - | - |
| ***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 |

**TABLE 2**

**VALIDATED ANALYTICAL RESULTS SUMMARY**
**ANNUAL SAMPLING EVENT**
**WAUSAU SUPERFUND SITE**
**WAUSAU, WISCONSIN**
**NOVEMBER 2013**

| *Sample Location:* | | *MW3B* | *R2D* | *R3D* | *R3D* | *R4D* | *W52* | *W53A* |
|---|---|---|---|---|---|---|---|---|
| *Sample ID:* | | *W-131111-MLR-08* | *W-131112-MLR-24* | *W-131113-MLR-33* | *W-131113-MLR-34* | *W-131112-MLR-25* | *W-131113-MLR-32* | *W-131113-MLR-28* |
| *Sample Date:* | | *11/11/2013* | *11/12/2013* | *11/13/2013* | *11/13/2013* | *11/12/2013* | *11/13/2013* | *11/13/2013* |
| *Sample Type:* | | *N* | *N* | *N* | *FD* | *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 | 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 |

**TABLE 2**

**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**

| *Parameter* | *Method* | *Matrix* | *Holding Time* | |
|---|---|---|---|---|
| | | | *Collection to Extraction (Days)* | *Collection or Extraction to Analysis (Days)* |
| 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**

| *Parameter* | *Analyte* | *Analysis Batch* | *Blank Result ** | *Sample ID* | *Original Result* | *Qualified Result* | *Units* |
|---|---|---|---|---|---|---|---|
| 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

| *Parameter* | *Blank Date* | *Analyte* | *Blank Result* | *Associated Sample ID* | *Original Result* | *Qualified Result* | *Units* |
|---|---|---|---|---|---|---|---|
| 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.

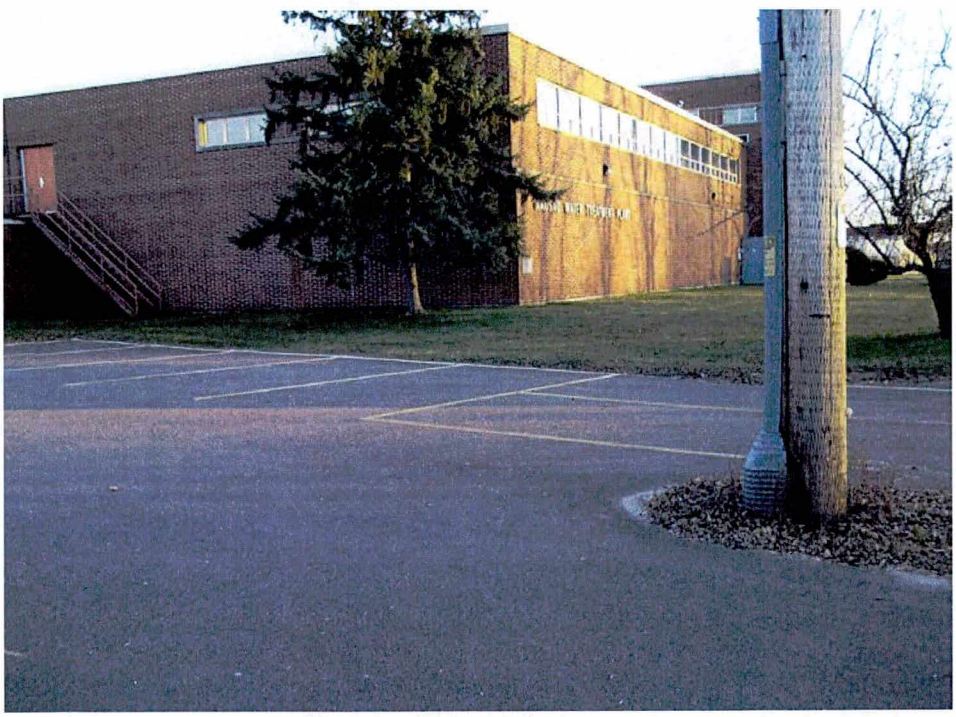


Photo 2 – Parking lot south of Wausau Chemical. Looking southeast.

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

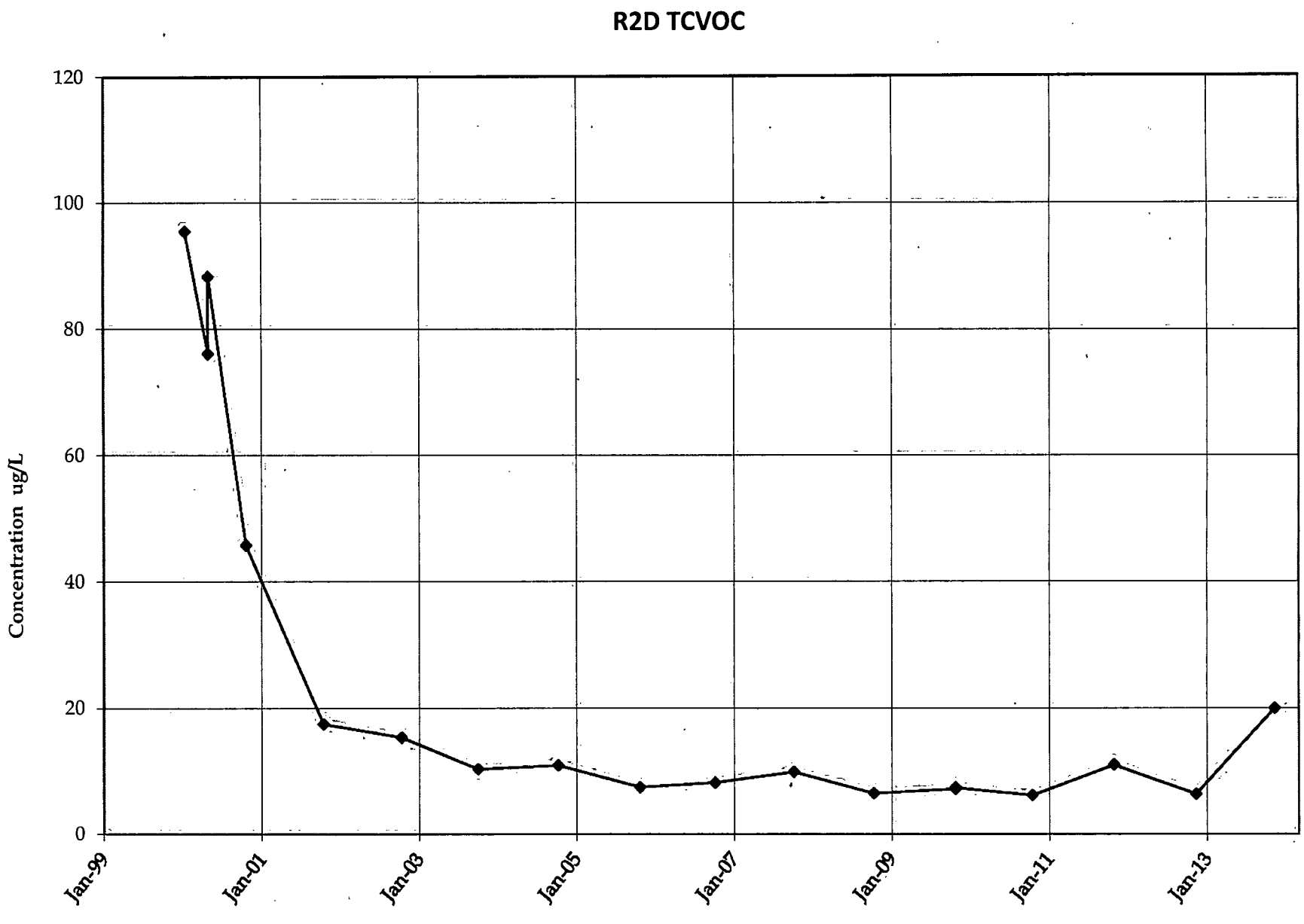
**APPENDIX B TABLE 1**

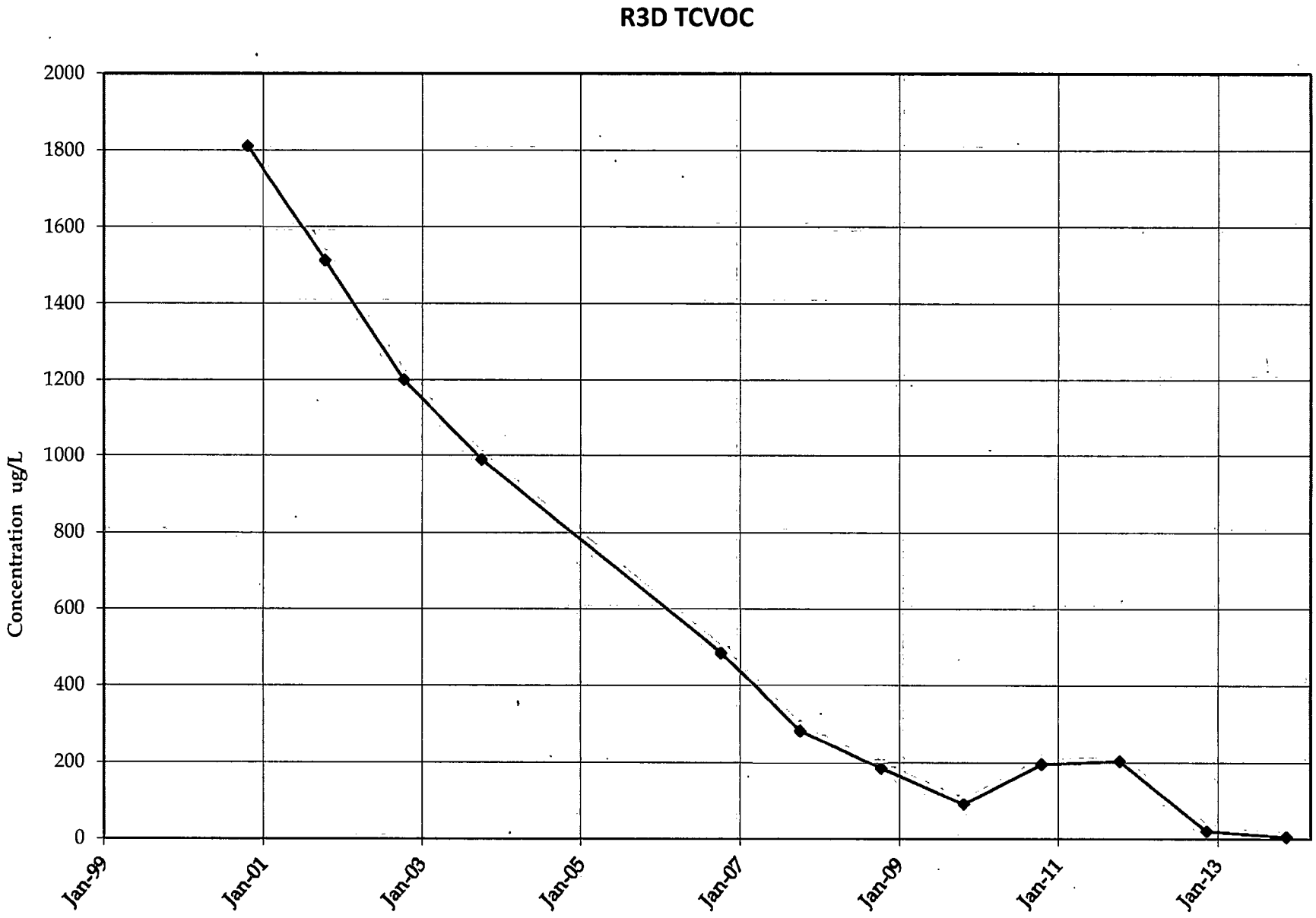
**PAVEMENT BARRIER INSPECTION LOG**
**WAUSAU CHEMCIAL CORP.**

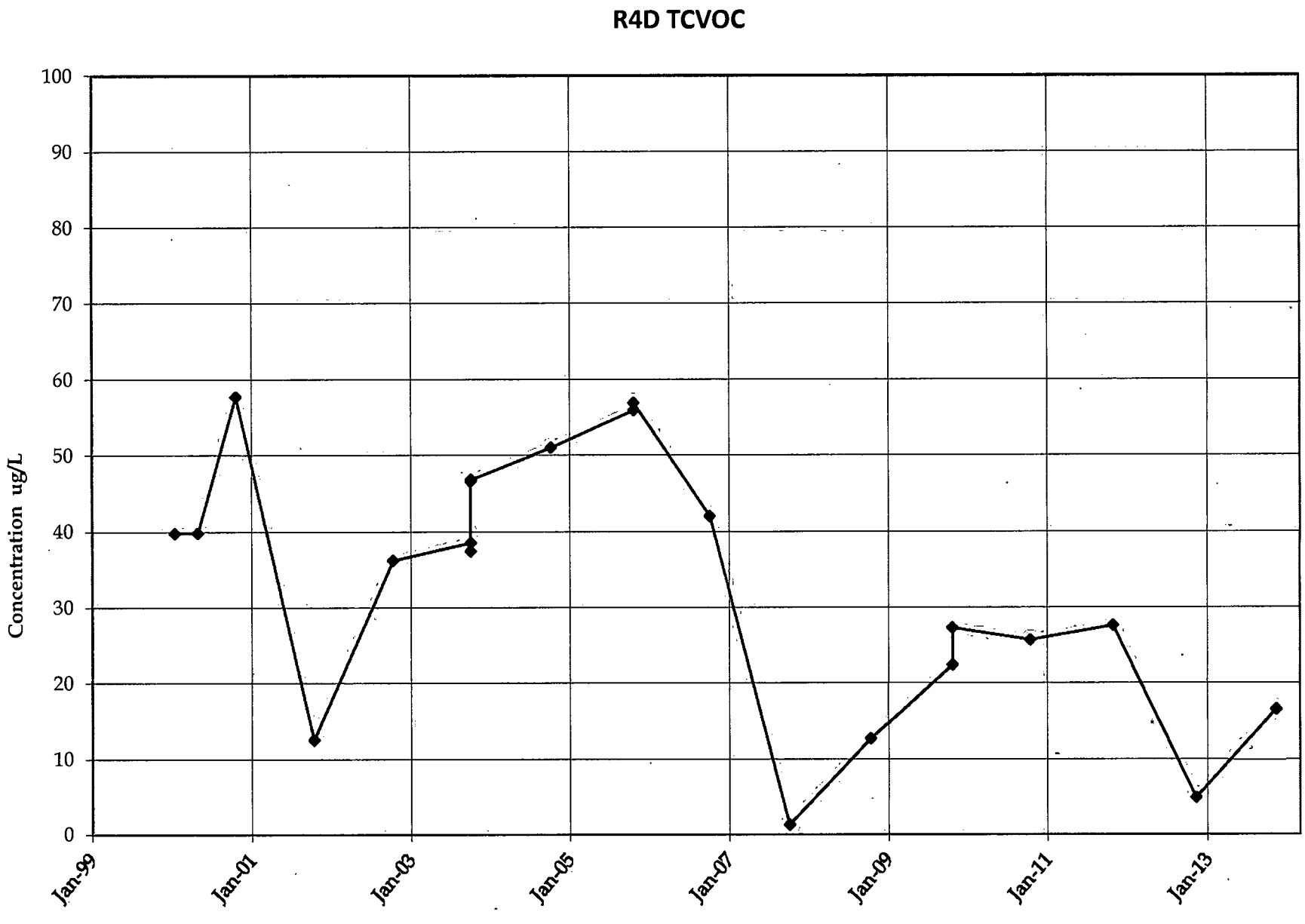
| *Inspection Date* | *Inspector* | *Condition of Cap* | *Recommendations* | *Have Recommendations From Previous Inspection Been Implemented?* |
|---|---|---|---|---|
| 5/21/2013 | Rob Flashinski | No change in appearance. | None. | Yes. |
| 11/6/2013 | Rob Flashinski | Overall condition is still good. 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. |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

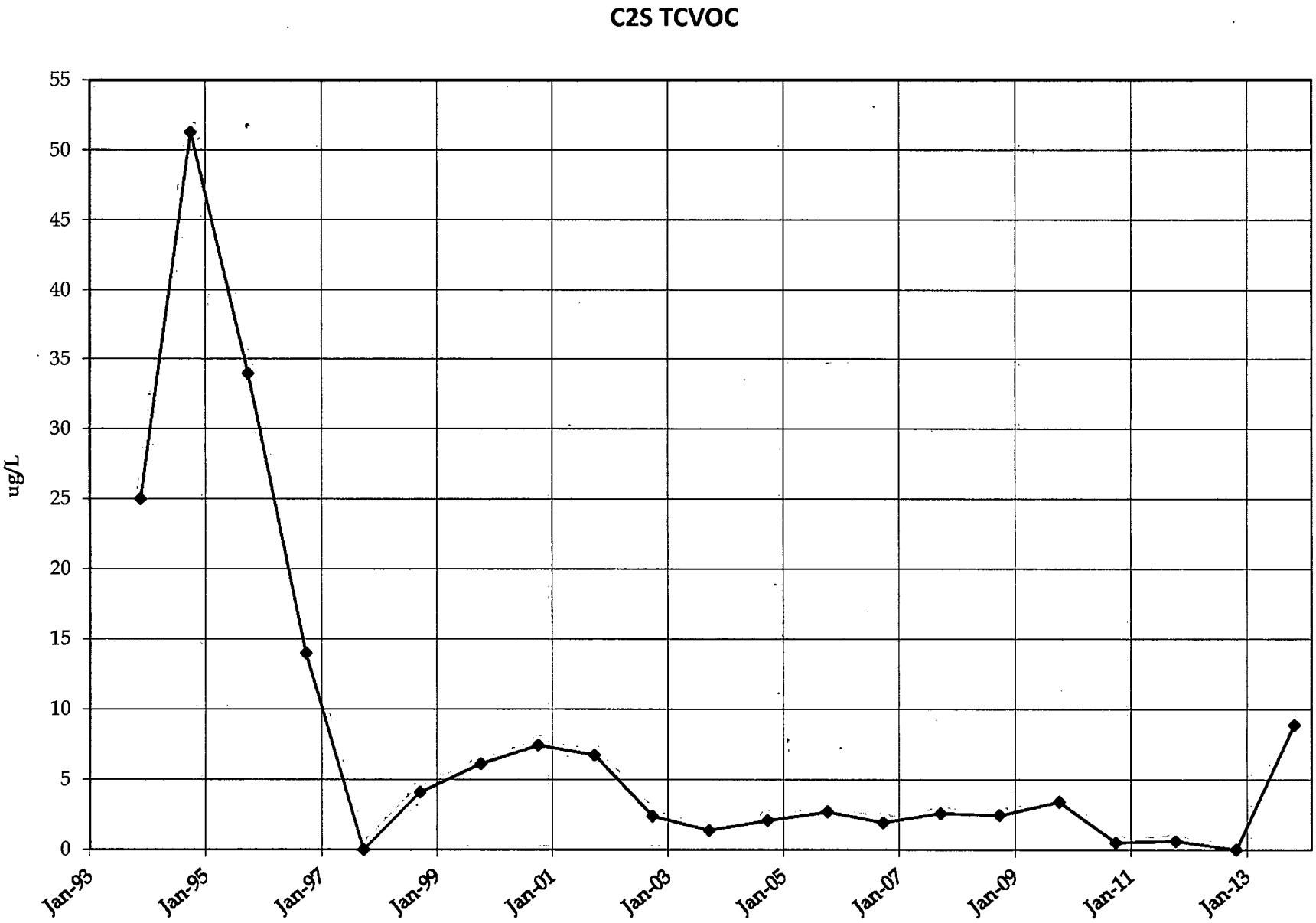
# Appendix C

## Total Chlorinated VOC Concentrations Over Time

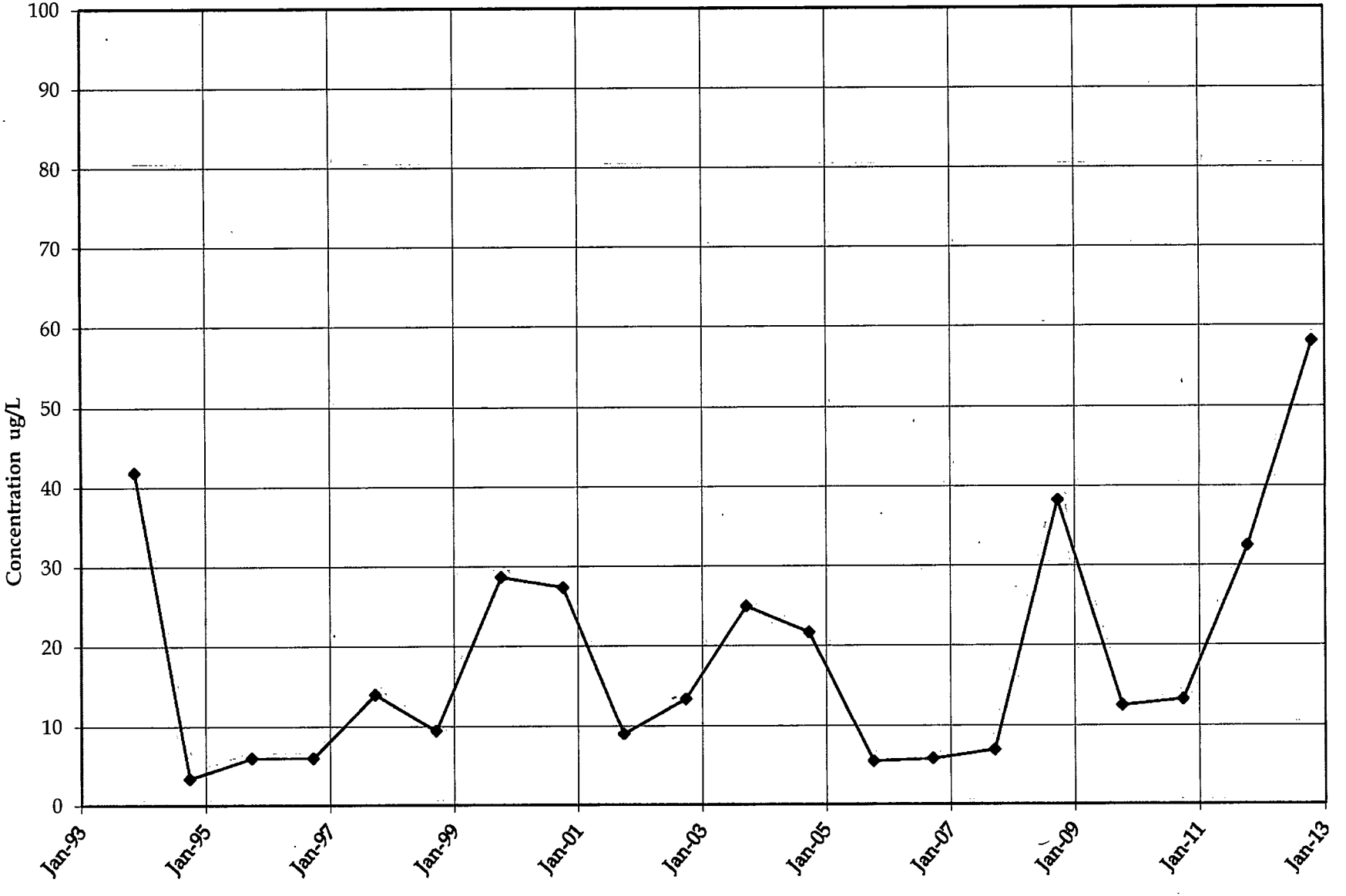

R2D TCVOC
Concentration ug/L
120
100
80
60
40
20
0
Jan-99
Jan-01
Jan-03
Jan-05
Jan-07
Jan-09
Jan-11
Jan-13


R3D TCVOC
Concentration ug/L
2000
1800
1600
1400
1200
1000
800
600
400
200
0
Jan-99
Jan-01
Jan-03
Jan-05
Jan-07
Jan-09
Jan-11
Jan-13

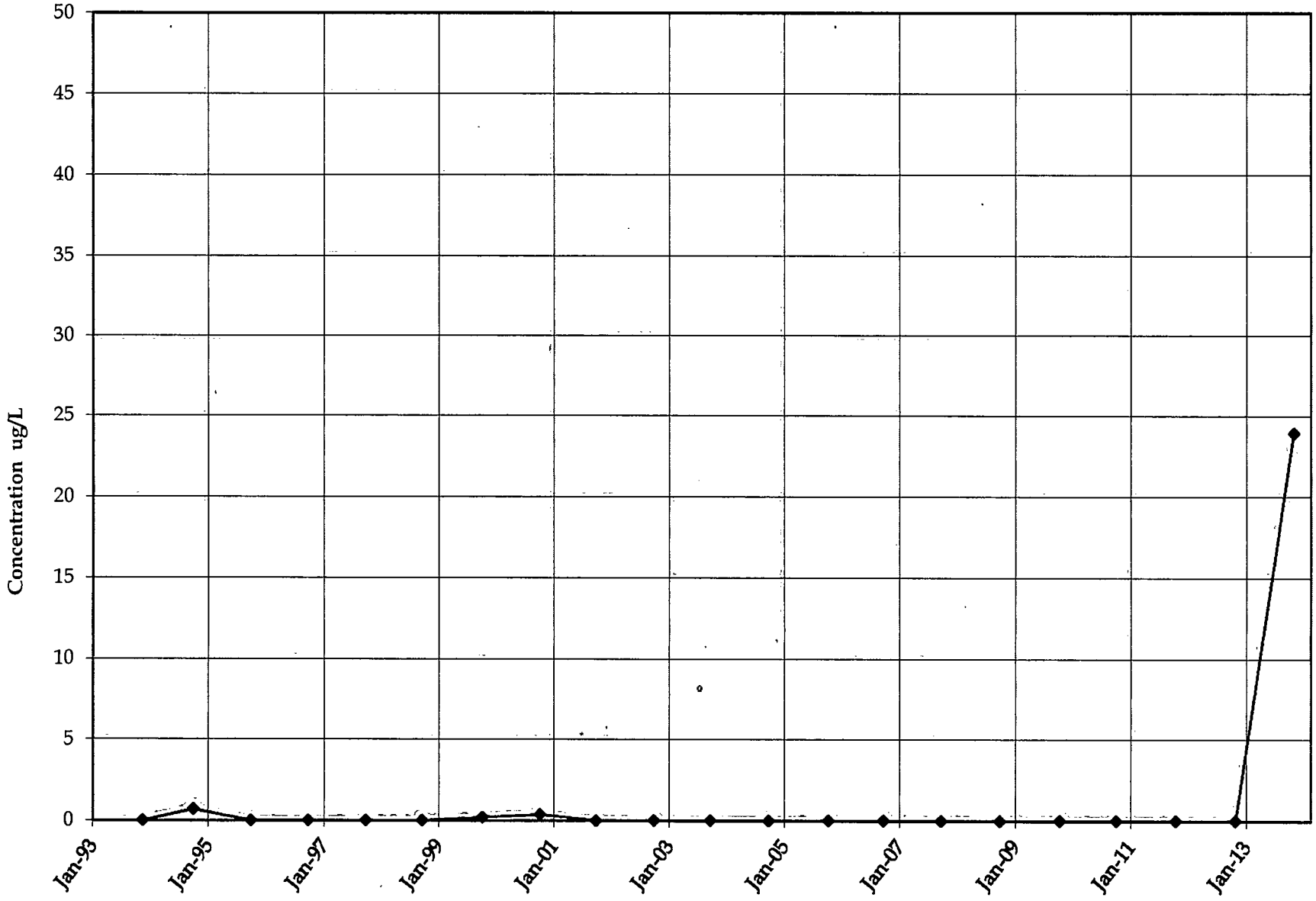

R4D TCVOC
Concentration ug/L
100
90
80
70
60
50
40
30
20
10
0
Jan-99
Jan-01
Jan-03
Jan-05
Jan-07
Jan-09
Jan-11
Jan-13

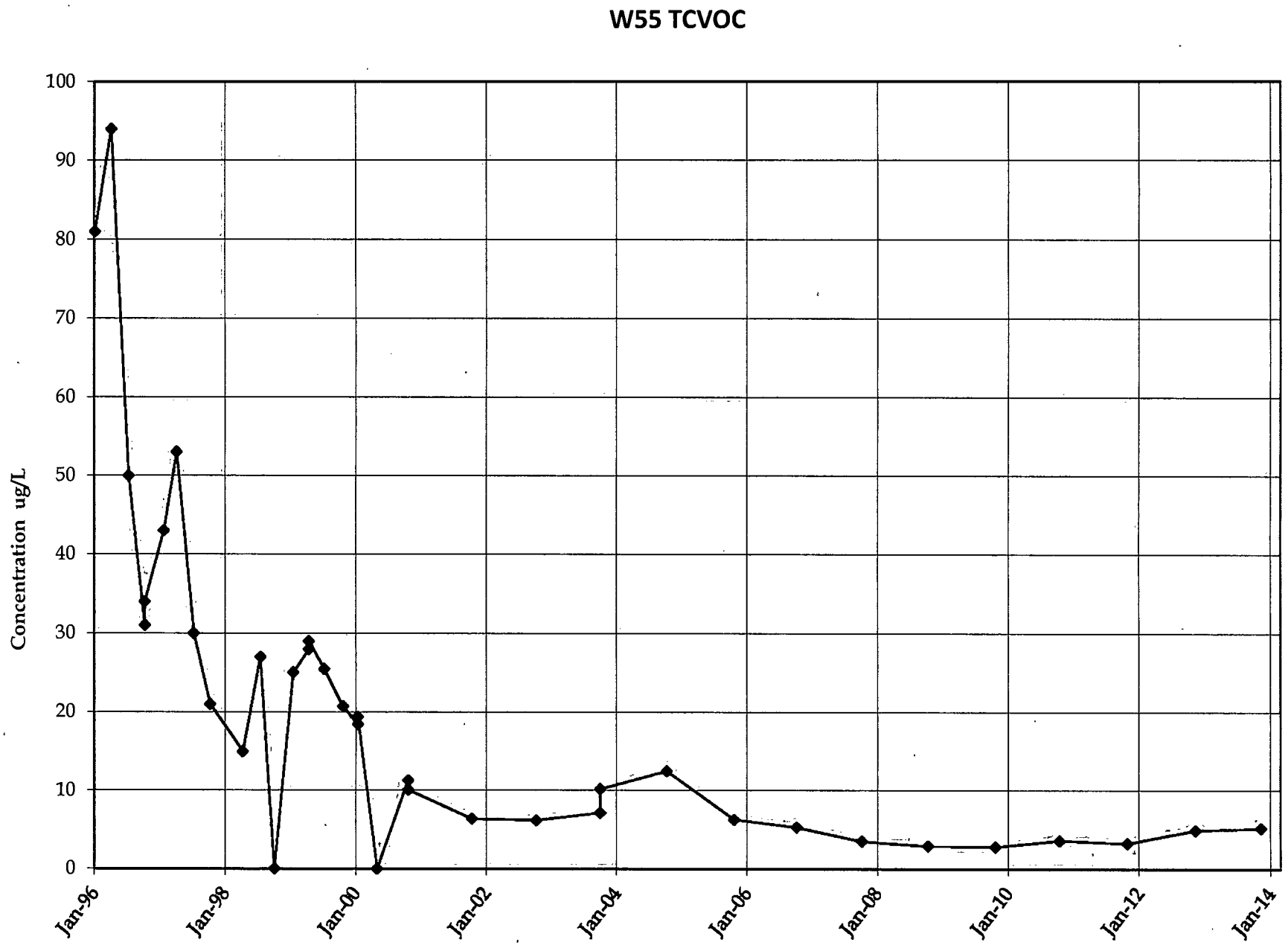

C2S TCVOC
ug/L
55
50
45
40
35
30
25
20
15
10
5
0
Jan-93
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
Jan-05
Jan-07
Jan-09
Jan-11
Jan-13

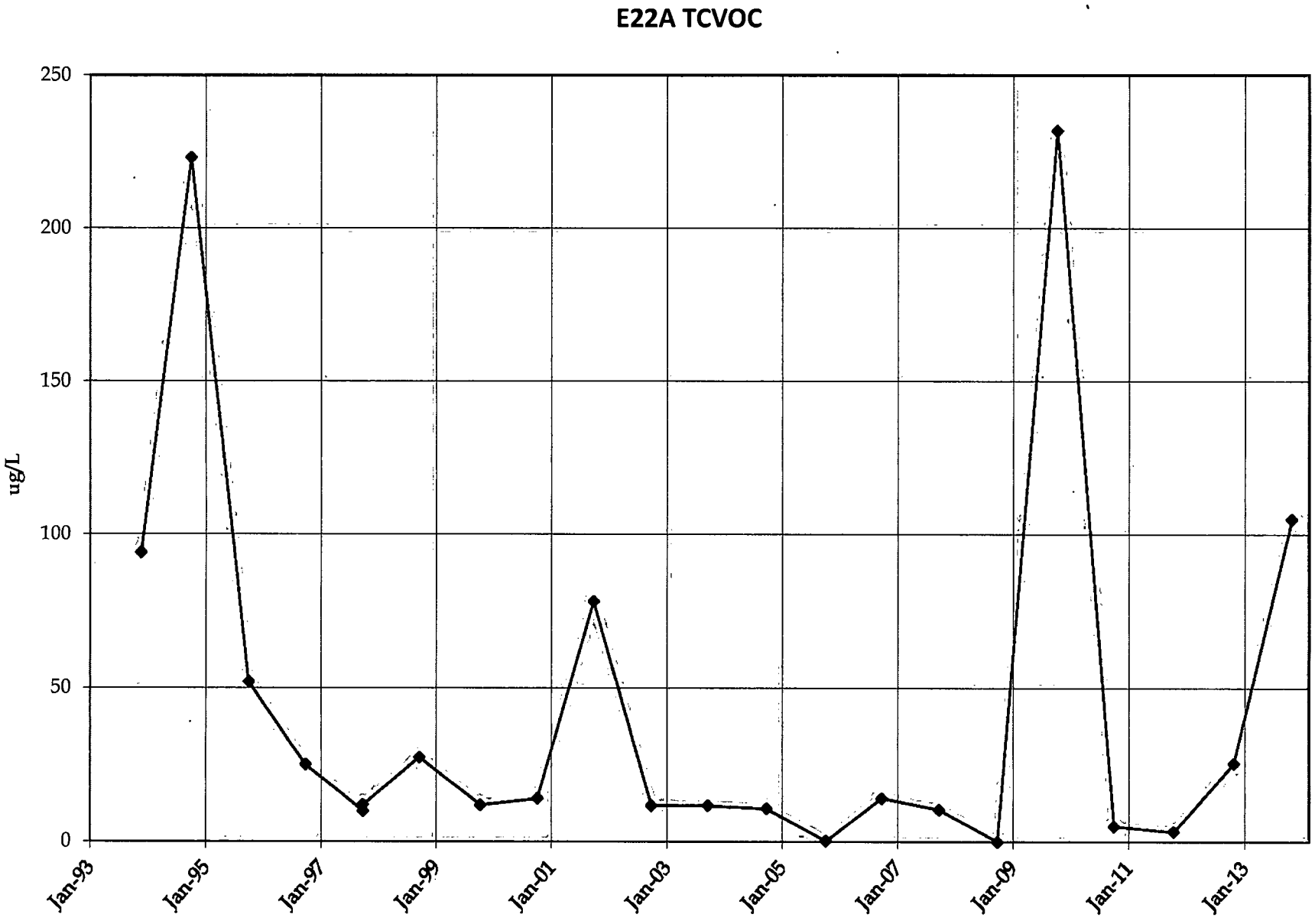
## W53A TCVOC

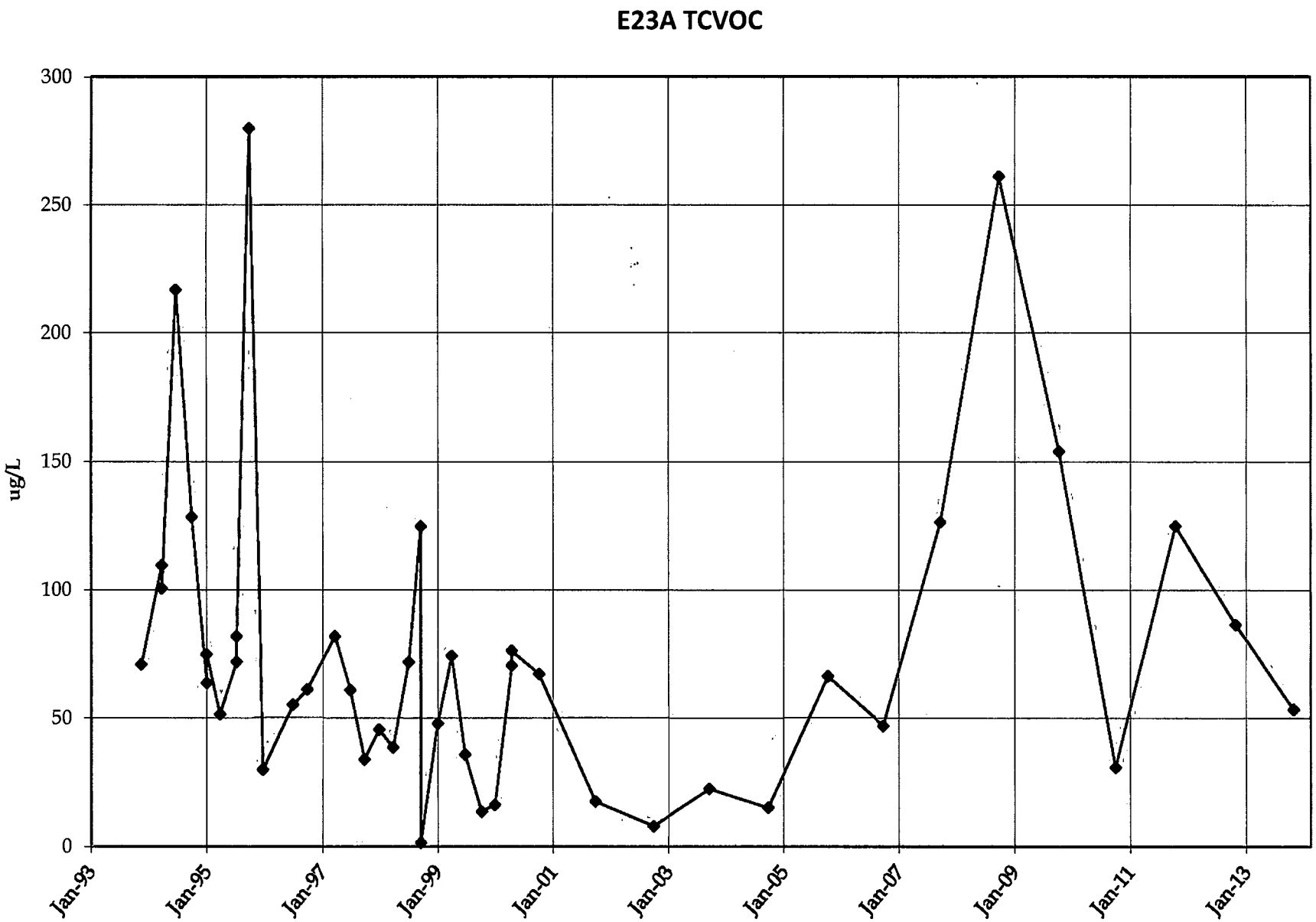

Concentration ug/L
100
90
80
70
60
50
40
30
20
10
0
Jan-93
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
Jan-05
Jan-07
Jan-09
Jan-11
Jan-13

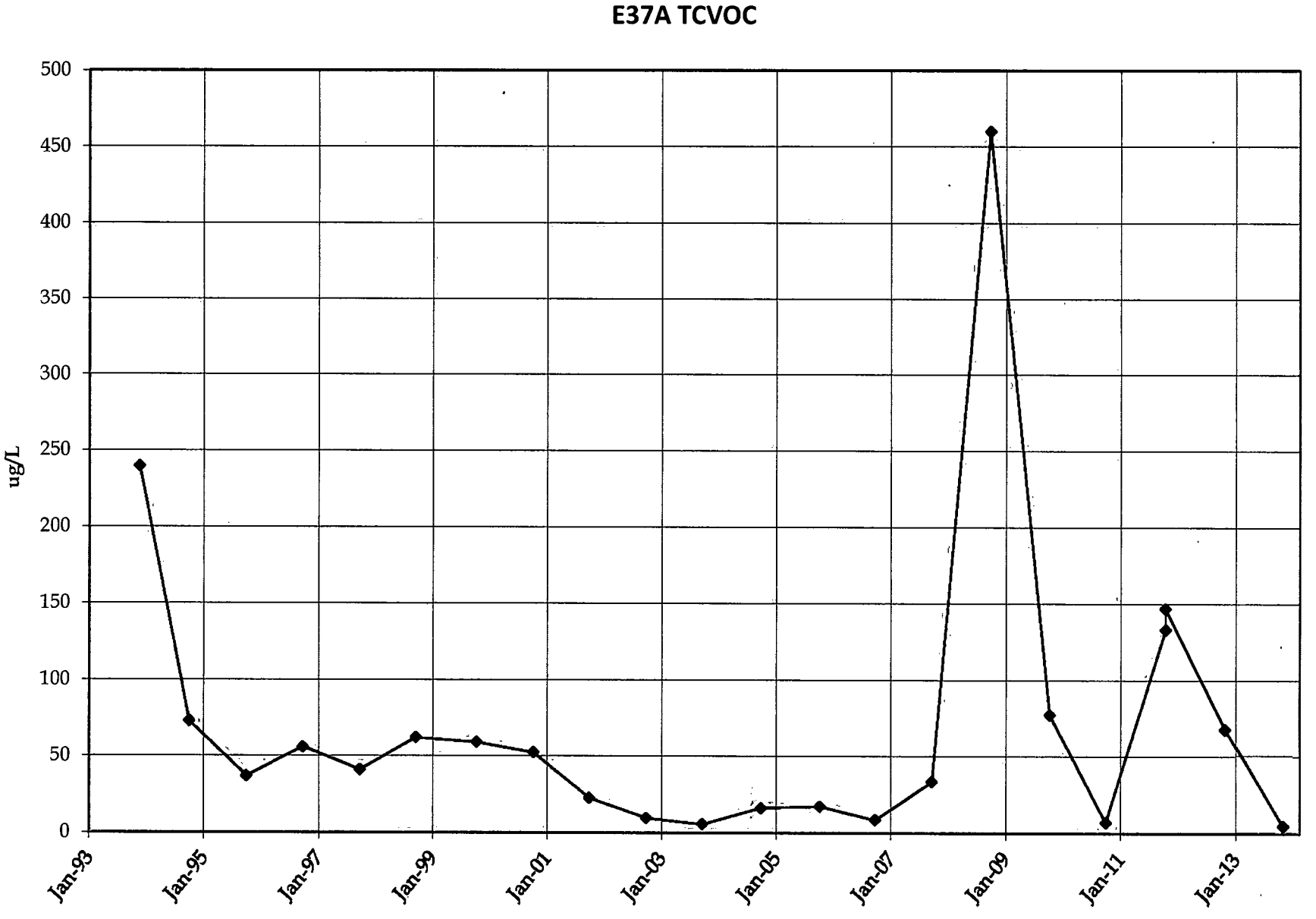
# W54 TCVOC

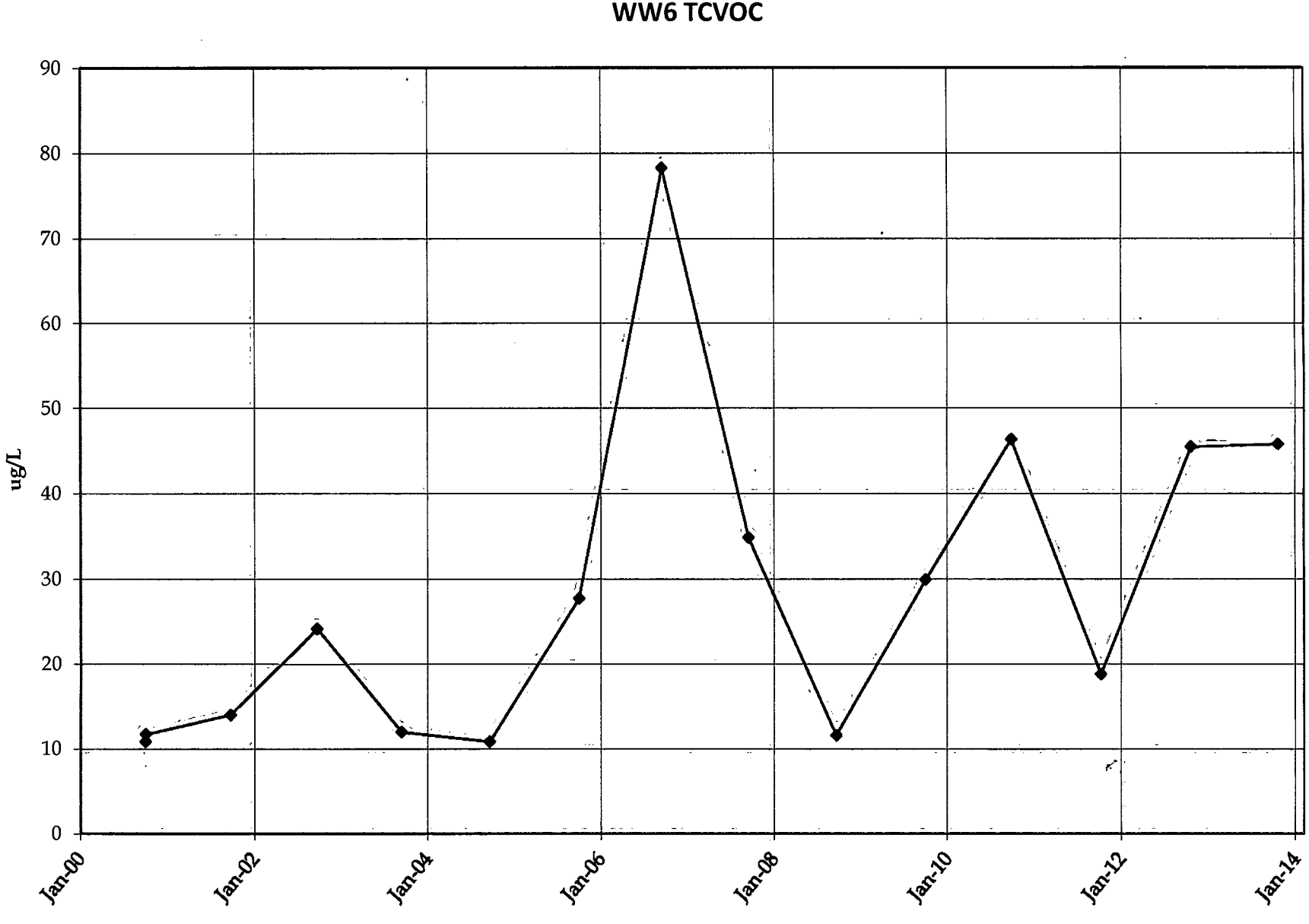

Concentration ug/L
50
45
40
35
30
25
20
15
10
5
0
Jan-93
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
Jan-05
Jan-07
Jan-09
Jan-11
Jan-13

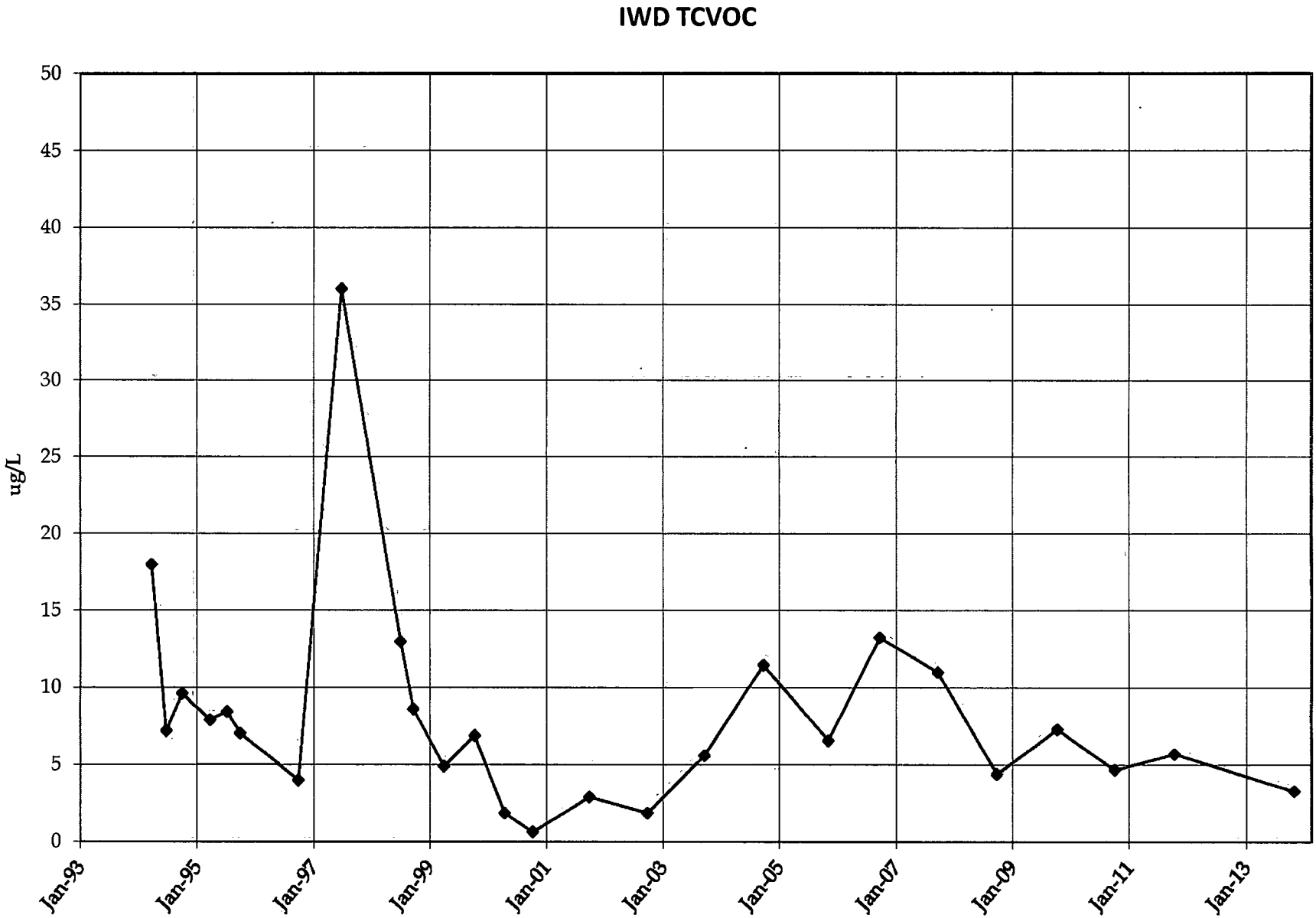

W55 TCVOC
Concentration ug/L
100
90
80
70
60
50
40
30
20
10
0
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14


E22A TCVOC
250
200
150
100
50
0
ug/L
Jan-93
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
Jan-05
Jan-07
Jan-09
Jan-11
Jan-13


E23A TCVOC
ug/L
300
250
200
150
100
50
0
Jan-93
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
Jan-05
Jan-07
Jan-09
Jan-11
Jan-13


E37A TCVOC
ug/L
500
450
400
350
300
250
200
150
100
50
0
Jan-93
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
Jan-05
Jan-07
Jan-09
Jan-11
Jan-13


WW6 TCVOC
ug/L
90
80
70
60
50
40
30
20
10
0
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14


IWD TCVOC
ug/L
50
45
40
35
30
25
20
15
10
5
0
Jan-93
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
Jan-05
Jan-07
Jan-09
Jan-11
Jan-13

# 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



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** 

**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 | | |
| 1,1,2,2-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**
**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 | | |
| 1,1,2,2-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**
**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



NLS Project: 198435
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: 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 | | |
| 1,1,2,2-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**
**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 | LOQ | 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 | | |
| 1,1,2,2-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) | 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 | |
| 1,1,2,2-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) | 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



NLS Project: 203977
NLS Customer: 36394

Fax: 715 261 6946 Phone: 715 261 7288

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

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



NLS Project: 203977
NLS Customer: 36394

Fax: 715 261 6946 Phone: 715 261 7288

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

**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**



**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 | | |
| 1,1,2,2-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) | 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 | | |
| 1,1,2,2-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.