



Stantec Consulting Services Inc.  
12075 Corporate Parkway, Suite 200  
Mequon, WI 53092

January 31, 2018

**Attention: Mr. John Feeney, P.G.**

Wisconsin Department of Natural Resources  
Remediation and Redevelopment Program  
Plymouth Service Center  
1155 Pilgrim Parkway  
Plymouth, Wisconsin 53073

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**Reference: Summary of Additional Groundwater Monitoring Activities and Justification for Case Closure  
Former Cedarburg Power Plant Property  
W61 N617 Mequon Avenue, Cedarburg, Wisconsin  
WDNR BRRTS #02-46-547626 and #03-46-003301  
Stantec Project No.: 193705903**

Dear Mr. Feeney:

Stantec Consulting Services Inc. (Stantec) prepared this letter report to summarize additional groundwater monitoring activities completed since 2003 at the former Cedarburg Power Plant property located at W61 N617 Mequon Avenue, Cedarburg, Wisconsin (the Property). The report concludes with a request for concurrence that no further investigation or groundwater monitoring is required. The Property location and the overall site layout are illustrated in Figures 1 and 2, respectively.

**BACKGROUND**

Two open Wisconsin Department of Natural Resources (WDNR) Bureau of Remediation and Redevelopment Tracking System (BRRTS) numbers are associated with the Property. The first case (02-46-547626) is an Emergency Response Program (ERP) case associated with a chlorinated solvent release identified at the Property. The second (03-46-003301) is a leaking underground storage tank (LUST) case that has been investigated, but not closed.

During the 1990s, Northern Environmental Technologies, Inc. performed investigative activities at the Property to address both petroleum and chlorinated solvent contamination. In 1997, a request for case closure was submitted to the WDNR. The WDNR denied the closure request and asked that the source of the chlorinated solvents be identified and additional groundwater sampling be completed to document groundwater trends. Based on further discussions, the required scope of work included one additional year of quarterly groundwater monitoring. Reportedly, the requested monitoring occurred though documentation could not be located and the information was not provided to the WDNR.

In April 2012, Mr. Dale Lythjohan of Cedarburg Light & Water Utility and Stu Gross of Stantec met with Mr. John Feeney, Mr. Mark Gordon, and Mr. Jim Schmidt of the WDNR to discuss the steps needed to close this case.

During the meeting, the WDNR again requested that the source of chlorinated solvent contamination be identified and two separate groundwater sampling events be performed on a quarterly basis.

Shortly after the meeting, Stantec implemented the desired activities requested by the WDNR. Therefore, this document was prepared to summarize that work.



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### **APPLICABLE GROUNDWATER CLEAN-UP CRITERIA**

Public health-related groundwater quality standards are set forth by ch. NR 140 Wisconsin Administrative Code (NR 140). Standards are listed for substances of public health concern (defined as substances having carcinogenic, mutagenic, or teratogenic properties or interactive effects) and substances of public welfare concern (defined as having a negative aesthetic value but with little threat to human health). Two levels of standards are listed: the preventive action limit (PAL) and the enforcement standard (ES). The ES represents a concentration above which action generally must be taken to improve the quality of groundwater. The PAL represents a lower concentration (usually 10 to 20 percent of the ES), above which, groundwater quality should be further evaluated. PAL and ES values relevant to constituents evaluated in groundwater samples collected at the Site are summarized in Table 2.

### **ADDITIONAL GROUNDWATER MONITORING ACTIVITIES**

On May 10, 2012, Stantec evaluated the physical condition of monitoring wells MW200, MW300, and MW400 at the Property for general compliance with Ch. NR 141 Wisconsin Administrative Code well construction requirements. The wells were noted to be in good condition and were over purged for sampling purposes. On May 10 and August 27, 2012, Stantec measured water levels and sampled wells for volatile organic compounds (VOCs).

The observed water table elevation data are provided in Table 1. The depth to water during the August 2012 event ranged from 11.86 to 13.37 feet below top of casing in the monitoring wells. Ground water at the Property generally flows in an easterly direction with a horizontal hydraulic gradient of approximately 0.01 feet per foot. Water table conditions on August 27, 2012 are illustrated on Figure 3. Groundwater flow at the site is likely influenced by the concrete dam located approximately 50 feet south of MW500.

During the May 2012 event, various chlorinated solvents were detected in monitoring well MW200. However, the reported compounds are similar to those previously detected in the well and the concentrations are similar to or lower than historic results. Tetrachloroethene (PCE) and vinyl chloride were present at concentrations above respective NR 140 ESs in MW200. Trichloroethene (TCE) was also reported in the sample at a concentration that exceeded the NR 140 PAL. PCE was the only compound reported in MW300. The result was at the PAL established for that compound but was also "J" flagged by the laboratory meaning that the reported result may not be statistically accurate. PCE was also reported in this well during previous sampling events. No elevated detections of VOCs were reported in the sample collected from MW400.

During the August 2012 event, various chlorinated solvents were again detected in monitoring well MW200. However, none of the reported concentrations exceeded the NR 140 ES. PCE was the only compound present in MW300 with the reported result being just above the NR 140 PAL. No elevated detections were reported in the sample collected from MW400. Groundwater quality results are summarized in Table 2. Groundwater sample laboratory analytical reports and chain-of-custody records are attached.

### **SOURCE IDENTIFICATION**

The WDNR requested additional information related to the source of chlorinated solvent contamination present at the Property. In response to this request, Stantec interviewed Mr. John Brunner. Mr. Brunner was a mechanic at the Cedarburg Power Plant for 23 years. Mr. Brunner stated that a "parts washing area" was present on the southern side of the building. Drums containing fuel oil and solvents were also present in this area and were always stored inside the building near this location. Mr. Brunner stated that Approximately 3 or 4 gallons of fuel oil was





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mixed with a small amount of solvent (Mr. Brunner could not remember the name of the solvent used) then transferred to the parts washer to wash various parts. Mr. Brunner stated that waste liquids from the parts washer was transferred to drums and containerized for off-site disposal. However, on occasion, small amounts (believed to be no more than 3 or 4 gallons per summer) of the waste was used to control weeds in a gravel area located between the former cooling towers and the building (west and northwestern side of building). Mr. Brunner was not aware of any other use of solvents at the Property. He also stated that the area north of the power plant building (area of existing monitoring wells) was, to his knowledge, paved with asphalt during the years he worked at the facility.

This information was forwarded to the WDNR in an email correspondence dated July 26, 2012. In response, the WDNR requested that at a minimum, a hand auger boring be advanced in the area where the solvent waste was used to control weeds and that a soil sample be collected and analyzed for VOCs.

To satisfy the WDNR's request, Stantec personnel met with Mr. Brunner at the Property to discuss historic site operations and locate a representative area to collect a sample. With Mr. Brunner's input, a location was selected in a grassy strip located between the former cooling towers and the building. On August 27, 2012, Stantec personnel attempted to collect a soil sample using a hand auger from this area but refusal occurred just beneath the surface in multiple locations. Therefore, the borehole was moved just south of the existing rear entrance to the building (west side). Mr. Brunner was contacted to ensure that this area was representative of the area where the waste liquid was used to control weeds. Mr. Brunner verified that weed control likely occurred in this area in the past.

Stantec personnel advanced one hand auger borehole (HB-1) to a depth of 2.5 feet below grade (fbg). Soil was collected continuously from the borehole and one sample, collected from 1.5 to 2.5 fbg was containerized for VOC analysis. Based on laboratory analytical results, no VOCs were reported above the analytical limit of detection in the soil sample. Soil sample laboratory analytical reports and chain of custody records are included in the attached August 2012 TestAmerica report.

### **CONCLUSIONS AND RECOMMENDATIONS**

The extent of petroleum and chlorinated solvent contamination in soil and groundwater was defined as part of previous investigation activities completed in the early 1990s. Though residual soil contamination is assumed to be very limited in extent, if present at all, the entire area except for a few small vegetated areas present between the former cooling towers and the building are covered by asphalt, concrete, or an existing building.

Historically, groundwater with TCE and PCE exceeding respective NR 140 ESs were present in monitoring well MW200. However, the reported TCE concentration dropped below the NR 140 PAL and the PCE concentration dropped below the NR 140 ES during the latest sampling event. PCE was also reported above the NR 140 PAL in monitoring well MW300 during this event. In general, overall contaminant concentrations present in these wells have been stable or decreasing.

Soil contamination consisting of diesel range organics identified during initial investigation activities was very limited in extent and present only in boreholes B1 and B2 (MW200). No elevated VOCs readings were reported in historic soil sampling activities that have occurred at the Property. These boreholes are located at least 30 feet from the existing building, are covered with asphalt, and no known utilities are present in the area. Based on this information, coupled with the limited



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extent and low levels of residual groundwater contamination, intrusion of potential contaminant vapor into the building does not appear to be occurring.

Based on the results of historic site investigation and recent groundwater monitoring and soil sampling activities completed at the Property, no further investigation or groundwater monitoring appears to be warranted. On behalf of Cedarburg Light & Water Utility, Stantec requests that WDNR provide concurrence that no further investigation or groundwater monitoring is required. Following this notification, a Case Closure-GIS Registry Packet (Form 4400-202) will be provided to the WDNR along with supporting documentation and appropriate Technical review and closure fees. Cedarburg Light & Water Utility acknowledges the following conditions will likely be required for closure;

- The site will be listed on the WDNR groundwater GIS Registry to address residual chlorinated-solvent contamination in groundwater
- A barrier maintenance plan of the asphalt parking lot and building overlying the residual contaminated groundwater. It should be noted that due its size and intended future use, Cedarburg Light and Water intends to subdivide the current property into at least two separate parcels. The barrier maintenance plan will be prepared for the parcel containing contaminated soil/groundwater.

Upon notification of conditional case closure, the monitoring wells associated with the release will be properly abandoned and documentation provided to the WDNR.

We trust this information meets your needs. Please contact Stantec if you have any questions or comments.

**STANTEC CONSULTING SERVICES INC.**

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Attachments: Figure 1 – Site Location & Local Topography  
Figure 2 – Site Layout  
Figure 3 – Groundwater elevation Contour Map (8/27/12)

Table 1 - Groundwater Elevation Data  
Table 2 – Groundwater Analysis Results  
Table 3 – Inorganic Field Analysis

Attachment A – Laboratory Analytical Results and Chain-of-Custody Record

c. Mr. Dale Lythjohan, Cedarburg Light & Water Utility

#### **LIMITATIONS**

The soil and monitoring well/piezometer sampling activities were performed in accordance with generally accepted practices of the profession for performing similar studies at the same time and





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in the same geographical area. Stantec observed that degree of care and skill generally exercised by the profession under similar circumstances and conditions. No other warranty is expressed or implied.

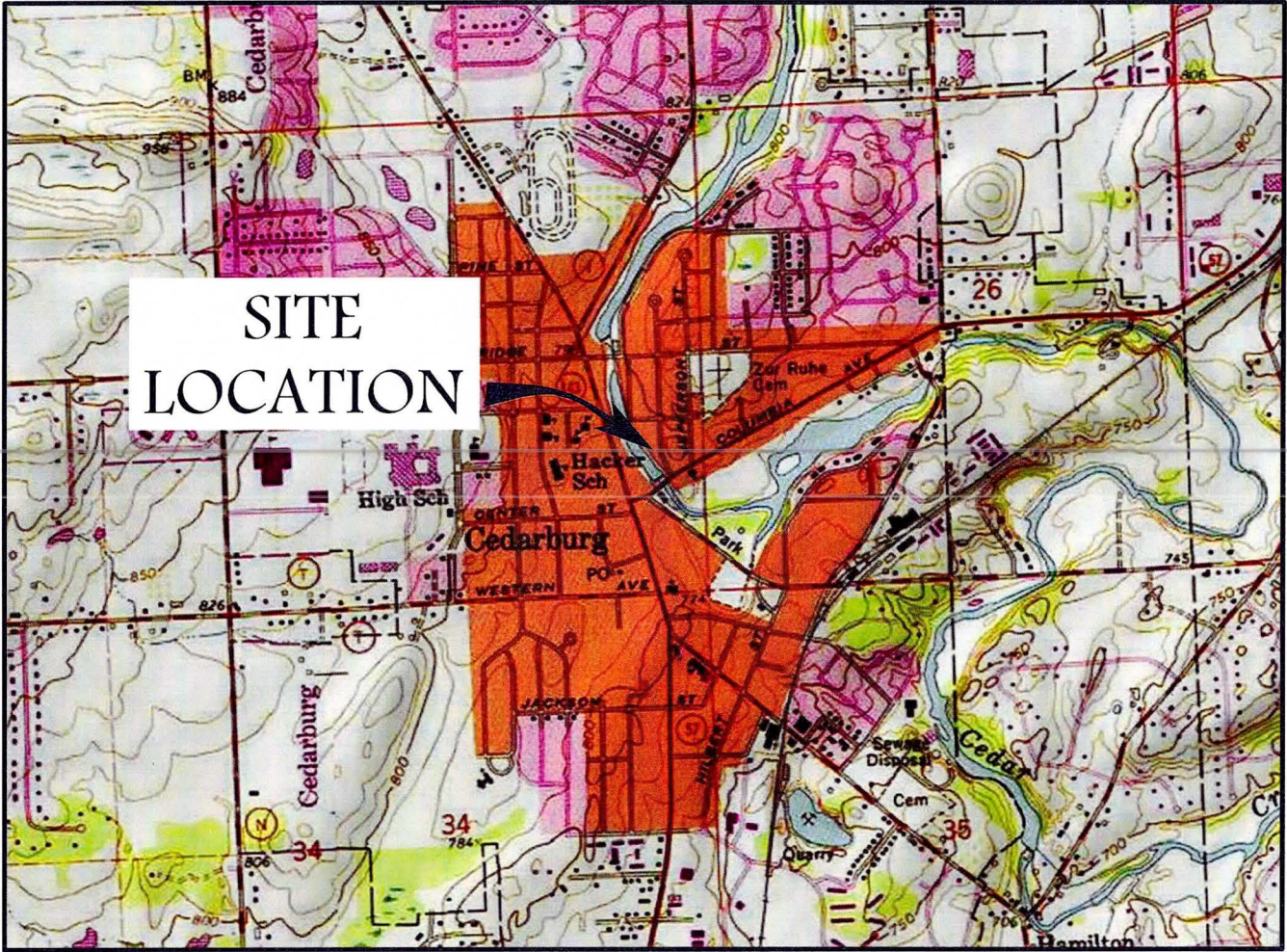
Stantec observations, findings, and opinions must not be considered as scientific certainties, but only an opinion based on our professional judgment concerning the significance of the data gathered during the course of the investigation. Specifically, Stantec does not and cannot represent that the Property contains no hazardous or toxic materials or other latent condition beyond that observed by Stantec.

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### **REFERENCES**

Wisconsin Department of Natural Resources, "Groundwater Quality", *Wisconsin Administrative Code*, Chapter NR 140, July 2015.

Wisconsin Department of Natural Resources, "Groundwater Monitoring Well Requirements", *Wisconsin Administrative Code*, Chapter NR 141, June 2015.



**SITE  
LOCATION**

SCALE IN FEET

1" = 2000'



CONTOUR INTERVAL 10 FEET  
NATIONAL GEODETIC VERTICAL DATUM OF 1929



QUADRANGLE LOCATION

BASE MAP SOURCE: USGS 7.5 MINUTE QUADRANGLE, CEDARBURG, WISCONSIN, 1994 (NATIONAL GEOGRAPHIC HOLDINGS, INC.)



12075 CORPORATE PARKWAY, SUITE 200  
MEQUON, WISCONSIN, 53092  
Phone: 800-766-7140 Fax: 262-241-4901

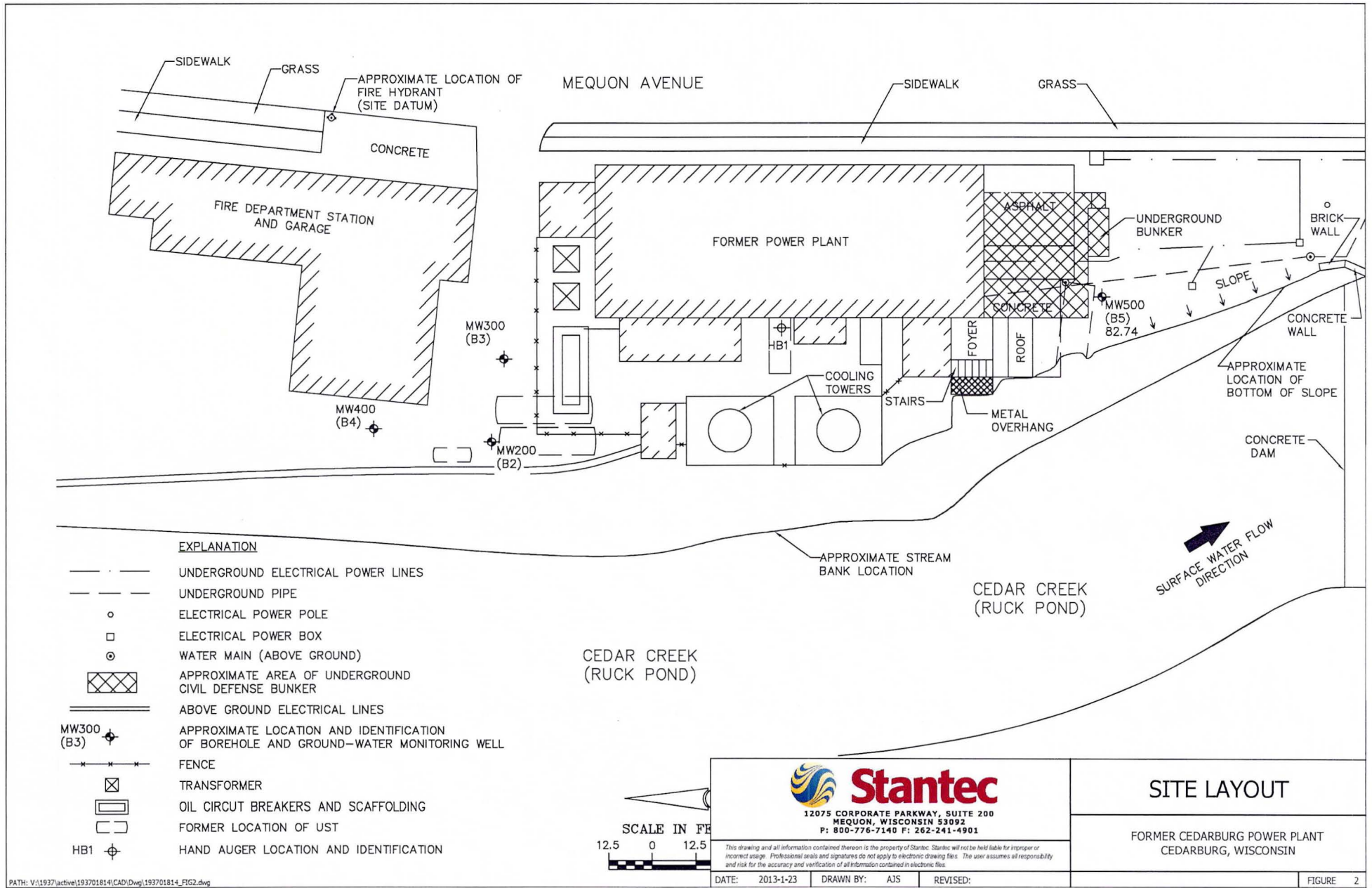
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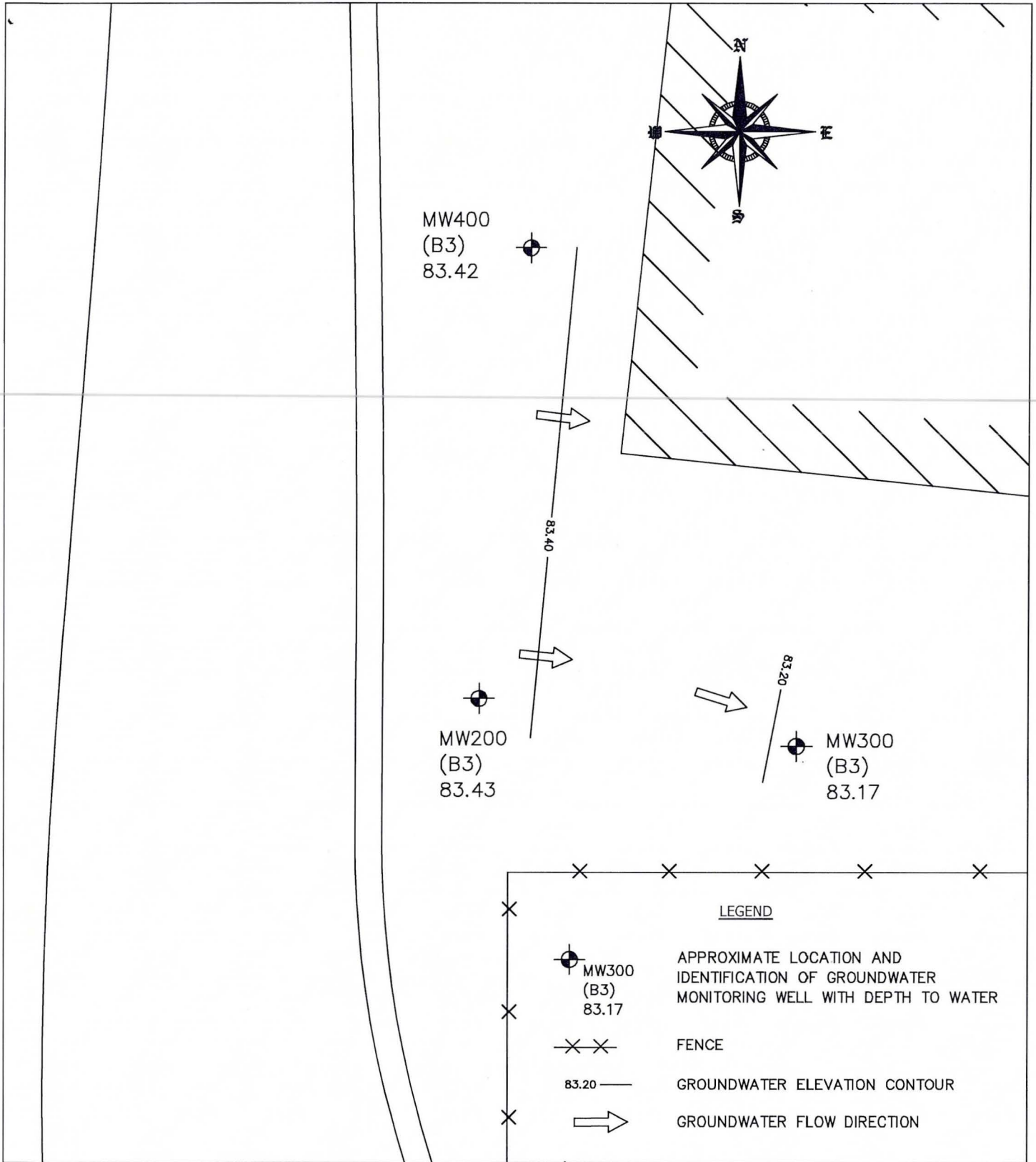
**SITE LOCATION  
& LOCAL TOPOGRAPHY**

**FORMER CEDARBURG POWER PLANT  
CEDARBURG, WISCONSIN**

DATE: 01/18/13	DRAWN BY: AJ5	REVISED:	PROJECT NUMBER: 193701814	FIGURE 1
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12075 CORPORATE PARKWAY, SUITE 200  
MEQUON, WISCONSIN 53092  
P: 800-776-7140 F: 262-241-4901

GROUNDWATER ELEVATION  
CONTOUR MAP  
AUGUST 27, 2012

FORMER CEDARBURG POWER PLANT  
CEDARBURG, WISCONSIN

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DATE: 2013-1-23	DRAWN BY: AJS	REVISED:	PROJECT: 193701814	FIGURE 3
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Table 1 Groundwater Elevation Data, Cedarburg Light & Water Power Plant, Cedarburg, Wisconsin

Well ID	Elevation Ground Surface (feet)	Elevation of Reference Point* (feet)	Date	Depth to Water Below Reference Point* (feet)	Water Table Elevation (feet)
MW200	96.46	95.94	10/18/93	12.71	83.23
			10/25/93	12.78	83.16
			10/28/93	12.94	83.00
			01/07/94	13.30	82.64
			02/14/94	14.21	81.73
			12/28/94	13.02	82.92
			01/18/95	12.90	83.04
			06/08/95	12.53	83.41
			03/21/96	12.81	83.13
			06/10/96	11.49	84.45
			09/13/96	13.00	82.94
			12/06/96	12.77	83.17
			12/19/97	13.00	82.94
			03/26/99	12.70	83.24
			05/10/12	12.10	83.84
08/27/12	12.51	83.43			
MW300	97.22	96.54	10/18/93	14.02	82.52
			10/25/93	14.01	82.53
			10/28/93	13.98	82.56
			01/07/94	14.41	82.13
			02/14/94	15.16	81.38
			12/28/94	14.01	82.53
			01/18/95	12.91	83.63
			06/08/95	13.42	83.12
			03/21/96	13.76	82.78
			06/10/96	12.31	84.23
			09/13/96	13.91	82.63
			12/06/96	13.91	82.63
			12/19/97	14.29	82.25
			03/26/99	13.63	82.91
			05/10/12	12.90	83.64
08/27/12	13.37	83.17			
MW400	95.56	95.28	10/18/93	12.60	82.68
			10/25/93	12.58	82.70
			10/28/93	12.55	82.73
			01/07/94	12.87	82.41
			02/14/94	13.62	81.66
			12/28/94	12.50	82.78
			01/18/95	12.38	82.90
			06/08/95	12.03	83.25
			03/21/96	12.28	83.00
			06/10/96	10.96	84.32
			09/13/96	12.51	82.77
			12/06/96	12.36	82.92
			12/19/97	12.69	82.59
			03/26/99	12.19	83.09
			05/10/12	11.37	83.91
08/27/12	11.86	83.42			
MW500	95.53**	95.56	12/28/94	12.54	83.02
			01/03/95	12.42	83.14
			01/18/95	12.42	83.14
			06/08/95	12.62	82.94
			03/21/96	12.62	82.94
			06/10/96	11.42	84.14
			09/13/96	12.82	82.74
			12/06/96	12.72	82.84
			03/26/99	12.40	83.16

NOTE: Elevations are referenced to site datum

\* = Reference point is the top of the monitoring well casing

\*\* = Elevation of top of protective metal casing

Table 2 Groundwater Analysis Results, Cedarburg Light and Water Power Plant, Cedarburg, Wisconsin

Well ID.	Date	Concentrations of Detected Analytes (µg/l)																						
		DRO	GRO	Benzene	Ethylbenzene	Toluene	Total Xylenes	MTBE	n-Butylbenzene	Chloroethane	1,1-Dichloroethane	cis-1,2-Dichloroethane	Naphthalene	Tetrachloroethene	Trichloroethene	Trimethylbenzenes	1,2-Dichlorobenzene	1,1,1-Trichloroethane	1,2-Dibromoethane	Vinyl Chloride	Lead			
NR 140, Wis. Adm. Code ES		NS	NS	5	700	800	2000	60	NS	400	850	70	40	5	5	480	600	200	0.05	0.2	15			
NR 140, Wis. Adm. Code PAL		NS	NS	0.5	140	160	400	12	NS	80	85	7	8	0.5	0.5	96	60	40	0.005	0.02	1.5			
MW200	10/28/93	720	110	<0.6	<1.0	35	5.6	<1.0	6.1	23	7.4		3.5	5.7		5.4	7.6	8.9	<1.0	<0.2	<0.08	<0.54	17	
	01/13/94	<5.0	<10.0	<0.6	<1.0	2.4	1.8	<1.0	3.0	26	3.6		1.2	7.1		1.4	7.6	3.6	<0.2	<0.08	<0.54	22		
	01/18/95	2000	28	<2.0	<1.0	<2.0	<2.0	<1.0	<2.0	2.2	4.9		22	0.44		19	29	<4.0	4.9	<0.08	<0.54	4		
	06/08/95	810	NA	0.28	<0.32	<0.69	<1.23	.46	<4.5	9.4	6.6		8.4	<4.1		42	17.5	<1.14	2.9	<0.08	<0.54	<1		
	03/21/96	510	NA	0.28	<0.32	<0.69	<1.23	0.29	<0.45	6.1	4.1		5.5	<0.41		11	5.8	<1.14	0.65	<0.08	<0.54	NA		
	06/10/96	270	NA	0.27	<0.32	<0.69	<1.23	<0.22	<0.45	6.2	5.9		6.9	<0.41		56	14	<1.14	0.43	2.8	<0.08	<0.54	NA	
	09/13/96	350	NA	0.48	<0.32	<0.69	<1.23	<0.22	<0.45	2.6	4.7		3.9	<0.41		15	4.7	<1.14	0.93		0.16	1.7	NA	
	12/06/96	400	NA	<0.26	<0.32	<0.69	<0.42	<0.22	<0.45	1.2	4.5		3.5	1.1		14	5.1	<1.14	NA	1.1	<0.08	<0.54	NA	
	12/19/97	NA	<100	<0.21	<0.68	<1.5	<1.78	<0.21	<0.38	<0.63	3		5.4	<1		18	5.1	<1.86	<0.24	<0.87	<0.048	<0.045	NA	
	03/25/99	NA	NA	<0.25	<0.32	<0.38	<1.04	<0.21	<0.43	<0.15	3.2		70	<0.73		30	12	<0.70	1.4	<0.24	0.83**		NA	
	05/10/12	NA	NA	<0.074	<0.13	<0.11	<0.068	<0.24	<0.13	<0.34	0.95**			5.5	<0.16		8.3	2.3	<0.32	0.51**	<0.20	<0.36	0.88	NA
	08/27/12	NA	NA	<0.074	<0.13	<0.11	<0.068	<0.24	<0.13	<0.34	<0.19			2	<0.16		1.2	0.46**	<0.32	0.91**	<0.20	<0.36	<0.10	NA
	MW300	10/28/93	<100	<100	1.2	NA	1.5	<2.5	NA	<2.0	3.3	5.0		3.4	<2.0		3.9	<1.0	<2.0	NA	NA	<0.08	<0.54	2
01/13/94		<5.0	<10.0	1.3	<1.0	<1.0	<2.5	<1.0	<2.0	<1.0	<1.0		<1.0	<2.0		<1.0	<1.0	<2.0	<1.0	<2.0	<0.08	<0.54	<1.0	
01/18/95		150	<11.0	0.80	<1.0	<1.0	<2.5	<1.0	<2.0	2.3	1.1		0.90	<2.0		<1.0	<1.0	<2.0	<1.0	<2.0	<0.08	<0.54	1.0	
06/08/95		<100	NA	0.35	<0.32	<0.69	<1.23	<0.22	<0.45	0.93	0.9		0.67	<4.1		1.82	0.33	<1.14	<1.1	<0.63	<0.08	<0.54	1.0	
03/21/96		400	NA	1.7	<0.32	<0.69	0.62	<0.22	<0.45	3.9	<0.37		0.32	4.9		1.5	<0.18	<1.14	0.31	<0.63	<0.08	<0.54	NA	
06/10/96		<100	NA	0.41	<0.32	<0.69	<1.23	<0.22	<0.45	1.3	0.75		0.75	1.7		2.7	0.45	<1.14	0.12	<0.63	<0.08	<0.54	NA	
09/13/96		<100	NA	0.34	<0.32	<0.69	<1.23	<0.22	<0.45	1.5	0.63		0.59	0.56		3.2	0.49	<1.14	0.14	<0.63	<0.08	<0.54	NA	
12/06/96		170	NA	0.59	<0.32	<0.69	<0.42	<0.22	<0.45	18	1		0.46	1.2		2	<0.18	<1.14	0.32	<0.63		0.12	0.71	NA
12/19/97		NA	<100	0.55	<0.68	<1.5	0.67	<0.21	<0.38	2.7	0.43		<0.32	3.4		7	<0.13	<1.86	<0.24	<0.37	<0.048	<0.045	NA	
03/25/99		NA	NA	0.64**	0.7**	0.66**	2.6**	<0.21	<0.43	4.5	0.81**		<0.34	10		1.1**	<0.39	0.73**	0.56**	<0.35	<0.24	<0.32	NA	
05/10/12		NA	NA	<0.074	<0.13	<0.11	<0.068	<0.24	<0.13	<0.34	<0.19		<0.12	<0.16		0.50**	<0.19	<0.32	<0.20	<0.32	<0.35	<0.36	<0.10	NA
08/27/12		NA	NA	<0.074	<0.13	<0.11	<0.068	<0.24	<0.13	<0.34	<0.19		<0.12	<0.16		1.5	<0.19	<0.32	<0.20	<0.32	<0.35	<0.36	<0.10	NA
MW400		10/28/93	<100	<100	<0.6	<1.0	<1.0	<2.5	<1.0	<2.0	<1.0	<1.0		<1.0	<2.0		<1.0	<1.0	<2.0	<1.0	<2.0	<0.08	<0.54	<1.0
	01/13/94	<5.0	<10.0	<0.6	<1.0	<1.0	<2.5	<1.0	<2.0	<1.0	<1.0		<1.0	<2.0		<1.0	<1.0	<2.0	<1.0	<2.0	<0.08	<0.54	<1.0	
	01/18/95	120	<11.0	<0.6	<1.0	<1.0	<2.5	<1.0	<2.0	<1.0	<1.0		<1.0	<2.0		<1.0	<1.0	<2.0	<1.0	<2.0	<0.08	<0.54	1.0	
	06/08/95	<100	NA	<2.6	<3.2	<6.9	<1.23	0.33	<4.5	<5	<2.7		<2.9	<4.1		<5.6	<1.8	<1.14	<1.1	<0.63	<0.08	<0.54	2	
	03/21/96	<100	NA	<0.26	<0.32	<0.69	<1.23	<0.22	<0.45	<0.5	<0.37		<0.29	<0.41		<0.56	<0.18	<1.14	<0.11	<0.63	<0.08	<0.54	NA	
	06/10/96	<100	NA	<0.28	<0.32	<0.69	<1.23	<0.22	<0.45	<0.5	<0.27		<0.29	<0.41		<0.56	<0.18	<1.14	<0.11	<0.63	<0.08	<0.54	NA	
	09/13/96	<100	NA	<0.26	<0.32	<0.69	<1.23	<0.22	<0.45	<0.5	<0.27		<0.29	<0.41		0.68	<0.18	<1.14	<0.11	<0.63	<0.08	<0.54	NA	
	12/06/96	<100	NA	<0.26	<0.32	<0.69	<0.42	<0.22	<0.45	<0.5	<0.27		<0.29	<0.41		<0.56	<0.18	<1.14	<0.11	<0.63	<0.08	<0.54	NA	
	12/19/97	NA	<100	<0.21	<0.68	<1.5	<1.78	<0.21	<0.38	<0.63	<0.31		<0.32	<1		<0.13	<0.13	<1.86	<0.24	<0.37	<0.048	<0.045	NA	
	03/25/99	NA	NA	<0.25	<0.32	<0.38	<1.04	<0.21	<0.43	<0.15	<0.32		<0.34	<0.73		<0.58	<0.39	<0.70	<0.28	<0.35	<0.24	<0.32	NA	
	05/10/12	NA	NA	<0.074	<0.13	<0.11	<0.068	<0.24	<0.13	<0.34	<0.19		<0.12	<0.16		<0.58	<0.19	<0.32	<0.20	<0.32	<0.35	<0.36	<0.10	NA
	08/27/12	NA	NA	<0.074	<0.13	<0.11	<0.068	<0.24	<0.13	<0.34	<0.19		<0.12	<0.16		<0.58	<0.19	<0.32	<0.20	<0.32	<0.35	<0.36	<0.10	NA
	MW500	01/18/95	<100	<11	<0.6	<1.0	<1.0	<2.5	<1.0	<2.0	<1.0	<1.0		<1.0	<2.0		<1.0	<1.0	<2.0	<1.0	<2.0	<0.08	<0.54	<1.0
06/08/95		<100	NA	<2.6	<3.2	<6.9	<1.23	<2.2	<4.5	<5	<2.7		<2.9	<4.1		<5.6	<1.8	<1.14	<1.1	<0.63	<0.08	<0.54	2	
03/21/96		<100	NA	<0.26	<0.32	<0.69	<1.23	<0.22	<0.45	<0.5	<0.37		<0.29	<0.41		<0.56	<0.18	<1.14	<0.11	<0.63	<0.08	<0.54	NA	
06/10/96		<100	NA	<0.28	<0.32	<0.69	<1.23	<0.22	<0.45	<0.5	<0.27		<0.29	<0.41		<0.56	<0.18	<1.14	<0.11	<0.63	<0.08	<0.54	NA	
09/13/96		<100	NA	<0.28	<0.32	<0.69	<1.23	<0.22	<0.45	<0.5	<0.27		<0.29	<0.41		<0.56	<0.18	<1.14	<0.11	<0.63	<0.08	<0.54	NA	
12/06/96		<100	NA	<0.26	<0.32	<0.69	<0.42	<0.22	<0.45	<0.5	<0.27		<0.29	<0.41		<0.56	<0.18	<1.14	<0.11	<0.63	<0.08	<0.54	NA	
12/19/97		NA	<100	<0.21	<0.68	<1.5	<1.78	<0.21	<0.38	<0.63	<0.31		<0.32	<1		<0.13	<0.13	<1.86	<0.24	<0.37	<0.048	<0.045	NA	
03/25/99	NA	NA	<0.25	<0.32	<0.38	<1.04	<0.21	<0.43	<0.15	<0.32		<0.34	<0.73		<0.58	<0.39	<0.70	<0.28	<0.35	<0.24	<0.32	NA		

NOTE:  
 Only those VDCs detected are summarized in this table  
 µg/l = micrograms per liter  
 DRO = diesel range organics  
 GRO = gasoline range organics  
 MTBE = methyl-tertiary-butyl-ether  
 NA = not analyzed  
 \* = duplicate sample  
 <x = analyte not detected to the laboratory detection limit of x  
 NS = no water quality standard

XXXX = exceeds Chapter NR 140, Wisconsin Administrative Code (NR 140, Wis. Adm. Code) Preventive Action Limit (PAL)  
XXX = exceeds NR 140, Wis. Adm. Code Enforcement Standard (ES)



**Table 3 Inorganic Field Analysis, Cedarburg Light and Water Power Plant, Cedarburg, Wisconsin**

Well Number	Date Analyzed	Dissolved Oxygen (mg/l)	Nitrate/Nitrogen-Nitrogen Concentration (mg/l)	Ferrous Iron Concentration (mg/l)	Sulfate Concentration (mg/l)	ORP (mV)	Temperature (°C)	pH (su)	Conductivity (µS)
MW200	12/19/97	1	1.1 F	0.26 F	0 F	110	13	7	4300
	03/25/99	1	0.11 F	<0.695	58	-	10	-	-
	05/10/12	7.46	-	-	-	-79.6	51.16	7.68	7291
	08/27/12	7.05	-	-	-	27.6	-	7.68	1434
MW300	12/19/97	0.80	0.7 F	0.96 F	0 F	-35	14	7	3700
	03/25/99	1.67	0.21 F	2	6	-	12	-	-
	05/10/12	43.6	-	-	-	43.6	53.61	7.76	1489
	08/27/12	6.84	-	-	-	70.3	-	8	2088
MW400	12/19/97	0	1.4 F	5.00 F	0 F	<-80	14	7	2100
	03/25/99	0	0.31 F	15	3	-	11	-	-
	05/10/12	7.91	-	-	-	65.6	52.63	7.75	2188
	08/27/12	6.21	-	-	-	-80.2	-	8	6579
MW500	12/19/97	4.99	0.5 F	0.01 F	68 F	235	13	6.74	970
	03/25/99	7.31	1.70 F	<0.139	39	-	11	-	-

Note:

- mg/l = milligrams per liter
- ORP = oxidation - reduction potential
- mV = milli-volts
- °C = degrees centigrade
- su = standard units
- µS = micro Siemens
- F = sample was filtered before analysis
- = not analyzed

**ATTACHMENT A**  
**LABORATORY ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY RECORD**

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago  
2417 Bond Street  
University Park, IL 60484  
Tel: (708)534-5200

TestAmerica Job ID: 500-46344-1

Client Project/Site: Cedarburg Light & Water 193701814

For:

Stantec Consulting Corporation/Bonestroo  
12075N Corporate Parkway  
Suite 210  
Mequon, Wisconsin 53092

Attn: Andy Swaim



Authorized for release by:

5/21/2012 5:59:51 PM

Sandie Fredrick

Project Manager I

[sandie.fredrick@testamericainc.com](mailto:sandie.fredrick@testamericainc.com)

Designee for

Dan Milewsky

Project Manager II

[dan.milewsky@testamericainc.com](mailto:dan.milewsky@testamericainc.com)

### LINKS

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[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

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

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

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# Case Narrative

Client: Stantec Consulting Corporation/Bonestroo  
Project/Site: Cedarburg Light & Water 193701814

TestAmerica Job ID: 500-46344-1

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**Job ID: 500-46344-1**

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**Laboratory: TestAmerica Chicago**

## Narrative

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Job Narrative  
500-46344-1

## Comments

No additional comments.

## Receipt

The samples were received on 5/15/2012 10:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.7° C.

---

## GC/MS VOA

Method(s) 8260B: Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for 2 analytes to recover outside criteria for this method when a full list spike is utilized. The LCS associated with batch 150197 had 1 analyte outside control limits; therefore, re-analysis was not performed. These results have been reported and qualified.

No other analytical or quality issues were noted.

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## Detection Summary

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water 193701814

TestAmerica Job ID: 500-46344-1

### Client Sample ID: MW200

Lab Sample ID: 500-46344-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	5.5		1.0	0.12	ug/L	1		8260B	Total/NA
1,2-Dichlorobenzene	0.51	J	1.0	0.27	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	0.95	J	1.0	0.19	ug/L	1		8260B	Total/NA
Tetrachloroethene	8.3		1.0	0.17	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	1.4		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	2.3		0.50	0.19	ug/L	1		8260B	Total/NA
Vinyl chloride	0.88		0.50	0.10	ug/L	1		8260B	Total/NA

### Client Sample ID: MW300

Lab Sample ID: 500-46344-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	0.50	J	1.0	0.17	ug/L	1		8260B	Total/NA

### Client Sample ID: MW400

Lab Sample ID: 500-46344-3

No Detections

### Client Sample ID: Dup

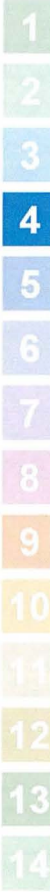
Lab Sample ID: 500-46344-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	6.4		1.0	0.12	ug/L	1		8260B	Total/NA
1,2-Dichlorobenzene	0.66	J	1.0	0.27	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	1.0		1.0	0.19	ug/L	1		8260B	Total/NA
Tetrachloroethene	1.9		1.0	0.17	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	1.7		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	2.5		0.50	0.19	ug/L	1		8260B	Total/NA
Vinyl chloride	1.2		0.50	0.10	ug/L	1		8260B	Total/NA

### Client Sample ID: Trip Blank

Lab Sample ID: 500-46344-5

No Detections





# Method Summary

Client: Stantec Consulting Corporation/Bonestroo  
Project/Site: Cedarburg Light & Water 193701814

TestAmerica Job ID: 500-46344-1

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

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**Protocol References:**

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

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200



# Sample Summary

Client: Stantec Consulting Corporation/Bonestroo  
Project/Site: Cedarburg Light & Water 193701814

TestAmerica Job ID: 500-46344-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-46344-1	MW200	Water	05/10/12 14:00	05/15/12 10:30
500-46344-2	MW300	Water	05/10/12 00:00	05/15/12 10:30
500-46344-3	MW400	Water	05/10/12 13:00	05/15/12 10:30
500-46344-4	Dup	Water	05/10/12 14:00	05/15/12 10:30
500-46344-5	Trip Blank	Water	05/10/12 00:00	05/15/12 10:30

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# Client Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water 193701814

TestAmerica Job ID: 500-46344-1

**Client Sample ID: MW200**

**Lab Sample ID: 500-46344-1**

**Date Collected: 05/10/12 14:00**

**Matrix: Water**

**Date Received: 05/15/12 10:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<1.3		5.0	1.3	ug/L			05/18/12 17:32	1
Benzene	<0.074		0.50	0.074	ug/L			05/18/12 17:32	1
Bromobenzene	<0.25		1.0	0.25	ug/L			05/18/12 17:32	1
Bromochloromethane	<0.40		1.0	0.40	ug/L			05/18/12 17:32	1
Bromodichloromethane	<0.17		1.0	0.17	ug/L			05/18/12 17:32	1
Bromoform	<0.28		1.0	0.28	ug/L			05/18/12 17:32	1
Bromomethane	<0.31		1.0	0.31	ug/L			05/18/12 17:32	1
2-Butanone (MEK)	<1.5		5.0	1.5	ug/L			05/18/12 17:32	1
Carbon tetrachloride	<0.26		1.0	0.26	ug/L			05/18/12 17:32	1
Chlorobenzene	<0.14		1.0	0.14	ug/L			05/18/12 17:32	1
Chloroethane	<0.34		1.0	0.34	ug/L			05/18/12 17:32	1
Chloroform	<0.20		1.0	0.20	ug/L			05/18/12 17:32	1
Chloromethane	<0.18		1.0	0.18	ug/L			05/18/12 17:32	1
2-Chlorotoluene	<0.21		1.0	0.21	ug/L			05/18/12 17:32	1
4-Chlorotoluene	<0.20		1.0	0.20	ug/L			05/18/12 17:32	1
<b>cis-1,2-Dichloroethene</b>	<b>5.5</b>		1.0	0.12	ug/L			05/18/12 17:32	1
cis-1,3-Dichloropropene	<0.18		1.0	0.18	ug/L			05/18/12 17:32	1
Dibromochloromethane	<0.32		1.0	0.32	ug/L			05/18/12 17:32	1
1,2-Dibromo-3-Chloropropane	<0.68		2.0	0.68	ug/L			05/18/12 17:32	1
1,2-Dibromoethane	<0.36		1.0	0.36	ug/L			05/18/12 17:32	1
Dibromomethane	<0.33		1.0	0.33	ug/L			05/18/12 17:32	1
<b>1,2-Dichlorobenzene</b>	<b>0.51 J</b>		1.0	0.27	ug/L			05/18/12 17:32	1
1,3-Dichlorobenzene	<0.15		1.0	0.15	ug/L			05/18/12 17:32	1
1,4-Dichlorobenzene	<0.15		1.0	0.15	ug/L			05/18/12 17:32	1
Dichlorodifluoromethane	<0.20		1.0	0.20	ug/L			05/18/12 17:32	1
<b>1,1-Dichloroethane</b>	<b>0.95 J</b>		1.0	0.19	ug/L			05/18/12 17:32	1
1,2-Dichloroethane	<0.28		1.0	0.28	ug/L			05/18/12 17:32	1
1,1-Dichloroethene	<0.31		1.0	0.31	ug/L			05/18/12 17:32	1
1,2-Dichloropropane	<0.20 *		1.0	0.20	ug/L			05/18/12 17:32	1
1,3-Dichloropropane	<0.13		1.0	0.13	ug/L			05/18/12 17:32	1
2,2-Dichloropropane	<0.32		1.0	0.32	ug/L			05/18/12 17:32	1
1,1-Dichloropropene	<0.34		1.0	0.34	ug/L			05/18/12 17:32	1
Ethylbenzene	<0.13		0.50	0.13	ug/L			05/18/12 17:32	1
Hexachlorobutadiene	<0.26		1.0	0.26	ug/L			05/18/12 17:32	1
2-Hexanone	<0.56		5.0	0.56	ug/L			05/18/12 17:32	1
Isopropylbenzene	<0.14		1.0	0.14	ug/L			05/18/12 17:32	1
Isopropyl ether	<0.15		1.0	0.15	ug/L			05/18/12 17:32	1
Methylene Chloride	<0.68		5.0	0.68	ug/L			05/18/12 17:32	1
4-Methyl-2-pentanone (MIBK)	<0.33		5.0	0.33	ug/L			05/18/12 17:32	1
Methyl tert-butyl ether	<0.24		1.0	0.24	ug/L			05/18/12 17:32	1
Naphthalene	<0.16		1.0	0.16	ug/L			05/18/12 17:32	1
n-Butylbenzene	<0.13		1.0	0.13	ug/L			05/18/12 17:32	1
N-Propylbenzene	<0.13		1.0	0.13	ug/L			05/18/12 17:32	1
p-Isopropyltoluene	<0.17		1.0	0.17	ug/L			05/18/12 17:32	1
sec-Butylbenzene	<0.15		1.0	0.15	ug/L			05/18/12 17:32	1
Styrene	<0.10		1.0	0.10	ug/L			05/18/12 17:32	1
tert-Butylbenzene	<0.14		1.0	0.14	ug/L			05/18/12 17:32	1
1,1,1,2-Tetrachloroethane	<0.25		1.0	0.25	ug/L			05/18/12 17:32	1
1,1,2,2-Tetrachloroethane	<0.23		1.0	0.23	ug/L			05/18/12 17:32	1
<b>Tetrachloroethene</b>	<b>8.3</b>		1.0	0.17	ug/L			05/18/12 17:32	1
Toluene	<0.11		0.50	0.11	ug/L			05/18/12 17:32	1



# Client Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water 193701814

TestAmerica Job ID: 500-46344-1

**Client Sample ID: MW200**

**Lab Sample ID: 500-46344-1**

**Date Collected: 05/10/12 14:00**

**Matrix: Water**

**Date Received: 05/15/12 10:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>trans-1,2-Dichloroethene</b>	<b>1.4</b>		1.0	0.25	ug/L			05/18/12 17:32	1
trans-1,3-Dichloropropene	<0.21		1.0	0.21	ug/L			05/18/12 17:32	1
1,2,3-Trichlorobenzene	<0.24		1.0	0.24	ug/L			05/18/12 17:32	1
1,2,4-Trichlorobenzene	<0.31		1.0	0.31	ug/L			05/18/12 17:32	1
1,1,1-Trichloroethane	<0.20		1.0	0.20	ug/L			05/18/12 17:32	1
1,1,2-Trichloroethane	<0.28		1.0	0.28	ug/L			05/18/12 17:32	1
<b>Trichloroethene</b>	<b>2.3</b>		0.50	0.19	ug/L			05/18/12 17:32	1
Trichlorofluoromethane	<0.19		1.0	0.19	ug/L			05/18/12 17:32	1
1,2,3-Trichloropropane	<0.45		1.0	0.45	ug/L			05/18/12 17:32	1
1,2,4-Trimethylbenzene	<0.14		1.0	0.14	ug/L			05/18/12 17:32	1
1,3,5-Trimethylbenzene	<0.18		1.0	0.18	ug/L			05/18/12 17:32	1
<b>Vinyl chloride</b>	<b>0.88</b>		0.50	0.10	ug/L			05/18/12 17:32	1
Xylenes, Total	<0.068		1.0	0.068	ug/L			05/18/12 17:32	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene (Surr)	97		79 - 120					05/18/12 17:32	1
Dibromofluoromethane	92		74 - 123					05/18/12 17:32	1
1,2-Dichloroethane-d4 (Surr)	98		75 - 131					05/18/12 17:32	1
Toluene-d8 (Surr)	98		80 - 120					05/18/12 17:32	1

# Client Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water 193701814

TestAmerica Job ID: 500-46344-1

**Client Sample ID: MW300**

**Lab Sample ID: 500-46344-2**

**Date Collected: 05/10/12 00:00**

**Matrix: Water**

**Date Received: 05/15/12 10:30**

<b>Method: 8260B - Volatile Organic Compounds (GC/MS)</b>									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<1.3		5.0	1.3	ug/L			05/18/12 17:58	1
Benzene	<0.074		0.50	0.074	ug/L			05/18/12 17:58	1
Bromobenzene	<0.25		1.0	0.25	ug/L			05/18/12 17:58	1
Bromochloromethane	<0.40		1.0	0.40	ug/L			05/18/12 17:58	1
Bromodichloromethane	<0.17		1.0	0.17	ug/L			05/18/12 17:58	1
Bromoform	<0.28		1.0	0.28	ug/L			05/18/12 17:58	1
Bromomethane	<0.31		1.0	0.31	ug/L			05/18/12 17:58	1
2-Butanone (MEK)	<1.5		5.0	1.5	ug/L			05/18/12 17:58	1
Carbon tetrachloride	<0.26		1.0	0.26	ug/L			05/18/12 17:58	1
Chlorobenzene	<0.14		1.0	0.14	ug/L			05/18/12 17:58	1
Chloroethane	<0.34		1.0	0.34	ug/L			05/18/12 17:58	1
Chloroform	<0.20		1.0	0.20	ug/L			05/18/12 17:58	1
Chloromethane	<0.18		1.0	0.18	ug/L			05/18/12 17:58	1
2-Chlorotoluene	<0.21		1.0	0.21	ug/L			05/18/12 17:58	1
4-Chlorotoluene	<0.20		1.0	0.20	ug/L			05/18/12 17:58	1
cis-1,2-Dichloroethene	<0.12		1.0	0.12	ug/L			05/18/12 17:58	1
cis-1,3-Dichloropropene	<0.18		1.0	0.18	ug/L			05/18/12 17:58	1
Dibromochloromethane	<0.32		1.0	0.32	ug/L			05/18/12 17:58	1
1,2-Dibromo-3-Chloropropane	<0.68		2.0	0.68	ug/L			05/18/12 17:58	1
1,2-Dibromoethane	<0.36		1.0	0.36	ug/L			05/18/12 17:58	1
Dibromomethane	<0.33		1.0	0.33	ug/L			05/18/12 17:58	1
1,2-Dichlorobenzene	<0.27		1.0	0.27	ug/L			05/18/12 17:58	1
1,3-Dichlorobenzene	<0.15		1.0	0.15	ug/L			05/18/12 17:58	1
1,4-Dichlorobenzene	<0.15		1.0	0.15	ug/L			05/18/12 17:58	1
Dichlorodifluoromethane	<0.20		1.0	0.20	ug/L			05/18/12 17:58	1
1,1-Dichloroethane	<0.19		1.0	0.19	ug/L			05/18/12 17:58	1
1,2-Dichloroethane	<0.28		1.0	0.28	ug/L			05/18/12 17:58	1
1,1-Dichloroethene	<0.31		1.0	0.31	ug/L			05/18/12 17:58	1
1,2-Dichloropropane	<0.20	*	1.0	0.20	ug/L			05/18/12 17:58	1
1,3-Dichloropropane	<0.13		1.0	0.13	ug/L			05/18/12 17:58	1
2,2-Dichloropropane	<0.32		1.0	0.32	ug/L			05/18/12 17:58	1
1,1-Dichloropropene	<0.34		1.0	0.34	ug/L			05/18/12 17:58	1
Ethylbenzene	<0.13		0.50	0.13	ug/L			05/18/12 17:58	1
Hexachlorobutadiene	<0.26		1.0	0.26	ug/L			05/18/12 17:58	1
2-Hexanone	<0.56		5.0	0.56	ug/L			05/18/12 17:58	1
Isopropylbenzene	<0.14		1.0	0.14	ug/L			05/18/12 17:58	1
Isopropyl ether	<0.15		1.0	0.15	ug/L			05/18/12 17:58	1
Methylene Chloride	<0.68		5.0	0.68	ug/L			05/18/12 17:58	1
4-Methyl-2-pentanone (MIBK)	<0.33		5.0	0.33	ug/L			05/18/12 17:58	1
Methyl tert-butyl ether	<0.24		1.0	0.24	ug/L			05/18/12 17:58	1
Naphthalene	<0.16		1.0	0.16	ug/L			05/18/12 17:58	1
n-Butylbenzene	<0.13		1.0	0.13	ug/L			05/18/12 17:58	1
N-Propylbenzene	<0.13		1.0	0.13	ug/L			05/18/12 17:58	1
p-Isopropyltoluene	<0.17		1.0	0.17	ug/L			05/18/12 17:58	1
sec-Butylbenzene	<0.15		1.0	0.15	ug/L			05/18/12 17:58	1
Styrene	<0.10		1.0	0.10	ug/L			05/18/12 17:58	1
tert-Butylbenzene	<0.14		1.0	0.14	ug/L			05/18/12 17:58	1
1,1,1,2-Tetrachloroethane	<0.25		1.0	0.25	ug/L			05/18/12 17:58	1
1,1,2,2-Tetrachloroethane	<0.23		1.0	0.23	ug/L			05/18/12 17:58	1
<b>Tetrachloroethene</b>	<b>0.50</b>	<b>J</b>	1.0	0.17	ug/L			05/18/12 17:58	1
Toluene	<0.11		0.50	0.11	ug/L			05/18/12 17:58	1

## Client Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water 193701814

TestAmerica Job ID: 500-46344-1

**Client Sample ID: MW300**

**Lab Sample ID: 500-46344-2**

**Date Collected: 05/10/12 00:00**

**Matrix: Water**

**Date Received: 05/15/12 10:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	<0.25		1.0	0.25	ug/L			05/18/12 17:58	1
trans-1,3-Dichloropropene	<0.21		1.0	0.21	ug/L			05/18/12 17:58	1
1,2,3-Trichlorobenzene	<0.24		1.0	0.24	ug/L			05/18/12 17:58	1
1,2,4-Trichlorobenzene	<0.31		1.0	0.31	ug/L			05/18/12 17:58	1
1,1,1-Trichloroethane	<0.20		1.0	0.20	ug/L			05/18/12 17:58	1
1,1,2-Trichloroethane	<0.28		1.0	0.28	ug/L			05/18/12 17:58	1
Trichloroethene	<0.19		0.50	0.19	ug/L			05/18/12 17:58	1
Trichlorofluoromethane	<0.19		1.0	0.19	ug/L			05/18/12 17:58	1
1,2,3-Trichloropropane	<0.45		1.0	0.45	ug/L			05/18/12 17:58	1
1,2,4-Trimethylbenzene	<0.14		1.0	0.14	ug/L			05/18/12 17:58	1
1,3,5-Trimethylbenzene	<0.18		1.0	0.18	ug/L			05/18/12 17:58	1
Vinyl chloride	<0.10		0.50	0.10	ug/L			05/18/12 17:58	1
Xylenes, Total	<0.068		1.0	0.068	ug/L			05/18/12 17:58	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene (Surr)	98		79 - 120					05/18/12 17:58	1
Dibromofluoromethane	97		74 - 123					05/18/12 17:58	1
1,2-Dichloroethane-d4 (Surr)	103		75 - 131					05/18/12 17:58	1
Toluene-d8 (Surr)	98		80 - 120					05/18/12 17:58	1



# Client Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water 193701814

TestAmerica Job ID: 500-46344-1

**Client Sample ID: MW400**

**Lab Sample ID: 500-46344-3**

**Date Collected: 05/10/12 13:00**

**Matrix: Water**

**Date Received: 05/15/12 10:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<1.3		5.0	1.3	ug/L			05/18/12 18:23	1
Benzene	<0.074		0.50	0.074	ug/L			05/18/12 18:23	1
Bromobenzene	<0.25		1.0	0.25	ug/L			05/18/12 18:23	1
Bromochloromethane	<0.40		1.0	0.40	ug/L			05/18/12 18:23	1
Bromodichloromethane	<0.17		1.0	0.17	ug/L			05/18/12 18:23	1
Bromoform	<0.28		1.0	0.28	ug/L			05/18/12 18:23	1
Bromomethane	<0.31		1.0	0.31	ug/L			05/18/12 18:23	1
2-Butanone (MEK)	<1.5		5.0	1.5	ug/L			05/18/12 18:23	1
Carbon tetrachloride	<0.26		1.0	0.26	ug/L			05/18/12 18:23	1
Chlorobenzene	<0.14		1.0	0.14	ug/L			05/18/12 18:23	1
Chloroethane	<0.34		1.0	0.34	ug/L			05/18/12 18:23	1
Chloroform	<0.20		1.0	0.20	ug/L			05/18/12 18:23	1
Chloromethane	<0.18		1.0	0.18	ug/L			05/18/12 18:23	1
2-Chlorotoluene	<0.21		1.0	0.21	ug/L			05/18/12 18:23	1
4-Chlorotoluene	<0.20		1.0	0.20	ug/L			05/18/12 18:23	1
cis-1,2-Dichloroethene	<0.12		1.0	0.12	ug/L			05/18/12 18:23	1
cis-1,3-Dichloropropene	<0.18		1.0	0.18	ug/L			05/18/12 18:23	1
Dibromochloromethane	<0.32		1.0	0.32	ug/L			05/18/12 18:23	1
1,2-Dibromo-3-Chloropropane	<0.68		2.0	0.68	ug/L			05/18/12 18:23	1
1,2-Dibromoethane	<0.36		1.0	0.36	ug/L			05/18/12 18:23	1
Dibromomethane	<0.33		1.0	0.33	ug/L			05/18/12 18:23	1
1,2-Dichlorobenzene	<0.27		1.0	0.27	ug/L			05/18/12 18:23	1
1,3-Dichlorobenzene	<0.15		1.0	0.15	ug/L			05/18/12 18:23	1
1,4-Dichlorobenzene	<0.15		1.0	0.15	ug/L			05/18/12 18:23	1
Dichlorodifluoromethane	<0.20		1.0	0.20	ug/L			05/18/12 18:23	1
1,1-Dichloroethane	<0.19		1.0	0.19	ug/L			05/18/12 18:23	1
1,2-Dichloroethane	<0.28		1.0	0.28	ug/L			05/18/12 18:23	1
1,1-Dichloroethene	<0.31		1.0	0.31	ug/L			05/18/12 18:23	1
1,2-Dichloropropane	<0.20 *		1.0	0.20	ug/L			05/18/12 18:23	1
1,3-Dichloropropane	<0.13		1.0	0.13	ug/L			05/18/12 18:23	1
2,2-Dichloropropane	<0.32		1.0	0.32	ug/L			05/18/12 18:23	1
1,1-Dichloropropene	<0.34		1.0	0.34	ug/L			05/18/12 18:23	1
Ethylbenzene	<0.13		0.50	0.13	ug/L			05/18/12 18:23	1
Hexachlorobutadiene	<0.26		1.0	0.26	ug/L			05/18/12 18:23	1
2-Hexanone	<0.56		5.0	0.56	ug/L			05/18/12 18:23	1
Isopropylbenzene	<0.14		1.0	0.14	ug/L			05/18/12 18:23	1
Isopropyl ether	<0.15		1.0	0.15	ug/L			05/18/12 18:23	1
Methylene Chloride	<0.68		5.0	0.68	ug/L			05/18/12 18:23	1
4-Methyl-2-pentanone (MIBK)	<0.33		5.0	0.33	ug/L			05/18/12 18:23	1
Methyl tert-butyl ether	<0.24		1.0	0.24	ug/L			05/18/12 18:23	1
Naphthalene	<0.16		1.0	0.16	ug/L			05/18/12 18:23	1
n-Butylbenzene	<0.13		1.0	0.13	ug/L			05/18/12 18:23	1
N-Propylbenzene	<0.13		1.0	0.13	ug/L			05/18/12 18:23	1
p-Isopropyltoluene	<0.17		1.0	0.17	ug/L			05/18/12 18:23	1
sec-Butylbenzene	<0.15		1.0	0.15	ug/L			05/18/12 18:23	1
Styrene	<0.10		1.0	0.10	ug/L			05/18/12 18:23	1
tert-Butylbenzene	<0.14		1.0	0.14	ug/L			05/18/12 18:23	1
1,1,1,2-Tetrachloroethane	<0.25		1.0	0.25	ug/L			05/18/12 18:23	1
1,1,2,2-Tetrachloroethane	<0.23		1.0	0.23	ug/L			05/18/12 18:23	1
Tetrachloroethene	<0.17		1.0	0.17	ug/L			05/18/12 18:23	1
Toluene	<0.11		0.50	0.11	ug/L			05/18/12 18:23	1

## Client Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water 193701814

TestAmerica Job ID: 500-46344-1

**Client Sample ID: MW400**

**Lab Sample ID: 500-46344-3**

**Date Collected: 05/10/12 13:00**

**Matrix: Water**

**Date Received: 05/15/12 10:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	<0.25		1.0	0.25	ug/L			05/18/12 18:23	1
trans-1,3-Dichloropropene	<0.21		1.0	0.21	ug/L			05/18/12 18:23	1
1,2,3-Trichlorobenzene	<0.24		1.0	0.24	ug/L			05/18/12 18:23	1
1,2,4-Trichlorobenzene	<0.31		1.0	0.31	ug/L			05/18/12 18:23	1
1,1,1-Trichloroethane	<0.20		1.0	0.20	ug/L			05/18/12 18:23	1
1,1,2-Trichloroethane	<0.28		1.0	0.28	ug/L			05/18/12 18:23	1
Trichloroethene	<0.19		0.50	0.19	ug/L			05/18/12 18:23	1
Trichlorofluoromethane	<0.19		1.0	0.19	ug/L			05/18/12 18:23	1
1,2,3-Trichloropropane	<0.45		1.0	0.45	ug/L			05/18/12 18:23	1
1,2,4-Trimethylbenzene	<0.14		1.0	0.14	ug/L			05/18/12 18:23	1
1,3,5-Trimethylbenzene	<0.18		1.0	0.18	ug/L			05/18/12 18:23	1
Vinyl chloride	<0.10		0.50	0.10	ug/L			05/18/12 18:23	1
Xylenes, Total	<0.068		1.0	0.068	ug/L			05/18/12 18:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		79 - 120		05/18/12 18:23	1
Dibromofluoromethane	100		74 - 123		05/18/12 18:23	1
1,2-Dichloroethane-d4 (Surr)	103		75 - 131		05/18/12 18:23	1
Toluene-d8 (Surr)	98		80 - 120		05/18/12 18:23	1



# Client Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
Project/Site: Cedarburg Light & Water 193701814

TestAmerica Job ID: 500-46344-1

**Client Sample ID: Dup**

**Lab Sample ID: 500-46344-4**

**Date Collected: 05/10/12 14:00**

**Matrix: Water**

**Date Received: 05/15/12 10:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<1.3		5.0	1.3	ug/L			05/18/12 18:48	1
Benzene	<0.074		0.50	0.074	ug/L			05/18/12 18:48	1
Bromobenzene	<0.25		1.0	0.25	ug/L			05/18/12 18:48	1
Bromochloromethane	<0.40		1.0	0.40	ug/L			05/18/12 18:48	1
Bromodichloromethane	<0.17		1.0	0.17	ug/L			05/18/12 18:48	1
Bromoform	<0.28		1.0	0.28	ug/L			05/18/12 18:48	1
Bromomethane	<0.31		1.0	0.31	ug/L			05/18/12 18:48	1
2-Butanone (MEK)	<1.5		5.0	1.5	ug/L			05/18/12 18:48	1
Carbon tetrachloride	<0.26		1.0	0.26	ug/L			05/18/12 18:48	1
Chlorobenzene	<0.14		1.0	0.14	ug/L			05/18/12 18:48	1
Chloroethane	<0.34		1.0	0.34	ug/L			05/18/12 18:48	1
Chloroform	<0.20		1.0	0.20	ug/L			05/18/12 18:48	1
Chloromethane	<0.18		1.0	0.18	ug/L			05/18/12 18:48	1
2-Chlorotoluene	<0.21		1.0	0.21	ug/L			05/18/12 18:48	1
4-Chlorotoluene	<0.20		1.0	0.20	ug/L			05/18/12 18:48	1
<b>cis-1,2-Dichloroethene</b>	<b>6.4</b>		1.0	0.12	ug/L			05/18/12 18:48	1
cis-1,3-Dichloropropene	<0.18		1.0	0.18	ug/L			05/18/12 18:48	1
Dibromochloromethane	<0.32		1.0	0.32	ug/L			05/18/12 18:48	1
1,2-Dibromo-3-Chloropropane	<0.68		2.0	0.68	ug/L			05/18/12 18:48	1
1,2-Dibromoethane	<0.36		1.0	0.36	ug/L			05/18/12 18:48	1
Dibromomethane	<0.33		1.0	0.33	ug/L			05/18/12 18:48	1
<b>1,2-Dichlorobenzene</b>	<b>0.66</b>	<b>J</b>	1.0	0.27	ug/L			05/18/12 18:48	1
1,3-Dichlorobenzene	<0.15		1.0	0.15	ug/L			05/18/12 18:48	1
1,4-Dichlorobenzene	<0.15		1.0	0.15	ug/L			05/18/12 18:48	1
Dichlorodifluoromethane	<0.20		1.0	0.20	ug/L			05/18/12 18:48	1
<b>1,1-Dichloroethane</b>	<b>1.0</b>		1.0	0.19	ug/L			05/18/12 18:48	1
1,2-Dichloroethane	<0.28		1.0	0.28	ug/L			05/18/12 18:48	1
1,1-Dichloroethene	<0.31		1.0	0.31	ug/L			05/18/12 18:48	1
1,2-Dichloropropane	<0.20	*	1.0	0.20	ug/L			05/18/12 18:48	1
1,3-Dichloropropane	<0.13		1.0	0.13	ug/L			05/18/12 18:48	1
2,2-Dichloropropane	<0.32		1.0	0.32	ug/L			05/18/12 18:48	1
1,1-Dichloropropene	<0.34		1.0	0.34	ug/L			05/18/12 18:48	1
Ethylbenzene	<0.13		0.50	0.13	ug/L			05/18/12 18:48	1
Hexachlorobutadiene	<0.26		1.0	0.26	ug/L			05/18/12 18:48	1
2-Hexanone	<0.56		5.0	0.56	ug/L			05/18/12 18:48	1
Isopropylbenzene	<0.14		1.0	0.14	ug/L			05/18/12 18:48	1
Isopropyl ether	<0.15		1.0	0.15	ug/L			05/18/12 18:48	1
Methylene Chloride	<0.68		5.0	0.68	ug/L			05/18/12 18:48	1
4-Methyl-2-pentanone (MIBK)	<0.33		5.0	0.33	ug/L			05/18/12 18:48	1
Methyl tert-butyl ether	<0.24		1.0	0.24	ug/L			05/18/12 18:48	1
Naphthalene	<0.16		1.0	0.16	ug/L			05/18/12 18:48	1
n-Butylbenzene	<0.13		1.0	0.13	ug/L			05/18/12 18:48	1
N-Propylbenzene	<0.13		1.0	0.13	ug/L			05/18/12 18:48	1
p-Isopropyltoluene	<0.17		1.0	0.17	ug/L			05/18/12 18:48	1
sec-Butylbenzene	<0.15		1.0	0.15	ug/L			05/18/12 18:48	1
Styrene	<0.10		1.0	0.10	ug/L			05/18/12 18:48	1
tert-Butylbenzene	<0.14		1.0	0.14	ug/L			05/18/12 18:48	1
1,1,1,2-Tetrachloroethane	<0.25		1.0	0.25	ug/L			05/18/12 18:48	1
1,1,2,2-Tetrachloroethane	<0.23		1.0	0.23	ug/L			05/18/12 18:48	1
<b>Tetrachloroethene</b>	<b>1.9</b>		1.0	0.17	ug/L			05/18/12 18:48	1
Toluene	<0.11		0.50	0.11	ug/L			05/18/12 18:48	1



## Client Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water 193701814

TestAmerica Job ID: 500-46344-1

**Client Sample ID: Dup**

**Lab Sample ID: 500-46344-4**

**Date Collected: 05/10/12 14:00**

**Matrix: Water**

**Date Received: 05/15/12 10:30**

<b>Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)</b>									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>trans-1,2-Dichloroethene</b>	<b>1.7</b>		1.0	0.25	ug/L			05/18/12 18:48	1
trans-1,3-Dichloropropene	<0.21		1.0	0.21	ug/L			05/18/12 18:48	1
1,2,3-Trichlorobenzene	<0.24		1.0	0.24	ug/L			05/18/12 18:48	1
1,2,4-Trichlorobenzene	<0.31		1.0	0.31	ug/L			05/18/12 18:48	1
1,1,1-Trichloroethane	<0.20		1.0	0.20	ug/L			05/18/12 18:48	1
1,1,2-Trichloroethane	<0.28		1.0	0.28	ug/L			05/18/12 18:48	1
<b>Trichloroethene</b>	<b>2.5</b>		0.50	0.19	ug/L			05/18/12 18:48	1
Trichlorofluoromethane	<0.19		1.0	0.19	ug/L			05/18/12 18:48	1
1,2,3-Trichloropropane	<0.45		1.0	0.45	ug/L			05/18/12 18:48	1
1,2,4-Trimethylbenzene	<0.14		1.0	0.14	ug/L			05/18/12 18:48	1
1,3,5-Trimethylbenzene	<0.18		1.0	0.18	ug/L			05/18/12 18:48	1
<b>Vinyl chloride</b>	<b>1.2</b>		0.50	0.10	ug/L			05/18/12 18:48	1
Xylenes, Total	<0.068		1.0	0.068	ug/L			05/18/12 18:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		79 - 120					05/18/12 18:48	1
Dibromofluoromethane	104		74 - 123					05/18/12 18:48	1
1,2-Dichloroethane-d4 (Surr)	110		75 - 131					05/18/12 18:48	1
Toluene-d8 (Surr)	103		80 - 120					05/18/12 18:48	1

# Client Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water 193701814

TestAmerica Job ID: 500-46344-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 500-46344-5**

**Date Collected: 05/10/12 00:00**

**Matrix: Water**

**Date Received: 05/15/12 10:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<1.3		5.0	1.3	ug/L			05/18/12 19:13	1
Benzene	<0.074		0.50	0.074	ug/L			05/18/12 19:13	1
Bromobenzene	<0.25		1.0	0.25	ug/L			05/18/12 19:13	1
Bromochloromethane	<0.40		1.0	0.40	ug/L			05/18/12 19:13	1
Bromodichloromethane	<0.17		1.0	0.17	ug/L			05/18/12 19:13	1
Bromoform	<0.28		1.0	0.28	ug/L			05/18/12 19:13	1
Bromomethane	<0.31		1.0	0.31	ug/L			05/18/12 19:13	1
2-Butanone (MEK)	<1.5		5.0	1.5	ug/L			05/18/12 19:13	1
Carbon tetrachloride	<0.26		1.0	0.26	ug/L			05/18/12 19:13	1
Chlorobenzene	<0.14		1.0	0.14	ug/L			05/18/12 19:13	1
Chloroethane	<0.34		1.0	0.34	ug/L			05/18/12 19:13	1
Chloroform	<0.20		1.0	0.20	ug/L			05/18/12 19:13	1
Chloromethane	<0.18		1.0	0.18	ug/L			05/18/12 19:13	1
2-Chlorotoluene	<0.21		1.0	0.21	ug/L			05/18/12 19:13	1
4-Chlorotoluene	<0.20		1.0	0.20	ug/L			05/18/12 19:13	1
cis-1,2-Dichloroethene	<0.12		1.0	0.12	ug/L			05/18/12 19:13	1
cis-1,3-Dichloropropene	<0.18		1.0	0.18	ug/L			05/18/12 19:13	1
Dibromochloromethane	<0.32		1.0	0.32	ug/L			05/18/12 19:13	1
1,2-Dibromo-3-Chloropropane	<0.68		2.0	0.68	ug/L			05/18/12 19:13	1
1,2-Dibromoethane	<0.36		1.0	0.36	ug/L			05/18/12 19:13	1
Dibromomethane	<0.33		1.0	0.33	ug/L			05/18/12 19:13	1
1,2-Dichlorobenzene	<0.27		1.0	0.27	ug/L			05/18/12 19:13	1
1,3-Dichlorobenzene	<0.15		1.0	0.15	ug/L			05/18/12 19:13	1
1,4-Dichlorobenzene	<0.15		1.0	0.15	ug/L			05/18/12 19:13	1
Dichlorodifluoromethane	<0.20		1.0	0.20	ug/L			05/18/12 19:13	1
1,1-Dichloroethane	<0.19		1.0	0.19	ug/L			05/18/12 19:13	1
1,2-Dichloroethane	<0.28		1.0	0.28	ug/L			05/18/12 19:13	1
1,1-Dichloroethene	<0.31		1.0	0.31	ug/L			05/18/12 19:13	1
1,2-Dichloropropane	<0.20	*	1.0	0.20	ug/L			05/18/12 19:13	1
1,3-Dichloropropane	<0.13		1.0	0.13	ug/L			05/18/12 19:13	1
2,2-Dichloropropane	<0.32		1.0	0.32	ug/L			05/18/12 19:13	1
1,1-Dichloropropene	<0.34		1.0	0.34	ug/L			05/18/12 19:13	1
Ethylbenzene	<0.13		0.50	0.13	ug/L			05/18/12 19:13	1
Hexachlorobutadiene	<0.26		1.0	0.26	ug/L			05/18/12 19:13	1
2-Hexanone	<0.56		5.0	0.56	ug/L			05/18/12 19:13	1
Isopropylbenzene	<0.14		1.0	0.14	ug/L			05/18/12 19:13	1
Isopropyl ether	<0.15		1.0	0.15	ug/L			05/18/12 19:13	1
Methylene Chloride	<0.68		5.0	0.68	ug/L			05/18/12 19:13	1
4-Methyl-2-pentanone (MIBK)	<0.33		5.0	0.33	ug/L			05/18/12 19:13	1
Methyl tert-butyl ether	<0.24		1.0	0.24	ug/L			05/18/12 19:13	1
Naphthalene	<0.16		1.0	0.16	ug/L			05/18/12 19:13	1
n-Butylbenzene	<0.13		1.0	0.13	ug/L			05/18/12 19:13	1
N-Propylbenzene	<0.13		1.0	0.13	ug/L			05/18/12 19:13	1
p-Isopropyltoluene	<0.17		1.0	0.17	ug/L			05/18/12 19:13	1
sec-Butylbenzene	<0.15		1.0	0.15	ug/L			05/18/12 19:13	1
Styrene	<0.10		1.0	0.10	ug/L			05/18/12 19:13	1
tert-Butylbenzene	<0.14		1.0	0.14	ug/L			05/18/12 19:13	1
1,1,1,2-Tetrachloroethane	<0.25		1.0	0.25	ug/L			05/18/12 19:13	1
1,1,2,2-Tetrachloroethane	<0.23		1.0	0.23	ug/L			05/18/12 19:13	1
Tetrachloroethene	<0.17		1.0	0.17	ug/L			05/18/12 19:13	1
Toluene	<0.11		0.50	0.11	ug/L			05/18/12 19:13	1

# Client Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water 193701814

TestAmerica Job ID: 500-46344-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 500-46344-5**

**Date Collected: 05/10/12 00:00**

**Matrix: Water**

**Date Received: 05/15/12 10:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	<0.25		1.0	0.25	ug/L			05/18/12 19:13	1
trans-1,3-Dichloropropene	<0.21		1.0	0.21	ug/L			05/18/12 19:13	1
1,2,3-Trichlorobenzene	<0.24		1.0	0.24	ug/L			05/18/12 19:13	1
1,2,4-Trichlorobenzene	<0.31		1.0	0.31	ug/L			05/18/12 19:13	1
1,1,1-Trichloroethane	<0.20		1.0	0.20	ug/L			05/18/12 19:13	1
1,1,2-Trichloroethane	<0.28		1.0	0.28	ug/L			05/18/12 19:13	1
Trichloroethene	<0.19		0.50	0.19	ug/L			05/18/12 19:13	1
Trichlorofluoromethane	<0.19		1.0	0.19	ug/L			05/18/12 19:13	1
1,2,3-Trichloropropane	<0.45		1.0	0.45	ug/L			05/18/12 19:13	1
1,2,4-Trimethylbenzene	<0.14		1.0	0.14	ug/L			05/18/12 19:13	1
1,3,5-Trimethylbenzene	<0.18		1.0	0.18	ug/L			05/18/12 19:13	1
Vinyl chloride	<0.10		0.50	0.10	ug/L			05/18/12 19:13	1
Xylenes, Total	<0.068		1.0	0.068	ug/L			05/18/12 19:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		79 - 120		05/18/12 19:13	1
Dibromofluoromethane	103		74 - 123		05/18/12 19:13	1
1,2-Dichloroethane-d4 (Surr)	112		75 - 131		05/18/12 19:13	1
Toluene-d8 (Surr)	106		80 - 120		05/18/12 19:13	1





## Definitions/Glossary

Client: Stantec Consulting Corporation/Bonestroo  
Project/Site: Cedarburg Light & Water 193701814

TestAmerica Job ID: 500-46344-1

### Qualifiers

#### GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD exceeds the control limits

### 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
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

## QC Association Summary

Client: Stantec Consulting Corporation/Bonestroo  
Project/Site: Cedarburg Light & Water 193701814

TestAmerica Job ID: 500-46344-1

### GC/MS VOA

#### Analysis Batch: 150197

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-46344-1	MW200	Total/NA	Water	8260B	
500-46344-2	MW300	Total/NA	Water	8260B	
500-46344-3	MW400	Total/NA	Water	8260B	
500-46344-4	Dup	Total/NA	Water	8260B	
500-46344-5	Trip Blank	Total/NA	Water	8260B	
LCS 500-150197/4	Lab Control Sample	Total/NA	Water	8260B	
MB 500-150197/5	Method Blank	Total/NA	Water	8260B	

1

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## Surrogate Summary

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water 193701814

TestAmerica Job ID: 500-46344-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		BFB (79-120)	DBFM (74-123)	12DCE (75-131)	TOL (80-120)
500-46344-1	MW200	97	92	98	98
500-46344-2	MW300	98	97	103	98
500-46344-3	MW400	96	100	103	98
500-46344-4	Dup	104	104	110	103
500-46344-5	Trip Blank	107	103	112	106
LCS 500-150197/4	Lab Control Sample	104	96	96	100
MB 500-150197/5	Method Blank	97	99	102	101

#### Surrogate Legend

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





# QC Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water 193701814

TestAmerica Job ID: 500-46344-1

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

**Lab Sample ID: MB 500-150197/5**

**Matrix: Water**

**Analysis Batch: 150197**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acetone	<1.3		5.0	1.3	ug/L			05/18/12 16:41	1
Benzene	<0.074		0.50	0.074	ug/L			05/18/12 16:41	1
Bromobenzene	<0.25		1.0	0.25	ug/L			05/18/12 16:41	1
Bromochloromethane	<0.40		1.0	0.40	ug/L			05/18/12 16:41	1
Bromodichloromethane	<0.17		1.0	0.17	ug/L			05/18/12 16:41	1
Bromoform	<0.28		1.0	0.28	ug/L			05/18/12 16:41	1
Bromomethane	<0.31		1.0	0.31	ug/L			05/18/12 16:41	1
2-Butanone (MEK)	<1.5		5.0	1.5	ug/L			05/18/12 16:41	1
Carbon tetrachloride	<0.26		1.0	0.26	ug/L			05/18/12 16:41	1
Chlorobenzene	<0.14		1.0	0.14	ug/L			05/18/12 16:41	1
Chloroethane	<0.34		1.0	0.34	ug/L			05/18/12 16:41	1
Chloroform	<0.20		1.0	0.20	ug/L			05/18/12 16:41	1
Chloromethane	<0.18		1.0	0.18	ug/L			05/18/12 16:41	1
2-Chlorotoluene	<0.21		1.0	0.21	ug/L			05/18/12 16:41	1
4-Chlorotoluene	<0.20		1.0	0.20	ug/L			05/18/12 16:41	1
cis-1,2-Dichloroethene	<0.12		1.0	0.12	ug/L			05/18/12 16:41	1
cis-1,3-Dichloropropene	<0.18		1.0	0.18	ug/L			05/18/12 16:41	1
Dibromochloromethane	<0.32		1.0	0.32	ug/L			05/18/12 16:41	1
1,2-Dibromo-3-Chloropropane	<0.68		2.0	0.68	ug/L			05/18/12 16:41	1
1,2-Dibromoethane	<0.36		1.0	0.36	ug/L			05/18/12 16:41	1
Dibromomethane	<0.33		1.0	0.33	ug/L			05/18/12 16:41	1
1,2-Dichlorobenzene	<0.27		1.0	0.27	ug/L			05/18/12 16:41	1
1,3-Dichlorobenzene	<0.15		1.0	0.15	ug/L			05/18/12 16:41	1
1,4-Dichlorobenzene	<0.15		1.0	0.15	ug/L			05/18/12 16:41	1
Dichlorodifluoromethane	<0.20		1.0	0.20	ug/L			05/18/12 16:41	1
1,1-Dichloroethane	<0.19		1.0	0.19	ug/L			05/18/12 16:41	1
1,2-Dichloroethane	<0.28		1.0	0.28	ug/L			05/18/12 16:41	1
1,1-Dichloroethene	<0.31		1.0	0.31	ug/L			05/18/12 16:41	1
1,2-Dichloropropane	<0.20		1.0	0.20	ug/L			05/18/12 16:41	1
1,3-Dichloropropane	<0.13		1.0	0.13	ug/L			05/18/12 16:41	1
2,2-Dichloropropane	<0.32		1.0	0.32	ug/L			05/18/12 16:41	1
1,1-Dichloropropene	<0.34		1.0	0.34	ug/L			05/18/12 16:41	1
Ethylbenzene	<0.13		0.50	0.13	ug/L			05/18/12 16:41	1
Hexachlorobutadiene	<0.26		1.0	0.26	ug/L			05/18/12 16:41	1
2-Hexanone	<0.56		5.0	0.56	ug/L			05/18/12 16:41	1
Isopropylbenzene	<0.14		1.0	0.14	ug/L			05/18/12 16:41	1
Isopropyl ether	<0.15		1.0	0.15	ug/L			05/18/12 16:41	1
Methylene Chloride	<0.68		5.0	0.68	ug/L			05/18/12 16:41	1
4-Methyl-2-pentanone (MIBK)	<0.33		5.0	0.33	ug/L			05/18/12 16:41	1
Methyl tert-butyl ether	<0.24		1.0	0.24	ug/L			05/18/12 16:41	1
Naphthalene	<0.16		1.0	0.16	ug/L			05/18/12 16:41	1
n-Butylbenzene	<0.13		1.0	0.13	ug/L			05/18/12 16:41	1
N-Propylbenzene	<0.13		1.0	0.13	ug/L			05/18/12 16:41	1
p-Isopropyltoluene	<0.17		1.0	0.17	ug/L			05/18/12 16:41	1
sec-Butylbenzene	<0.15		1.0	0.15	ug/L			05/18/12 16:41	1
Styrene	<0.10		1.0	0.10	ug/L			05/18/12 16:41	1
tert-Butylbenzene	<0.14		1.0	0.14	ug/L			05/18/12 16:41	1
1,1,1,2-Tetrachloroethane	<0.25		1.0	0.25	ug/L			05/18/12 16:41	1
1,1,2,2-Tetrachloroethane	<0.23		1.0	0.23	ug/L			05/18/12 16:41	1



## QC Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water 193701814

TestAmerica Job ID: 500-46344-1

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

Lab Sample ID: MB 500-150197/5

Matrix: Water

Analysis Batch: 150197

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Tetrachloroethene	<0.17		1.0	0.17	ug/L			05/18/12 16:41	1
Toluene	<0.11		0.50	0.11	ug/L			05/18/12 16:41	1
trans-1,2-Dichloroethene	<0.25		1.0	0.25	ug/L			05/18/12 16:41	1
trans-1,3-Dichloropropene	<0.21		1.0	0.21	ug/L			05/18/12 16:41	1
1,2,3-Trichlorobenzene	<0.24		1.0	0.24	ug/L			05/18/12 16:41	1
1,2,4-Trichlorobenzene	<0.31		1.0	0.31	ug/L			05/18/12 16:41	1
1,1,1-Trichloroethane	<0.20		1.0	0.20	ug/L			05/18/12 16:41	1
1,1,2-Trichloroethane	<0.28		1.0	0.28	ug/L			05/18/12 16:41	1
Trichloroethene	<0.19		0.50	0.19	ug/L			05/18/12 16:41	1
Trichlorofluoromethane	<0.19		1.0	0.19	ug/L			05/18/12 16:41	1
1,2,3-Trichloropropane	<0.45		1.0	0.45	ug/L			05/18/12 16:41	1
1,2,4-Trimethylbenzene	<0.14		1.0	0.14	ug/L			05/18/12 16:41	1
1,3,5-Trimethylbenzene	<0.18		1.0	0.18	ug/L			05/18/12 16:41	1
Vinyl chloride	<0.10		0.50	0.10	ug/L			05/18/12 16:41	1
Xylenes, Total	<0.068		1.0	0.068	ug/L			05/18/12 16:41	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	97		79 - 120		05/18/12 16:41	1
Dibromofluoromethane	99		74 - 123		05/18/12 16:41	1
1,2-Dichloroethane-d4 (Surr)	102		75 - 131		05/18/12 16:41	1
Toluene-d8 (Surr)	101		80 - 120		05/18/12 16:41	1

Lab Sample ID: LCS 500-150197/4

Matrix: Water

Analysis Batch: 150197

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	43.8		ug/L		88	74 - 115
Bromobenzene	50.0	47.8		ug/L		96	80 - 120
Bromochloromethane	50.0	39.7		ug/L		79	72 - 119
Bromodichloromethane	50.0	48.3		ug/L		97	79 - 117
Bromoform	50.0	47.1		ug/L		94	64 - 127
Bromomethane	50.0	54.6		ug/L		109	47 - 158
2-Butanone (MEK)	50.0	32.6		ug/L		65	53 - 140
Carbon tetrachloride	50.0	45.2		ug/L		90	72 - 124
Chlorobenzene	50.0	47.9		ug/L		96	80 - 120
Chloroethane	50.0	52.9		ug/L		106	54 - 143
Chloroform	50.0	46.8		ug/L		94	76 - 117
Chloromethane	50.0	39.3		ug/L		79	56 - 144
2-Chlorotoluene	50.0	49.5		ug/L		99	80 - 120
4-Chlorotoluene	50.0	49.6		ug/L		99	80 - 120
cis-1,2-Dichloroethene	50.0	42.5		ug/L		85	75 - 119
cis-1,3-Dichloropropene	53.8	49.4		ug/L		92	71 - 112
Dibromochloromethane	50.0	47.3		ug/L		95	73 - 120
1,2-Dibromo-3-Chloropropane	50.0	52.3		ug/L		105	53 - 133
1,2-Dibromoethane	50.0	45.1		ug/L		90	79 - 120
Dibromomethane	50.0	42.1		ug/L		84	76 - 120
1,2-Dichlorobenzene	50.0	47.1		ug/L		94	80 - 120

# QC Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water 193701814

TestAmerica Job ID: 500-46344-1

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

**Lab Sample ID:** LCS 500-150197/4  
**Matrix:** Water  
**Analysis Batch:** 150197

**Client Sample ID:** Lab Control Sample  
**Prep Type:** Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichlorobenzene	50.0	49.1		ug/L		98	80 - 120
1,4-Dichlorobenzene	50.0	48.3		ug/L		97	80 - 120
Dichlorodifluoromethane	50.0	58.0		ug/L		116	43 - 139
1,1-Dichloroethane	50.0	36.4		ug/L		73	66 - 118
1,2-Dichloroethane	50.0	43.5		ug/L		87	76 - 117
1,1-Dichloroethene	50.0	37.2		ug/L		74	58 - 115
1,2-Dichloropropane	50.0	36.0	*	ug/L		72	77 - 118
1,3-Dichloropropane	50.0	47.9		ug/L		96	79 - 114
2,2-Dichloropropane	50.0	51.1		ug/L		102	70 - 117
1,1-Dichloropropene	50.0	44.0		ug/L		88	71 - 113
Ethylbenzene	50.0	47.5		ug/L		95	79 - 115
Hexachlorobutadiene	50.0	53.5		ug/L		107	71 - 128
2-Hexanone	50.0	41.7		ug/L		83	60 - 134
Isopropylbenzene	50.0	43.7		ug/L		87	68 - 120
Methylene Chloride	50.0	43.0		ug/L		86	63 - 130
4-Methyl-2-pentanone (MIBK)	50.0	37.9		ug/L		76	59 - 134
Methyl tert-butyl ether	50.0	43.2		ug/L		86	60 - 125
Naphthalene	50.0	49.4		ug/L		99	72 - 127
n-Butylbenzene	50.0	51.8		ug/L		104	78 - 119
N-Propylbenzene	50.0	49.2		ug/L		98	77 - 114
p-Isopropyltoluene	50.0	48.1		ug/L		96	77 - 120
sec-Butylbenzene	50.0	50.7		ug/L		101	79 - 117
Styrene	50.0	49.9		ug/L		100	80 - 120
tert-Butylbenzene	50.0	49.3		ug/L		99	80 - 120
1,1,1,2-Tetrachloroethane	50.0	46.0		ug/L		92	80 - 120
1,1,2,2-Tetrachloroethane	50.0	48.6		ug/L		97	78 - 123
Tetrachloroethene	50.0	47.5		ug/L		95	71 - 120
Toluene	50.0	46.6		ug/L		93	80 - 120
trans-1,2-Dichloroethene	50.0	42.8		ug/L		86	74 - 119
trans-1,3-Dichloropropene	48.6	47.3		ug/L		97	66 - 116
1,2,3-Trichlorobenzene	50.0	49.7		ug/L		99	74 - 126
1,2,4-Trichlorobenzene	50.0	47.3		ug/L		95	70 - 118
1,1,1-Trichloroethane	50.0	48.3		ug/L		97	77 - 117
1,1,2-Trichloroethane	50.0	44.8		ug/L		90	78 - 121
Trichloroethene	50.0	42.7		ug/L		85	75 - 120
Trichlorofluoromethane	50.0	57.1		ug/L		114	66 - 126
1,2,3-Trichloropropane	50.0	45.0		ug/L		90	77 - 119
1,2,4-Trimethylbenzene	50.0	52.5		ug/L		105	80 - 120
1,3,5-Trimethylbenzene	50.0	54.1		ug/L		108	83 - 120
Vinyl chloride	50.0	47.5		ug/L		95	51 - 149
Xylenes, Total	150	149		ug/L		99	78 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	104		79 - 120
Dibromofluoromethane	96		74 - 123
1,2-Dichloroethane-d4 (Surr)	96		75 - 131
Toluene-d8 (Surr)	100		80 - 120





## Certification Summary

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water 193701814

TestAmerica Job ID: 500-46344-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Chicago	A2LA	A2LA		R-194
TestAmerica Chicago	Alabama	State Program	4	40461
TestAmerica Chicago	California	NELAC	9	01132CA
TestAmerica Chicago	Florida	NELAC	4	E871072
TestAmerica Chicago	Georgia	State Program	4	939
TestAmerica Chicago	Georgia	State Program	4	N/A
TestAmerica Chicago	Hawaii	State Program	9	N/A
TestAmerica Chicago	Illinois	NELAC	5	100201
TestAmerica Chicago	Indiana	State Program	5	C-IL-02
TestAmerica Chicago	Iowa	State Program	7	82
TestAmerica Chicago	Kansas	NELAC	7	E-10161
TestAmerica Chicago	Kentucky	State Program	4	90023
TestAmerica Chicago	Kentucky (UST)	State Program	4	66
TestAmerica Chicago	L-A-B	DoD ELAP		L2304
TestAmerica Chicago	L-A-B	ISO/IEC 17025		L2304
TestAmerica Chicago	Louisiana	NELAC	6	30720
TestAmerica Chicago	Massachusetts	State Program	1	M-IL035
TestAmerica Chicago	Mississippi	State Program	4	N/A
TestAmerica Chicago	North Carolina DENR	State Program	4	291
TestAmerica Chicago	North Dakota	State Program	8	R-194
TestAmerica Chicago	Oklahoma	State Program	6	8908
TestAmerica Chicago	South Carolina	State Program	4	77001
TestAmerica Chicago	Texas	NELAC	6	T104704252-09-TX
TestAmerica Chicago	USDA	Federal		P330-12-00038
TestAmerica Chicago	Virginia	NELAC	3	460142
TestAmerica Chicago	Wisconsin	State Program	5	999580010
TestAmerica Chicago	Wyoming	State Program	8	8TMS-Q

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484  
Phone: 708.534.5200 Fax: 708.534.5211

Report To Contact: <u>Andy Swaim</u> Company: <u>Stantec</u> Address: <u>12075 Copondale Pkwy</u> Address: <u>STP 200, Megan WI</u> Phone: <u>262-643-9173 53092</u> Fax: E-Mail: <u>andy.swaim@stantec.com</u>	(optional) Bill To Contact: Company: Address: Address: Phone: Fax: Reference#
--	---

## Chain of Custody Record

Lab Job #: 500-46344  
Chain of Custody Number:  
Page 1 of 1  
Temperature °C of Cooler: 3.7

Client		Client Project #		Preservative											Preservative Key 1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO4 7. Cool to 4° 8. None 9. Other			
Project Name		Lab Project #		Parameter														
Project Location/State		Lab PM																
Sampler																		
Lab ID	MS/MSD	Sample ID	Date	Time	# of Containers	Matrix											Comments	
1		MW200	5/10/12		3	GW	X											
2		MW300	5/10/12		3	GW	X											
3		MW400	5/10/12		3	GW	X											
4		Dyp	5/10/12		3	GW	X											
5		Trip Blank					X											

Turnaround Time Required (Business Days)

\_\_\_ 1 Day \_\_\_ 2 Days \_\_\_ 5 Days \_\_\_ 7 Days X 10 Days \_\_\_ 15 Days \_\_\_ Other

Requested Due Date

Sample Disposal

Return to Client  Disposal by Lab  Archive for \_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: <u>AS</u>	Company: <u>Stantec</u>	Date: <u>5/14/12</u>	Time: <u>2:00pm</u>	Received By: <u>Sherrill Cott</u>	Company: <u>TACHE</u>	Date: <u>5/15/12</u>	Time: <u>1030</u>
Relinquished By:	Company:	Date:	Time:	Received By:	Company:	Date:	Time:
Relinquished By:	Company:	Date:	Time:	Received By:	Company:	Date:	Time:

Lab Courier: \_\_\_\_\_  
Shipped: Fedex  
Hand Delivered: \_\_\_\_\_

Matrix Key  
 WW - Wastewater SE - Sediment  
 W - Water SO - Soil  
 S - Soil L - Leachate  
 SL - Sludge WI - Wipe  
 MS - Miscellaneous DW - Drinking Water  
 OL - Oil O - Other  
 A - Air

Client Comments:

Lab Comments:

## Login Sample Receipt Checklist

Client: Stantec Consulting Corporation/Bonestroo

Job Number: 500-46344-1

**Login Number: 46344**

**List Number: 1**

**Creator: Scott, Sherri L**

**List Source: TestAmerica Chicago**

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-49680-1

Client Project/Site: Cedarburg Light & Water - 193701814

For:

Stantec Consulting Corporation/Bonestroo

12075N Corporate Parkway

Suite 210

Mequon, Wisconsin 53092

Attn: Andy Swaim



Authorized for release by:

9/7/2012 3:22:03 PM

Sandie Fredrick

Project Manager I

[sandie.fredrick@testamericainc.com](mailto:sandie.fredrick@testamericainc.com)

### LINKS

Review your project  
results through

Total Access

Have a Question?

Ask  
The  
Expert

Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

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

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

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## Case Narrative

Client: Stantec Consulting Corporation/Bonestroo  
Project/Site: Cedarburg Light & Water - 193701814

TestAmerica Job ID: 500-49680-1

**Job ID: 500-49680-1**

**Laboratory: TestAmerica Chicago**

### Narrative

Job Narrative  
500-49680-1

### Comments

No additional comments.

### Receipt

The samples were received on 8/29/2012 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 6.7° C.

### GC/MS VOA

Method(s) 8260B: A full list spike was utilized for this method. Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits.

The laboratory's SOP allows for 4 analytes to recover outside criteria from this method when a full list spike is utilized. The extraction LCS associated with preparation batch 161211 had 1 analyte outside control limits. The instrument LCS associated with the analytical batch 161316 had all analytes within control limits; therefore re-analysis was not performed. These results have been reported and qualified.

No other analytical or quality issues were noted.

### Metals

No analytical or quality issues were noted.





# Detection Summary

Client: Stantec Consulting Corporation/Bonestroo  
Project/Site: Cedarburg Light & Water - 193701814

TestAmerica Job ID: 500-49680-1

## Client Sample ID: MW200

Lab Sample ID: 500-49680-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
1,2-Dichlorobenzene	0.91	J	1.0	0.27	ug/L	1			8260B	Total/NA
cis-1,2-Dichloroethene	2.0		1.0	0.12	ug/L	1			8260B	Total/NA
Tetrachloroethene	1.2		1.0	0.17	ug/L	1			8260B	Total/NA
trans-1,2-Dichloroethene	1.1		1.0	0.25	ug/L	1			8260B	Total/NA
Trichloroethene	0.46	J	0.50	0.19	ug/L	1			8260B	Total/NA

## Client Sample ID: MW300

Lab Sample ID: 500-49680-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Tetrachloroethene	1.5		1.0	0.17	ug/L	1			8260B	Total/NA

## Client Sample ID: MW400

Lab Sample ID: 500-49680-3

No Detections

## Client Sample ID: HB102

Lab Sample ID: 500-49680-4

No Detections



# Method Summary

Client: Stantec Consulting Corporation/Bonestroo  
Project/Site: Cedarburg Light & Water - 193701814

TestAmerica Job ID: 500-49680-1

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Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
Moisture	Percent Moisture	EPA	TAL CHI

**Protocol References:**

EPA = US Environmental Protection Agency

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

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200



# Sample Summary

Client: Stantec Consulting Corporation/Bonestroo  
Project/Site: Cedarburg Light & Water - 193701814

TestAmerica Job ID: 500-49680-1

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-49680-1	MW200	Water	08/27/12 11:20	08/29/12 08:00
500-49680-2	MW300	Water	08/27/12 11:30	08/29/12 08:00
500-49680-3	MW400	Water	08/27/12 11:40	08/29/12 08:00
500-49680-4	HB102	Solid	08/27/12 11:05	08/29/12 08:00

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# Client Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water - 193701814

TestAmerica Job ID: 500-49680-1

**Client Sample ID: MW200**

**Lab Sample ID: 500-49680-1**

**Date Collected: 08/27/12 11:20**

**Matrix: Water**

**Date Received: 08/29/12 08:00**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.25		1.0	0.25	ug/L			09/04/12 10:56	1
1,1,1-Trichloroethane	<0.20		1.0	0.20	ug/L			09/04/12 10:56	1
1,1,2,2-Tetrachloroethane	<0.23		1.0	0.23	ug/L			09/04/12 10:56	1
1,1,2-Trichloroethane	<0.28		1.0	0.28	ug/L			09/04/12 10:56	1
1,1-Dichloroethane	<0.19		1.0	0.19	ug/L			09/04/12 10:56	1
1,1-Dichloroethene	<0.31		1.0	0.31	ug/L			09/04/12 10:56	1
1,1-Dichloropropene	<0.34		1.0	0.34	ug/L			09/04/12 10:56	1
1,2,3-Trichlorobenzene	<0.24		1.0	0.24	ug/L			09/04/12 10:56	1
1,2,3-Trichloropropane	<0.45		1.0	0.45	ug/L			09/04/12 10:56	1
1,2,4-Trichlorobenzene	<0.31		1.0	0.31	ug/L			09/04/12 10:56	1
1,2,4-Trimethylbenzene	<0.14		1.0	0.14	ug/L			09/04/12 10:56	1
1,2-Dibromo-3-Chloropropane	<0.87		2.0	0.87	ug/L			09/04/12 10:56	1
1,2-Dibromoethane	<0.36		1.0	0.36	ug/L			09/04/12 10:56	1
<b>1,2-Dichlorobenzene</b>	<b>0.91</b>	<b>J</b>	1.0	0.27	ug/L			09/04/12 10:56	1
1,2-Dichloroethane	<0.28		1.0	0.28	ug/L			09/04/12 10:56	1
1,2-Dichloropropane	<0.20		1.0	0.20	ug/L			09/04/12 10:56	1
1,3,5-Trimethylbenzene	<0.18		1.0	0.18	ug/L			09/04/12 10:56	1
1,3-Dichlorobenzene	<0.15		1.0	0.15	ug/L			09/04/12 10:56	1
1,3-Dichloropropane	<0.13		1.0	0.13	ug/L			09/04/12 10:56	1
1,4-Dichlorobenzene	<0.15		1.0	0.15	ug/L			09/04/12 10:56	1
2,2-Dichloropropane	<0.32		1.0	0.32	ug/L			09/04/12 10:56	1
2-Butanone (MEK)	<1.5		5.0	1.5	ug/L			09/04/12 10:56	1
2-Chlorotoluene	<0.21		1.0	0.21	ug/L			09/04/12 10:56	1
2-Hexanone	<0.56		5.0	0.56	ug/L			09/04/12 10:56	1
4-Chlorotoluene	<0.20		1.0	0.20	ug/L			09/04/12 10:56	1
4-Methyl-2-pentanone (MIBK)	<0.33		5.0	0.33	ug/L			09/04/12 10:56	1
Acetone	<1.3		5.0	1.3	ug/L			09/04/12 10:56	1
Benzene	<0.074		0.50	0.074	ug/L			09/04/12 10:56	1
Bromobenzene	<0.25		1.0	0.25	ug/L			09/04/12 10:56	1
Bromochloromethane	<0.40		1.0	0.40	ug/L			09/04/12 10:56	1
Bromodichloromethane	<0.17		1.0	0.17	ug/L			09/04/12 10:56	1
Bromoform	<0.28		1.0	0.28	ug/L			09/04/12 10:56	1
Bromomethane	<0.31		1.0	0.31	ug/L			09/04/12 10:56	1
Carbon tetrachloride	<0.26		1.0	0.26	ug/L			09/04/12 10:56	1
Chlorobenzene	<0.14		1.0	0.14	ug/L			09/04/12 10:56	1
Chloroethane	<0.34		1.0	0.34	ug/L			09/04/12 10:56	1
Chloroform	<0.20		1.0	0.20	ug/L			09/04/12 10:56	1
Chloromethane	<0.18		1.0	0.18	ug/L			09/04/12 10:56	1
<b>cis-1,2-Dichloroethene</b>	<b>2.0</b>		1.0	0.12	ug/L			09/04/12 10:56	1
cis-1,3-Dichloropropene	<0.18		1.0	0.18	ug/L			09/04/12 10:56	1
Dibromochloromethane	<0.32		1.0	0.32	ug/L			09/04/12 10:56	1
Dibromomethane	<0.33		1.0	0.33	ug/L			09/04/12 10:56	1
Dichlorodifluoromethane	<0.20		1.0	0.20	ug/L			09/04/12 10:56	1
Ethylbenzene	<0.13		0.50	0.13	ug/L			09/04/12 10:56	1
Hexachlorobutadiene	<0.26		1.0	0.26	ug/L			09/04/12 10:56	1
Isopropyl ether	<0.15		1.0	0.15	ug/L			09/04/12 10:56	1
Isopropylbenzene	<0.14		1.0	0.14	ug/L			09/04/12 10:56	1
Methyl tert-butyl ether	<0.24		1.0	0.24	ug/L			09/04/12 10:56	1
Methylene Chloride	<0.68		5.0	0.68	ug/L			09/04/12 10:56	1
Naphthalene	<0.16		1.0	0.16	ug/L			09/04/12 10:56	1
n-Butylbenzene	<0.13		1.0	0.13	ug/L			09/04/12 10:56	1

## Client Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
Project/Site: Cedarburg Light & Water - 193701814

TestAmerica Job ID: 500-49680-1

**Client Sample ID: MW200**

**Date Collected: 08/27/12 11:20**

**Date Received: 08/29/12 08:00**

**Lab Sample ID: 500-49680-1**

**Matrix: Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	<0.13		1.0	0.13	ug/L			09/04/12 10:56	1
p-Isopropyltoluene	<0.17		1.0	0.17	ug/L			09/04/12 10:56	1
sec-Butylbenzene	<0.15		1.0	0.15	ug/L			09/04/12 10:56	1
Styrene	<0.10		1.0	0.10	ug/L			09/04/12 10:56	1
tert-Butylbenzene	<0.14		1.0	0.14	ug/L			09/04/12 10:56	1
<b>Tetrachloroethene</b>	<b>1.2</b>		1.0	0.17	ug/L			09/04/12 10:56	1
Toluene	<0.11		0.50	0.11	ug/L			09/04/12 10:56	1
<b>trans-1,2-Dichloroethene</b>	<b>1.1</b>		1.0	0.25	ug/L			09/04/12 10:56	1
trans-1,3-Dichloropropene	<0.21		1.0	0.21	ug/L			09/04/12 10:56	1
<b>Trichloroethene</b>	<b>0.46 J</b>		0.50	0.19	ug/L			09/04/12 10:56	1
Trichlorofluoromethane	<0.19		1.0	0.19	ug/L			09/04/12 10:56	1
Vinyl chloride	<0.10		0.50	0.10	ug/L			09/04/12 10:56	1
Xylenes, Total	<0.068		1.0	0.068	ug/L			09/04/12 10:56	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	95		75 - 131					09/04/12 10:56	1
4-Bromofluorobenzene (Surr)	99		79 - 120					09/04/12 10:56	1
Dibromofluoromethane	94		74 - 123					09/04/12 10:56	1
Toluene-d8 (Surr)	101		80 - 120					09/04/12 10:56	1

**Client Sample ID: MW300**

**Date Collected: 08/27/12 11:30**

**Date Received: 08/29/12 08:00**

**Lab Sample ID: 500-49680-2**

**Matrix: Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.25		1.0	0.25	ug/L			09/04/12 11:20	1
1,1,1-Trichloroethane	<0.20		1.0	0.20	ug/L			09/04/12 11:20	1
1,1,2,2-Tetrachloroethane	<0.23		1.0	0.23	ug/L			09/04/12 11:20	1
1,1,2-Trichloroethane	<0.28		1.0	0.28	ug/L			09/04/12 11:20	1
1,1-Dichloroethane	<0.19		1.0	0.19	ug/L			09/04/12 11:20	1
1,1-Dichloroethene	<0.31		1.0	0.31	ug/L			09/04/12 11:20	1
1,1-Dichloropropene	<0.34		1.0	0.34	ug/L			09/04/12 11:20	1
1,2,3-Trichlorobenzene	<0.24		1.0	0.24	ug/L			09/04/12 11:20	1
1,2,3-Trichloropropane	<0.45		1.0	0.45	ug/L			09/04/12 11:20	1
1,2,4-Trichlorobenzene	<0.31		1.0	0.31	ug/L			09/04/12 11:20	1
1,2,4-Trimethylbenzene	<0.14		1.0	0.14	ug/L			09/04/12 11:20	1
1,2-Dibromo-3-Chloropropane	<0.87		2.0	0.87	ug/L			09/04/12 11:20	1
1,2-Dibromoethane	<0.36		1.0	0.36	ug/L			09/04/12 11:20	1
1,2-Dichlorobenzene	<0.27		1.0	0.27	ug/L			09/04/12 11:20	1
1,2-Dichloroethane	<0.28		1.0	0.28	ug/L			09/04/12 11:20	1
1,2-Dichloropropane	<0.20		1.0	0.20	ug/L			09/04/12 11:20	1
1,3,5-Trimethylbenzene	<0.18		1.0	0.18	ug/L			09/04/12 11:20	1
1,3-Dichlorobenzene	<0.15		1.0	0.15	ug/L			09/04/12 11:20	1
1,3-Dichloropropane	<0.13		1.0	0.13	ug/L			09/04/12 11:20	1
1,4-Dichlorobenzene	<0.15		1.0	0.15	ug/L			09/04/12 11:20	1
2,2-Dichloropropane	<0.32		1.0	0.32	ug/L			09/04/12 11:20	1
2-Butanone (MEK)	<1.5		5.0	1.5	ug/L			09/04/12 11:20	1
2-Chlorotoluene	<0.21		1.0	0.21	ug/L			09/04/12 11:20	1
2-Hexanone	<0.56		5.0	0.56	ug/L			09/04/12 11:20	1
4-Chlorotoluene	<0.20		1.0	0.20	ug/L			09/04/12 11:20	1



# Client Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water - 193701814

TestAmerica Job ID: 500-49680-1

**Client Sample ID: MW300**

**Lab Sample ID: 500-49680-2**

**Date Collected: 08/27/12 11:30**

**Matrix: Water**

**Date Received: 08/29/12 08:00**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone (MIBK)	<0.33		5.0	0.33	ug/L			09/04/12 11:20	1
Acetone	<1.3		5.0	1.3	ug/L			09/04/12 11:20	1
Benzene	<0.074		0.50	0.074	ug/L			09/04/12 11:20	1
Bromobenzene	<0.25		1.0	0.25	ug/L			09/04/12 11:20	1
Bromochloromethane	<0.40		1.0	0.40	ug/L			09/04/12 11:20	1
Bromodichloromethane	<0.17		1.0	0.17	ug/L			09/04/12 11:20	1
Bromoform	<0.28		1.0	0.28	ug/L			09/04/12 11:20	1
Bromomethane	<0.31		1.0	0.31	ug/L			09/04/12 11:20	1
Carbon tetrachloride	<0.26		1.0	0.26	ug/L			09/04/12 11:20	1
Chlorobenzene	<0.14		1.0	0.14	ug/L			09/04/12 11:20	1
Chloroethane	<0.34		1.0	0.34	ug/L			09/04/12 11:20	1
Chloroform	<0.20		1.0	0.20	ug/L			09/04/12 11:20	1
Chloromethane	<0.18		1.0	0.18	ug/L			09/04/12 11:20	1
cis-1,2-Dichloroethene	<0.12		1.0	0.12	ug/L			09/04/12 11:20	1
cis-1,3-Dichloropropene	<0.18		1.0	0.18	ug/L			09/04/12 11:20	1
Dibromochloromethane	<0.32		1.0	0.32	ug/L			09/04/12 11:20	1
Dibromomethane	<0.33		1.0	0.33	ug/L			09/04/12 11:20	1
Dichlorodifluoromethane	<0.20		1.0	0.20	ug/L			09/04/12 11:20	1
Ethylbenzene	<0.13		0.50	0.13	ug/L			09/04/12 11:20	1
Hexachlorobutadiene	<0.26		1.0	0.26	ug/L			09/04/12 11:20	1
Isopropyl ether	<0.15		1.0	0.15	ug/L			09/04/12 11:20	1
Isopropylbenzene	<0.14		1.0	0.14	ug/L			09/04/12 11:20	1
Methyl tert-butyl ether	<0.24		1.0	0.24	ug/L			09/04/12 11:20	1
Methylene Chloride	<0.68		5.0	0.68	ug/L			09/04/12 11:20	1
Naphthalene	<0.16		1.0	0.16	ug/L			09/04/12 11:20	1
n-Butylbenzene	<0.13		1.0	0.13	ug/L			09/04/12 11:20	1
N-Propylbenzene	<0.13		1.0	0.13	ug/L			09/04/12 11:20	1
p-Isopropyltoluene	<0.17		1.0	0.17	ug/L			09/04/12 11:20	1
sec-Butylbenzene	<0.15		1.0	0.15	ug/L			09/04/12 11:20	1
Styrene	<0.10		1.0	0.10	ug/L			09/04/12 11:20	1
tert-Butylbenzene	<0.14		1.0	0.14	ug/L			09/04/12 11:20	1
<b>Tetrachloroethene</b>	<b>1.5</b>		1.0	0.17	ug/L			09/04/12 11:20	1
Toluene	<0.11		0.50	0.11	ug/L			09/04/12 11:20	1
trans-1,2-Dichloroethene	<0.25		1.0	0.25	ug/L			09/04/12 11:20	1
trans-1,3-Dichloropropene	<0.21		1.0	0.21	ug/L			09/04/12 11:20	1
Trichloroethene	<0.19		0.50	0.19	ug/L			09/04/12 11:20	1
Trichlorofluoromethane	<0.19		1.0	0.19	ug/L			09/04/12 11:20	1
Vinyl chloride	<0.10		0.50	0.10	ug/L			09/04/12 11:20	1
Xylenes, Total	<0.068		1.0	0.068	ug/L			09/04/12 11:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		75 - 131		09/04/12 11:20	1
4-Bromofluorobenzene (Surr)	99		79 - 120		09/04/12 11:20	1
Dibromofluoromethane	95		74 - 123		09/04/12 11:20	1
Toluene-d8 (Surr)	101		80 - 120		09/04/12 11:20	1



## Client Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water - 193701814

TestAmerica Job ID: 500-49680-1

**Client Sample ID: MW400**

**Lab Sample ID: 500-49680-3**

**Date Collected: 08/27/12 11:40**

**Matrix: Water**

**Date Received: 08/29/12 08:00**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.25		1.0	0.25	ug/L			09/04/12 11:45	1
1,1,1-Trichloroethane	<0.20		1.0	0.20	ug/L			09/04/12 11:45	1
1,1,2,2-Tetrachloroethane	<0.23		1.0	0.23	ug/L			09/04/12 11:45	1
1,1,2-Trichloroethane	<0.28		1.0	0.28	ug/L			09/04/12 11:45	1
1,1-Dichloroethane	<0.19		1.0	0.19	ug/L			09/04/12 11:45	1
1,1-Dichloroethene	<0.31		1.0	0.31	ug/L			09/04/12 11:45	1
1,1-Dichloropropene	<0.34		1.0	0.34	ug/L			09/04/12 11:45	1
1,2,3-Trichlorobenzene	<0.24		1.0	0.24	ug/L			09/04/12 11:45	1
1,2,3-Trichloropropane	<0.45		1.0	0.45	ug/L			09/04/12 11:45	1
1,2,4-Trichlorobenzene	<0.31		1.0	0.31	ug/L			09/04/12 11:45	1
1,2,4-Trimethylbenzene	<0.14		1.0	0.14	ug/L			09/04/12 11:45	1
1,2-Dibromo-3-Chloropropane	<0.87		2.0	0.87	ug/L			09/04/12 11:45	1
1,2-Dibromoethane	<0.36		1.0	0.36	ug/L			09/04/12 11:45	1
1,2-Dichlorobenzene	<0.27		1.0	0.27	ug/L			09/04/12 11:45	1
1,2-Dichloroethane	<0.28		1.0	0.28	ug/L			09/04/12 11:45	1
1,2-Dichloropropane	<0.20		1.0	0.20	ug/L			09/04/12 11:45	1
1,3,5-Trimethylbenzene	<0.18		1.0	0.18	ug/L			09/04/12 11:45	1
1,3-Dichlorobenzene	<0.15		1.0	0.15	ug/L			09/04/12 11:45	1
1,3-Dichloropropane	<0.13		1.0	0.13	ug/L			09/04/12 11:45	1
1,4-Dichlorobenzene	<0.15		1.0	0.15	ug/L			09/04/12 11:45	1
2,2-Dichloropropane	<0.32		1.0	0.32	ug/L			09/04/12 11:45	1
2-Butanone (MEK)	<1.5		5.0	1.5	ug/L			09/04/12 11:45	1
2-Chlorotoluene	<0.21		1.0	0.21	ug/L			09/04/12 11:45	1
2-Hexanone	<0.56		5.0	0.56	ug/L			09/04/12 11:45	1
4-Chlorotoluene	<0.20		1.0	0.20	ug/L			09/04/12 11:45	1
4-Methyl-2-pentanone (MIBK)	<0.33		5.0	0.33	ug/L			09/04/12 11:45	1
Acetone	<1.3		5.0	1.3	ug/L			09/04/12 11:45	1
Benzene	<0.074		0.50	0.074	ug/L			09/04/12 11:45	1
Bromobenzene	<0.25		1.0	0.25	ug/L			09/04/12 11:45	1
Bromochloromethane	<0.40		1.0	0.40	ug/L			09/04/12 11:45	1
Bromodichloromethane	<0.17		1.0	0.17	ug/L			09/04/12 11:45	1
Bromoform	<0.28		1.0	0.28	ug/L			09/04/12 11:45	1
Bromomethane	<0.31		1.0	0.31	ug/L			09/04/12 11:45	1
Carbon tetrachloride	<0.26		1.0	0.26	ug/L			09/04/12 11:45	1
Chlorobenzene	<0.14		1.0	0.14	ug/L			09/04/12 11:45	1
Chloroethane	<0.34		1.0	0.34	ug/L			09/04/12 11:45	1
Chloroform	<0.20		1.0	0.20	ug/L			09/04/12 11:45	1
Chloromethane	<0.18		1.0	0.18	ug/L			09/04/12 11:45	1
cis-1,2-Dichloroethene	<0.12		1.0	0.12	ug/L			09/04/12 11:45	1
cis-1,3-Dichloropropene	<0.18		1.0	0.18	ug/L			09/04/12 11:45	1
Dibromochloromethane	<0.32		1.0	0.32	ug/L			09/04/12 11:45	1
Dibromomethane	<0.33		1.0	0.33	ug/L			09/04/12 11:45	1
Dichlorodifluoromethane	<0.20		1.0	0.20	ug/L			09/04/12 11:45	1
Ethylbenzene	<0.13		0.50	0.13	ug/L			09/04/12 11:45	1
Hexachlorobutadiene	<0.26		1.0	0.26	ug/L			09/04/12 11:45	1
Isopropyl ether	<0.15		1.0	0.15	ug/L			09/04/12 11:45	1
Isopropylbenzene	<0.14		1.0	0.14	ug/L			09/04/12 11:45	1
Methyl tert-butyl ether	<0.24		1.0	0.24	ug/L			09/04/12 11:45	1
Methylene Chloride	<0.68		5.0	0.68	ug/L			09/04/12 11:45	1
Naphthalene	<0.16		1.0	0.16	ug/L			09/04/12 11:45	1
n-Butylbenzene	<0.13		1.0	0.13	ug/L			09/04/12 11:45	1

# Client Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water - 193701814

TestAmerica Job ID: 500-49680-1

**Client Sample ID: MW400**

**Lab Sample ID: 500-49680-3**

**Date Collected: 08/27/12 11:40**

**Matrix: Water**

**Date Received: 08/29/12 08:00**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	<0.13		1.0	0.13	ug/L			09/04/12 11:45	1
p-Isopropyltoluene	<0.17		1.0	0.17	ug/L			09/04/12 11:45	1
sec-Butylbenzene	<0.15		1.0	0.15	ug/L			09/04/12 11:45	1
Styrene	<0.10		1.0	0.10	ug/L			09/04/12 11:45	1
tert-Butylbenzene	<0.14		1.0	0.14	ug/L			09/04/12 11:45	1
Tetrachloroethene	<0.17		1.0	0.17	ug/L			09/04/12 11:45	1
Toluene	<0.11		0.50	0.11	ug/L			09/04/12 11:45	1
trans-1,2-Dichloroethene	<0.25		1.0	0.25	ug/L			09/04/12 11:45	1
trans-1,3-Dichloropropene	<0.21		1.0	0.21	ug/L			09/04/12 11:45	1
Trichloroethene	<0.19		0.50	0.19	ug/L			09/04/12 11:45	1
Trichlorofluoromethane	<0.19		1.0	0.19	ug/L			09/04/12 11:45	1
Vinyl chloride	<0.10		0.50	0.10	ug/L			09/04/12 11:45	1
Xylenes, Total	<0.068		1.0	0.068	ug/L			09/04/12 11:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		75 - 131					09/04/12 11:45	1
4-Bromofluorobenzene (Surr)	99		79 - 120					09/04/12 11:45	1
Dibromofluoromethane	96		74 - 123					09/04/12 11:45	1
Toluene-d8 (Surr)	101		80 - 120					09/04/12 11:45	1

**Client Sample ID: HB102**

**Lab Sample ID: 500-49680-4**

**Date Collected: 08/27/12 11:05**

**Matrix: Solid**

**Date Received: 08/29/12 08:00**

**Percent Solids: 84.9**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<20		110	20	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
1,1,1-Trichloroethane	<11		57	11	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
1,1,2,2-Tetrachloroethane	<13		57	13	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
1,1,2-Trichloroethane	<16		57	16	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
1,1-Dichloroethane	<10		57	10	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
1,1-Dichloroethene	<17		57	17	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
1,1-Dichloropropene	<20		57	20	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
1,2,3-Trichlorobenzene	<20		110	20	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
1,2,3-Trichloropropane	<33		110	33	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
1,2,4-Trichlorobenzene	<21		110	21	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
1,2,4-Trimethylbenzene	<12		110	12	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
1,2-Dibromo-3-Chloropropane	<49		110	49	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
1,2-Dibromoethane	<18		110	18	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
1,2-Dichlorobenzene	<12		110	12	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
1,2-Dichloroethane	<16		57	16	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
1,2-Dichloropropane	<11		57	11	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
1,3,5-Trimethylbenzene	<12		110	12	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
1,3-Dichlorobenzene	<15		110	15	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
1,3-Dichloropropane	<7.6		57	7.6	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
1,4-Dichlorobenzene	<9.9		110	9.9	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
2,2-Dichloropropane	<18		57	18	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
2-Chlorotoluene	<12		57	12	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
4-Chlorotoluene	<11		57	11	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Benzene	<4.2		14	4.2	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Bromobenzene	<24		110	24	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50



# Client Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water - 193701814

TestAmerica Job ID: 500-49680-1

**Client Sample ID: HB102**

**Lab Sample ID: 500-49680-4**

**Date Collected: 08/27/12 11:05**

**Matrix: Solid**

**Date Received: 08/29/12 08:00**

**Percent Solids: 84.9**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromochloromethane	<21		110	21	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Bromodichloromethane	<19		110	19	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Bromoform	<25		110	25	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Bromomethane	<39		110	39	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Carbon tetrachloride	<15		57	15	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Chlorobenzene	<8.1		57	8.1	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Chloroethane	<25		110	25	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Chloroform	<12		57	12	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Chloromethane	<26 *		110	26	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
cis-1,2-Dichloroethene	<7.0		57	7.0	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
cis-1,3-Dichloropropene	<10		57	10	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Dibromochloromethane	<20		110	20	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Dibromomethane	<27		110	27	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Dichlorodifluoromethane	<29		110	29	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Ethylbenzene	<7.1		14	7.1	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Hexachlorobutadiene	<20		110	20	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Isopropyl ether	<8.3		110	8.3	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Isopropylbenzene	<14		110	14	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Methyl tert-butyl ether	<24		110	24	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Methylene Chloride	<39		280	39	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Naphthalene	<28		110	28	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
n-Butylbenzene	<7.3		57	7.3	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
N-Propylbenzene	<9.9		110	9.9	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
p-Isopropyltoluene	<10		110	10	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
sec-Butylbenzene	<8.7		57	8.7	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Styrene	<5.6		57	5.6	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
tert-Butylbenzene	<7.7		57	7.7	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Tetrachloroethene	<9.5		57	9.5	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Toluene	<6.5		14	6.5	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
trans-1,2-Dichloroethene	<14		57	14	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
trans-1,3-Dichloropropene	<12		57	12	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Trichloroethene	<11		28	11	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Trichlorofluoromethane	<24		110	24	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Vinyl chloride	<5.9		14	5.9	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
Xylenes, Total	<3.9		28	3.9	ug/Kg	☼	08/27/12 11:05	08/31/12 18:41	50
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	104		75 - 131				08/27/12 11:05	08/31/12 18:41	50
4-Bromofluorobenzene (Surr)	102		79 - 120				08/27/12 11:05	08/31/12 18:41	50
Dibromofluoromethane	102		74 - 123				08/27/12 11:05	08/31/12 18:41	50
Toluene-d8 (Surr)	106		80 - 120				08/27/12 11:05	08/31/12 18:41	50

## Definitions/Glossary

Client: Stantec Consulting Corporation/Bonestroo  
Project/Site: Cedarburg Light & Water - 193701814

TestAmerica Job ID: 500-49680-1

### Qualifiers

#### GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD exceeds the control limits

### 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
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



# QC Association Summary

Client: Stantec Consulting Corporation/Bonestroo  
Project/Site: Cedarburg Light & Water - 193701814

TestAmerica Job ID: 500-49680-1

## GC/MS VOA

### Prep Batch: 161211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-49680-4	HB102	Total/NA	Solid	5035	
LB3 500-161211/4-A LB3	Method Blank	Total/NA	Solid	5035	
LCS 500-161211/5-A	Lab Control Sample	Total/NA	Solid	5035	

### Analysis Batch: 161316

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-49680-4	HB102	Total/NA	Solid	8260B	161211
LB3 500-161211/4-A LB3	Method Blank	Total/NA	Solid	8260B	161211
LCS 500-161211/5-A	Lab Control Sample	Total/NA	Solid	8260B	161211
MB 500-161316/6	Method Blank	Total/NA	Solid	8260B	

### Analysis Batch: 161500

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-49680-1	MW200	Total/NA	Water	8260B	
500-49680-2	MW300	Total/NA	Water	8260B	
500-49680-3	MW400	Total/NA	Water	8260B	
LCS 500-161500/4	Lab Control Sample	Total/NA	Water	8260B	
MB 500-161500/6	Method Blank	Total/NA	Water	8260B	

## General Chemistry

### Analysis Batch: 161390

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-49680-4	HB102	Total/NA	Solid	Moisture	

## Surrogate Summary

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water - 193701814

TestAmerica Job ID: 500-49680-1

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

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (75-131)	BFB (79-120)	DBFM (74-123)	TOL (80-120)
500-49680-4	HB102	104	102	102	106
LB3 500-161211/4-A LB3	Method Blank	99	104	100	105
LCS 500-161211/5-A	Lab Control Sample	93	104	98	104
MB 500-161316/6	Method Blank	95	95	96	99

**Surrogate Legend**

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

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane

TOL = Toluene-d8 (Surr)

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (75-131)	BFB (79-120)	DBFM (74-123)	TOL (80-120)
500-49680-1	MW200	95	99	94	101
500-49680-2	MW300	95	99	95	101
500-49680-3	MW400	96	99	96	101
LCS 500-161500/4	Lab Control Sample	94	103	93	104
MB 500-161500/6	Method Blank	95	103	94	102

**Surrogate Legend**

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

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane

TOL = Toluene-d8 (Surr)



# QC Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water - 193701814

TestAmerica Job ID: 500-49680-1

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

**Lab Sample ID: LB3 500-161211/4-A LB3**

**Matrix: Solid**

**Analysis Batch: 161316**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 161211**

Analyte	LB3 Result	LB3 Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<17		100	17	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
1,1,1-Trichloroethane	<10		50	10	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
1,1,2,2-Tetrachloroethane	<12		50	12	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
1,1,2-Trichloroethane	<14		50	14	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
1,1-Dichloroethane	<9.3		50	9.3	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
1,1-Dichloroethene	<15		50	15	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
1,1-Dichloropropene	<17		50	17	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
1,2,3-Trichlorobenzene	<18		100	18	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
1,2,3-Trichloropropane	<29		100	29	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
1,2,4-Trichlorobenzene	<19		100	19	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
1,2,4-Trimethylbenzene	<11		100	11	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
1,2-Dibromo-3-Chloropropane	<44		100	44	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
1,2-Dibromoethane	<16		100	16	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
1,2-Dichlorobenzene	<10		100	10	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
1,2-Dichloroethane	<14		50	14	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
1,2-Dichloropropane	<9.8		50	9.8	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
1,3,5-Trimethylbenzene	<10		100	10	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
1,3-Dichlorobenzene	<13		100	13	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
1,3-Dichloropropane	<6.7		50	6.7	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
1,4-Dichlorobenzene	<8.7		100	8.7	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
2,2-Dichloropropane	<16		50	16	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
2-Chlorotoluene	<10		50	10	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
4-Chlorotoluene	<9.9		50	9.9	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Benzene	<3.7		13	3.7	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Bromobenzene	<21		100	21	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Bromochloromethane	<19		100	19	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Bromodichloromethane	<17		100	17	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Bromoform	<22		100	22	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Bromomethane	<34		100	34	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Carbon tetrachloride	<13		50	13	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Chlorobenzene	<7.2		50	7.2	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Chloroethane	<22		100	22	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Chloroform	<10		50	10	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Chloromethane	<23		100	23	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
cis-1,2-Dichloroethene	<6.2		50	6.2	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
cis-1,3-Dichloropropene	<8.9		50	8.9	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Dibromochloromethane	<17		100	17	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Dibromomethane	<24		100	24	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Dichlorodifluoromethane	<26		100	26	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Ethylbenzene	<6.3		13	6.3	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Hexachlorobutadiene	<17		100	17	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Isopropyl ether	<7.4		100	7.4	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Isopropylbenzene	<13		100	13	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Methyl tert-butyl ether	<22		100	22	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Methylene Chloride	<34		250	34	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Naphthalene	<25		100	25	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
n-Butylbenzene	<6.5		50	6.5	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
N-Propylbenzene	<8.8		100	8.8	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
p-Isopropyltoluene	<9.3		100	9.3	ug/Kg		08/30/12 10:30	08/31/12 19:05	50



## QC Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water - 193701814

TestAmerica Job ID: 500-49680-1

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

**Lab Sample ID: LB3 500-161211/4-A LB3**

**Matrix: Solid**

**Analysis Batch: 161316**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 161211**

Analyte	LB3 LB3		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
sec-Butylbenzene	<7.7		50	7.7	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Styrene	<4.9		50	4.9	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
tert-Butylbenzene	<6.8		50	6.8	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Tetrachloroethene	<8.4		50	8.4	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Toluene	<5.8		13	5.8	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
trans-1,2-Dichloroethene	<13		50	13	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
trans-1,3-Dichloropropene	<10		50	10	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Trichloroethene	<9.3		25	9.3	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Trichlorofluoromethane	<21		100	21	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Vinyl chloride	<5.2		13	5.2	ug/Kg		08/30/12 10:30	08/31/12 19:05	50
Xylenes, Total	<3.4		25	3.4	ug/Kg		08/30/12 10:30	08/31/12 19:05	50

Surrogate	LB3 LB3		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	99		75 - 131	08/30/12 10:30	08/31/12 19:05	50
4-Bromofluorobenzene (Surr)	104		79 - 120	08/30/12 10:30	08/31/12 19:05	50
Dibromofluoromethane	100		74 - 123	08/30/12 10:30	08/31/12 19:05	50
Toluene-d8 (Surr)	105		80 - 120	08/30/12 10:30	08/31/12 19:05	50

**Lab Sample ID: LCS 500-161211/5-A**

**Matrix: Solid**

**Analysis Batch: 161316**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 161211**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec.	
		Result	Qualifier			%Rec	Limits
1,1,1,2-Tetrachloroethane	2500	2410		ug/Kg		97	80 - 120
1,1,1-Trichloroethane	2500	2270		ug/Kg		91	77 - 117
1,1,2,2-Tetrachloroethane	2500	2130		ug/Kg		85	78 - 123
1,1,2-Trichloroethane	2500	2140		ug/Kg		86	78 - 121
1,1-Dichloroethane	2500	2060		ug/Kg		82	66 - 118
1,1-Dichloroethene	2500	2130		ug/Kg		85	58 - 115
1,1-Dichloropropene	2500	2100		ug/Kg		84	71 - 113
1,2,3-Trichlorobenzene	2500	2420		ug/Kg		97	74 - 126
1,2,3-Trichloropropane	2500	2150		ug/Kg		86	77 - 119
1,2,4-Trichlorobenzene	2500	2240		ug/Kg		90	70 - 118
1,2,4-Trimethylbenzene	2500	2580		ug/Kg		103	80 - 120
1,2-Dibromo-3-Chloropropane	2500	2060		ug/Kg		82	53 - 133
1,2-Dibromoethane	2500	2300		ug/Kg		92	79 - 120
1,2-Dichlorobenzene	2500	2370		ug/Kg		95	80 - 120
1,2-Dichloroethane	2500	2060		ug/Kg		82	76 - 117
1,2-Dichloropropane	2500	2130		ug/Kg		85	77 - 118
1,3,5-Trimethylbenzene	2500	2620		ug/Kg		105	83 - 120
1,3-Dichlorobenzene	2500	2350		ug/Kg		94	80 - 120
1,3-Dichloropropane	2500	2220		ug/Kg		89	79 - 114
1,4-Dichlorobenzene	2500	2310		ug/Kg		93	80 - 120
2,2-Dichloropropane	2500	2170		ug/Kg		87	70 - 117
2-Chlorotoluene	2500	2410		ug/Kg		96	80 - 120
4-Chlorotoluene	2500	2330		ug/Kg		93	80 - 120
Benzene	2500	2330		ug/Kg		93	74 - 115
Bromobenzene	2500	2430		ug/Kg		97	80 - 120
Bromochloromethane	2500	2220		ug/Kg		89	72 - 119

# QC Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water - 193701814

TestAmerica Job ID: 500-49680-1

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

**Lab Sample ID: LCS 500-161211/5-A**  
**Matrix: Solid**  
**Analysis Batch: 161316**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 161211**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromodichloromethane	2500	2160		ug/Kg		87	79 - 117
Bromoform	2500	2500		ug/Kg		100	64 - 127
Bromomethane	2500	2170		ug/Kg		87	47 - 158
Carbon tetrachloride	2500	2210		ug/Kg		88	72 - 124
Chlorobenzene	2500	2340		ug/Kg		94	80 - 120
Chloroethane	2500	2100		ug/Kg		84	54 - 143
Chloroform	2500	2210		ug/Kg		88	76 - 117
Chloromethane	2500	1230	*	ug/Kg		49	56 - 144
cis-1,2-Dichloroethene	2500	2300		ug/Kg		92	75 - 119
cis-1,3-Dichloropropene	2690	2300		ug/Kg		86	71 - 112
Dibromochloromethane	2500	2330		ug/Kg		93	73 - 120
Dibromomethane	2500	2160		ug/Kg		86	76 - 120
Dichlorodifluoromethane	2500	1210		ug/Kg		48	43 - 139
Ethylbenzene	2500	2490		ug/Kg		100	79 - 115
Hexachlorobutadiene	2500	2580		ug/Kg		103	71 - 128
Isopropylbenzene	2500	2160		ug/Kg		87	68 - 120
Methyl tert-butyl ether	2500	1990		ug/Kg		79	60 - 125
Methylene Chloride	2500	2240		ug/Kg		90	63 - 130
Naphthalene	2500	2420		ug/Kg		97	72 - 127
n-Butylbenzene	2500	2350		ug/Kg		94	78 - 119
N-Propylbenzene	2500	2380		ug/Kg		95	77 - 114
p-Isopropyltoluene	2500	2420		ug/Kg		97	77 - 120
sec-Butylbenzene	2500	2520		ug/Kg		101	79 - 117
Styrene	2500	2540		ug/Kg		102	80 - 120
tert-Butylbenzene	2500	2560		ug/Kg		102	80 - 120
Tetrachloroethene	2500	2420		ug/Kg		97	71 - 120
Toluene	2500	2530		ug/Kg		101	80 - 120
trans-1,2-Dichloroethene	2500	2280		ug/Kg		91	74 - 119
trans-1,3-Dichloropropene	2430	2070		ug/Kg		85	66 - 116
Trichloroethene	2500	2440		ug/Kg		98	75 - 120
Trichlorofluoromethane	2500	2160		ug/Kg		86	66 - 126
Vinyl chloride	2500	1590		ug/Kg		64	51 - 149
Xylenes, Total	7500	7610		ug/Kg		102	78 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	93		75 - 131
4-Bromofluorobenzene (Surr)	104		79 - 120
Dibromofluoromethane	98		74 - 123
Toluene-d8 (Surr)	104		80 - 120

**Lab Sample ID: MB 500-161316/6**  
**Matrix: Solid**  
**Analysis Batch: 161316**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1,2-Tetrachloroethane	<0.35		2.0	0.35	ug/Kg			08/31/12 10:16	1
1,1,1-Trichloroethane	<0.20		1.0	0.20	ug/Kg			08/31/12 10:16	1
1,1,1,2,2-Tetrachloroethane	<0.23		1.0	0.23	ug/Kg			08/31/12 10:16	1
1,1,1,2-Trichloroethane	<0.28		1.0	0.28	ug/Kg			08/31/12 10:16	1





# QC Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water - 193701814

TestAmerica Job ID: 500-49680-1

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

**Lab Sample ID: MB 500-161316/6**  
**Matrix: Solid**  
**Analysis Batch: 161316**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethane	<0.19		1.0	0.19	ug/Kg			08/31/12 10:16	1
1,1-Dichloroethene	<0.31		1.0	0.31	ug/Kg			08/31/12 10:16	1
1,1-Dichloropropene	<0.34		1.0	0.34	ug/Kg			08/31/12 10:16	1
1,2,3-Trichlorobenzene	<0.35		2.0	0.35	ug/Kg			08/31/12 10:16	1
1,2,3-Trichloropropane	<0.57		2.0	0.57	ug/Kg			08/31/12 10:16	1
1,2,4-Trichlorobenzene	<0.38		2.0	0.38	ug/Kg			08/31/12 10:16	1
1,2,4-Trimethylbenzene	<0.21		2.0	0.21	ug/Kg			08/31/12 10:16	1
1,2-Dibromo-3-Chloropropane	<0.87		2.0	0.87	ug/Kg			08/31/12 10:16	1
1,2-Dibromoethane	<0.31		2.0	0.31	ug/Kg			08/31/12 10:16	1
1,2-Dichlorobenzene	<0.21		2.0	0.21	ug/Kg			08/31/12 10:16	1
1,2-Dichloroethane	<0.29		1.0	0.29	ug/Kg			08/31/12 10:16	1
1,2-Dichloropropane	<0.20		1.0	0.20	ug/Kg			08/31/12 10:16	1
1,3,5-Trimethylbenzene	<0.21		2.0	0.21	ug/Kg			08/31/12 10:16	1
1,3-Dichlorobenzene	<0.26		2.0	0.26	ug/Kg			08/31/12 10:16	1
1,3-Dichloropropane	<0.13		1.0	0.13	ug/Kg			08/31/12 10:16	1
1,4-Dichlorobenzene	<0.17		2.0	0.17	ug/Kg			08/31/12 10:16	1
2,2-Dichloropropane	<0.32		1.0	0.32	ug/Kg			08/31/12 10:16	1
2-Chlorotoluene	<0.21		1.0	0.21	ug/Kg			08/31/12 10:16	1
4-Chlorotoluene	<0.20		1.0	0.20	ug/Kg			08/31/12 10:16	1
Benzene	<0.074		0.25	0.074	ug/Kg			08/31/12 10:16	1
Bromobenzene	<0.43		2.0	0.43	ug/Kg			08/31/12 10:16	1
Bromochloromethane	<0.38		2.0	0.38	ug/Kg			08/31/12 10:16	1
Bromodichloromethane	<0.34		2.0	0.34	ug/Kg			08/31/12 10:16	1
Bromoform	<0.44		2.0	0.44	ug/Kg			08/31/12 10:16	1
Bromomethane	<0.68		2.0	0.68	ug/Kg			08/31/12 10:16	1
Carbon tetrachloride	<0.26		1.0	0.26	ug/Kg			08/31/12 10:16	1
Chlorobenzene	<0.14		1.0	0.14	ug/Kg			08/31/12 10:16	1
Chloroethane	<0.44		2.0	0.44	ug/Kg			08/31/12 10:16	1
Chloroform	<0.21		1.0	0.21	ug/Kg			08/31/12 10:16	1
Chloromethane	<0.46		2.0	0.46	ug/Kg			08/31/12 10:16	1
cis-1,2-Dichloroethene	<0.12		1.0	0.12	ug/Kg			08/31/12 10:16	1
cis-1,3-Dichloropropene	<0.18		1.0	0.18	ug/Kg			08/31/12 10:16	1
Dibromochloromethane	<0.35		2.0	0.35	ug/Kg			08/31/12 10:16	1
Dibromomethane	<0.48		2.0	0.48	ug/Kg			08/31/12 10:16	1
Dichlorodifluoromethane	<0.51		2.0	0.51	ug/Kg			08/31/12 10:16	1
Ethylbenzene	<0.13		0.25	0.13	ug/Kg			08/31/12 10:16	1
Hexachlorobutadiene	<0.35		2.0	0.35	ug/Kg			08/31/12 10:16	1
Isopropyl ether	<0.15		2.0	0.15	ug/Kg			08/31/12 10:16	1
Isopropylbenzene	<0.25		2.0	0.25	ug/Kg			08/31/12 10:16	1
Methyl tert-butyl ether	<0.43		2.0	0.43	ug/Kg			08/31/12 10:16	1
Methylene Chloride	<0.68		5.0	0.68	ug/Kg			08/31/12 10:16	1
Naphthalene	<0.49		2.0	0.49	ug/Kg			08/31/12 10:16	1
n-Butylbenzene	<0.13		1.0	0.13	ug/Kg			08/31/12 10:16	1
N-Propylbenzene	<0.18		2.0	0.18	ug/Kg			08/31/12 10:16	1
p-Isopropyltoluene	<0.19		2.0	0.19	ug/Kg			08/31/12 10:16	1
sec-Butylbenzene	<0.15		1.0	0.15	ug/Kg			08/31/12 10:16	1
Styrene	<0.099		1.0	0.099	ug/Kg			08/31/12 10:16	1
tert-Butylbenzene	<0.14		1.0	0.14	ug/Kg			08/31/12 10:16	1
Tetrachloroethene	<0.17		1.0	0.17	ug/Kg			08/31/12 10:16	1
Toluene	<0.12		0.25	0.12	ug/Kg			08/31/12 10:16	1



# QC Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water - 193701814

TestAmerica Job ID: 500-49680-1

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

**Lab Sample ID: MB 500-161316/6**  
**Matrix: Solid**  
**Analysis Batch: 161316**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
trans-1,2-Dichloroethene	<0.25		1.0	0.25	ug/Kg			08/31/12 10:16	1
trans-1,3-Dichloropropene	<0.21		1.0	0.21	ug/Kg			08/31/12 10:16	1
Trichloroethene	<0.19		0.50	0.19	ug/Kg			08/31/12 10:16	1
Trichlorofluoromethane	<0.42		2.0	0.42	ug/Kg			08/31/12 10:16	1
Vinyl chloride	<0.10		0.25	0.10	ug/Kg			08/31/12 10:16	1
Xylenes, Total	<0.068		0.50	0.068	ug/Kg			08/31/12 10:16	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	95		75 - 131		08/31/12 10:16	1
4-Bromofluorobenzene (Surr)	95		79 - 120		08/31/12 10:16	1
Dibromofluoromethane	96		74 - 123		08/31/12 10:16	1
Toluene-d8 (Surr)	99		80 - 120		08/31/12 10:16	1

**Lab Sample ID: MB 500-161500/6**  
**Matrix: Water**  
**Analysis Batch: 161500**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1,2-Tetrachloroethane	<0.25		1.0	0.25	ug/L			09/04/12 09:44	1
1,1,1-Trichloroethane	<0.20		1.0	0.20	ug/L			09/04/12 09:44	1
1,1,2,2-Tetrachloroethane	<0.23		1.0	0.23	ug/L			09/04/12 09:44	1
1,1,2-Trichloroethane	<0.28		1.0	0.28	ug/L			09/04/12 09:44	1
1,1-Dichloroethane	<0.19		1.0	0.19	ug/L			09/04/12 09:44	1
1,1-Dichloroethene	<0.31		1.0	0.31	ug/L			09/04/12 09:44	1
1,1-Dichloropropene	<0.34		1.0	0.34	ug/L			09/04/12 09:44	1
1,2,3-Trichlorobenzene	<0.24		1.0	0.24	ug/L			09/04/12 09:44	1
1,2,3-Trichloropropane	<0.45		1.0	0.45	ug/L			09/04/12 09:44	1
1,2,4-Trichlorobenzene	<0.31		1.0	0.31	ug/L			09/04/12 09:44	1
1,2,4-Trimethylbenzene	<0.14		1.0	0.14	ug/L			09/04/12 09:44	1
1,2-Dibromo-3-Chloropropane	<0.87		2.0	0.87	ug/L			09/04/12 09:44	1
1,2-Dibromoethane	<0.36		1.0	0.36	ug/L			09/04/12 09:44	1
1,2-Dichlorobenzene	<0.27		1.0	0.27	ug/L			09/04/12 09:44	1
1,2-Dichloroethane	<0.28		1.0	0.28	ug/L			09/04/12 09:44	1
1,2-Dichloropropane	<0.20		1.0	0.20	ug/L			09/04/12 09:44	1
1,3,5-Trimethylbenzene	<0.18		1.0	0.18	ug/L			09/04/12 09:44	1
1,3-Dichlorobenzene	<0.15		1.0	0.15	ug/L			09/04/12 09:44	1
1,3-Dichloropropane	<0.13		1.0	0.13	ug/L			09/04/12 09:44	1
1,4-Dichlorobenzene	<0.15		1.0	0.15	ug/L			09/04/12 09:44	1
2,2-Dichloropropane	<0.32		1.0	0.32	ug/L			09/04/12 09:44	1
2-Butanone (MEK)	<1.5		5.0	1.5	ug/L			09/04/12 09:44	1
2-Chlorotoluene	<0.21		1.0	0.21	ug/L			09/04/12 09:44	1
2-Hexanone	<0.56		5.0	0.56	ug/L			09/04/12 09:44	1
4-Chlorotoluene	<0.20		1.0	0.20	ug/L			09/04/12 09:44	1
4-Methyl-2-pentanone (MIBK)	<0.33		5.0	0.33	ug/L			09/04/12 09:44	1
Acetone	<1.3		5.0	1.3	ug/L			09/04/12 09:44	1
Benzene	<0.074		0.50	0.074	ug/L			09/04/12 09:44	1
Bromobenzene	<0.25		1.0	0.25	ug/L			09/04/12 09:44	1
Bromochloromethane	<0.40		1.0	0.40	ug/L			09/04/12 09:44	1
Bromodichloromethane	<0.17		1.0	0.17	ug/L			09/04/12 09:44	1

## QC Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water - 193701814

TestAmerica Job ID: 500-49680-1

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

**Lab Sample ID: MB 500-161500/6**

**Matrix: Water**

**Analysis Batch: 161500**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Bromoform	<0.28		1.0	0.28	ug/L			09/04/12 09:44	1
Bromomethane	<0.31		1.0	0.31	ug/L			09/04/12 09:44	1
Carbon tetrachloride	<0.26		1.0	0.26	ug/L			09/04/12 09:44	1
Chlorobenzene	<0.14		1.0	0.14	ug/L			09/04/12 09:44	1
Chloroethane	<0.34		1.0	0.34	ug/L			09/04/12 09:44	1
Chloroform	<0.20		1.0	0.20	ug/L			09/04/12 09:44	1
Chloromethane	<0.18		1.0	0.18	ug/L			09/04/12 09:44	1
cis-1,2-Dichloroethene	<0.12		1.0	0.12	ug/L			09/04/12 09:44	1
cis-1,3-Dichloropropene	<0.18		1.0	0.18	ug/L			09/04/12 09:44	1
Dibromochloromethane	<0.32		1.0	0.32	ug/L			09/04/12 09:44	1
Dibromomethane	<0.33		1.0	0.33	ug/L			09/04/12 09:44	1
Dichlorodifluoromethane	<0.20		1.0	0.20	ug/L			09/04/12 09:44	1
Ethylbenzene	<0.13		0.50	0.13	ug/L			09/04/12 09:44	1
Hexachlorobutadiene	<0.26		1.0	0.26	ug/L			09/04/12 09:44	1
Isopropyl ether	<0.15		1.0	0.15	ug/L			09/04/12 09:44	1
Isopropylbenzene	<0.14		1.0	0.14	ug/L			09/04/12 09:44	1
Methyl tert-butyl ether	<0.24		1.0	0.24	ug/L			09/04/12 09:44	1
Methylene Chloride	<0.68		5.0	0.68	ug/L			09/04/12 09:44	1
Naphthalene	<0.16		1.0	0.16	ug/L			09/04/12 09:44	1
n-Butylbenzene	<0.13		1.0	0.13	ug/L			09/04/12 09:44	1
N-Propylbenzene	<0.13		1.0	0.13	ug/L			09/04/12 09:44	1
p-Isopropyltoluene	<0.17		1.0	0.17	ug/L			09/04/12 09:44	1
sec-Butylbenzene	<0.15		1.0	0.15	ug/L			09/04/12 09:44	1
Styrene	<0.10		1.0	0.10	ug/L			09/04/12 09:44	1
tert-Butylbenzene	<0.14		1.0	0.14	ug/L			09/04/12 09:44	1
Tetrachloroethene	<0.17		1.0	0.17	ug/L			09/04/12 09:44	1
Toluene	<0.11		0.50	0.11	ug/L			09/04/12 09:44	1
trans-1,2-Dichloroethene	<0.25		1.0	0.25	ug/L			09/04/12 09:44	1
trans-1,3-Dichloropropene	<0.21		1.0	0.21	ug/L			09/04/12 09:44	1
Trichloroethene	<0.19		0.50	0.19	ug/L			09/04/12 09:44	1
Trichlorofluoromethane	<0.19		1.0	0.19	ug/L			09/04/12 09:44	1
Vinyl chloride	<0.10		0.50	0.10	ug/L			09/04/12 09:44	1
Xylenes, Total	<0.068		1.0	0.068	ug/L			09/04/12 09:44	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	95		75 - 131		09/04/12 09:44	1
4-Bromofluorobenzene (Surr)	103		79 - 120		09/04/12 09:44	1
Dibromofluoromethane	94		74 - 123		09/04/12 09:44	1
Toluene-d8 (Surr)	102		80 - 120		09/04/12 09:44	1

**Lab Sample ID: LCS 500-161500/4**

**Matrix: Water**

**Analysis Batch: 161500**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	50.0	42.3		ug/L		85	77 - 117
1,1,2,2-Tetrachloroethane	50.0	43.8		ug/L		88	78 - 123
1,1,2-Trichloroethane	50.0	41.0		ug/L		82	78 - 121

# QC Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water - 193701814

TestAmerica Job ID: 500-49680-1

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

Lab Sample ID: LCS 500-161500/4

Matrix: Water

Analysis Batch: 161500

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	50.0	38.4		ug/L		77	66 - 118
1,1-Dichloroethene	50.0	39.7		ug/L		79	58 - 115
1,1-Dichloropropene	50.0	40.5		ug/L		81	71 - 113
1,2,3-Trichlorobenzene	50.0	50.1		ug/L		100	74 - 126
1,2,3-Trichloropropane	50.0	42.5		ug/L		85	77 - 119
1,2,4-Trichlorobenzene	50.0	49.4		ug/L		99	70 - 118
1,2,4-Trimethylbenzene	50.0	51.5		ug/L		103	80 - 120
1,2-Dibromo-3-Chloropropane	50.0	40.7		ug/L		81	53 - 133
1,2-Dibromoethane	50.0	46.2		ug/L		92	79 - 120
1,2-Dichlorobenzene	50.0	48.1		ug/L		96	80 - 120
1,2-Dichloroethane	50.0	40.0		ug/L		80	76 - 117
1,2-Dichloropropane	50.0	42.1		ug/L		84	77 - 118
1,3,5-Trimethylbenzene	50.0	51.9		ug/L		104	83 - 120
1,3-Dichlorobenzene	50.0	48.1		ug/L		96	80 - 120
1,3-Dichloropropane	50.0	44.6		ug/L		89	79 - 114
1,4-Dichlorobenzene	50.0	47.5		ug/L		95	80 - 120
2,2-Dichloropropane	50.0	42.4		ug/L		85	70 - 117
2-Butanone (MEK)	50.0	38.6		ug/L		77	53 - 140
2-Chlorotoluene	50.0	48.1		ug/L		96	80 - 120
2-Hexanone	50.0	39.8		ug/L		80	60 - 134
4-Chlorotoluene	50.0	46.9		ug/L		94	80 - 120
4-Methyl-2-pentanone (MIBK)	50.0	37.7		ug/L		75	59 - 134
Acetone	50.0	53.1		ug/L		106	41 - 163
Benzene	50.0	45.7		ug/L		91	74 - 115
Bromobenzene	50.0	48.6		ug/L		97	80 - 120
Bromochloromethane	50.0	44.5		ug/L		89	72 - 119
Bromodichloromethane	50.0	42.6		ug/L		85	79 - 117
Bromoform	50.0	49.5		ug/L		99	64 - 127
Bromomethane	50.0	42.3		ug/L		85	47 - 158
Carbon tetrachloride	50.0	43.4		ug/L		87	72 - 124
Chlorobenzene	50.0	46.8		ug/L		94	80 - 120
Chloroethane	50.0	39.7		ug/L		79	54 - 143
Chloroform	50.0	41.1		ug/L		82	76 - 117
Chloromethane	50.0	27.8		ug/L		56	56 - 144
cis-1,2-Dichloroethene	50.0	43.6		ug/L		87	75 - 119
cis-1,3-Dichloropropene	53.8	46.9		ug/L		87	71 - 112
Dibromochloromethane	50.0	46.6		ug/L		93	73 - 120
Dibromomethane	50.0	41.5		ug/L		83	76 - 120
Dichlorodifluoromethane	50.0	31.6		ug/L		63	43 - 139
Ethylbenzene	50.0	50.1		ug/L		100	79 - 115
Hexachlorobutadiene	50.0	52.5		ug/L		105	71 - 128
Isopropylbenzene	50.0	42.5		ug/L		85	68 - 120
Methyl tert-butyl ether	50.0	43.3		ug/L		87	60 - 125
Methylene Chloride	50.0	41.8		ug/L		84	63 - 130
Naphthalene	50.0	48.9		ug/L		98	72 - 127
n-Butylbenzene	50.0	49.4		ug/L		99	78 - 119
N-Propylbenzene	50.0	47.8		ug/L		96	77 - 114
p-Isopropyltoluene	50.0	49.2		ug/L		98	77 - 120
sec-Butylbenzene	50.0	49.7		ug/L		99	79 - 117
Styrene	50.0	51.3		ug/L		103	80 - 120





# QC Sample Results

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water - 193701814

TestAmerica Job ID: 500-49680-1

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

Lab Sample ID: LCS 500-161500/4  
 Matrix: Water  
 Analysis Batch: 161500

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec. Limits
	Added	Result	Qualifier				
tert-Butylbenzene	50.0	50.3		ug/L		101	80 - 120
Tetrachloroethene	50.0	48.4		ug/L		97	71 - 120
Toluene	50.0	49.9		ug/L		100	80 - 120
trans-1,2-Dichloroethene	50.0	43.1		ug/L		86	74 - 119
trans-1,3-Dichloropropene	48.6	42.2		ug/L		87	66 - 116
Trichloroethene	50.0	48.6		ug/L		97	75 - 120
Trichlorofluoromethane	50.0	43.3		ug/L		87	66 - 126
Vinyl chloride	50.0	34.2		ug/L		68	51 - 149
Xylenes, Total	150	151		ug/L		101	78 - 120

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	94		75 - 131
4-Bromofluorobenzene (Surr)	103		79 - 120
Dibromofluoromethane	93		74 - 123
Toluene-d8 (Surr)	104		80 - 120

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# Lab Chronicle

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water - 193701814

TestAmerica Job ID: 500-49680-1

**Client Sample ID: MW200**

**Date Collected: 08/27/12 11:20**

**Date Received: 08/29/12 08:00**

**Lab Sample ID: 500-49680-1**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	161500	09/04/12 10:56	LM	TAL CHI

**Client Sample ID: MW300**

**Date Collected: 08/27/12 11:30**

**Date Received: 08/29/12 08:00**

**Lab Sample ID: 500-49680-2**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	161500	09/04/12 11:20	LM	TAL CHI

**Client Sample ID: MW400**

**Date Collected: 08/27/12 11:40**

**Date Received: 08/29/12 08:00**

**Lab Sample ID: 500-49680-3**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	161500	09/04/12 11:45	LM	TAL CHI

**Client Sample ID: HB102**

**Date Collected: 08/27/12 11:05**

**Date Received: 08/29/12 08:00**

**Lab Sample ID: 500-49680-4**

**Matrix: Solid**

**Percent Solids: 84.9**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			161211	08/27/12 11:05	WRE	TAL CHI
Total/NA	Analysis	8260B		50	161316	08/31/12 18:41	BDA	TAL CHI
Total/NA	Analysis	Moisture		1	161390	08/31/12 13:06	CMV	TAL CHI

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

## Certification Summary

Client: Stantec Consulting Corporation/Bonestroo  
 Project/Site: Cedarburg Light & Water - 193701814

TestAmerica Job ID: 500-49680-1

### Laboratory: TestAmerica Chicago

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40461	04-30-13
California	NELAC	9	01132CA	04-30-13
Georgia	State Program	4	N/A	04-30-13
Georgia	State Program	4	939	04-30-13
Hawaii	State Program	9	N/A	04-30-13
Illinois	NELAC	5	100201	04-30-13
Indiana	State Program	5	C-IL-02	04-30-13
Iowa	State Program	7	82	05-01-14
Kansas	NELAC	7	E-10161	10-31-12
Kentucky	State Program	4	90023	12-31-12
Kentucky (UST)	State Program	4	66	04-11-13
L-A-B	DoD ELAP		L2304	01-06-13
L-A-B	ISO/IEC 17025		L2304	01-06-13
Louisiana	NELAC	6	30720	06-30-13
Massachusetts	State Program	1	M-IL035	06-30-13
Mississippi	State Program	4	N/A	04-30-13
North Carolina DENR	State Program	4	291	12-31-12
North Dakota	State Program	8	R-194	04-30-13
Oklahoma	State Program	6	8908	08-31-13
South Carolina	State Program	4	77001	04-30-13
Texas	NELAC	6	T104704252-09-TX	02-28-13
USDA	Federal		P330-12-00038	02-06-15
Virginia	NELAC	3	460142	06-14-13
Wisconsin	State Program	5	999580010	08-31-13
Wyoming	State Program	8	8TMS-Q	04-30-13





# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484  
 Phone: 708.534.5200 Fax: 708.534.5211

Report To (optional)	Bill To (optional)
Contact: <u>Andy Swaim</u>	Contact: _____
Company: <u>Stantec</u>	Company: _____
Address: <u>12075 Corporate Pkwy</u>	Address: _____
Address: <u>Megurn WI 53092</u>	Address: _____
Phone: <u>262 241-4466</u>	Phone: _____
Fax: _____	Fax: _____
E-Mail: <u>Andy.Swaim@Stantec.com</u>	PO#/Reference# _____

## Chain of Custody Record

Lab Job #: 500-49680

Chain of Custody Number: \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_

Temperature °C of Cooler: 6.7

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Client		Client Project #		Preservative		Parameter		Matrix		Preservative Key 1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO4 7. Cool to 4° 8. None 9. Other
Project Name		Lab Project #		Sampling		# of Containers		Matrix		
Lab ID	MS/MSD	Sample ID	Date	Time					Comments	
Stantec		193701814						VOC		
Cedarburg Light & Water										
Cedarburg WI										
Andy Swaim										
1		MW200	8/27	11:20	3	6W	X			
2		MW300	8/27	11:30	3	6W	X			
3		MW400	8/27	11:40	3	6W	X			
4		HB102	8/27	11:05	2	5	X			

Turnaround Time Required (Business Days) Normal

Requested Due Date \_\_\_\_\_

Sample Disposal:  Return to Client  Disposal by Lab  Archive for \_\_\_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: <u>Andy Swaim</u>	Company: <u>Stantec</u>	Date: <u>8-28-01</u>	Time: <u>9:00</u>	Received By: <u>Sherrill Scott</u>	Company: <u>TA-CHE</u>	Date: <u>8/29/12</u>	Time: <u>8:00</u>	Lab Courier: _____
Relinquished By: _____	Company: _____	Date: _____	Time: _____	Received By: _____	Company: _____	Date: _____	Time: _____	Shipped: <u>FedEx</u>
Relinquished By: _____	Company: _____	Date: _____	Time: _____	Received By: _____	Company: _____	Date: _____	Time: _____	Hand Delivered: _____

<b>Matrix Key</b> WW - Wastewater W - Water S - Soil SL - Sludge MS - Miscellaneous OL - Oil A - Air SE - Sediment SO - Soil L - Leachate WI - Wipe DW - Drinking Water O - Other	Client Comments:	Lab Comments:
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## Login Sample Receipt Checklist

Client: Stantec Consulting Corporation/Bonestroo

Job Number: 500-49680-1

Login Number: 49680

List Source: TestAmerica Chicago

List Number: 1

Creator: Scott, Sherri L

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	
Cooler Temperature is recorded.	True	6.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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